

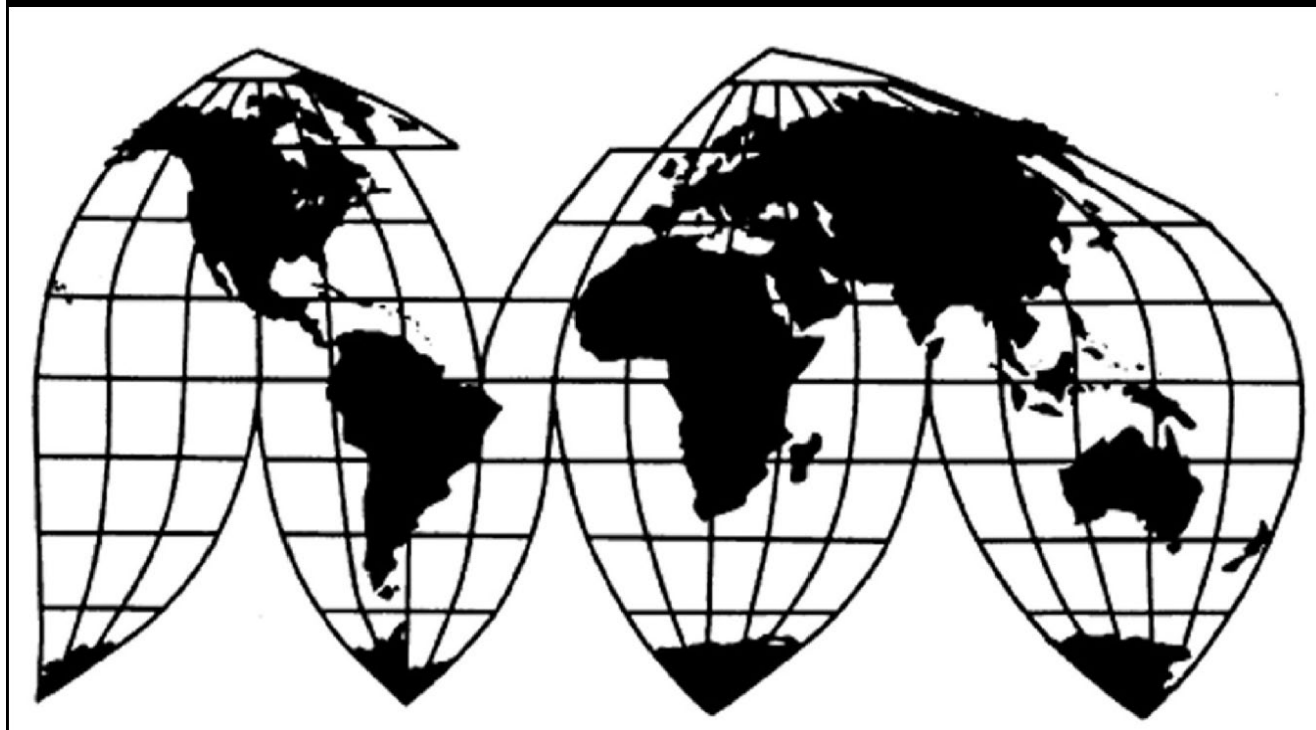
Epoxy Resins from China, India, South Korea, Taiwan, and Thailand

Investigation Nos. 701-TA-716–719 and 731-TA-1683–1687 (Final)

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U.S. International Trade Commission



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Note: Information that would reveal confidential operations of individual firms may not be published. Such information is identified by brackets ([]) in confidential reports and is deleted and replaced with asterisks (***) in public reports. Zeroes, null values, and undefined calculations are suppressed and shown as em dashes (—) in tables. If using a screen reader, we recommend increasing the verbosity setting.

UNITED STATES INTERNATIONAL TRADE COMMISSION

Investigation Nos. 701-TA-716–719 and 731-TA-1683–1687 (Final)

Epoxy Resins from China, India, South Korea, Taiwan, and Thailand

DETERMINATIONS

On the basis of the record¹ developed in the subject investigations, the United States International Trade Commission (“Commission”) determines, pursuant to the Tariff Act of 1930 (“the Act”), that an industry in the United States is materially injured by reason of imports of epoxy resins from South Korea, Taiwan, and Thailand, provided for in subheading 3907.30.00 of the Harmonized Tariff Schedule of the United States, that have been found by the U.S. Department of Commerce (“Commerce”) to be sold in the United States at less than fair value (“LTFV”) and to be subsidized by the governments of South Korea and Taiwan.² The Commission further determines that imports of epoxy resins from China and India found by Commerce to be sold in the United States at LTFV and to be subsidized by the governments of China and India³ are negligible and terminates the antidumping and countervailing duty investigations concerning China and India.

BACKGROUND

The Commission instituted these investigations effective April 3, 2024, following receipt of petitions filed with the Commission and Commerce by the U.S. Epoxy Resin Producers Ad Hoc Coalition which is comprised of Olin Corporation, Clayton, Missouri and Westlake Corporation, Houston, Texas. The final phase of the investigations was scheduled by the Commission following notification of preliminary determinations by Commerce that imports of epoxy resins from China, India, and Taiwan were subsidized within the meaning of section 703(b) of the Act (19 U.S.C. 1671b(b)) and that such products from China, India, South Korea, Taiwan, and Thailand were sold at LTFV within the meaning of 733(b) of the Act (19 U.S.C.

¹ The record is defined in § 207.2(f) of the Commission’s Rules of Practice and Procedure (19 CFR 207.2(f)).

² 90 FR 14605, 14611, 14618, 14621, and 14623 (April 3, 2025).

³ 90 FR 14613, 14616, 14628, and 14636 (April 3, 2025).

1673b(b)). Notice of the scheduling of the final phase of the Commission's investigations and of a public hearing to be held in connection therewith was given by posting copies of the notice in the Office of the Secretary, U.S. International Trade Commission, Washington, D.C., and by publishing the notice in the *Federal Register* on November 22, 2024 (89 FR 92719), as revised on December 11, 2024 (89 FR 99904). The Commission conducted its hearing on April 3, 2025. All persons who requested the opportunity were permitted to participate.

Views of the Commission

Based on the record in the final phase of these investigations, we determine that an industry in the United States is materially injured by reason of imports of epoxy resins from South Korea, Taiwan, and Thailand found by the U.S. Department of Commerce to be sold in the United States at less than fair value (“LTFV”) and to be subsidized by the governments of South Korea and Taiwan. We further determine that imports of epoxy resins from China and India found by Commerce to be sold in the United States at LTFV and to be subsidized by the governments of China and India are negligible and terminate the antidumping and countervailing duty investigations concerning China and India.

I. Background

The petitions in these investigations were filed on April 3, 2024, by the U.S. Epoxy Resin Producers *Ad Hoc* Coalition (“The Coalition”).¹ The Coalition consists of the two largest domestic producers of epoxy resin, Olin Corporation (“Olin”) and Westlake Corporation (“Westlake”) (collectively, “Petitioners”).² Representatives of Olin and Westlake appeared at the hearing accompanied by counsel. Petitioners submitted prehearing and posthearing briefs and final comments.

¹ Confidential Staff Report, INV-XX-047 (Apr. 21, 2025), and as revised in INV-XX-050 (Apr. 24, 2025) & INV-XX-055 (Apr. 29, 2025) (“CR”)/*Epoxy Resins from China, India, South Korea, Taiwan, and Thailand*, Inv. Nos. 701-TA-716-719 & 731-TA-1683-1687 (Final), USITC Pub. 5619 (May 2025) (“PR”) at 1.1.

² CR/PR at 1.1, n.1.

Several respondent entities participated in these investigations. PPG Industries, Inc. (“PPG”), an importer of subject merchandise, appeared at the hearing accompanied by counsel and submitted prehearing and posthearing briefs. Atul Limited and Atul USA Inc. (“Atul”), which are respectively a foreign producer and exporter of subject merchandise from India and a U.S. importer of subject merchandise, appeared at the hearing accompanied by counsel and submitted prehearing and posthearing briefs. Aditya Birla Chemicals (Thailand) Ltd. (“Aditya Birla”), the sole foreign producer and exporter of subject merchandise in Thailand, Aditya Birla Chemicals (USA), Inc. (“Aditya USA”), an importer of subject merchandise from Thailand, and Grasim Industries Ltd. (“Grasim”), a foreign producer and exporter of subject merchandise from India, appeared at the hearing accompanied by counsel and jointly submitted prehearing and posthearing briefs.³ The Sherwin-Williams Company (“Sherwin-Williams”), a U.S. importer of subject merchandise, appeared at the hearing accompanied by counsel and submitted prehearing and posthearing briefs. Champion Advanced Materials Private Ltd. (“Champion”), a foreign producer and exporter of subject merchandise from India, appeared at the hearing remotely accompanied by counsel and submitted prehearing and posthearing briefs. NOV Inc., National Oilwell Varco L.P., and Fiber Glass Systems L.P. (collectively, “NOV”), which are all U.S. purchasers of epoxy resins, jointly submitted a prehearing brief. International Paint LLC (“International Paint”), another U.S. purchaser of epoxy resins, submitted a prehearing written statement and appeared at the hearing.⁴ Huntsman Advanced Materials Americas LLC (“Huntsman Americas”), a U.S. producer and importer of subject merchandise, and Huntsman Advanced Materials (Guangdong) Company Ltd., a foreign producer and exporter of subject merchandise from China, jointly submitted a posthearing brief.

U.S. industry data for the producers of epoxy resins are based on the questionnaire responses of three producers, which accounted for the vast majority of U.S. production of epoxy resins in 2023.⁵ Industry data for the U.S. processors of epoxy resins are based on questionnaire responses from four firms that provided questionnaire responses to the Commission.⁶

³ Wilsonart LLC, a U.S. purchaser of epoxy resins, did not attend the hearing, but joined the prehearing and posthearing briefs submitted by Aditya Birla, Aditya USA, and Grasim.

⁴ International Paint’s statement incorporated by reference the arguments raised in respondent PPG’s prehearing brief.

⁵ CR/PR at 3.1.

⁶ CR/PR at 3.1.

U.S. import data are based on adjusted official Commerce import statistics and from questionnaire responses from 37 U.S. importers, estimated to have accounted for *** percent of total subject imports in 2023, including *** percent of subject imports from China, *** percent of subject imports from India, *** percent of subject imports from South Korea, *** percent of subject imports from Taiwan, and *** percent of subject imports from Thailand.⁷ Responding U.S. importers also accounted for *** percent of nonsubject imports in 2023.⁸

The Commission received responses to its questionnaire from 14 foreign producers/exporters of subject merchandise:

- Two producers/exporters in China, which are estimated to have accounted for approximately *** percent of production of subject merchandise in China in 2023, and whose exports to the United States accounted for approximately *** percent of U.S. imports of epoxy resins from China as reported in questionnaire data that year;
- Four producers/exporters in India, which are estimated to have accounted for approximately *** percent of production of subject merchandise in India in 2023, and whose exports to the United States accounted for approximately *** percent of U.S. imports of epoxy resins from India as reported in questionnaire data that year;
- Four producers/exporters in South Korea, which are estimated to have accounted for approximately *** percent of production of subject merchandise in South Korea in 2023, and whose exports to the United States accounted for approximately *** percent of U.S. imports of epoxy resins from South Korea as reported in questionnaire data that year;
- Three producers/exporters in Taiwan, which are estimated to have accounted for approximately *** percent of production of subject merchandise in Taiwan in 2023, and whose exports to the United States accounted for approximately *** percent of U.S. imports of epoxy resins from Taiwan as reported in questionnaire data that year; and

⁷ CR/PR at 4.1, n.3. These percentages reflect the volume of imports reported in importer questionnaire responses for each country source (or sources) as a percentage of adjusted official import statistics for HTSUS 3907.30.0000, the primary HTS number under which imports of epoxy resins are believed to have entered, as indicated in Commerce's scope definition. Staff adjusted these official import statistics using data submitted in Commission questionnaires to add in-scope imports that questionnaire respondents reported under other HTS statistical reporting numbers, and subtract the out-of-scope merchandise that they reported importing under HTSUS 3907.30.0000. CR/PR at Table 4.2.

⁸ CR/PR at 4.1, n.4.

- One producer/exporter in Thailand, which is estimated to have accounted for approximately *** percent of production of subject merchandise in Thailand in 2023, and whose exports to the United States accounted for approximately *** percent of U.S. imports of epoxy resins from Thailand as reported in questionnaire data that year.⁹

II. Domestic Like Product

A. In General

In determining whether an industry in the United States is materially injured or threatened with material injury by reason of imports of subject merchandise, the Commission first defines the “domestic like product” and the “industry.”¹⁰ Section 771(4)(A) of the Tariff Act of 1930, as amended (“the Tariff Act”), defines the relevant domestic industry as the “producers as a whole of a domestic like product, or those producers whose collective output of a domestic like product constitutes a major proportion of the total domestic production of the product.”¹¹ In turn, the Tariff Act defines “domestic like product” as “a product which is like, or in the absence of like, most similar in characteristics and uses with, the article subject to an investigation.”¹²

⁹ CR/PR at 7.3 & Table 7.1.

¹⁰ 19 U.S.C. § 1677(4)(A).

¹¹ 19 U.S.C. § 1677(4)(A).

¹² 19 U.S.C. § 1677(10).

By statute, the Commission's "domestic like product" analysis begins with the "article subject to an investigation," *i.e.*, the subject merchandise as determined by Commerce.¹³ Therefore, Commerce's determination as to the scope of the imported merchandise that is subsidized and/or sold at less than fair value is "necessarily the starting point of the Commission's like product analysis."¹⁴ The Commission then defines the domestic like product in light of the imported articles Commerce has identified.¹⁵ The decision regarding the appropriate domestic like product(s) in an investigation is a factual determination, and the Commission has applied the statutory standard of "like" or "most similar in characteristics and uses" on a case-by-case basis.¹⁶ No single factor is dispositive, and the Commission may consider other factors it deems relevant based on the facts of a particular investigation.¹⁷ The Commission looks for clear dividing lines among possible like products and disregards minor variations.¹⁸

¹³ 19 U.S.C. § 1677(10). The Commission must accept Commerce's determination as to the scope of the imported merchandise that is subsidized and/or sold at less than fair value. *See, e.g., USEC, Inc. v. United States*, 34 Fed. App'x 725, 730 (Fed. Cir. 2002) ("The ITC may not modify the class or kind of imported merchandise examined by Commerce."); *Algoma Steel Corp. v. United States*, 688 F. Supp. 639, 644 (Ct. Int'l Trade 1988), *aff'd*, 865 F.3d 240 (Fed. Cir.), *cert. denied*, 492 U.S. 919 (1989).

¹⁴ *Cleo Inc. v. United States*, 501 F.3d 1291, 1298 (Fed. Cir. 2007); *see also* *Hitachi Metals, Ltd. V. United States*, 949 F.3d 710, 715 (Fed. Cir. 2020) (the statute requires the Commission to start with Commerce's subject merchandise in reaching its own like product determination).

¹⁵ *Cleo*, 501 F.3d at 1298 n.1 ("Commerce's {scope} finding does not control the Commission's {like product} determination."); *Hosiden Corp. v. Advanced Display Mfrs.*, 85 F.3d 1561, 1568 (Fed. Cir. 1996) (the Commission may find a single like product corresponding to several different classes or kinds defined by Commerce); *Torrington Co. v. United States*, 747 F. Supp. 744, 748–52 (Ct. Int'l Trade 1990), *aff'd*, 938 F.2d 1278 (Fed. Cir. 1991) (affirming the Commission's determination defining six like products in investigations where Commerce found five classes or kinds).

¹⁶ *See, e.g., Cleo Inc. v. United States*, 501 F.3d 1291, 1299 (Fed. Cir. 2007); *NEC Corp. v. Department of Commerce*, 36 F. Supp. 2d 380, 383 (Ct. Int'l Trade 1998); *Nippon Steel Corp. v. United States*, 19 CIT 450, 455 (1995); *Torrington Co. v. United States*, 747 F. Supp. 744, 749 n.3 (Ct. Int'l Trade 1990), *aff'd*, 938 F.2d 1278 (Fed. Cir. 1991) ("every like product determination 'must be made on the particular record at issue' and the 'unique facts of each case'"). The Commission generally considers a number of factors, including the following: (1) physical characteristics and uses; (2) interchangeability; (3) channels of distribution; (4) customer and producer perceptions of the products; (5) common manufacturing facilities, production processes, and production employees; and, where appropriate, (6) price. *See* *Nippon*, 19 CIT at 455 n.4; *Timken Co. v. United States*, 913 F. Supp. 580, 584 (Ct. Int'l Trade 1996).

¹⁷ *See, e.g., S. Rep. No. 96-249 at 90-91 (1979).*
(Continued...)

B. Product Description

Commerce defined the imported merchandise within the scope of these investigations as follows:

The merchandise subject to these investigations are fully or partially uncured epoxy resins, also known as epoxide resins, polyepoxides, oxirane resins, ethoxyline resins, diglycidyl ether of bisphenol, (chloromethyl) oxirane, or aromatic diglycidyl, which are polymers or prepolymers containing epoxy groups (i.e., three-membered ring structures comprised of two carbon atoms and one oxygen atom). Epoxy resins range in physical form from low viscosity liquids to solids. All epoxy resins are covered by the scope of these investigations irrespective of physical form, viscosity, grade, purity, molecular weight, or molecular structure, and packaging.

Epoxy resins may contain modifiers or additives, such as hardeners, curatives, colorants, pigments, diluents, solvents, thickeners, fillers, plasticizers, softeners, flame retardants, toughening agents, catalysts, Bisphenol F, and ultraviolet light inhibitors, so long as the modifier or additive has not chemically reacted so as to cure the epoxy resin or convert it into a different product no longer containing epoxy groups. Such epoxy resins with modifiers or additives are included in the scope where the epoxy resin component comprises no less than 30 percent of the total weight of the product. The scope also includes blends of epoxy resins with different types of epoxy resins, with or without the inclusion of modifiers and additives, so long as the combined epoxy resin component comprises at least 30 percent of the total weight of the blend.

Epoxy resins that enter as part of a system or kit with separately packaged co-reactants, such as hardeners or curing agents, are within the scope. The scope does not include any separately packaged co-reactants that would not fall within the scope if entered on their own.

¹⁸ *Nippon*, 19 CIT at 455; *Torrington*, 747 F. Supp. at 748-49; *see also* S. Rep. No. 96-249 at 90-91 (Congress has indicated that the like product standard should not be interpreted in “such a narrow fashion as to permit minor differences in physical characteristics or uses to lead to the conclusion that the product and article are not ‘like’ each other, nor should the definition of ‘like product’ be interpreted in such a fashion as to prevent consideration of an industry adversely affected by the imports under consideration.”).

The scope includes merchandise matching the above description that has been processed in a third country, including by commingling, diluting, introducing, or removing modifiers or additives, or performing any other processing that would not otherwise remove the merchandise from the scope of the investigations if performed in the subject country.

The scope also includes epoxy resin that is commingled or blended with epoxy resin from sources not subject to these investigations. Only the subject component of such commingled products is covered by the scope of these investigations.

Excluded from the scope are phenoxy resins, which are polymers with a weight greater than 11,000 Daltons, a Melt Flow Index (MFI) at 200 °C (392 °F) no less than 4 grams and no greater than 70 grams per 10 min, Glass-Transition Temperatures (Tg) no less than 80 °C (176 °F) and no greater than 100 °C (212 °F), and which contain no epoxy groups other than at the terminal ends of the molecule.

Excluded from the scope are certain paint and coating products, which are blends, mixtures, or other formulations of epoxy resin, curing agent, and pigment, in any form, packaged in one or more containers, wherein (1) the pigment represents a minimum of 10 percent of the total weight of the product, (2) the epoxy resin represents a maximum of 80 percent of the total weight of the product, and (3) the curing agent represents 5 to 40 percent of the total weight of the product.

Excluded from the scope are preimpregnated fabrics or fibers, often referred to as “pre-pregs,” which are composite materials consisting of fabrics or fibers (typically carbon or glass) impregnated with epoxy resin.

Also excluded from the scope is Tetramethyl Bisphenol F Diglycidyl Ether epoxy resin, also known as Tetramethyl Bisphenol F -DGE Polymer (TMBPF-DGE), that (1) has the chemical name: phenol, 4, 4'-methylenebis[2,6-dimethyl-, polymer with 2-(chloromethyl)oxirane, (2) falls under Chemical Abstract Services (CAS) Registry Number 113693-69-9, and (3) has an epoxy equivalent weight (EEW), also referred to as the weight per epoxide (WPE), of no less than 200 and no greater than 230 grams of epoxy resin per epoxy equivalent (g/eq or GEW).

This merchandise is currently classifiable under Harmonized Tariff Schedule of the United States (HTSUS) subheading 3907.30.0000. Subject merchandise may also be entered under subheadings 3907.29.0000, 3824.99.9397, 3214.10.0020, 2910.90.9100, 2910.90.9000, 2910.90.2000, and 1518.00.4000. The HTSUS subheadings are provided for convenience and customs purposes only; the written description of the scope is dispositive.¹⁹

Epoxy resins are a diverse class of prepolymers and polymers featuring epoxy groups.²⁰ The epoxy groups are highly reactive, and the resins do not become inactive until they are reacted with a curing agent (which may be one of hundreds of chemicals) in a “curing process.”²¹ In their cured form, epoxy resins possess the following properties: strong adhesion, excellent resistance to corrosion and chemicals, high mechanical strength, and excellent properties for insulation applications.²² In their cured form, epoxy resins will adhere to most materials, including metals, concrete, and glass.²³ The leading applications for epoxy resins are coatings, construction, composites, electrical and electronic laminates, and adhesives.²⁴

C. Analysis

Petitioners argue that the Commission should define a single domestic like product, coextensive with the scope, as it did in the preliminary phase.²⁵ Respondents do not contest this proposed definition.²⁶

¹⁹ CR/PR at 1.9-1.10. The scope in the final phase of these investigations is virtually identical to the scope in the preliminary phase of these investigations with the exception that there is now an exclusion for Tetramethyl Bisphenol F Diglycidyl Ether epoxy resin. See CR/PR at 1.9-1.10 & n.15; *Epoxy Resins from China, India, South Korea, Taiwan, and Thailand*, Inv. Nos. 701-TA-716-719 & 731-TA-1683-1687 (Preliminary), USITC Pub. 5510 (May 2024) (“Preliminary Determinations”) at 7-8.

²⁰ CR/PR at 1.12.

²¹ CR/PR at 1.12. Curing agents can also be called curatives, hardeners, or cross-linking agents. *Id.*

²² CR/PR at 1.12.

²³ CR/PR at 1.12-1.13.

²⁴ CR/PR at 1.13.

²⁵ Petitioners’ Prehearing Br. at 10-11.

²⁶ See, e.g., CR/PR at 1.19.

In its preliminary determinations, the Commission defined a single domestic like product consisting of all epoxy resins, coextensive with Commerce's scope.²⁷ The Commission found that all domestically produced epoxy resins within the scope shared similar physical characteristics, had the same range of end uses, and were produced through the same production processes at the same manufacturing facilities using the same employees.²⁸ The Commission also found that all in-scope domestically produced epoxy resins were sold through similar channels of distribution, were perceived to be a single product category by market participants, and were sold within the same general range of prices.²⁹

The record of these final phase investigations does not contain any new information or argument concerning the characteristics and uses of epoxy resins suggesting that the Commission should revisit its definition of the domestic like product from the preliminary determinations.³⁰ Accordingly, for the reasons set forth in the preliminary determinations, we continue to define a single domestic like product consisting of all epoxy resins, coextensive with the scope.

III. Domestic Industry

The domestic industry is defined as the domestic "producers as a whole of a domestic like product, or those producers whose collective output of a domestic like product constitutes a major proportion of the total domestic production of the product."³¹ In defining the domestic industry, the Commission's general practice has been to include in the industry producers of all domestic production of the like product, whether toll-produced, captively consumed, or sold in the domestic merchant market.

There are two domestic industry issues in these investigations. The first concerns whether stand-alone processors of epoxy resins engage in sufficient production-related activities to be considered members of the domestic industry. The second concerns whether appropriate circumstances exist to exclude any domestic producers from the domestic industry pursuant to the related parties provision.

²⁷ Preliminary Determinations, USITC Pub. 5510 at 10.

²⁸ Preliminary Determinations, USITC Pub. 5510 at 9-10.

²⁹ *Preliminary Determinations*, USITC Pub. 5510 at 9-10.

³⁰ See generally CR/PR at I.12-1.19.

³¹ 19 U.S.C. § 1677(4)(A).

A. Sufficient Production-Related Activities

In deciding whether a firm qualifies as a domestic producer of the domestic like product, the Commission generally analyzes the overall nature of a firm's U.S. production-related activities; production-related activity at minimum levels could be insufficient to constitute domestic production.³²

In the preliminary phase of the investigations, the parties disagreed as to whether Huntsman Americas' claimed processing of epoxy resins into specialty epoxy resins and blends were sufficient production-related activities for Huntsman Americas to be included in the domestic industry.³³ Petitioners argued that the only two domestic producers of epoxy resins were Olin and Westlake and that firms that formulate or blend epoxy resins do not engage in sufficient production-related activities to qualify as domestic producers.³⁴ Huntsman Americas argued that the scope of these investigations included formulations of epoxy resins, that it produced epoxy resin products covered by the scope, and that it should therefore be included in the domestic industry definition.³⁵

³² The Commission generally considers six factors: (1) source and extent of the firm's capital investment; (2) technical expertise involved in U.S. production activities; (3) value added to the product in the United States; (4) employment levels; (5) quantity and type of parts sourced in the United States; and (6) any other costs and activities in the United States directly leading to production of the like product. No single factor is determinative and the Commission may consider any other factors it deems relevant in light of the specific facts of any investigation. *See, e.g., Crystalline Silicon Photovoltaic Cells and Modules from China*, Inv. Nos. 701-TA-481 and 731-TA-1190 (Final), USITC Pub. 4360 at 12-13 (Nov. 2012).

³³ *Preliminary Determinations*, USITC Pub. 5510 at 12-13.

³⁴ *Preliminary Determinations*, USITC Pub. 5510 at 12.

³⁵ *Preliminary Determinations*, USITC Pub. 5510 at 13.

In its preliminary determinations, the Commission found, based on the limited information on the record, that Huntsman Americas was engaged in sufficient production-related activities to qualify as a domestic producer of epoxy resins.³⁶ It cited Huntsman Americas' levels of employment, the value added by Huntsman Americas' processing operations, the degree of technical expertise that appeared to be required for Huntsman Americas' operations, and Huntsman Americas' substantial capital expenditures for its processing operations.³⁷ Accordingly, based on the information available, the Commission found that Huntsman Americas was engaged in sufficient production-related activities to qualify as a domestic producer for purposes of the preliminary phase of the investigations.³⁸

³⁶ *Preliminary Determinations*, USITC Pub. 5510 at 13.

³⁷ *Preliminary Determinations*, USITC Pub. 5510 at 13-15. While recognizing that Huntsman Americas' reported capital expenditures were lower than those of Olin and Westlake, the Commission found that Huntsman Americas' capital expenditures were substantial, and that its reported greenfield capital investment costs were comparable to those of Westlake, though much lower than those of Olin. *Id.* at 14. It found that Huntsman Americas' claimed processing of epoxy resins into in-scope specialty resins and blends reportedly requires a high degree of technical expertise, including substantial amounts of R&D expenditures, and utilizes a relatively large number of employees. It also found that the value added by Huntsman Americas' production activities are otherwise comparable to those of Olin's production activities, and exceeded the value added by Westlake's production activities. *Id.* While observing that Huntsman Americas sourced most of its inputs from subject and nonsubject sources, whereas Olin and Westlake sourced most of their inputs domestically, the Commission concluded that Huntsman Americas' reported greenfield capital investment costs, degree of technical expertise, employment, and value added were otherwise comparable to that of Olin and/or Westlake to qualify Huntsman Americas as a domestic producer for purposes of the preliminary phase of the investigations. *Id.*

³⁸ *Preliminary Determinations*, USITC Pub. 5510 at 14-15.

1. Arguments of the Parties

Petitioners. Petitioners argue that the Commission should define the domestic industry as consisting solely of three domestic producers of epoxy resins, Olin, Westlake, and Huntsman.³⁹ They maintain that the three independent processors of epoxy resins, 3M, Polytek, and PPG, do not engage in sufficient production-related activity to be considered domestic producers.⁴⁰ They contend that the capital investment and technical expertise required for production operations for epoxy resins are all significantly greater than for processing operations.⁴¹ They emphasize that processors rely heavily on subject imports as the primary raw material input for their processing operations.⁴² They claim that the hourly wages for employees involved in processing operations are lower than for employees involved in production operations.⁴³ While acknowledging that the value-added and employment levels reported by processors may be comparable with those reported by domestic producers of epoxy resins, they argue that the Commission should give such data little weight, claiming that processing operations add little value and involve minimal additional costs.⁴⁴

Respondents. PPG argues that stand-alone processors of epoxy resins should be treated as domestic producers.⁴⁵ It asserts that processing operations add substantial value, that the capital investment and total employment by U.S. processors exceeded that of domestic producers during the POI, and that processing requires substantial technical expertise.⁴⁶ It also maintains that processors sourced approximately one-third of their epoxy resin inputs from domestic sources during the POI.⁴⁷

³⁹ Petitioners' Prehearing Br. at 13-18. In the final phase of these investigations, Petitioners recognized that Huntsman Americas produced epoxy resins during the POI. *See, e.g.*, Petitioners' Prehearing Br. at 12.

⁴⁰ Petitioners' Prehearing Br. at 18 & Exh. 1.

⁴¹ Petitioners' Prehearing Br. at 18 & Exh. 1.

⁴² Petitioners' Prehearing Br. at 18 & Exh. 1.

⁴³ Petitioners' Prehearing Br. at 18 & Exh. 1.

⁴⁴ Petitioners' Prehearing Br. at 18 & Exh. 1.

⁴⁵ PPG Prehearing Br. at 10-14.

⁴⁶ PPG Prehearing Br. at 10-14.

⁴⁷ PPG Prehearing Br. at 14.

2. Analysis

We analyze whether U.S. processors of epoxy resins should be included in the domestic industry by examining the six factors the Commission traditionally considers in determining whether a firm's production-related activities are sufficient to constitute domestic production. Based on the record, we find that domestic processors of epoxy resins engage in sufficient production-related activities to qualify as domestic producers.

Source and Extent of Capital Investment. U.S. processors of epoxy resins reported capital expenditures of \$*** in 2021, \$*** in 2022, \$*** in 2023, \$*** in January-September 2023 ("interim 2023"), and \$*** in January-September 2024 ("interim 2024").⁴⁸ By comparison, U.S. producers of epoxy resins reported generally lower capital expenditures of \$*** in 2021, \$*** in 2022, \$*** in 2023, \$*** in interim 2023, and \$*** in interim 2024.⁴⁹ U.S. processors of epoxy resins reported annual research and development ("R&D") expenses of \$*** in 2021, \$*** in 2022, \$*** in 2023, \$*** in interim 2023, and \$*** in interim 2024, whereas U.S. producers of epoxy resins reported lower R&D expenses of \$*** in 2021, \$*** in 2022, \$*** in 2023, \$*** in interim 2023, and \$*** in interim 2024.⁵⁰ U.S. processors of epoxy resins reported total net assets of \$*** in 2021, \$*** in 2022, and \$*** in 2023; by comparison, U.S. producers of epoxy resins reported higher total net assets of \$*** in 2021 and 2022 and \$*** in 2023.⁵¹ Epoxy resin processors reported greenfield capital investment costs to replicate their epoxy resins operations ranging from \$*** to \$***, while U.S. producers of epoxy resins reported higher costs ranging from \$*** to \$***.⁵²

⁴⁸ CR/PR at Table 6.10.

⁴⁹ CR/PR at Table 6.10.

⁵⁰ CR/PR at Table 6.12.

⁵¹ CR/PR at Table 6.14.

⁵² CR/PR at Table 3.7. Specifically, 3M-AASD reported that the greenfield capital investment costs required to replicate its epoxy resins operations would be \$***, 3M-EMD reported costs of \$***, Huntsman Americas reported costs of \$***, Polytek reported costs of \$***, and PPG reported costs of \$***. *Id.*

Technical Expertise Involved. The production of epoxy resins involves a primary chemical reaction that reacts two or more chemical compounds to yield base epoxy resins in their pure form (*e.g.*, without additives).⁵³ Typically, the primary chemical reaction for producing base epoxy resins involves reacting epichlorohydrin (“ECH”) with bisphenol-A (“BPA”).⁵⁴ By comparison, processors source base epoxy resins as inputs and use additives and other raw materials for further processing into downstream epoxy resin products.⁵⁵ Most responding U.S. processors of epoxy resins rated the complexity of their processing operations on the high end of a one-to-five scale, with five being most complex; ***.⁵⁶ In comparison, *** responding U.S. producers of epoxy resins rated the complexity of their production operations at five.⁵⁷ Hourly wages paid to workers engaged in processing activities were higher than the hourly wages paid to workers engaged in epoxy resins production in all periods covered by the POI except in 2021.⁵⁸

Value Added to the Product in the United States: In their questionnaire responses, U.S. processors reported that the added value of processing operations for epoxy resins ranged from *** percent.⁵⁹ By comparison, the value added by U.S. producers’ production operations for epoxy resins ranged from *** percent.⁶⁰

⁵³ See, *e.g.*, U.S. Producers’ Questionnaire at I-2a, n.1.

⁵⁴ See, *e.g.*, U.S. Producers’ Questionnaire at I-2a, n.1.

⁵⁵ See, *e.g.*, U.S. Producers’ Questionnaire at I-2a, n.1.

⁵⁶ CR/PR at Table 3.8.

⁵⁷ CR/PR at Table 3.8.

⁵⁸ CR/PR at Tables 3.27 & 3.28. Hourly wages for employees of U.S. processors of epoxy resins were \$*** per hour in 2021, \$*** in 2022, \$*** in 2023, \$*** in interim 2023, and \$*** per hour in interim 2024. CR/PR at Table 3.28. Hourly wages for employees of U.S. producers of epoxy resins were \$*** per hour in 2021, \$*** per hour in 2022, \$*** per hour in 2023, \$*** per hour in interim 2023, and \$*** per hour in interim 2024. CR/PR at Table 3.27.

⁵⁹ CR/PR at Table 3.7. All U.S. processors reported substantial value-added for their processing operations, although to varying degrees. The value added by 3M-AASD’s processing operations ranged from *** percent to *** percent during the POI; the value added by 3M-EMD’s processing operations ranged from *** percent to *** percent; the value added by Huntsman’s processing operations ranged from *** percent to *** percent; the value added by Polytek’s processing operations ranged from *** percent to *** percent; and the value added by PPG’s processing operations ranged from *** percent to *** percent. CR/PR at Table 3.7.

⁶⁰ CR/PR at Table 3.7.

Employment Levels. U.S. processors of epoxy resins combined reported *** production and related workers (“PRWs”) in 2021, *** in 2022, *** in 2023, *** in interim 2023, and *** in interim 2024.⁶¹ By contrast, U.S. producers of epoxy resins combined reported *** PRWs in 2021, *** in 2022, *** in 2023, *** in interim 2023, and *** in interim 2024.⁶²

Quantity and Type of Parts Sourced in the United States: The record indicates that U.S. processors source inputs of epoxy resins for processing predominantly from subject sources, followed by domestic and nonsubject sources.⁶³ During the POI, U.S. processors reported *** percent of their epoxy resins inputs were from subject sources, between *** percent were from domestic sources, and between *** percent were from nonsubject sources.⁶⁴

⁶¹ CR/PR at Table 3.28. Over the course of the POI, the number of PRWs employed by 3M-AASD ranged from ***; the number of PRWs employed by 3M-EMD ranged from ***; the number of PRWs employed by Huntsman Americas (as a processor) ranged from ***; the number of PRWs employed by Polytek ranged from ***; and the number of PRWs employed by PPG ranged from ***. *Id.* at Table 3.7.

⁶² CR/PR at Table 3.27. Over the course of the POI, the number of PRWs employed by Huntsman Americas (as a producer) ranged from ***; the number of PRWs employed by Olin ranged from ***; and the number of PRWs employed by Westlake ranged from ***. *Id.* at Table 3.7.

⁶³ CR/PR at Table 3.13.

⁶⁴ CR/PR at Table 3.13.

Conclusion. We find that the operations of U.S. processors of epoxy resins involved sufficient production-related activities to qualify as domestic production. The value added by U.S. processors' processing operations is substantial, ranging from *** percent to *** percent during the POI.⁶⁵ While reported total net assets and estimated greenfield investment costs were far lower for processors than for producers of epoxy resins, the reported total net assets and estimated greenfield investment costs for processors were not insubstantial. Furthermore, U.S. processors reported high capital expenditures and R&D expenses, and a substantial number of PRWs. Similarly, the information on the record indicates that the degree of technical expertise required for processors' operations appears to be substantial, albeit less complex than the technical expertise required for producing epoxy resins, as reflected by the relatively higher hourly wages paid to PRWs for processing operations. Processors also sourced a substantial share of their raw material inputs domestically. In light of these considerations, we find that, on balance, processors of epoxy resins engage in sufficient production-related activities to qualify as domestic producers.⁶⁶

⁶⁵ CR/PR at Table 3.7.

⁶⁶ We also observe that the Commission frequently has found that entities that engage in considerably less than all phases of production still engage in sufficient production-related activity to be treated as domestic producers. *See, e.g., PTFE; Certain Oil Country Tubular Goods from India, Korea, the Philippines, Taiwan, Thailand, Turkey, Ukraine, and Vietnam*, 701-TA-499-500 & 731-TA-1215-1217 & 1219-1223 (Final), USITC Pub. 4489 (Sept. 2014) at 12-13 (processors included in industry); *Diamond Sawblades and Parts Thereof from China and Korea*, Inv. No. 731-TA-192-1093 (Final), USITC Pub. 3862 (July 2006) at 8-11 (assemblers included in the industry); *Certain Frozen or Canned Warmwater Shrimp and Prawns from Brazil, China, Ecuador, India, Thailand, and Vietnam*, Inv. Nos. 731-TA-1063-68 (Final), USITC Pub. 3748 (January 2005) at 12-14 (cooking, deheading, grading, machine peeling, and deveining all constituted domestic production as were "activities including washing, sorting, grading, peeling, deveining, removing the tail, packaging, and freezing"); *Greenhouse Tomatoes from Canada*, Inv. No. 731-TA-925 (Final), USITC Pub. 3499 (April 2002) at 10-11 (packers included in the industry along with growers).

B. Related Parties

We must determine whether any producer of the domestic like product should be excluded from the domestic industry pursuant to section 771(4)(B) of the Tariff Act. This provision allows the Commission, if appropriate circumstances exist, to exclude from the domestic industry producers that are related to an exporter or importer of subject merchandise or which are themselves importers.⁶⁷ Exclusion of such a producer is within the Commission's discretion based upon the facts presented in each investigation.⁶⁸

⁶⁷ See *Torrington Co. v. United States*, 790 F. Supp. 1161, 1168 (Ct. Int'l Trade 1992), *aff'd without opinion*, 991 F.2d 809 (Fed. Cir. 1993); *Sandvik AB v. United States*, 721 F. Supp. 1322, 1331-32 (Ct. Int'l Trade 1989), *aff'd mem.*, 904 F.2d 46 (Fed. Cir. 1990); *Empire Plow Co. v. United States*, 675 F. Supp. 1348, 1352 (Ct. Int'l Trade 1987).

⁶⁸ The primary factors the Commission has examined in deciding whether appropriate circumstances exist to exclude a related party include the following:

- (1) the percentage of domestic production attributable to the importing producer;
- (2) the reason the U.S. producer has decided to import the product subject to investigation (whether the firm benefits from the LTFV sales or subsidies or whether the firm must import in order to enable it to continue production and compete in the U.S. market);
- (3) whether inclusion or exclusion of the related party will skew the data for the rest of the industry;
- (4) the ratio of import shipments to U.S. production for the imported product; and
- (5) whether the primary interest of the importing producer lies in domestic production or importation. *Changzhou Trina Solar Energy Co. v. USITC*, 100 F. Supp.3d 1314, 1326-31 (Ct. Int'l. Trade 2015), *aff'd*, 879 F.3d 1377 (Fed. Cir. 2018); see also *Torrington Co. v. United States*, 790 F. Supp. at 1168.

In its preliminary determinations, the Commission found that two firms – *** and *** – were subject to possible exclusion under the related parties provision because they imported subject merchandise or were related to producers/exporters of subject merchandise. The Commission found, however, that appropriate circumstances did not exist to exclude either *** or *** from the domestic industry.⁶⁹

1. Arguments of the Parties

Petitioners' Arguments. Petitioners argue that in the event the Commission finds that stand-alone processors engage in sufficient production-related activities to be included in the domestic industry, appropriate circumstances exist to exclude *** from the domestic industry as related parties.⁷⁰ Petitioners contend that exclusion of these firms is appropriate because they oppose the petitions, rely heavily on subject imports as inputs for their processing operations, and posted better financial results than producers of epoxy resins, such that including them in the domestic industry would skew the data.⁷¹

⁶⁹ *Preliminary Determinations*, USITC Pub. 5510 at 15-17; *Confidential Preliminary Determinations*, EDIS Doc. 822551 at 19-23. In finding that appropriate circumstances did not exist to exclude *** from the domestic industry as a related party, the Commission cited *** low ratio of subject imports to domestic production throughout the POI, ***, and the fact that no party argued for *** exclusion from the domestic industry. *Preliminary Determinations*, USITC Pub. 5510 at 16-17; *Confidential Preliminary Determinations*, EDIS Doc. 822551 at 21-22. Moreover, the Commission observed that there was no evidence on the record that *** domestic production operations benefitted from its subject imports to an extent that its inclusion in the domestic industry would skew industry data, nor was there any evidence that *** affiliation with a subject *** producer and exporter shielded it from subject import competition such that its inclusion in the domestic industry would skew industry data. *Id.* In finding that appropriate circumstances did not exist to exclude *** from the domestic industry as a related party, the Commission cited *** low ratio of subject imports to domestic production and substantial capital investments during the POI, and the fact that no party argued for *** exclusion from the domestic industry. *Preliminary Determinations*, USITC Pub. 5510 at 17; *Confidential Preliminary Determinations*, EDIS Doc. 822551 at 22-23. Further, the Commission observed that the record in the preliminary investigations did not contain sufficient evidence to determine that *** affiliation with a subject *** producer and exporter shielded it from subject import competition or otherwise benefitted its domestic production operations such that including *** in the domestic industry would skew the data. *Id.*

⁷⁰ Petitioners' Prehearing Br. at 20-25.

⁷¹ Petitioners' Prehearing Br. at 20-25.

Respondents' Arguments. PPG argues that appropriate circumstances do not exist to exclude any related parties.⁷² It maintains that processors were forced to import subject merchandise because epoxy resin inputs were unavailable from domestic producers.⁷³ It argues that processors have made significant capital expenditures and investments during the POI, that their ratios of subject imports to domestic production were miniscule over the POI, and that processors accounted for a significant amount of total net sales quantities for producers and processors combined, indicating that processors are primarily interested in domestic production of epoxy resins.⁷⁴ It claims that processors are not benefitting from subject imports such that their inclusion in the domestic industry would skew the data, as processors are producing in-scope downstream epoxy resin products that also compete with subject imports.⁷⁵ Finally, PPG notes that the Commission found that appropriate circumstances did not exist to exclude integrated producer Huntsman's processing operations in its preliminary determinations and argues that the Commission should reach a similar conclusion with respect to the independent processors in these final phase investigations.⁷⁶

2. Analysis

As discussed above, we have included both producers and stand-alone processors of epoxy resins in the domestic industry in the final phase of these investigations. We consider below whether appropriate circumstances exist for excluding from the domestic industry any domestic producers or stand-alone processors pursuant to the related parties provision.

⁷² PPG Prehearing Br. at 14-16.

⁷³ PPG Prehearing Br. at 15.

⁷⁴ PPG Prehearing Br. at 15-16.

⁷⁵ PPG Prehearing Br. at 15.

⁷⁶ PPG Prehearing Br. at 15.

In the final phase of the investigations, the record indicates that *** U.S. producers of epoxy resins – *** – are subject to possible exclusion under the related parties provision because they imported subject merchandise during the January 2021-September 2024 period of investigation (“POI”).⁷⁷ *** are also subject to possible exclusion as related parties by virtue of their relationships with producers/exporters of subject merchandise.⁷⁸ The record also indicates that certain stand-alone processors (***) are subject to possible exclusion because they imported subject merchandise during the POI.⁷⁹ ⁸⁰ *** are also subject to possible exclusion as related parties by virtue of their relationships with a producer/exporter of subject merchandise from India.⁸¹

⁷⁷ CR/PR at Tables 3.21-3.23.

⁷⁸ *** owns an exporter of subject merchandise in South Korea (***) and therefore qualifies as a related party. See CR/PR at Table 3.2; CR/PR at 3.2; 19 U.S.C. § 1677(4)(B)(ii)(I). *** qualifies as a related party since it owns both an exporter of subject merchandise in China (***) and an exporter of subject merchandise in South Korea (***). See CR/PR at 3.2; 19 U.S.C. § 1677(4)(B)(ii)(I). *** reported that it is affiliated with an exporter of subject merchandise in China (***), so *** may be subject to possible exclusion under the related parties provision depending on the degree of control between *** and ***. *Id.* at Table 3.2.

⁷⁹ CR/PR at Appendix E, Tables E.1-E.6 & Tables E.8-E.9.

(Continued...)

⁸⁰ Based on the current record, U.S. processor *** purchased subject imports from India, Taiwan, and Thailand. The Commission has concluded that a domestic producer that does not itself import subject merchandise or does not share a corporate affiliation with an importer may nonetheless be deemed a related party if it controls large volumes of imports. *Iron Construction Castings from Brazil, Canada, and China*, Inv. Nos. 701-TA-248, 731-TA-262-263, 265 (Fourth Review), USITC Pub. 4655 at 11 (Dec. 2016); *Chlorinated Isocyanurates from China and Spain*, Inv. Nos. 731-TA-1082-1083 (Second Review), USITC Pub. 4646 at 12 (Nov. 2016); see also Memorandum GC-JJ-028 (Sept. 30, 2024) at 22-23 (compiling cases). The Commission has found such control to exist where the domestic producer's purchases were responsible for a predominant proportion of an importer's subject imports and the importer's subject imports were substantial. *Id.*

*** reported that it purchased very small quantities of subject imports from India, Taiwan, and Thailand and that it did not purchase subject imports from China during the POI. See *** U.S. Purchasers' Questionnaire at II-1. While *** reported that it purchased more subject imports from South Korea than from any other source, *** did not identify U.S. importers from which it purchased epoxy resins nor did *** specify the quantities it purchased from any importers individually. *Id.* Total subject imports from South Korea were *** pounds in 2021, *** pounds in 2022, *** pounds in 2023, *** pounds in interim 2023, and *** pounds in interim 2024. CR at Table 4.2. The record does not contain sufficient information to permit a calculation of whether *** was responsible for a predominant proportion of subject imports from any of the importers from which it made purchases.

Even if *** qualified as a related party, however, we find that appropriate circumstances do not exist to exclude it from the domestic industry. *** is a processor that accounted for *** percent of domestic processing operations for epoxy resins in 2023. CR at Table 3.1. It *** the petitions with respect to China, and *** with respect to India, South Korea, Taiwan, and Thailand. CR at Table 3.1 & *** U.S. Producers' Questionnaire at I-4. Although *** did not import subject merchandise during the POI, its purchases of subject imports were *** pounds in 2021, *** pounds in 2022, *** pounds in 2023, and *** pounds in interim 2024. See *** U.S. Purchasers' Questionnaire at II-1. *** purchases of subject merchandise as a share of total U.S. subject imports from South Korea, the subject country from the largest share of its purchases of subject imports originated, were *** percent in 2021, *** percent in 2022, *** percent in 2023, and *** percent in interim 2024. *Derived from* CR at Table 4.2 & *** U.S. Producers' Questionnaire at II-1. As a ratio to its U.S. processing of epoxy resins, ***'s purchases of subject imports were *** percent in 2021, *** percent in 2022, *** percent in 2023, and *** percent in interim 2024. *Derived from* CR at Table E.8, *** U.S. Producers' Questionnaire at VI-2, and *** U.S. Purchasers' Questionnaire at II-1. *** reported sourcing the vast majority of its inputs of epoxy resins from subject sources during the POI (CR at Table E.8) and it appears to have benefitted to some degree from such sourcing. In particular, *** financial performance was above the industry average for U.S. processors throughout the POI and above the industry average for U.S. producers and U.S. processors combined throughout the POI except in 2022. See CR at Table 6.7. On balance, we find that appropriate circumstances do not exist to exclude *** from the domestic industry. Although not insubstantial, the ratio of *** purchases to its U.S. production was below 50 percent throughout the POI, thereby indicating that *** primary interest is in domestic production. There is also no indication that *** inclusion in the domestic industry would skew the domestic industry data or mask injury. (Continued...)

We discuss below whether appropriate circumstances exist to exclude any of these domestic producers from the domestic industry.

***. *** is *** domestic producer of epoxy resins, accounting for *** percent of U.S. production of epoxy resins in 2023.⁸² *** also accounted for *** of U.S. processing of epoxy resins in 2023.⁸³ *** opposes the petitions.⁸⁴ During the POI, *** imported subject merchandise from China, India, Taiwan, and Thailand for *** and also purchased subject imports from Thailand for ***.⁸⁵ For its total U.S. production and ***, the ratio of *** subject imports and purchases of subject imports to its domestic production *** of epoxy resins was *** percent in 2021, *** percent in 2022, *** percent in 2023, and *** percent interim 2024, compared to *** percent in interim 2023.⁸⁶ *** indicates that it imported subject merchandise because it did not ***.⁸⁷ *** also reported capital expenditures and R&D expenses during the POI.⁸⁸ For its total U.S. production ***, *** financial performance was below the industry average for U.S. producers and processors combined for the entire POI.⁸⁹

While Commissioner Kearns joins the above finding, he believes that the Commission inappropriately limits the discretion Congress gave to it by focusing on whether a firm accounted for a predominant share of an importer's subject imports, as other factors may be informative of the firm's related party status. Thus, when a U.S. producer is purchasing subject imports, his view is that it is better to begin by determining whether exclusion of the firm would be appropriate in the first place, assuming the party were found to be related.

⁸¹ CR/PR at 3.3 & Table 3.2. *** both reported that they share ownership of an exporter of subject merchandise in India, ***, through their parent company, ***, so *** also qualify as related parties by virtue of these relationships. CR/PR at Table 3.2; 19 U.S.C. § 1677(4)(B)(ii)(I), (II), and (III).

⁸² CR/PR at Table 3.1.

⁸³ CR/PR at Table 3.1.

⁸⁴ CR/PR at Table 3.1.

⁸⁵ CR/PR at Tables 3.22 & Appendix E, Tables E.6 & E.7. For both its domestic production and processing operations, *** imports from subject sources were *** pounds in 2021, *** pounds in 2022, *** pounds in 2023, and *** pounds in interim 2024, compared to *** pounds in interim 2023. CR/PR at Tables 3.22 & E.6. For its domestic processing operations, ***'s purchases of subject imports were *** pounds in 2021, *** pounds in 2022, *** pounds in 2023, and *** pounds in interim 2024, compared to *** pounds in interim 2023. CR/PR at Table E.7.

⁸⁶ *Derived from* CR/PR at Tables 3.22 & Appendix E, Tables E.6 & E.7.

⁸⁷ CR/PR at Table 3.25.

⁸⁸ CR/PR at Tables 6.10 & 6.12. For its total U.S. production and processing operations, *** reported capital expenditures were \$*** in 2021, \$*** in 2022, and \$*** for 2023, and \$*** in interim 2024, compared to \$*** in interim 2023. *Derived from* CR/PR at Table 6.10. For its total U.S. production and processing operations, *** reported R&D expenses were \$*** in 2021, \$*** in 2022, \$*** in 2023, and \$*** in interim 2023 and interim 2024. *Derived from* CR/PR at Table 6.12.

⁸⁹ CR/PR at Table 6.7 & *derived from* CR/PR at Table 6.7.

Although the ratio of *** subject imports to domestic production increased during the POI, these imports consisted of inputs necessary for its ***, and it reported sourcing substantially similar quantities of inputs from domestic sources.⁹⁰ Moreover, while *** domestic production operations would have benefited from its imports of subject imports to produce and process epoxy resins, because of its size and its financial performance being below the industry average, the degree to which *** domestic production operations benefited from its subject imports would not be significant enough such that its inclusion in the domestic industry would skew industry data or mask injury. For these reasons, and in the absence of any contrary argument, we find that appropriate circumstances do not exist to exclude *** from the domestic industry.

***. *** is the second-largest domestic producer of epoxy resins, accounting for *** percent of U.S. production of epoxy resins in 2023.⁹¹ ***.⁹² *** imported subject merchandise from *** during the POI.⁹³ The ratio of its subject imports to its domestic production was *** in 2021, *** percent in 2022, and *** percent in 2023; it was *** percent interim 2024, compared to *** percent in interim 2023.⁹⁴ *** indicates that it imported subject merchandise to complement its product lines.⁹⁵ *** reported substantial capital expenditures and R&D expenses during the POI.⁹⁶

⁹⁰ CR/PR at Appendix E, Table E.5.

⁹¹ CR/PR at Table 3.1.

⁹² CR/PR at Table 3.1.

⁹³ CR/PR at Table 3.23.

⁹⁴ CR/PR at Table 3.23. *** imports from subject sources were *** pounds in 2021, *** pounds in 2022, *** pounds in 2023, *** pounds in interim 2023, and *** pounds in interim 2024. *Id.*

⁹⁵ CR/PR at Table 3.25.

⁹⁶ CR/PR at Tables 6.10 & 6.12. *** reported capital expenditures were \$*** in 2021, \$*** in 2022, \$*** in 2023, \$*** in interim 2023, and \$*** in interim 2024. CR/PR at Table 6.10. *** reported R&D expenses were \$*** in 2021, \$*** in 2022, \$*** in 2023, \$*** in interim 2023, and \$*** in interim 2024. CR/PR at Table 6.12.

Given *** low ratio of subject imports to domestic production throughout the POI, as well as its status as ***, its primary interest appears to be in domestic production. There is also no information on the record indicating that *** was shielded from subject import competition by virtue of its relationship with *** and *** such that its inclusion in the domestic industry would skew industry data or mask injury. Further, given that *** imports of subject imports comprised small percentages of its domestic production (***), the extent to which *** domestic production operations benefited from its imports of subject imports would not be significant enough to skew industry data or mask injury. In light of these considerations, and in the absence of any contrary argument, we find that appropriate circumstances do not exist to exclude *** from the domestic industry.

***. *** is the largest domestic producer of epoxy resins, accounting for *** percent of U.S. production of epoxy resins in 2023.⁹⁷ ***.⁹⁸ *** imported subject merchandise from *** during the POI.⁹⁹ The ratio of its subject imports to domestic production was *** percent in 2021, *** percent in 2022, and *** percent in 2023; it was *** percent interim 2024, compared to *** percent in interim 2023.¹⁰⁰ *** indicates that it imported subject merchandise to satisfy customer demand for specialty epoxy resins.¹⁰¹ *** reported substantial capital expenditures and R&D expenses during the POI.¹⁰²

⁹⁷ CR/PR at Table 3.1.

⁹⁸ CR/PR at Table 3.1.

⁹⁹ CR/PR at Table 3.24.

¹⁰⁰ CR/PR at Table 3.24. *** imports from subject sources were *** pounds in 2021, *** pounds in 2022, *** pounds in 2023, *** pounds in interim 2023, and *** pounds in interim 2024. *Id.*

¹⁰¹ CR/PR at Table 3.25.

¹⁰² CR/PR at Tables 6.10 & 6.12. *** reported capital expenditures were \$*** in 2021, \$*** in 2022, \$*** in 2023, \$*** in interim 2023, and \$*** in interim 2024. CR/PR at Table 6.10. *** reported R&D expenses were \$*** in 2021, \$*** in 2022 and 2023, \$*** in interim 2023, and \$*** in interim 2024. CR/PR at Table 6.12.

Given *** low ratio of subject imports to domestic production throughout the POI, as well as its status ***, its primary interest appears to be in domestic production. There is also no information on the record indicating that *** was shielded from subject import competition by virtue of its relationship with *** such that its inclusion in the domestic industry would skew industry data or mask injury. Further, given that *** imports of subject imports comprised small percentages of its domestic production (***), the extent to which *** domestic production operations benefited from its imports of subject imports would not be significant enough to skew industry data or mask injury. In light of these considerations, and in the absence of any contrary argument, we find that appropriate circumstances do not exist to exclude *** from the domestic industry.

***. *** accounted for *** percent of domestic processing production of epoxy resins in 2023.¹⁰³ ***.¹⁰⁴ They imported *** small quantities of subject imports from *** in 2021 and 2022 and did not import subject merchandise for the remainder of the POI.¹⁰⁵ The ratio of *** subject imports to their domestic processing production was *** percent in 2021 and *** percent in 2022.¹⁰⁶ In addition to their direct imports, *** purchased larger quantities of subject imports from *** during the POI.¹⁰⁷ As a ratio to their domestic processing production for epoxy resins, their imports and purchases of subject imports ranged from *** percent to *** percent during the POI.¹⁰⁸ *** stated that it imports subject merchandise due to “lack of capability” to produce epoxy resins in the United States.¹⁰⁹ *** reported substantial capital expenditures and R&D expenses during the POI.¹¹⁰ *** reported *** and its financial performance was well below the industry averages for U.S. processors as well as for U.S. producers and processors combined throughout the POI,¹¹¹ although *** financial performance was substantially better than industry averages for U.S. processors as well as for U.S. producers and U.S. processors combined.¹¹²

¹⁰³ CR/PR at Table 3.1.

¹⁰⁴ CR/PR at Table 3.1. Both *** the petitions with respect to China, and *** the petitions with respect to India, South Korea, Taiwan, and Thailand. *** U.S. Producers’ Questionnaire at I-4; *** U.S. Producers’ Questionnaire at I-4.

¹⁰⁵ CR/PR at Table E.3.

¹⁰⁶ CR/PR at Table E.3.

¹⁰⁷ CR/PR at Table E.4.

¹⁰⁸ CR/PR at Table E.4. *** purchases of subject imports were *** pounds in 2021, *** pounds in 2022, *** pounds in 2023, and *** pounds in interim 2024. *Id.*

¹⁰⁹ As a ratio to their domestic processing production of epoxy resins, *** imports and purchases of subject imports were *** percent in 2021, *** percent in 2022, *** percent in 2023, and *** percent in interim 2024. *Derived from* CR/PR at Tables E.3 & E.4.

¹¹⁰ See *** U.S. Importers’ Questionnaire at II-4.

¹¹¹ ***’s reported capital expenditures were \$*** in 2021, \$*** in 2022, \$*** in 2023, and \$*** in interim 2024, compared to \$*** in interim 2023; their reported research and development expenses were \$*** in 2021, \$*** in 2022, \$*** in 2023, and \$*** in interim 2024, compared to \$*** in interim 2023. *** CR/PR at Tables 6.10 & 6.12.

¹¹² CR/PR at Table 6.7.

¹¹³ CR/PR at Table 6.7.

Given that the ratio of *** imports and purchases of subject imports to their domestic processing production remained relatively modest throughout the POI, even after increasing during the 2021-2023 period, their primary interest appears to be in domestic production. The firms' substantial capital investments and R&D expenses during the POI also reflect a commitment to domestic production. While *** reported sourcing its inputs for epoxy resins overwhelmingly from subject sources during the POI and therefore has presumably gained a benefit from this arrangement, *** does not appear to have benefitted significantly from subject sourcing in a way that would skew the data or mask injury. In particular, *** reported *** and its financial performance was well below the industry averages for U.S. processors as well as for U.S. producers and processors combined throughout the POI. Although *** financial performance was substantially better than industry averages for U.S. processors as well as for U.S. producers and U.S. processors combined, *** reported sourcing its inputs for epoxy resins overwhelmingly from domestic sources and therefore the degree to which its financial performance reflects subject sourcing would be muted. Therefore, inclusion of *** and *** would not skew industry data or mask injury. For these reasons, we find that appropriate circumstances do not exist to exclude *** and *** from the domestic industry.

***. *** accounted for *** percent of domestic processing production of epoxy resins in 2023.¹¹³ It *** the petitions.¹¹⁴ *** imports and purchases of subject merchandise were very low relative to its domestic processing production throughout the POI. As a ratio to its domestic production, its subject imports were *** percent in 2021, *** percent in 2022, *** percent in 2023, and *** percent in interim 2024 compared to *** percent in interim 2023, while its purchases of subject imports were *** percent in 2021, *** percent in 2022, *** percent in interim 2023, and *** percent in interim 2024.¹¹⁵ As a combined ratio to its domestic processing production, *** imports and purchases of subject imports were *** percent in 2021, *** percent in 2022, *** percent in 2023, and *** percent in interim 2024.¹¹⁶ *** states that it imports and purchases subject merchandise for processing epoxy resins into downstream coatings products.¹¹⁷ *** also reported substantial capital expenditures and R&D expenses during the POI.¹¹⁸ *** financial performance was worse than the industry average for U.S. processors throughout the POI, and below the industry average for U.S. producers and processors combined for virtually the entire POI except in interim 2024.¹¹⁹

¹¹³ CR/PR at Table 3.1.

¹¹⁴ CR/PR at Table 3.1.

¹¹⁵ *Derived from* CR/PR at Tables E.12 & E.13. *** imports of subject merchandise were *** pounds in 2021, *** pounds in 2022, *** pounds in 2023, and *** pounds in interim 2024, compared to *** pounds in interim 2023. CR/PR at Tables E.12. *** purchases of subject imports were *** pounds in 2021, *** pounds in 2022, *** pounds in 2023, and *** million pounds in interim 2024. CR/PR at Table E.13.

¹¹⁶ *Derived from* CR/PR at Tables E.12 & E.13.

¹¹⁷ *** U.S. Importers' Questionnaire at II-4.

¹¹⁸ CR/PR at Tables 6.10 & 6.12. ***'s reported capital expenditures were \$*** in 2021, \$*** in 2022, \$*** in 2023, \$*** in interim 2023, and \$*** in interim 2024; its reported research and development expenses were \$*** in 2021, \$*** in 2022, \$*** in 2023, \$*** in interim 2023, and \$*** in interim 2024. *Id.*

¹¹⁹ CR/PR at Table 6.7.

Given that *** ratio of imports and purchases to domestic production was low throughout the POI, and that it was *** U.S. processor, its primary interest appears to be in domestic production. The firm's substantial capital investments and R&D expenses also reflect a commitment to domestic production. While *** reported sourcing its epoxy resin inputs predominantly from subject sources during the POI and its domestic production operations have benefited from this arrangement, *** also sourced substantially similar quantities of such inputs from domestic sources and therefore the degree to which its financial performance reflects subject sourcing would be muted. Further, as noted its financial performance was generally below the industry average for both processors and for producers and processors combined.¹²⁰ As such *** does not appear to have benefitted from its imports and purchases of subject merchandise to a degree such that its inclusion in the domestic industry would skew industry data or mask injury. Accordingly, we find that appropriate circumstances do not exist to exclude *** from the domestic industry.

In sum, consistent with our definition of the domestic like product, we define the domestic industry to include all domestic producers and processors of epoxy resins.¹²¹

¹²⁰ CR/PR at Table E.11.

¹²¹ Commissioner Kearns agrees with the above analysis and conclusion. However, he takes into account as a condition of competition that processors not only do not compete against, and therefore cannot be harmed by, subject imports of base epoxy resins, they in fact benefit from those imports.

IV. Negligible Imports

Section 771(24) of the Tariff Act, which defines “negligibility,” provides that imports from a subject country that are less than 3 percent of the volume of all such merchandise imported into the United States in the most recent 12-month period for which data are available that precedes the filing of the petition or self-initiation, as the case may be, shall be deemed negligible.¹²² The statute further provides that subject imports from a single country which comprise less than 3 percent of total such imports of the product may not be considered negligible if there are several countries subject to investigation with negligible imports and the sum of such imports from all those countries collectively accounts for more than 7 percent of the volume of all such merchandise imported into the United States.¹²³ In the case of countervailing duty investigations involving developing countries (as designated by the United States Trade Representative), the statute indicates that the negligibility thresholds are 4 percent and 9 percent, rather than 3 percent and 7 percent.¹²⁴

¹²² 19 U.S.C. § 1677(24)(A)(i).

¹²³ 19 U.S.C. § 1677(24)(A)(ii).

¹²⁴ 19 U.S.C. § 1677(24)(B).

Additionally, even if subject imports are found to be negligible for purposes of present material injury, they shall not be treated as negligible for purposes of a threat analysis should the Commission determine that there is a potential that subject imports from the country concerned will imminently account for more than 3 percent (4 percent for developing countries in CVD investigations) of all such merchandise imported into the United States.¹²⁵ The Commission also assesses whether there is a potential that the aggregate volumes of subject imports from all countries with currently negligible imports will imminently exceed 7 percent (10 percent for developing countries in CVD investigations) of all such merchandise imported into the United States.¹²⁶ To assess the potential for imports imminently to surpass the negligibility threshold for purposes of a threat analysis, the Commission typically has examined the share of total imports, especially toward the latter part of the POI, production capacity, capacity utilization, and inventories.¹²⁷

¹²⁵ 19 U.S.C. § 1677(24)(A)(iv).

¹²⁶ 19 U.S.C. § 1677(24)(A)(iv).

¹²⁷ See Certain Steel Concrete Reinforcing Bars from Belarus, China, Korea, Latvia, and Moldova, Inv. Nos. 731-873-874 and 877-879 (Final), USITC Pub. 3440 (July 2001); Certain Stainless Steel Butt-Weld Pipe Fittings from Germany, Inv. No. 731-TA-864 (Final), USITC Pub. 3372 (November 2000); Certain Cold-Rolled Steel Products from Argentina, Brazil, China, Indonesia, Japan, Russia, Slovakia, South Africa, Taiwan, Thailand, Turkey, and Venezuela, Inv. Nos. 701-TA-33-396 and 731-TA-829-840 (Prelim), USITC Pub. 3214 (July 1999).

A. Arguments of the Parties

Petitioners. Petitioners argue that imports from all five subject countries exceed the negligibility threshold for purposes of present material injury.¹²⁸ While acknowledging that official import statistics as adjusted by questionnaire data indicate that subject imports from both China and India are below the three percent negligibility threshold, Petitioners argue that these data significantly understate the volume of subject imports from China and India that entered the United States during the negligibility period.¹²⁹ With respect to China, Petitioners claim that a substantial portion of epoxy resin imports from Canada are in reality subject imports from China that were transshipped to avoid Section 301 duties on imports from China that began in August 2018.¹³⁰ According to Petitioners, if only a small portion of the large volumes of epoxy resin imports from Canada consists of Chinese-origin transshipments, combining those with properly recorded imports of epoxy resins from China into the United States puts the total volume of subject imports from China well above the three percent negligibility threshold.¹³¹ As to India, Petitioners emphasize that U.S. importers accounting for approximately 50 percent of imports from India did not respond to the Commission's questionnaires.¹³² Given the level of these non-responses, Petitioners maintain that it is highly likely that the volumes of the subject imports from India were significantly larger than the quantity reflected in the Commission's data for the negligibility period.¹³³

¹²⁸ Petitioners' Prehearing Br. at 25-33; Petitioners' Posthearing Br. at 11-15.

¹²⁹ Petitioners' Prehearing Br. at 25-33.

¹³⁰ Petitioners' Prehearing Br. at 26-30.

¹³¹ Petitioners' Prehearing Br. at 30-31.

¹³² Petitioners' Prehearing Br. at 32.

¹³³ Petitioners' Prehearing Br. at 32.

If the Commission finds subject imports from China and India to be negligible and ineligible for aggregation for purposes of its negligibility determination, Petitioners argue that the Commission should nonetheless find that subject imports from both China and India have the potential to exceed 3 percent in the imminent future.¹³⁴ While recognizing that official import statistics show that subject imports from China currently account for only *** percent of total imports in the U.S. market, Petitioners argue that this percentage will imminently surpass the 3 percent negligibility threshold, given the Chinese industry's massive and expanding available capacity, export-orientation, and growing inventories.¹³⁵ They also contend that the recent imposition of antidumping duties by the European Union on epoxy resins from China and the initiation of antidumping investigations in other markets with respect to epoxy resins from China provides additional incentives for the subject industry in China to increase exports to the United States.¹³⁶ With respect to India, Petitioners highlight that between January 2022 and September 2024, subject imports of epoxy resins into the U.S. market increased from *** percent of total imports to *** percent in September 2024.¹³⁷ They also argue that subject imports from India will imminently surpass the 3 percent negligibility threshold given the Indian industry's excess capacity, export-orientation, and growing inventories during the POI.¹³⁸

¹³⁴ Petitioners' Prehearing Br. at 34-41; Petitioners' Posthearing Br. at 11-15.

¹³⁵ *See, e.g.*, Petitioners' Prehearing Br. at 34-37; Petitioners' Posthearing Br. at 12-13.

¹³⁶ Petitioners' Prehearing Br. at 36-37.

¹³⁷ Petitioners' Prehearing Br. at 40-41.

¹³⁸ Petitioners' Prehearing Br. at 40; Petitioners' Posthearing Br. at 14-15.

Respondents. PPG, Atul, Champion, and Grasim argue that the Commission should find that subject imports from China and India are negligible. They argue that subject imports from China and India were both below the statutory 3 percent negligibility threshold throughout the POI and that monthly volumes do not suggest that subject imports from either China or India will imminently exceed the 3 percent threshold for a sustained period.¹³⁹ They argue that Petitioners' claim of transshipments of epoxy resins from China via Canada is speculative.¹⁴⁰ They observe that the Chinese industry's capacity is projected to remain flat in the imminent future, and that its shipments to the U.S. market are projected to decline while its home market shipments are projected to increase.¹⁴¹ Finally, they note that subject producers in India are projected to remain focused on their large and growing home market as well as third-country markets other than the United States.¹⁴²

¹³⁹ PPG Prehearing Br. at 34-44; Atul Prehearing Br. at 2-3; Champion Prehearing Br. at 3-5; Grasim Prehearing Br. at 2-4.

¹⁴⁰ PPG Prehearing Br. at 41-43; Huntsman Americas' Posthearing Br. at 9-10.

¹⁴¹ PPG Prehearing Br. at 56-57; Huntsman Americas' Posthearing Br. at 6-9.

¹⁴² PPG Prehearing Br. at 48-52; Grasim Prehearing Br. at 8-11; Atul Prehearing Br. at 5; Champion Prehearing Br. at 8.

B. Analysis

Subject imports from South Korea, Taiwan, and Thailand are above the statutory negligibility threshold. Based on adjusted official Commerce import statistics, during the most recent 12-month period preceding the filing of the petitions (April 2023 through March 2024), subject imports from South Korea accounted for *** percent of total imports, subject imports from Taiwan accounted for *** percent of total imports, and subject imports from Thailand accounted for *** percent of total imports.¹⁴³ Because subject imports from South Korea, Taiwan, and Thailand are above the 3 percent negligibility threshold, we find that imports of epoxy resins from South Korea, Taiwan, and Thailand subject to antidumping duty investigations and imports from South Korea and Taiwan subject to countervailing duty investigations are not negligible.

Subject imports from China and India, however, accounted for *** percent and *** percent, respectively, of total imports and the sum of such imports collectively accounted for *** percent of total imports.¹⁴⁴ Because imports from China and India subject to the antidumping and countervailing duty investigations are below the 3 percent negligibility threshold individually, as well as the 7 percent aggregate negligibility threshold, we find that such imports are negligible for purposes of the Commission's analysis of present material injury.

¹⁴³ CR Table 4.6. Subject import volume is the same with respect to imports of epoxy resins from each source subject to antidumping and countervailing duty investigations.

¹⁴⁴ CR Table 4.6. Subject import volume is the same with respect to imports of epoxy resins from each source subject to antidumping and countervailing duty investigations.

We disagree with Petitioners' arguments regarding alleged transshipments of subject merchandise from Canada. In the preliminary determinations, the Commission specifically found that "{w}ith respect to Petitioners' contention that the Commission should find that subject imports from China are not negligible based on allegations that such imports have been transshipped through Canada, the record here does not permit the Commission to identify or quantify what, if any, imports are so transshipped."¹⁴⁵ There is no new evidence on the record of the final phase of these investigations that would warrant a different conclusion.¹⁴⁶ Moreover, the Commission has neither the statutory authority nor the expertise to make determinations with respect to transshipment especially where, as here, the record evidence is unclear and does not allow the Commission to identify the alleged transshipments of subject merchandise from China.¹⁴⁷

We next consider whether subject imports from China and India have the potential to imminently exceed the 3 percent negligibility threshold for purposes of threat of material injury. The Commission found in its preliminary determination that:

¹⁴⁵ See Preliminary Determinations, USITC Pub. 5510 at 23 n.118.
(Continued...)

Under the relevant *American Lamb* standard, the record in the preliminary phase of these investigations does not provide clear and convincing evidence that there is not a potential for subject imports from China and India to imminently exceed the negligibility threshold.¹⁴⁸

¹⁴⁶ In these final phase investigations, Petitioners have presented much of the same evidence regarding transshipments that they presented in their postconference brief during the preliminary phase. This evidence includes: GTA data under HTS 3907.30 showing U.S. imports of relatively large volumes of epoxy resins from Canada despite the ***, a signed declaration, and a distributor communication that Chinese imports are being routed through Canada for re-shipment to the United States. See Petitioners' Prehearing Br. at 27-30; see also Petitioners' Post Conf. Br. at 14-15 (*citing* Petitioners' Post Conf. Br. at Exh. 5 (declaration of *** & Att. C; Petitions, Vol. I, Exhs. I-7 (***) at 47) & I-25 (Olin's Internal Call Report)). We recognize that the evidence presented by Petitioners regarding transshipments is different in certain respects from the evidence that they presented in the preliminary phase of the investigations. In the final phase of the investigations, Petitioners have presented GTA data for Canadian imports of epoxy resins from China and U.S. imports of epoxy resins from China covering the 2017-2024 period, which covers a broader timeframe than the GTA data that they presented in the preliminary phase covering only the 2021-2023 period. See Petitioners' Prehearing Br. at 27-28; Petitioners' Postconference Br. at 14-15. Petitioners also claim that they have recently learned of a scheme by a Chinese producer of epoxy resins to evade duties and have provided a letter dated March 21, 2025, notifying CBP of this discovery. See Petitioners' Prehearing Br. at Exh. 5.

In our view, Petitioners' arguments regarding transshipments through Canada suffer from largely the same deficiencies that we found with those arguments in the preliminary determinations. Specifically, Petitioners have still not provided evidence that would allow the Commission to identify or quantify what, if any, imports are being transshipped. Moreover, firms responding to the Commission's U.S. importer questionnaire were asked to report their U.S. imports of epoxy resins from Canada that were of Chinese origin. Of the 37 responding U.S. importers, ***. CR/PR at 4.12, n.9. However, a U.S. Importer (***) reported in its questionnaire response that ***. In addition, respondents contend that "there are several open-source platforms, including supplier databases, that list myriad Canadian producers of epoxy resin." PPG Posthearing Br., Responses to Commission Questions at 29. Finally, in response to a question at the hearing by Commissioner Kearns, Petitioners acknowledge in their posthearing brief that they have yet to request CBP to investigate the transshipment issue since they currently do not have "sufficient evidence" of transshipments. See Petitioners' Posthearing Br., Answers to Commissioners' Questions at 47.

¹⁴⁷ CBP has the authority to investigate alleged evasion of antidumping or countervailing duties pursuant to the Enforce and Protect Act, Title IV, Section 421 of the Trade Facilitation and Enforcement Act of 2015 (February 24, 2016). See 19 U.S.C § 1517(a)(2) & (c)(1)(a).

¹⁴⁸ See Preliminary Determinations, USITC Pub. 5510 at 23 n.118.

However, a more exacting standard applies in this final phase of the investigations.¹⁴⁹ For the reasons discussed below, we find that there is not a potential that subject imports from China or India will imminently exceed the 3 percent negligibility threshold individually nor a potential that subject imports from China and India will imminently exceed the 7 percent aggregate negligibility threshold.

¹⁴⁹ Although the definition of “material injury” is the same for both preliminary and final determinations, and both standards use the “by reason of” language, the evidentiary standard for a preliminary determination is lower. *Compare* 19 U.S.C. §§ 1671b(a) and 1673b(a) *with* 19 U.S.C. §§ 1671d(b)(1) and 1673d(b)(1).

China. We first examine whether subject imports from China are negligible for purposes of a threat analysis. In considering whether such subject imports have the potential to imminently exceed the threshold, the Commission has considered whether such imports have exceeded the statutory threshold for a sustained period prior to filing of the petition.¹⁵⁰ Based on adjusted official import statistics, subject imports from China never accounted for 3 percent or more of total imports during any of the rolling 12-month periods preceding or after the filing of the petition.¹⁵¹ Further, subject imports from China never exceeded *** percent of total imports calculated on a monthly basis during any of the 12-month periods preceding the filing of the petition.¹⁵² Instead, subject imports from China declined irregularly as a share of total imports during the most recent rolling 12-month periods, from *** percent of total imports in the 12-month period ending April 2023 to only *** percent of total imports in the 12-month period ending March 2024.¹⁵³ Moreover, the monthly volume of subject imports from China declined irregularly during the first four months of 2024, and never exceeded *** percent of total imports during January-April 2024.¹⁵⁴ Indeed, subject imports from China never exceeded the 3 percent negligibility threshold in any calendar month from January 2022 through the end of the POI in September 2024, reaching a high of *** percent of total imports in January 2022 before *** thereafter as a share of total imports to *** percent of total imports during the September 2024. These data do not indicate that subject imports from China have the potential to imminently exceed 3 percent of total imports on a sustained basis.¹⁵⁵

¹⁵⁰ See, e.g., *Cold-Rolled Steel*, USITC Pub. 4637 at 9 (subject imports from India exceeded statutory negligibility threshold for final six months of 12-month negligibility period).

¹⁵¹ See CR/PR at Table 4.7.

¹⁵² See CR/PR at Table 4.7.

¹⁵³ See CR/PR at Table 4.7.

¹⁵⁴ See CR/PR at Table 4.7. We note that subject imports from China declined as a share of total imports over the rolling 12-month periods spanning the POI, falling increasingly below the negligibility threshold in the 12-month rolling periods after January 2022. *Id.*

¹⁵⁵ See CR/PR at Table 4.7.

Other evidence on the record also indicates that subject imports from China do not have the potential to exceed the 3 percent negligibility threshold in the imminent future. As reflected in Global Trade Atlas (“GTA”) data, the industry in China is a relatively small exporter of epoxy resins to the United States, ranking next to last in 2021 and 2022 and last in 2023 among the subject countries ranked by total exports of epoxy resins to the United States.¹⁵⁶ GTA data also indicate that the Chinese industry’s exports to the United States declined from 8.4 million pounds in 2021 to 6.3 million pounds in 2022 and 4.1 million pounds in 2023.¹⁵⁷ Although China ranked among the largest global exporters of epoxy resins to all destination markets during 2021-2023,¹⁵⁸ it ranked among the smallest global exporters of epoxy resins to the United States, and the Chinese industry’s exports to the United States as a share of its total global exports declined from 3.6 percent in 2021 to 3.3 percent in 2022 and 2.5 percent in 2023.¹⁵⁹

Information on arranged imports also does not indicate that subject imports from China will imminently exceed the negligibility threshold. Subject imports from China accounted for only *** percent of all reported arranged imports for the October 2024 to September 2025 period.¹⁶⁰

¹⁵⁶ CR/PR at Table 7.21.

¹⁵⁷ CR/PR at Table 7.21.

¹⁵⁸ CR/PR at 7.26. China’s exports of epoxy resins to all destination markets were 223.3 million pounds in 2021, 276.5 million pounds in 2022, and 381.0 million pounds in 2023. *Id.*

¹⁵⁹ CR/PR at Table 7.21. China’s exports to the United States were 8.4 million pounds in 2021, 6.3 million pounds in 2022, and 4.1 million pounds in 2023. *Id.*

¹⁶⁰ CR/PR at Table 7.23.

We have also considered the capacity, capacity utilization, and inventory data on the record in these final phase investigations. Specifically, the only two foreign producers in China that responded to Commission questionnaires reported that their capacity increased every year from 2021 to 2023 and was higher in interim 2024 than in interim 2023.¹⁶¹ Their reported increases in capacity, coupled with declining production,¹⁶² resulted in generally declining capacity utilization during the POI, except in interim 2024 compared to interim 2023.¹⁶³ Their end-of-period inventories increased from 2021 to 2023 and were higher in interim 2024 than in interim 2023.¹⁶⁴ Petitioners also cite *** data as indicating that the Chinese industry had *** pounds of epoxy resins production capacity in 2021, and estimate that this capacity increased to *** pounds in 2024. Even assuming *arguendo* that these data are accurate, however, they indicate primarily that the Chinese producers' increasing capacity, excess capacity, and inventories during the POI have not motivated Chinese producers to increase their exports to the United States.¹⁶⁵ There is no record evidence indicating that these trends will change in the imminent future.¹⁶⁶

¹⁶¹ CR/PR at Table 7.16. The Chinese industry's reported capacity was *** pounds in 2021, *** pounds in 2022, *** pounds in 2023, and *** pounds in interim 2024, compared to *** pounds in interim 2023. *Id.*

¹⁶² CR/PR at Table 7.16. The Chinese industry's reported production was *** pounds in 2021, *** pounds in 2022, *** pounds in 2023, and *** pounds in interim 2024, compared to *** pounds in interim 2023. *Id.*

¹⁶³ CR/PR at Table 7.16. The Chinese industry's reported capacity utilization was *** percent in 2021, *** percent in 2022, *** percent in 2023, and *** percent in interim 2024, compared to *** percent in interim 2023. *Id.*

¹⁶⁴ CR/PR at Table 7.18. The Chinese industry's reported end-of-period inventories were *** pounds in 2021, *** pounds in 2022, *** pounds in 2023, and *** pounds in interim 2024, compared to *** pounds in interim 2023. CR/PR at Table 7.18.

¹⁶⁵ See Petitioners Prehearing Br. at 36-37.

¹⁶⁶ The other information on the record indicates that Chinese industry's capacity is projected to be *** pounds in 2024 and 2025, which is only slightly higher than in 2023. CR/PR at Table 7.16. Its capacity utilization rates are projected to be *** percent in 2024 and *** percent in 2025, which are approximately the same level as in 2023. *Id.* Its end-of-period inventories are projected to be *** pounds in 2024 and *** pounds in 2024, which are slightly above their level in 2023. CR/PR at Table 7.18.

Given that subject imports from China were consistently far below the negligibility threshold throughout the negligibility period and fluctuated downward, and the absence of other evidence indicating that such imports will imminently increase to a level that would exceed the threshold, we find that there is no potential that imports from China subject to the antidumping and countervailing duty investigations will imminently exceed the 3 percent negligibility threshold.

India. Based on adjusted official import statistics, subject imports from India never accounted for more than 3 percent of total imports during any of the rolling 12-month periods preceding or after the filing of the petition.¹⁶⁷ In fact, subject imports from India never exceeded *** percent of total imports calculated on a monthly basis during any of the rolling 12-month periods preceding the filing of the petition.¹⁶⁸ Indeed, subject imports from India never exceeded the 3 percent negligibility threshold in any calendar month from January 2022 through the end of the POI in September 2024, reaching a high of *** percent of total imports in September and October 2023 and May 2024, but remaining within *** percentage points from that figure in every calendar month since initially reaching that high point in September 2023.¹⁶⁹ Although subject imports from India as a share of total imports trended upwards during the rolling 12-month periods ending in 2023 and interim 2024, the increase has been gradual, averaging less than 0.05 percentage points per month during the October 2023-September 2024 period.¹⁷⁰ These data do not support that subject imports from India have the potential to imminently exceed the 3 percent threshold.

¹⁶⁷ See CR/PR at Table 4.8.

¹⁶⁸ See CR/PR at Table 4.8.

¹⁶⁹ CR/PR at Table 4.8.

¹⁷⁰ CR/PR at Table 4.8. We note that although subject imports from India have increased overall as a share of total imports over the POI, they have remained below the negligibility period since January 2022. *Id.* Based on rolling 12-month average import data from January 2022 through September 2024, subject imports from India never exceeded the 3-percent negligibility threshold, reaching a high of *** percent of total imports during the 12-month period ending in May 2024 before *** thereafter as a share of total imports and accounting for *** percent of total imports during the 12-month period ending in September 2024. *Id.*

Other evidence on the record also indicates that subject imports from India do not have the potential to exceed the 3-percent negligibility threshold in the imminent future. As reflected in GTA data, the industry in India is a relatively small exporter of epoxy resins to the United States, ranking last in 2021 and 2022 and next to last in 2023 among the subject countries ranked by total exports of epoxy resins to the United States.¹⁷¹ GTA data also indicate that the Indian industry's exports to the United States increased overall but remained at low levels during the 2021-2023 period, increasing from 2.0 million pounds in 2021 to 4.5 million pounds in 2022 and 4.7 million pounds in 2023.¹⁷² Although India ranked among the largest global exporters of epoxy resins to all destination markets during the 2021-2023 period,¹⁷³ it ranked among the smallest exporters of epoxy resins to the United States, and the Indian industry's exports to the United States as a share of its total global exports were only 0.9 percent in 2021, 2.3 percent in 2022, and 2.8 percent in 2023.¹⁷⁴

Information on arranged imports also does not indicate that subject imports from India will imminently exceed the negligibility threshold. Subject imports from India accounted for *** percent of all reported arranged imports for the October 2024 to September 2025 period.¹⁷⁵ Nevertheless, arranged imports appear likely to account for a relatively small portion of the total volume of imports likely to enter the U.S. market in the imminent future. Although subject imports totaled 142.4 million short tons in the nine months of interim 2024, arranged subject imports totaled only 32.7 million short tons for the fourth quarter of 2024.¹⁷⁶ Thus, the percentage of arranged imports made up of subject imports from India is not indicative of the fraction of total imports likely to be accounted for by subject imports from India.

¹⁷¹ CR/PR at Table 7.21.

¹⁷² CR/PR at Table 7.21.

¹⁷³ CR/PR at Table 7.26. India's exports of epoxy resins to all destination markets were 57.2 million pounds in 2021, 66.3 million pounds in 2022, and 54.2 million pounds in 2023. *Id.*

¹⁷⁴ CR/PR at Table 7.21. India's exports to the United States were 2.0 million pounds in 2021, 4.5 million pounds in 2022, and 4.7 million pounds in 2023. *Id.*

¹⁷⁵ CR/PR at Table 7.23.

¹⁷⁶ CR/PR at Tables 4.2 & 7.23.

We have also considered the capacity, capacity utilization, and inventory data on the record in these final phase investigations. Specifically, the four foreign producers in India that responded to Commission questionnaires reported that their capacity and production increased every year from 2021 to 2023 and that their capacity and production were both higher in interim 2024 than in interim 2023.¹⁷⁷ Their reported increases in capacity and production resulted in generally increasing capacity utilization during the POI except in interim 2024 when compared to interim 2023.¹⁷⁸ Their end-of-period inventories increased from 2021 to 2023, and were higher in interim 2024 than in interim 2023.¹⁷⁹ Although the industry in India reported increasing capacity, significant excess capacity, and increasing inventories during the POI, subject imports from India remained well below the negligibility threshold throughout the POI and never exceeded *** percent of total imports during the relevant negligibility period.¹⁸⁰ We consider that these data indicate primarily that the Indian producers' increasing capacity, excess capacity, and inventories during the POI have not motivated them to increase exports to the United States. There is no record evidence indicating that these trends will change in the imminent future.¹⁸¹

¹⁷⁷ CR/PR at Table 7.16. The Indian industry's reported production capacity was *** pounds in 2021, *** pounds in 2022, *** pounds in 2023, and *** pounds in interim 2024, compared to *** pounds in interim 2023. *Id.* Its reported production was *** pounds in 2021, *** pounds in 2022, *** pounds in 2023, and *** pounds in interim 2024, compared to *** pounds in interim 2023. *Id.*

¹⁷⁸ CR/PR at Table 7.16. The Indian industry's reported capacity utilization increased from *** percent in 2021 to *** percent in 2022 and *** percent in 2023; its capacity utilization was lower in interim 2024, at *** percent, than in interim 2023, at *** percent. *Id.*

¹⁷⁹ CR/PR at Table 7.18. The Indian industry's end-of-period inventories were *** pounds in 2021, *** pounds in 2022, *** pounds in 2023, and *** pounds in interim 2024, compared to *** pounds in interim 2023. *Id.*

¹⁸⁰ CR/PR at Tables 7.16, 7.18, and 4.8.

¹⁸¹ Although the Indian industry's reported capacity and production are projected to be higher in 2024 and 2025 than in 2023, its capacity utilization in 2024 is projected to be lower than in 2023, while its capacity utilization in 2025 is projected to be about the same as 2023. CR/PR at Table 7.16. Even with projected excess capacity in 2024 totaling *** pounds, subject imports from India never exceeded *** percent of total imports during the 12-month periods ending in January through September 2024. *Id.* at Table 4.8 & 7.16. The Indian industry's excess capacity is projected to be (*** pounds) in 2025, which is substantially lower than in 2024 (*** pounds) and only slightly above 2023 levels (*** pounds). *Id.* at Table 7.16. Even with excess capacity totaling *** pounds in 2023, subject imports from India never exceeded *** percent of total imports in the rolling 12-month periods ending in that year. *Id.* at Tables 4.8 & 7.16.

Although subject imports from India as a share of total imports fluctuated upward during the most recent rolling 12-month periods, we note that subject imports from India never exceeded *** percent of total imports in any calendar month between January 2022 and September 2024 or during the rolling 12-month periods ending in March 2023 through April 2024, never exceeded *** percent of total imports during the rolling 12-month periods ending in January through September 2024, and declined irregularly from *** percent of total imports during the 12-month period ending May 2024 to *** percent of total imports during the 12-month period ending September 2024.¹⁸² Given that subject imports from India were consistently below the negligibility threshold throughout the relevant period, and the absence of other evidence that such imports will imminently increase to the degree necessary to exceed the threshold, we find that imports from India subject to the antidumping and countervailing duty investigations do not have the potential to imminently exceed the 3 percent negligibility threshold.

Aggregate Analysis. To determine whether there is a potential that subject imports from China and India in the aggregate will imminently exceed 7 percent of total imports, we have considered their combined share of total imports for the relevant negligibility period. Subject imports from China and India combined accounted for *** percent of total imports during the April 2023 through March 2024 period, with subject imports from India accounting for *** percent of total imports and subject imports from China accounting for *** percent of total imports.¹⁸³ Given that subject imports from China and India in the aggregate are less than half of the 7 percent threshold, and our finding that subject imports from either country do not have the potential to imminently exceed the 3 percent threshold for the reasons discussed above, we find that there is not a potential that subject imports from China and India combined will imminently exceed the aggregate negligibility threshold for purposes of threat.

Conclusion. For the above reasons, we find that subject imports from South Korea, Taiwan, and Thailand are not negligible. We also find that subject imports from China and India are negligible for purposes of both present material injury and threat and thus terminate the antidumping and countervailing duty investigations concerning subject imports from China and India.

¹⁸² CR/PR at Table 4.8.

¹⁸³ CR/PR at Tables 4.7 & 4.8.

V. Cumulation

For purposes of evaluating the volume and effects for a determination of material injury by reason of subject imports, section 771(7)(G)(i) of the Tariff Act requires the Commission to cumulate subject imports from all countries as to which petitions were filed and/or investigations self-initiated by Commerce on the same day, if such imports compete with each other and with the domestic like product in the U.S. market. In assessing whether subject imports compete with each other and with the domestic like product, the Commission generally has considered four factors:

- (1) the degree of fungibility between subject imports from different countries and between subject imports and the domestic like product, including consideration of specific customer requirements and other quality related questions;
- (2) the presence of sales or offers to sell in the same geographic markets of subject imports from different countries and the domestic like product;
- (3) the existence of common or similar channels of distribution for subject imports from different countries and the domestic like product; and
- (4) whether the subject imports are simultaneously present in the market.¹⁸⁴

While no single factor is necessarily determinative, and the list of factors is not exhaustive, these factors are intended to provide the Commission with a framework for determining whether the subject imports compete with each other and with the domestic like product.¹⁸⁵ Only a “reasonable overlap” of competition is required.¹⁸⁶

¹⁸⁴ See *Certain Cast-Iron Pipe Fittings from Brazil, the Republic of Korea, and Taiwan*, Inv. Nos. 731-TA-278-280 (Final), USITC Pub. 1845 (May 1986), *aff’d*, *Fundicao Tupy, S.A. v. United States*, 678 F. Supp. 898 (Ct. Int’l Trade), *aff’d*, 859 F.2d 915 (Fed. Cir. 1988).

¹⁸⁵ See, e.g., *Wieland Werke, AG v. United States*, 718 F. Supp. 50 (Ct. Int’l Trade 1989).

¹⁸⁶ The Statement of Administrative Action (SAA) to the Uruguay Round Agreements Act (URAA), expressly states that “the new section will not affect current Commission practice under which the statutory requirement is satisfied if there is a reasonable overlap of competition.” H.R. Rep. No. 103-316, Vol. I at 848 (1994) (*citing Fundicao Tupy, S.A. v. United States*, 678 F. Supp. at 902; see *Goss Graphic Sys., Inc. v. United States*, 33 F. Supp. 2d 1082, 1087 (Ct. Int’l Trade 1998) (“cumulation does not require two products to be highly fungible”); *Wieland Werke, AG*, 718 F. Supp. at 52 (“Completely overlapping markets are not required.”)).

A. Arguments of the Parties

Petitioners argue that the Commission should cumulate subject imports from all subject countries for its analysis of present material injury by reason of subject imports.¹⁸⁷ No respondents addressed the issue of cumulation for purposes of present material injury.

B. Analysis

We consider subject imports from South Korea, Taiwan, and Thailand on a cumulated basis because the statutory criteria for cumulation are satisfied. As an initial matter, Petitioners filed the antidumping and countervailing duty petitions with respect to the subject countries on the same day, April 3, 2024.¹⁸⁸

Fungibility. Most responding U.S. producers, U.S. importers, and purchasers reported that subject imports from South Korea, Taiwan, and Thailand were either “always” or “frequently” interchangeable with the domestic like product and imports from other subject sources.¹⁸⁹ Most responding purchasers rated domestically produced epoxy resins as comparable to epoxy resins imported from each subject country with respect to 15 enumerated factors that influence purchasing decisions.¹⁹⁰

¹⁸⁷ Petitioners’ Prehearing Br. at 41-44.

¹⁸⁸ Because we have terminated the antidumping and countervailing duty investigations concerning imports from China and India based on negligibility, imports from those countries are not eligible for cumulation. 19 U.S.C. § 1677(7)(G)(ii)(II). None of the other statutory exceptions to cumulation applies in these investigations. *See id.* at § 1677(7)(G)(ii).

¹⁸⁹ *See* CR/PR at Tables 2.16-2.18.

¹⁹⁰ *See* CR/PR at Table 2.15.

In addition, the Commission's pricing data indicate overlap and head-to-head competition in sales of pricing product 1, the pricing product accounting for the largest volume of sales reported by domestic producers and importers, between domestically produced epoxy resins and subject imports from each subject country, and competition in sales of pricing product 2 between domestically produced epoxy resins and subject imports from subject country.¹⁹¹ Moreover, most responding purchasers reported shifting purchases from the domestic industry to subject imports from one or more of the subject countries during the POI, again indicating fungibility between domestically produced epoxy resins and subject imports from each subject country.¹⁹²

Furthermore, the record indicates that subject imports from each subject country for which data are available overlapped with the domestic like product in terms of the form of epoxy resins. In 2023, the vast majority of U.S. shipments of domestically produced epoxy resins (**% percent) and subject imports (**% percent) consisted of epoxy resins in a liquid/solution form.¹⁹³ Epoxy resins in a liquid-solution form accounted for more than **% percent of the U.S. shipments of subject imports from each subject country that year.¹⁹⁴

In addition, U.S. producers, processors, and importers were asked to report on their U.S. shipments of epoxy resins by three group types. The record indicates that the vast majority of U.S. producer shipments in 2023 were from Group 1, BADGE-type epoxy resins, bisphenol-F epoxy resins, epoxy solutions and epoxy blends (**% percent), as were imports from subject sources (**% percent).¹⁹⁵ Group 1 accounted for over **% percent of the U.S. shipments of subject imports from each subject country that year.¹⁹⁶ Thus, the record indicates a sufficient degree of fungibility between and among subject imports from each subject country and the domestic like product for purposes of cumulation.

¹⁹¹ See CR/PR at Table 5.10.

¹⁹² CR/PR at Table 5.17. Of the 56 responding purchasers, 44 reported that, since 2021, they had purchased imported epoxy resins from subject sources instead of U.S.-produced product. *Id.* at 5.30

¹⁹³ CR/PR at Table 4.11.

¹⁹⁴ CR/PR at Table 4.11 & Figure 4.4.

¹⁹⁵ CR/PR at Table 4.12.

¹⁹⁶ CR/PR at Table 4.12.

Channels of Distribution. Although the majority of U.S. producers' shipments were to processors, they also sold significant quantities to distributors. During the 2021-2023 period, the percentage of the U.S. producers' U.S. shipments going to processors ranged from *** percent to *** percent and the percentage going to distributors ranged from *** percent to *** percent.¹⁹⁷ The vast majority of U.S. processors' U.S. shipments were made to end users.¹⁹⁸ For subject sources collectively, the percentage ranged from *** percent to *** percent for processors and the percentage going to distributors ranged from *** percent to *** percent.¹⁹⁹

The majority of U.S. importers' U.S. shipments of subject imports from South Korea and Taiwan during 2021-2023 were to end users, including *** to *** percent of U.S. shipments of subject imports from South Korea, and *** to *** percent of U.S. shipments of subject imports from Taiwan, while appreciable shares of importers' U.S. shipments from Thailand were to end users, ranging from *** percent to *** percent.²⁰⁰ Appreciable or substantial shares of importers' U.S. shipments of imports from South Korea and Taiwan were made to processors during the 2021-2023 period, including *** percent to *** percent of U.S. shipments of subject imports from South Korea, *** percent to *** percent of U.S. shipments of subject imports from Taiwan, while the majority of importers' U.S. shipments of subject imports from Thailand were made to processors, ranging from *** to *** percent.²⁰¹ Responding importers made the balance of their U.S. shipments of subject imports from South Korea and Taiwan to distributors, including *** percent to *** percent of U.S. shipments of subject imports from South Korea, *** percent to *** percent of U.S. shipments of subject imports from Taiwan, while a substantial share of importers' U.S. shipments from Thailand were made to distributors, ranging from *** percent to *** percent.²⁰² Thus, the domestic like product and subject imports from each subject country substantially overlapped for shipments to both end users and processors.²⁰³

¹⁹⁷ CR/PR at Table 2.2.

¹⁹⁸ CR/PR at Table 2.2.

¹⁹⁹ CR/PR at Table 2.2.

²⁰⁰ CR/PR at Table 2.2.

²⁰¹ CR/PR at Table 2.2.

²⁰² CR/PR at Table 2.2.

²⁰³ CR/PR at Table 2.2.

Geographic Overlap. U.S. producers and importers from South Korea reported selling epoxy resins to all regions in the United States.²⁰⁴ Importers from Taiwan and Thailand reported selling to all regions in the contiguous United States.²⁰⁵ Official import statistics also indicate that imports from each subject country entered the United States through all four borders of entry during 2023.²⁰⁶ Imports from each subject source mostly entered in the East, North, and South regions.²⁰⁷

Simultaneous Presence in Market. The domestic like product was present in the U.S. market throughout the POI.²⁰⁸ Imports from all subject sources were present in the U.S. market in all months of the POI.²⁰⁹

Conclusion. The record indicates that subject imports from South Korea, Taiwan, and Thailand are fungible with domestically produced epoxy resins and each other. The record also indicates that imports from each of the subject countries and domestically produced epoxy resins were sold in overlapping channels of distribution and geographic markets and were simultaneously present in the U.S. market during the POI. Because there is a reasonable overlap of competition between and among subject imports from South Korea, Taiwan, and Thailand and domestically produced epoxy resins, we cumulate subject imports from these sources for our analysis of whether there is material injury by reason of subject imports.

²⁰⁴ CR/PR at Table 2.3.

²⁰⁵ CR/PR at Table 2.3.

²⁰⁶ See CR/PR at Table 4.13.

²⁰⁷ See CR/PR at Table 4.13.

²⁰⁸ See CR/PR at Tables 5.6-5.10.

²⁰⁹ See CR/PR at Table 4.14.

VI. Material Injury by Reason of Cumulated Subject Imports

A. Legal Standards

In the final phase of antidumping and countervailing duty investigations, the Commission determines whether an industry in the United States is materially injured or threatened with material injury by reason of the imports under investigation.²¹⁰ In making this determination, the Commission must consider the volume of subject imports, their effect on prices for the domestic like product, and their impact on domestic producers of the domestic like product, but only in the context of U.S. production operations.²¹¹ The statute defines “material injury” as “harm which is not inconsequential, immaterial, or unimportant.”²¹² In assessing whether the domestic industry is materially injured by reason of subject imports, we consider all relevant economic factors that bear on the state of the industry in the United States.²¹³ No single factor is dispositive, and all relevant factors are considered “within the context of the business cycle and conditions of competition that are distinctive to the affected industry.”²¹⁴

²¹⁰ 19 U.S.C. §§ 1671d(b), 1673d(b).

²¹¹ 19 U.S.C. § 1677(7)(B). The Commission “may consider such other economic factors as are relevant to the determination” but shall “identify each {such} factor ... and explain in full its relevance to the determination.” 19 U.S.C. § 1677(7)(B).

²¹² 19 U.S.C. § 1677(7)(A).

²¹³ 19 U.S.C. § 1677(7)(C)(iii).

²¹⁴ 19 U.S.C. § 1677(7)(C)(iii).

Although the statute requires the Commission to determine whether the domestic industry is “materially injured or threatened with material injury by reason of” unfairly traded imports,²¹⁵ it does not define the phrase “by reason of,” indicating that this aspect of the injury analysis is left to the Commission’s reasonable exercise of its discretion.²¹⁶ In identifying a causal link, if any, between subject imports and material injury to the domestic industry, the Commission examines the facts of record that relate to the significance of the volume and price effects of the subject imports and any impact of those imports on the condition of the domestic industry. This evaluation under the “by reason of” standard must ensure that subject imports are more than a minimal or tangential cause of injury and that there is a sufficient causal, not merely a temporal, nexus between subject imports and material injury.²¹⁷

²¹⁵ 19 U.S.C. §§ 1671d(b), 1673d(b).

²¹⁶ *Angus Chemical Co. v. United States*, 140 F.3d 1478, 1484-85 (Fed. Cir. 1998) (“{T}he statute does not ‘compel the commissioners’ to employ {a particular methodology}.”), *aff’g*, 944 F. Supp. 943, 951 (Ct. Int’l Trade 1996).

²¹⁷ The Federal Circuit, in addressing the causation standard of the statute, observed that “{a}s long as its effects are not merely incidental, tangential, or trivial, the foreign product sold at less than fair value meets the causation requirement.” *Nippon Steel Corp. v. USITC*, 345 F.3d 1379, 1384 (Fed. Cir. 2003). This was further ratified in *Mittal Steel Point Lisas Ltd. v. United States*, 542 F.3d 867, 873 (Fed. Cir. 2008), where the Federal Circuit, quoting *Gerald Metals, Inc. v. United States*, 132 F.3d 716, 722 (Fed. Cir. 1997), stated that “this court requires evidence in the record ‘to show that the harm occurred “by reason of” the LTFV imports, not by reason of a minimal or tangential contribution to material harm caused by LTFV goods.’” *See also Nippon Steel Corp. v. United States*, 458 F.3d 1345, 1357 (Fed. Cir. 2006); *Taiwan Semiconductor Industry Ass’n v. USITC*, 266 F.3d 1339, 1345 (Fed. Cir. 2001).

In many investigations, there are other economic factors at work, some or all of which may also be having adverse effects on the domestic industry. Such economic factors might include nonsubject imports; changes in technology, demand, or consumer tastes; competition among domestic producers; or management decisions by domestic producers. The legislative history explains that the Commission must examine factors other than subject imports to ensure that it is not attributing injury from other factors to the subject imports, thereby inflating an otherwise tangential cause of injury into one that satisfies the statutory material injury threshold.²¹⁸ In performing its examination, however, the Commission need not isolate the injury caused by other factors from injury caused by unfairly traded imports.²¹⁹ Nor does the “by reason of” standard require that unfairly traded imports be the “principal” cause of injury or contemplate that injury from unfairly traded imports be weighed against other factors, such as nonsubject imports, which may be contributing to overall injury to an industry.²²⁰ It is clear that the existence of injury caused by other factors does not compel a negative determination.²²¹

²¹⁸ SAA at 851-52 (“{T}he Commission must examine other factors to ensure that it is not attributing injury from other sources to the subject imports.”); S. Rep. 96-249 at 75 (1979) (the Commission “will consider information which indicates that harm is caused by factors other than less-than-fair-value imports.”); H.R. Rep. 96-317 at 47 (1979) (“in examining the overall injury being experienced by a domestic industry, the ITC will take into account evidence presented to it which demonstrates that the harm attributed by the petitioner to the subsidized or dumped imports is attributable to such other factors;” those factors include “the volume and prices of nonsubsidized imports or imports sold at fair value, contraction in demand or changes in patterns of consumption, trade restrictive practices of and competition between the foreign and domestic producers, developments in technology and the export performance and productivity of the domestic industry”); *accord Mittal Steel*, 542 F.3d at 877.
(Continued...)

Assessment of whether material injury to the domestic industry is “by reason of” subject imports “does not require the Commission to address the causation issue in any particular way” as long as “the injury to the domestic industry can reasonably be attributed to the subject imports.”²²² The Commission ensures that it has “evidence in the record” to “show that the harm occurred ‘by reason of’ the LTFV imports,” and that it is “not attributing injury from other sources to the subject imports.”²²³ The Federal Circuit has examined and affirmed various Commission methodologies and has disavowed “rigid adherence to a specific formula.”²²⁴

²¹⁹ SAA at 851-52 (“{T}he Commission need not isolate the injury caused by other factors from injury caused by unfair imports.”); *Taiwan Semiconductor Industry Ass’n*, 266 F.3d at 1345 (“{T}he Commission need not isolate the injury caused by other factors from injury caused by unfair imports Rather, the Commission must examine other factors to ensure that it is not attributing injury from other sources to the subject imports.” (emphasis in original)); *Asociacion de Productores de Salmon y Trucha de Chile AG v. United States*, 180 F. Supp. 2d 1360, 1375 (Ct. Int’l Trade 2002) (“{t}he Commission is not required to isolate the effects of subject imports from other factors contributing to injury” or make “bright-line distinctions” between the effects of subject imports and other causes.); *see also Softwood Lumber from Canada*, Inv. Nos. 701-TA-414 and 731-TA-928 (Remand), USITC Pub. 3658 at 100-01 (Dec. 2003) (Commission recognized that “{i}f an alleged other factor is found not to have or threaten to have injurious effects to the domestic industry, *i.e.*, it is not an ‘other causal factor,’ then there is nothing to further examine regarding attribution to injury”), *citing Gerald Metals*, 132 F.3d at 722 (the statute “does not suggest that an importer of LTFV goods can escape countervailing duties by finding some tangential or minor cause unrelated to the LTFV goods that contributed to the harmful effects on domestic market prices.”).

²²⁰ S. Rep. 96-249 at 74-75; H.R. Rep. 96-317 at 47.

²²¹ *See Nippon Steel Corp.*, 345 F.3d at 1381 (“an affirmative material-injury determination under the statute requires no more than a substantial-factor showing. That is, the ‘dumping’ need not be the sole or principal cause of injury.”).

²²² *Mittal Steel*, 542 F.3d at 876 & 78; *see also id.* at 873 (“While the Commission may not enter an affirmative determination unless it finds that a domestic industry is materially injured ‘by reason of’ subject imports, the Commission is not required to follow a single methodology for making that determination ... {and has} broad discretion with respect to its choice of methodology.”) *citing United States Steel Group v. United States*, 96 F.3d 1352, 1362 (Fed. Cir. 1996) and S. Rep. 96-249 at 75. In its decision in *Swiff-Train v. United States*, 793 F.3d 1355 (Fed. Cir. 2015), the Federal Circuit affirmed the Commission’s causation analysis as comporting with the Court’s guidance in *Mittal*.

²²³ *Mittal Steel*, 542 F.3d at 873 (quoting from *Gerald Metals*, 132 F.3d at 722), 877-79. We note that one relevant “other factor” may involve the presence of significant volumes of price-competitive nonsubject imports in the U.S. market, particularly when a commodity product is at issue. In appropriate cases, the Commission collects information regarding nonsubject imports and producers in nonsubject countries in order to conduct its analysis.

²²⁴ *Nucor Corp. v. United States*, 414 F.3d 1331, 1336, 1341 (Fed. Cir. 2005); *see also Mittal Steel*, 542 F.3d at 879 (“*Bratsk* did not read into the antidumping statute a Procrustean formula for determining whether a domestic injury was ‘by reason’ of subject imports.”).

The question of whether the material injury threshold for subject imports is satisfied notwithstanding any injury from other factors is factual, subject to review under the substantial evidence standard.²²⁵ Congress has delegated this factual finding to the Commission because of the agency's institutional expertise in resolving injury issues.²²⁶

B. Conditions of Competition and the Business Cycle

The following conditions of competition inform our analysis of whether there is material injury by reason of cumulated subject imports.²²⁷

1. Demand Considerations

U.S. demand for epoxy resins depends on demand for downstream products, including adhesives, coatings, and bonding materials in construction and other applications.²²⁸

²²⁵ We provide in our discussion below a full analysis of other factors alleged to have caused any material injury experienced by the domestic industry.

²²⁶ *Mittal Steel*, 542 F.3d at 873; *Nippon Steel Corp.*, 458 F.3d at 1350, citing *U.S. Steel Group*, 96 F.3d at 1357; S. Rep. 96-249 at 75 (“The determination of the ITC with respect to causation is ... complex and difficult, and is a matter for the judgment of the ITC.”).

²²⁷ Internal consumption accounted for between *** percent (interim 2024) and *** percent (2021) of the quantity of U.S. producers' U.S. shipments of epoxy resins during the POI, while *** transfers to related firms within the U.S. producers' U.S. shipments of epoxy resins. However, internal consumption accounted for between *** percent (interim 2024) and *** percent (2021) of the quantity of U.S. processors' U.S. shipments of epoxy resins during the periods examined, while transfers to related firms accounted for between *** percent (interim 2024) and *** percent (2021). CR/PR at 3.39. These data trigger consideration of the captive production provision. See 19 U.S.C. § 1677(7)(C)(iv). Neither Petitioners nor any respondent party addressed this provision in their briefs or at the hearing.

The first criterion for application of the provision is met since *** U.S. processor reported diverting *** the internally consumed or transferred epoxy resins to the merchant market. CR/PR at 3.40. However, the second criterion (whether the domestic like product is the predominant material input in the production of the downstream article that is captively produced) is not met, since epoxy resins reportedly comprise *** percent of the finished cost of downstream products by quantity and *** percent by value. *Id.*

Accordingly, we determine that the captive production provision does not apply in these investigations, and we focus primarily on the total market in analyzing the market share and financial performance of the domestic industry.

²²⁸ CR/PR at 2.15-2.16.

U.S. producers Olin and Westlake reported that U.S. demand for epoxy resins *** during the POI while Huntsman Americas reported demand ***.²²⁹ Although their responses were mixed, the majority of responding importers and purchasers reported that U.S. demand for epoxy resins steadily increased or fluctuated up.²³⁰

All three responding U.S. producers, 19 of 33 responding importers, and 31 of 54 responding purchasers reported that the U.S. market for epoxy resins is subject to business cycles.²³¹ Several firms reported that the U.S. market for epoxy resins is subject to seasonal changes in demand due to varying demand in end-use industries using epoxy resins, including oil and gas, construction, specialty chemicals, aerospace, industrial, and transportation.²³²

Apparent U.S. consumption of epoxy resins declined by *** percent from 2021 to 2023, decreasing from *** pounds in 2021 to *** pounds in 2022 and *** pounds in 2023; apparent U.S. consumption was *** percent higher in interim 2024, at *** pounds, than in interim 2023, at *** pounds.²³³

2. Supply Considerations

The domestic industry was the largest supplier of epoxy resins to the U.S. market throughout the POI, although its market share declined irregularly during the 2021-2023 period.²³⁴ The domestic industry's market share declined from *** percent in 2021 to *** percent in 2022, but then increased to *** percent in 2023, for an overall decline of *** percentage points between 2021 and 2023.²³⁵ Its share was *** percent in interim 2024, as compared with *** percent in interim 2023.²³⁶

²²⁹ CR/PR at Table 2.6; Olin's U.S. Producers' Questionnaire Response at IV-14; Westlake's U.S. Producers' Questionnaire Response at IV-1; Huntsman's U.S. Producers' Questionnaire Response at IV-14.

²³⁰ CR/PR at Table 2.6. Among responding U.S. importers, 17 importers reported that U.S. demand steadily increased or fluctuated up, five importers reported no change in demand, and 7 importers reported that U.S. demand steadily decreased or fluctuated down. *Id.* Among responding U.S. purchasers, 23 reported that U.S. demand steadily increased or fluctuated up, 5 purchasers reported no change in demand, and 18 purchasers reported that U.S. demand steadily decreased or fluctuated down. *Id.*

²³¹ CR/PR at 2.16.

²³² CR/PR at 2.16.

²³³ CR/PR at Tables 4.15 & C.1.

²³⁴ CR/PR at Tables 4.15 & C.1.

²³⁵ CR/PR at Tables 4.15 & C.1.

²³⁶ CR/PR at Tables 4.15 & C.1.

During the POI, there were three domestic producers of epoxy resins, with two firms accounting for vast majority of U.S. production.²³⁷ In 2023, Westlake and Olin accounted for *** percent and *** percent of U.S. production of epoxy resins, respectively, and *** percent of such production collectively.²³⁸ Huntsman Americas was *** domestic producer of epoxy resins during the POI, accounting for only *** percent of U.S. production of epoxy resins in 2023.²³⁹ During the POI, there were five U.S. processors of epoxy resins, including Huntsman Americas, although one firm, ***, accounted for the vast majority of U.S. processing production.²⁴⁰ In 2023, PPG accounted for *** percent of U.S. processing production of epoxy resins, 3M-EMD accounted for *** percent, Polytek accounted for *** percent, Huntsman Americas accounted for *** percent, and 3M-AASD accounted for *** percent.²⁴¹

²³⁷ CR/PR at Table 3.1.

²³⁸ CR/PR at Table 3.1.

²³⁹ CR/PR at Table 3.1.

²⁴⁰ CR/PR at Table 3.1.

²⁴¹ CR/PR at Table 3.1.

During the POI, Olin and Westlake experienced temporary production shutdowns while Huntsman Americas shifted primarily from producing to processing epoxy resins. In 2021, Olin and Westlake declared *force majeure*s at their respective facilities in Freeport, Texas and Deepark, Texas in the aftermath of Winter Storm Uri.²⁴² In 2022, both Olin and Westlake experienced temporary shutdowns and declared *force majeure*s resulting from equipment issues and accidents at their plants.²⁴³ In 2024, Olin temporarily ceased production and declared a *force majeure* at its Texas facility in the aftermath of Hurricane Beryl.²⁴⁴ While Huntsman Americas was principally a producer of epoxy resins earlier in the POI, it shifted primarily to processing operations for epoxy resins in the latter portion of the POI.²⁴⁵

Cumulated subject imports from South Korea, Taiwan, and Thailand were the second largest source of supply to the U.S. market, gaining *** percentage points of market share overall from 2021 to 2023, increasing from *** percent in 2021 to *** percent in 2022, before declining to *** percent in 2023.²⁴⁶ Their market share was *** percent in interim 2024, as compared with *** percent in interim 2023.²⁴⁷

²⁴² CR/PR at Tables 3.3 & 3.4. Olin reported that ***. CR/PR at 2.14. Westlake reported that ***. *Id.*

²⁴³ CR/PR at Tables 3.3 & 3.4. As further detailed in section VI.E., below, despite reported supply constraints, Olin and Westlake declare that they were both able to supply their contract customers with their usual volumes in 2021 and 2022, and note that the domestic producers supplied the market with a ***. *See, e.g.*, Petitioners Posthearing Br. at 7 and Exhibits 3 and 4. The domestic producers had inventory with which it could supply customers, and had available capacity with which it could have increased production and U.S. shipments including in 2021 and 2022; moreover, domestic producer supply constraints had largely resolved by 2023, which is consistent with market participants generally reporting that subject imports and domestic product are comparable with respect to availability.

²⁴⁴ CR/PR at Tables 3.3 & 3.4.

²⁴⁵ CR/PR at Tables 3.3 & 3.4.

²⁴⁶ *See, e.g.*, Hearing Tr. at 108 (Bellinger).

²⁴⁷ CR/PR at Tables 4.15 & C.1.

²⁴⁸ CR/PR at Tables 4.15 & C.1.

The share of apparent U.S. consumption held by nonsubject imports increased overall by *** percentage points from 2021 to 2023, increasing from *** percent in 2021 to *** percent in 2022, before declining to *** percent in 2023.²⁴⁸ Their market share was *** percent in interim 2024, as compared with *** percent in interim 2023.²⁴⁹ The largest sources of nonsubject imports during the POI were Germany, Canada, the Netherlands, and Japan.²⁵⁰

All three responding U.S. producers of epoxy resins, Olin, Westlake, and Huntsman Americas, 13 of 31 responding importers, and 38 of 57 responding purchasers reported that they had experienced supply constraints during the POI.²⁵¹ Although most purchases reported experiencing supply constraints with the domestic industry during the POI, several purchasers and a substantial number of importers also reported experiencing supply constraints with imports of epoxy resins during the POI.²⁵² All responding domestic producers and most responding purchasers that reported experiencing supply constraints with the domestic industry also reported that the large majority of these supply constraints occurred in 2021 and 2022 with fewer such instances in 2023 and interim 2024.²⁵³ Similarly, most responding purchasers and importers that reported experiencing supply constraints with imports of epoxy resins also reported that the majority of these supply constraints occurred in 2021 and 2022 with fewer such instances in 2023 and interim 2024.²⁵⁴

²⁴⁸ CR/PR at Tables 4.15 & C.1.

²⁴⁹ CR/PR at Tables 4.15 & C.1.

²⁵⁰ CR/PR at 2.14.

²⁵¹ CR/PR at Table 2.5.

²⁵² CR/PR at Table 2.5.

²⁵³ CR/PR at Table 2.5.

²⁵⁴ CR/PR at Table 2.5.

3. Substitutability and Other Conditions

We find that there is a moderate-to-high degree of substitutability between domestically produced epoxy resins and subject imports.²⁵⁵ All responding U.S. producers, most U.S. importers, and most purchasers reported that the domestic like product was either always or frequently interchangeable with epoxy resins imported from subject sources.²⁵⁶ Most responding purchasers rated domestically produced epoxy resins as comparable to epoxy resins imported from each subject country with respect to 15 enumerated factors that influence purchasing decisions.²⁵⁷ Most purchasers also reported that domestic producers and suppliers of subject merchandise from South Korea, Taiwan, and Thailand always or usually meet minimum quality requirements.²⁵⁸ Differences in availability and reliability of supply from domestic and subject sources during the POI may have affected substitutability to some degree, though a majority of purchasers reported that domestic product and subject imports from all three subject countries were comparable with respect to availability and reliability of supply.²⁵⁹ Furthermore, as discussed below in sections VI.D-E., supply constraints do not fully explain the shift in market share from domestic producers to subject imports over the POI.

²⁵⁵ CR/PR at 2.21.

²⁵⁶ CR/PR at Tables 2.16-2.18.

²⁵⁷ See CR/PR at Table 2.15. There were two exceptions in comparisons between the domestic like product and cumulated subject imports. Most purchasers (20 of 35) rated the domestic like product superior compared to subject imports from Taiwan with respect to availability. *Id.* Half of purchasers (14 of 28) rated the domestic like product superior compared to subject imports from Thailand with respect to delivery time while the other half of responding purchasers rated the domestic like product as either comparable or inferior. *Id.*

²⁵⁸ CR/PR at Table 2.13.

²⁵⁹ CR/PR at 2.21. Most domestic producers, importers, and purchasers reported that differences other than price were sometimes or never significant in sales of the domestic like product and subject imports from each source. CR/PR at Tables 2.19-2.21

We find that price is an important factor in purchasing decisions for epoxy resins, along with availability and quality. Purchasers reported that the top three factors considered in their purchasing decisions for epoxy resins were quality, availability/supply, and price, with almost equal numbers of purchasers ranking each of these three factors as among the top three factors influencing their purchasing decisions.²⁶⁰ Price and quality were the most frequently cited as being the first-most important factor in purchasing decisions, followed by availability.²⁶¹ Price was also cited by 42 of 55 purchasers as being very important to their purchasing decisions.²⁶² A plurality of purchasers (27 of 57) reported that they usually purchase the lowest-priced product while 21 reported they sometimes do and one purchaser reported that it always does; 8 purchasers reported they never purchase the lowest-priced product.²⁶³ Most domestic producers, importers, and purchasers reported that differences other than price were sometimes or never significant in sales of the domestic like product and subject imports from each source.²⁶⁴

During the POI, U.S. producers sold the vast majority of the domestic like product to processors and sold appreciable quantities to distributors, while U.S. processors sold the domestic like product overwhelmingly to end users with only a small share of their sales to distributors and processors.²⁶⁵ U.S. importers of subject merchandise made the majority of their sales to end users, and sold lesser but appreciable quantities to processors and distributors.²⁶⁶

²⁶⁰ CR/PR at Table 2.11. Among the top three factors in their purchasing decisions for epoxy resins, 40 purchasers cited quality, 39 purchasers cited availability, and 38 purchasers cited price. *Id.*

²⁶¹ CR/PR at Table 2.11. For the first-most important factor in their purchasing decisions for epoxy resins, 17 purchasers cited quality, 12 purchasers cited price, and 11 purchasers cited availability. *Id.* For the second-most important factor in their purchasing decisions, 23 purchasers cited availability, 12 purchasers cited quality, and 6 purchasers cited price. *Id.* For the third-most important factor in their purchasing decisions, 20 purchasers cited price, 11 purchasers cited quality, and 5 purchasers cited availability. *Id.*

²⁶² CR/PR at Table 2.12. Purchasers most often cited availability, reliability of supply, product consistency, quality meets industry standards, delivery time, and price as “very important” in their purchasing decisions. *Id.*

²⁶³ CR/PR at 2.23.

²⁶⁴ CR/PR at Tables 2.19-2.21.

²⁶⁵ CR/PR at Table 2.2.

²⁶⁶ CR/PR at Table 2.2.

Epoxy resins are primarily sold from inventory. U.S. producers reported that *** percent of their commercial U.S. shipments came from inventories, with lead times averaging 8 days.²⁶⁷ The remaining *** percent of their commercial U.S. shipments were produced-to-order, with lead times averaging 23 days.²⁶⁸ Importers reported that 86.3 percent of their commercial U.S. shipments came from U.S. inventories with lead times ranging from three to 15 days.²⁶⁹ Importers reported that 8.3 percent of their commercial U.S. shipments were produced-to-order with lead times averaging 61 days.²⁷⁰ The remaining 5.5 percent of commercial U.S. shipments came from foreign inventories with lead times averaging 62 days.²⁷¹

U.S. producers reported selling approximately half of their epoxy resins in the spot market and the other half under annual and long-term contracts, while importers reported selling the vast majority of their epoxy resins via spot sales with substantial sales under short-term contracts and fewer sales via annual and long-term contracts.²⁷² U.S. producers' spot sales accounted for *** percent of their commercial U.S. shipments, while annual contracts accounted for *** percent and long-term contracts accounted for *** percent.²⁷³ By comparison, U.S. importers' spot sales accounted for *** percent of their commercial U.S. shipments, while short-term contracts accounted for *** percent, annual contracts accounted for *** percent, and long-term contracts accounted for *** percent.²⁷⁴ U.S. producers' and importers' contracts varied, with some contracts fixing price and sometimes quantity, some contracts allowing for price renegotiation, and some contracts indexed to raw material costs.²⁷⁵

²⁶⁷ CR/PR at 2.24.

²⁶⁸ CR/PR at 2.24.

²⁶⁹ CR/PR at 2.24.

²⁷⁰ CR/PR at 2.24.

²⁷¹ CR/PR at 2.24.

²⁷² CR/PR at Table 5.5.

²⁷³ CR/PR at Table 5.5.

²⁷⁴ CR/PR at Table 5.5

²⁷⁵ CR/PR at 5.7.

ECH and BPA are the primary raw materials used to produce epoxy resins.²⁷⁶ Raw materials accounted for *** percent of the domestic industry's cost of goods sold ("COGS") for epoxy resins in 2021, *** percent in 2022, and *** percent in 2023.²⁷⁷ Their share of the domestic industry's COGS was *** percent in interim 2024 compared with *** percent in interim 2023.²⁷⁸

Effective April 5, 2025, subject merchandise originating in India, South Korea, Taiwan, and Thailand are subject to an additional 10 percent *ad valorem* duty under the International Emergency Economic Powers Act.²⁷⁹

C. Volume of Subject Imports

Section 771(7)(C)(i) of the Tariff Act provides that the "Commission shall consider whether the volume of imports of the merchandise, or any increase in that volume, either in absolute terms or relative to production or consumption in the United States, is significant."²⁸⁰

Cumulated subject imports increased from 179.9 million pounds in 2021 to 222.4 million pounds in 2022, but then declined to 176.8 million pounds in 2023, a level 1.7 percent lower than in 2021.²⁸¹ Cumulated subject imports were 4.7 percent lower in interim 2024, at 135.3 million pounds, than in interim 2023, at 141.9 million pounds.²⁸²

Cumulated subject imports as a share of apparent U.S. consumption increased from *** percent in 2021 to *** percent in 2022, before declining to *** percent in 2023, a level *** percentage points higher than in 2021.²⁸³ Their share of apparent U.S. consumption was lower in interim 2024, at *** percent, than in interim 2023, at *** percent.²⁸⁴

²⁷⁶ CR/PR at 5.1. The record contains no information on prices for ECH and BPA during the POI. Epoxy resins can contain benzene and ECH is commonly derived from propylene. *Id.* Monthly prices for benzene increased irregularly from \$636 per metric in January 2021 to \$960 per metric ton in September 2024, while monthly prices for propylene declined irregularly from \$925 per metric ton in January 2021 to \$805 per metric ton in September 2024. *Id.* at Tables 5.1 & 5.2.

²⁷⁷ CR/PR at Table 6.1.

²⁷⁸ CR/PR at Table 6.1.

²⁷⁹ CR/PR at 1.12.

²⁸⁰ 19 U.S.C. § 1677(7)(C)(i).

²⁸¹ CR/PR at Tables 4.2 & C.1.

²⁸² CR/PR at Tables 4.2 & C.1.

²⁸³ CR/PR at Tables 4.15 & C.1.

²⁸⁴ CR/PR at Tables 4.15 & C.1. The ratio of cumulated subject imports to U.S. production increased from *** percent in 2021 to *** percent in 2022, but then decreased to *** percent in 2023; it was higher in interim 2024, at *** percent, than in interim 2023, at *** percent. CR/PR at Table 4.2.

We find that the volume of cumulated subject imports is significant in absolute terms and relative to consumption in the United States, and that the increase in the volume of cumulated subject imports is significant relative to consumption in the United States.

D. Price Effects of Subject Imports

Section 771(7)(C)(ii) of the Tariff Act provides that, in evaluating the price effects of the subject imports, the Commission shall consider whether

(I) there has been significant price underselling by the imported merchandise as compared with the price of domestic like products of the United States, and

(II) the effect of imports of such merchandise otherwise depresses prices to a significant degree or prevents price increases, which otherwise would have occurred, to a significant degree.²⁸⁵

As discussed in section VI.B.3 above, we find that there is a moderate-to-high degree of substitutability between cumulated subject imports and the domestic like product, and that price is an important factor in purchasing decisions for epoxy resins, among other important factors.

²⁸⁵ 19 U.S.C. § 1677(7)(C)(ii).

The Commission collected quarterly quantity and f.o.b. pricing data on sales of four types of epoxy resins shipped by U.S. producers and importers to unrelated U.S. customers during the POI.²⁸⁶ Three U.S. producers and 15 importers provided usable pricing data for sales of the requested products, although not all firms reported pricing for all products for all quarters.²⁸⁷ The pricing data reported by these firms accounted for approximately *** percent of U.S. producers' U.S. commercial shipments of domestically produced epoxy resins, 93.4 percent of U.S. commercial shipments of subject imports from South Korea, 55.2 percent of U.S. commercial shipments of subject imports from Taiwan, and 53.7 percent of U.S. commercial shipments of subject imports from Thailand in 2023.²⁸⁸

Cumulated subject imports undersold the domestic like product in 113 of 150 quarterly comparisons, or 75.3 percent of the time, with underselling margins ranging between *** and *** percent and averaging *** percent.²⁸⁹ They oversold the domestic like product in the remaining 37 quarterly comparisons, or 24.7 percent of the time, with overselling margins ranging between *** percent and *** percent and averaging *** percent.²⁹⁰ The volume of subject import sales in quarters with underselling was *** pounds, representing *** percent of total reported subject import sales volume, compared to *** million pounds in the quarters with overselling, representing *** percent of total reported subject import sales volume.²⁹¹ Thus, the quarterly price comparison data show that cumulated subject imports from South Korea, Taiwan, and Thailand predominantly undersold the domestic like product both in terms of the number of quarterly comparisons and volume.

²⁸⁶ CR/PR at 5.9. The four pricing products are:

Product 1. – Bisphenol A liquid epoxy resin, basic commodity grade (i.e., D.E.R. 331, EPON 828, KER 828, YD 128, NPEL128, BE-188, and SM 828), sold in bulk (ISO Tanks or Tank Truck).

Product 2. – Bisphenol A liquid epoxy resin, basic commodity grade (i.e., D.E.R. 331, EPON 828, KER 828, YD 128, NPEL128, BE-188, and SM 828), sold in packages (Totes, Intermediate Bulk Containers ("IBC's"), or drums).

Product 3. – Bisphenol A solid epoxy resin, Type 3, Epoxy Equivalent Weight ("EEW") based on solids range between 700-850 g/eq (i.e., D.E.R. 663U, D.E.R. 663UE, EPON 2003, KD 213, KD 243C, KER 3033, NPES 903H, BE 503, YD 903).

Product 4. – Bisphenol A solid epoxy resin, Type 4, Epoxy Equivalent Weight ("EEW") based on solids range between 800-1,000 g/eq (i.e., D.E.R. 664UE, EPON 2004, KD 214L, NPES 904H, BE 504H). *Id.*

²⁸⁷ CR/PR at 5.10.

²⁸⁸ CR/PR at 5.10.

²⁸⁹ CR/PR at Table 5.14.

²⁹⁰ CR/PR at Table 5.14.

²⁹¹ CR/PR at Table 5.14; *Derived from* CR/PR at Table 5.14.

We have also considered lost sales and lost revenue information. Of the 56 responding purchasers, 24 reported that they had purchased subject epoxy resins from South Korea, Taiwan, and Thailand instead of the domestic like product during the POI, and 18 of these purchasers reported that subject imports were lower priced than the domestic like product.²⁹² Six of those purchasers also reported that price was a primary reason for their decision to purchase *** pounds of epoxy resins imported from the subject countries rather than the domestic like product,²⁹³ equivalent to *** percent of all reported purchases of cumulated subject imports during the POI, *** percent of total cumulated subject imports, and *** percent of apparent U.S. consumption during the POI.²⁹⁴ Six purchasers also confirmed that U.S. producers had reduced prices in order to compete with lower-priced imports from subject countries, with estimated price reductions ranging from *** percent and averaging *** percent.²⁹⁵

²⁹² CR/PR at 5.30 & Table 5.18.

²⁹³ CR/PR Table 5.18.

²⁹⁴ *Calculated from* CR/PR Tables 5.16, 5.18, & C.1.

²⁹⁵ CR/PR at Tables 5.19-5.20.

Based on the moderate-to-high degree of substitutability between cumulated subject imports and the domestic like product, the importance of price in purchasing decisions, the pricing data showing predominant underselling by cumulated subject imports, and purchaser responses that subject imports were lower priced, we find the underselling by cumulated subject imports to be significant. The underselling led to cumulated subject imports capturing and retaining sales and market share from the domestic industry during the POI.²⁹⁶

We have also examined whether subject imports depressed or suppressed domestic producer prices during the POI. Prices for all four domestically produced pricing products increased during each quarter of 2021 and the first half of 2022, before decreasing irregularly until the first or second quarter of 2024, at which point they increased slightly through the fourth quarter of 2024.²⁹⁷ Prices for two of the four domestically produced pricing products were lower at the end of the POI than at the beginning.²⁹⁸ For product 1, which accounted for *** percent of the U.S. producers' reported sales volume, *** percent of the sales volume of subject imports, and approximately *** percent of the underselling by cumulated subject imports on a volume basis across all pricing products over the POI,²⁹⁹ domestic prices declined by *** percent between the first and last quarters of the POI.³⁰⁰ Domestic prices for product 3 also declined between the first and last quarters of the POI, by *** percent, while prices for products 2 and 4 increased over the same period, by *** and *** percent, respectively.³⁰¹ Prices for all four products imported from subject sources increased through the third quarter of 2021, fluctuated until the third quarter of 2022, and then declined irregularly until the first or second quarter of 2024, at which point they increased slightly under the fourth quarter of 2024, for overall declines across all products.³⁰² Specifically, between the first and last quarters of the POI, cumulated subject imports' prices for product 1 declined by *** percent, product 2 by *** percent, and product 3 by *** percent.³⁰³

²⁹⁶ CR/PR at Tables 5.15 & C.1. As indicated above in section VI.C., cumulated subject imports gained *** percentage points of market share between 2021 and 2022 and *** percentage points of market share overall between 2021 and 2023. *Id.* The domestic industry lost *** percentage points of market share from 2021 to 2022, and *** percentage points overall from 2021 to 2023. *Id.* As such, all the market share gained by cumulated subject imports at the expense of the domestic industry occurred during the 2021-2022 period. We recognize that other market conditions, along with subject import underselling, may have contributed to the market share shift from the domestic industry to subject imports during that period. First, PPG argues that the domestic industry's history of supply problems, particularly those of Olin and Westlake, led cumulated subject imports to enter the U.S. market, citing the declarations of *force majeure* due to weather events, raw material shortages, and production problems as the reason cumulated subject imports entered the U.S. market and increased their market share. As noted in section IV.B.2 and as detailed in section VI.E., below, we are unpersuaded that domestic supply issues account for the market share shift from domestic producers to subject imports over the POI. Second, U.S. producer Huntsman Americas was transitioning from being primarily a producer of epoxy resins to a processor, as evidenced by the decline in the net sales quantity for its production of epoxy resins (decreasing from *** pounds in 2021 to *** pounds in 2022) and the increase in the net sales quantity for its processing activities (increasing from *** pounds in 2021 to *** pounds in 2022). CR/PR at Table 6.7. Third, as Respondents pointed out, there was a substantial increase in U.S. producer *** prices from 2021 to 2022. *See, e.g.*, PPG Prehearing Br. at 67-68, 70. *** net sales AUV increased by *** percent (or \$****) to \$*** in 2022, which was above the net sales AUVs for both all U.S. producers and all U.S. processors (while U.S. producer *** net sales AUV was also higher in 2022 than in 2021, it was below the net sales AUV for all U.S. producers). *See* CR/PR at Table 6.7. Respondents allege that *** pricing strategy in 2022, termed as "value over volume," explains the increasing volume of subject imports during this period. *See, e.g.*, PPG Prehearing Br. at 18-20; Sherwin-Williams Prehearing Br. at 8-13 & 22-23. Specifically, purchaser Sherwin-Williams submitted contemporaneous business documents demonstrating *** increased prices during the period and their dissatisfaction with the pricing, which they claim led them to seek out lower priced subject imports. *See, e.g.*, Sherwin-Williams Posthearing Br. at 7-10 & Exhs. 1-6; Hearing Tr. at 162-170 (Sunde). However, neither of these factors, individually or combined, fully explain the market share shift from the domestic industry to subject imports from 2021 to 2022. Purchasers affected by either of these factors could have purchased epoxy resins from U.S. producer ***, which had a capacity utilization rate of *** percent in 2022 that equated to an excess capacity of *** pounds, which exceeded the increase in the volume of U.S. shipments of subject imports from 2021 to 2022. CR/PR at Tables 3.11 & C.1. *** net sales AUV in 2022, at \$***, was also relatively on par with the net sales AUV of subject imports that year, at \$2.70. *Id.* at Tables 6.7 & C.1. Further, respondents acknowledged that they purchased subject imports instead of the domestic like product due to their lower prices, and Petitioners submitted contemporaneous business documents demonstrating pricing pressures from subject imports through the course of the POI. *See* Petitioners Prehearing Br. at Exhibit 3, Attachments 3-6, and Exhibit 4, Attachments 5-11. In addition, when asked why they did not similarly raise prices, respondents indicated that doing so would have jeopardized their business with their customers, indicating that at least in part respondents were retaining customers because of their lower pricing relative to domestic producers. *See, e.g.*, Hearing Tr. at 219 (Keyser).
(Continued...)

²⁹⁷ CR/PR at Tables 5.6-5.9.

²⁹⁸ See CR/PR at Table 5.10

²⁹⁹ *Derived from* CR/PR at Tables 5.10 & 5.14.

³⁰⁰ CR/PR at Table 5.10. There was a substantial decline in the subject import price between the third and fourth quarters of 2022, while there was a much slighter decline for the domestic price between those quarters. However, the continuing declines in the subject import price in the first and second quarters of 2023 gave rise to a substantial decline in the domestic price in those quarters. See CR/PR at Tables 5.6, 5.11, and 5.12. As such, the subject import price decline preceded the domestic decline, indicating that the domestic price decline was, at least to some extent, forced by the decline in the subject import price. We further note that while the domestic industry's unit COGS declined by *** per pound between 2022 and 2023, the net sales AUV declined by *** per pound. So too over the interim periods, the decline in the industry's net sales AUV outpaced the decline in unit COGS (a decline of *** per pound versus a decline of *** per pound). *Id.* at Table 6.7.

³⁰¹ CR/PR at Table 5.10.

³⁰² CR/PR Tables 5.6-5.9.

³⁰³ *Derived from* CR/PR at Table 5.10. There was only minimal reported subject import pricing data reported for product 4 and it was insufficient to calculate price trends for subject imports for this particular pricing product. CR/PR at Table 5.10 & 5.19 n.13.

As declines in the domestic industry's net sales average unit values ("AUVs") outpaced declines in its unit COGS after 2022, the industry experienced a cost-price squeeze. Between 2022 and 2023, the domestic industry's net sales AUVs decreased 21.6 percent or \$0.72 per pound,³⁰⁴ while its COGS per pound declined by 15.7 percent, or \$0.34 per pound.³⁰⁵ Domestic producers' net sales values were 15.1 percent, or \$0.41 per pound, lower in interim 2024 than in interim 2023,³⁰⁶ while its COGS per pound was 7.8 percent, or \$0.14 per pound, lower.³⁰⁷ As a result, the domestic industry's COGS-to-net-sales ratio increased by 4.9 percentage points during the 2022-2023 period, from 64.8 percent in 2022 to 69.7 percent in 2023, and the ratio was 5.9 percentage points higher in interim 2024, at 74.7 percent, than in interim 2023, at 68.8 percent.³⁰⁸ This cost-price squeeze reduced the domestic industry's profitability, as discussed in section VI.E below.³⁰⁹

³⁰⁴ CR/PR at Tables 6.6 & C.1.

³⁰⁵ CR/PR at Tables 6.6 & C.1. The domestic industry's net sales values declined from \$3.32 per pound ton in 2022 to \$2.60 per pound in 2023. *Id.* at Tables 6.5 & C.1. The domestic industry's COGS declined from \$2.15 per pound in 2022 to \$1.81 per pound in 2023. *Id.*

³⁰⁶ CR/PR at Tables 6.6 & C.1. The domestic industry's net sales values were \$2.69 per pound in interim 2023 and \$2.29 per pound in interim 2024. *Id.* at Tables 6.5 & C.1.

³⁰⁷ CR/PR at Tables 6.6 & C.1. The domestic industry's COGS were \$1.85 per pound in interim 2023 and \$1.71 per pound in interim 2024. *Id.* at Tables 6.5 & C.1.

³⁰⁸ CR/PR at Tables 6.5 & C.1.

³⁰⁹ PPG contends that Olin and Westlake generated artificial shortages by restricting supply in 2021 to 2022, which created artificially high prices in 2022, so the subsequent domestic price declines in 2023 and interim 2024 represent a return to normal historical prices amidst declining demand. *See, e.g.,* PPG Prehearing Br. at 72. As discussed above, *** net sales AUV in 2022 was above the net sales AUVs for all U.S. producers and U.S. processors, as well as the net sales AUV of subject imports. However, *** net sales AUV in 2022 was substantially below *** net sales AUV and relatively on par with the net sales AUV of subject imports that year. After which, the net sales AUV of subject imports declined by *** percent (or \$****) to \$**** in 2023; it was lower in interim 2024, at \$****, than in interim 2023, at \$****. CR/PR at Table C.1. As for Olin and Westlake, their net sales AUVs declined to \$**** and \$****, respectively, in 2023; they were also lower in interim 2024, at \$**** and \$****, respectively, than in interim 2023, at \$**** and \$****, respectively. *Id.* at Table 6.7. As Olin's and Westlake's net sales AUVs declined from 2022 through the interim 2024 period, their unit operating income and net income AUVs also declined, falling to *** in interim 2024. *See id.* Accordingly, while higher prices in 2022 could explain some of the price declines in the remainder of the POI, the record indicates that subject imports put increasing downward pressure on domestic prices in 2023 and interim 2024.

Trends in apparent U.S. consumption do not explain the declining sales prices and net sales values for domestically produced epoxy resins after 2022. Domestic sales prices and net sale values declined not only when apparent U.S. consumption declined from 2022 to 2023 but also when apparent U.S. consumption increased in interim 2024 compared to interim 2023.³¹⁰ Despite apparent U.S. consumption in interim 2024 that was *** percent higher than in interim 2023, the domestic industry's sales prices declined or remained near POI-lows in interim 2024.³¹¹

Given the foregoing, in particular that subject import underselling intensified on a volume basis in 2023 and interim 2024,³¹² as domestic sales prices and net sales unit values declined, we find that cumulated subject imports depressed prices for the domestic like product to a significant degree.

³¹⁰ See CR/PR at Tables 5.6-5.9 & C.1. Apparent U.S. consumption declined from *** pounds in 20223 to *** pounds in 2023, or by *** percent. Apparent U.S. consumption increased from *** pounds in interim 2023 to *** pounds in interim 2024, or by *** percent. *Id.* at Table C-1.

³¹¹ CR/PR at Tables C.1 & 5.6-5.9.

³¹² The volume of cumulated subject import sales in quarters with underselling increased throughout the POI: *** pounds in 2021; *** pounds in 2022; *** pounds in 2023; and *** pounds in interim 2024. CR/PR at Table 5.15.

In sum, we find that the significant underselling by cumulated subject imports enabled the cumulated subject imports to gain sales and market share from the domestic industry and depressed prices for the domestic like product to a significant degree. We therefore find that cumulated subject imports had significant price effects.³¹³

³¹³ PPG submitted a report from economist Dr. Thomas Prusa alleging that domestic producers Olin and Westlake are a duopoly with market power and that they therefore command a significant price premium for their epoxy resin products in the U.S. market. See PPG Prehearing Br. at 67-71 & Exh. 1. Citing Dr. Prusa's report, PPG contends that the underselling by cumulated subject imports merely reflects the market power of Olin and Westlake's duopoly rather than price competition from aggressively low-priced subject imports. *Id.* We recognize that there is information in the current record indicating that both Olin and Westlake are considered price leaders that can influence prices in the U.S. market for epoxy resins to some extent. See, e.g., CR/PR at 5.8-5.9. However, we do not find Dr. Prusa's duopoly argument persuasive because it focuses on the concentration of domestic supply by *** while disregarding processors entirely and disregarding that nearly half of apparent U.S. consumption was supplied by imports sold by at least 37 U.S. importers. See, e.g., CR/PR at 4.1 & Table C.1. During the POI, cumulated subject imports market share ranged from *** percent to *** percent, while nonsubject imports market share ranged from *** percent to *** percent. CR/PR at Tables 4.15 & C.1. Given the moderate-to-high degree of substitutability and the importance of price to purchasing decisions, the availability of large volumes of low-priced subject imports would have limited the ability of Olin and Westlake to maintain their prices without losing market share to subject imports. Indeed, as discussed above, the record indicates that significant underselling by cumulated subject imports led to a shift in market share from the domestic industry to subject imports.

E. Impact of the Subject Imports³¹⁴

Section 771(7)(C)(iii) of the Tariff Act provides that examining the impact of subject imports, the Commission “shall evaluate all relevant economic factors which have a bearing on the state of the industry.”³¹⁵ These factors include output, sales, inventories, capacity utilization, market share, employment, wages, productivity, gross profits, net profits, operating profits, cash flow, return on investment, return on capital, ability to raise capital, ability to service debts, research and development, and factors affecting domestic prices. No single factor is dispositive and all relevant factors are considered “within the context of the business cycle and conditions of competition that are distinctive to the affected industry.”³¹⁶

As significant and increasing volumes of low-priced subject imports significantly undersold the domestic like product and captured sales and market share from the domestic industry over the POI, the domestic industry’s prices declined after 2022. As a result, the domestic industry’s financial performance deteriorated in 2023 and interim 2024, even when apparent U.S. consumption was *** percentage points higher than in interim 2023, as the domestic industry experienced large declines in its operating and net income.

³¹⁴ The statute instructs the Commission to consider the “magnitude of the dumping margin” in an antidumping proceeding as part of its consideration of the impact of imports. 19 U.S.C. § 1677(7)(C)(iii)(V). In its final determinations of sales at less than fair value, Commerce found dumping margins ranging from 5.68 percent to 7.60 percent for South Korea, 10.93 percent to 26.98 percent for Taiwan, and 5.25 percent for Thailand. *Certain Epoxy Resins From South Korea: Final Affirmative Determination of Sales at Less Than Fair Value and Final Negative Determination of Critical Circumstances*, 90 Fed. Reg. 14623, 14624 (April 3, 2025); *Certain Epoxy Resins From Taiwan: Final Affirmative Determination of Sales at Less Than Fair Value*, 90 Fed. Reg. 14611, 14612 (April 3, 2025); *Certain Epoxy Resins From Thailand: Final Affirmative Determination of Sales at Less-Than-Fair Value and Final Negative Determination of Critical Circumstances*, 90 Fed. Reg. 14621 (April 3, 2025). In considering the dumping margins, we take into account in our analysis the fact that Commerce has made final findings that all subject producers in South Korea, Taiwan, and Thailand are selling subject imports in the United States at less than fair value. Further, our analysis of the significant underselling of subject imports and their large underselling margins, described in both the price effects discussion and below, is particularly probative to an assessment of the impact of the subject imports.

³¹⁵ 19 U.S.C. § 1677(7)(C)(iii); see also SAA at 851 and 885 (“In material injury determinations, the Commission considers, in addition to imports, other factors that may be contributing to overall injury. While these factors, in some cases, may account for the injury to the domestic industry, they also may demonstrate that an industry is facing difficulties from a variety of sources and is vulnerable to dumped or subsidized imports.”).

³¹⁶ 19 U.S.C. § 1677(7)(C)(iii).

The domestic industry's trade indicia generally declined over the POI. U.S. producers' practical capacity, production, and capacity utilization declined overall from 2021 to 2023 by *** percent, *** percent, and *** percentage points, respectively; they were all lower in interim 2024 compared to interim 2023.³¹⁷ Although U.S. processors' practical capacity declined by *** percent from 2021 to 2023, their production and capacity utilization increased by *** percent and *** percentage points, respectively, from 2021 to 2023; U.S. processors' capacity and production were lower in interim 2024 compared to interim 2023, while their capacity utilization was higher.³¹⁸

³¹⁷ CR/PR at Table C.1. U.S. producers' production capacity increased from *** pounds in 2021 to *** pounds in 2022, but then declined to *** pounds in 2023. *Id.* U.S. producers' production capacity was *** pounds in interim 2024, compared with *** pounds in interim 2023. *Id.* U.S. producers' production declined from *** pounds in 2021 to *** pounds in 2022 and *** pounds in 2023. *Id.* U.S. producers' production was *** pounds in interim 2024, compared with *** pounds in interim 2023. *Id.* U.S. producers' capacity utilization rate declined from *** percent in 2021 to *** percent in 2022, but then increased to *** percent in 2023. *Id.* U.S. producers' capacity utilization was *** percent in interim 2024, compared with *** percent in interim 2023. *Id.*

³¹⁸ CR/PR at Table C.1. U.S. processors' production capacity increased from *** pounds in 2021 to *** pounds in 2022, but then declined to *** pounds in 2023. *Id.* U.S. processors' production capacity was *** pounds in interim 2024, compared with *** pounds in interim 2023. *Id.* U.S. processors' production increased from *** pounds in 2021 to *** pounds in 2022 and *** pounds in 2023. *Id.* U.S. processors' production was *** pounds in interim 2024, compared with *** pounds in interim 2023. *Id.* U.S. processors' capacity utilization rate increased from *** percent in 2021 to *** percent in 2022 and *** percent in 2023. *Id.* U.S. processors' capacity utilization was *** percent in interim 2024, compared with *** percent in interim 2023. *Id.*

The domestic industry's number of production-related workers ("PRWs") declined overall from 2021 to 2023, and was lower in interim 2024 compared with interim 2023.³¹⁹ Total wages paid and hourly wages increased from 2021 to 2023 and were higher in interim 2024 compared with interim 2023.³²⁰ Total hours worked increased from 2021 to 2023, but were lower in interim 2024 compared with interim 2023.³²¹ U.S. producers' productivity declined from 2021 to 2023, and was lower in interim 2024 compared with interim 2023, while U.S. processors' productivity increased from 2021 to 2023, and was higher in interim 2024 compared with interim 2023.³²²

³¹⁹ CR/PR at Table C.1. The industry's number of PRWs increased from *** PRWs in 2021 to *** PRWs in 2022, before declining to *** PRWs in 2023; it was lower at *** PRWs in interim 2024, compared with *** PRWs in interim 2023. *Id.*

³²⁰ CR/PR at Table C.1. Total wages paid increased from \$*** in 2021 to \$*** in 2022 and \$*** in 2023; they were higher at \$*** in interim 2024, compared with \$*** in interim 2023. *Id.* Hourly wages increased from \$*** per hour in 2021 to \$*** per hour in 2022 and \$*** per hour in 2023; they were higher in interim 2024, at \$*** per hour in interim 2024, compared with \$*** per hour in interim 2023. *Id.*

³²¹ CR/PR at Table C.1. Total hours worked increased from *** hours in 2021 to *** hours in 2022 and 2023; they were lower at *** hours in interim 2024, compared with *** hours in interim 2023. *Id.*

³²² CR/PR at Table C.1. For U.S. producers, productivity decreased from *** pounds per hour in 2021 to *** pounds per hour in 2022, and *** pounds per hour in 2023; it was lower at *** pounds per hour in interim 2024, compared with *** pounds per hour in interim 2023. *Id.* For U.S. processors, productivity decreased from *** pounds per hour in 2021 to *** pounds per hour in 2022, but then increased to *** pounds per hour in 2023; it was higher at *** pounds per hour in interim 2024, compared with *** pounds per hour in interim 2023. *Id.*

The quantity of the domestic industry's U.S. shipments declined by *** percent from 2021 to 2023, but was *** percent higher in interim 2024 compared to interim 2023.³²³ The domestic industry's share of apparent U.S. consumption declined irregularly by *** percentage points from 2021 to 2023, declining from *** percent in 2021 to *** percent in 2022, before slightly increasing to *** percent in 2023; its market share was *** percentage points higher in interim 2024, at *** percent, than in interim 2023, at *** percent.³²⁴ U.S. producers' end-of-period inventories declined by *** from 2021 to 2023 and were *** percent lower in interim 2024 compared with interim 2023.³²⁵ As a ratio of total shipments, U.S. producers' end-of-period inventories increased from *** percent in 2021 to *** percent in 2022 and *** percent in 2023; they were lower at *** percent in interim 2024, compared with *** percent in interim 2023.³²⁶ U.S. processors' end-of-period inventories increased by *** percent from 2021 to 2023, but were *** percent lower in interim 2024 compared with interim 2023.³²⁷ As a ratio of total shipments, U.S. processors' end-of-period inventories increased from *** percent in 2021 to *** percent in 2022 and *** percent in 2023; they were lower at *** percent in interim 2024, compared with *** percent in interim 2023.³²⁸

³²³ CR/PR at Table C.1. The domestic industry's U.S. shipments declined from *** pounds in 2021 to *** pounds in 2022 and *** pounds in 2023. *Id.* The domestic industry's U.S. shipments were higher in interim 2024, at *** pounds than in interim 2023, at *** pounds. *Id.*

³²⁴ CR/PR at Table C.1.

³²⁵ CR/PR at Table C.1. U.S. producers' end-of-period inventories declined from *** pounds in 2021 to *** pounds in 2022 and *** pounds in 2023; they were *** pounds in interim 2024 compared with *** pounds in interim 2023. *Id.*

³²⁶ CR/PR at Table C.1.

³²⁷ CR/PR at Table C.1. U.S. processors' end-of-period inventories increased from *** pounds in 2021 to *** pounds in 2022 and *** pounds in 2023; they were *** pounds in interim 2024 compared with *** pounds in interim 2023. *Id.*

³²⁸ CR/PR at Table C.1.

Virtually all of the domestic industry's financial performance indicators declined overall from 2021 to 2023, and all were lower in interim 2024 compared with interim 2023. The domestic industry's net sales quantity declined by 16.1 percent from 2021 to 2023, declining from 832.6 million pounds in 2021 to 712.3 million pounds in 2022 and 698.2 million pounds in 2023; its net sales quantity was 2.8 percent lower in interim 2024, at 518.1 million pounds, than in interim 2023, at 533.0 million pounds.³²⁹ Its net sales value declined by 18.0 percent from 2021 to 2023, increasing from \$2.2 billion in 2021 to \$2.4 billion in 2022, before declining to \$1.8 billion in 2023; its net sales value was 17.5 percent lower at \$1.2 billion in interim 2024 compared with \$1.4 billion in interim 2023.³³⁰ Its gross profit declined overall by 29.4 percent from 2021 to 2023, increasing from \$780.0 million in 2021 to \$833.1 million in 2022, before declining to \$551.0 million in 2023; its gross profit was 33.2 percent lower at \$229.7 million in interim 2024, compared with \$448.4 million in interim 2023.³³¹ Its operating income declined by 49.2 percent from 2021 to 2023, increasing from \$525.6 million in 2021 to \$572.9 million in 2022, before declining to \$267.0 million in 2023; its operating income was 58.5 percent lower at \$99.6 million in interim 2024, compared with \$239.9 million in interim 2023.³³² Its net income declined by *** percent from 2021 to 2023, increasing from \$*** in 2021 to \$*** in 2022, before declining to \$*** in 2023; its net income was *** percent lower at \$*** in interim 2024, compared with \$*** in interim 2023.³³³ Its operating and net income margins declined irregularly from 2021 to 2023 by 9.0 and *** percentage points, respectively; they were 8.3 and *** percentage points lower, respectively, in interim 2024, compared with interim 2023.^{334 335}

³²⁹ CR/PR at Table C.1. U.S. producers' net sales quantity declined by *** percent from 2021 to 2023, declining from *** pounds in 2021 to *** pounds in 2022 and *** pounds in 2023; their net sales quantity was *** percent lower in interim 2024, at *** pounds, than in interim 2023, at *** pounds. *Id.*

³³⁰ CR/PR at Table C.1. U.S. producers' net sales value declined by *** percent from 2021 to 2023, declining from \$*** in 2021 and 2022 to \$*** in 2023; their net sales value was *** percent lower at \$*** in interim 2024 compared with \$*** in interim 2023. *Id.*

³³¹ CR/PR at Table C.1.

³³² CR/PR at Table C.1. U.S. producers' operating income declined by *** percent from 2021 to 2023, increasing from \$*** in 2021 to \$*** in 2022, before declining to \$*** in 2023; they had *** of \$*** in interim 2024, compared to operating income of \$*** in interim 2023. *Id.*

³³³ CR/PR at Table C.1. U.S. producers' net income declined by *** percent from 2021 to 2023, increasing from \$*** in 2021 to \$*** in 2022, before declining to \$*** in 2023; they had *** of \$*** in interim 2024, compared with net income of \$*** in interim 2023. *Id.*

(Continued...)

The domestic industry's capital expenditures declined by 33.5 percent from 2021 to 2023, declining from \$77.0 million in 2021 to \$51.2 million in 2022 and 2023; they were 10.8 percent lower at \$32.3 million in interim 2024, compared with \$36.2 million in interim 2023.³³⁶ The domestic industry's research and development expenses increased by 0.2 percent from 2021 to 2023, declining from \$37.9 million in 2021 to \$37.6 million in 2022, but then increasing to \$38.0 million in 2023; they were 6.0 percent lower at \$29.7 million in interim 2024, compared with \$31.6 million in interim 2023.³³⁷ The domestic industry's return on assets improved from *** percent in 2021 to *** percent in 2022, before declining to *** percent in 2023.³³⁸ Domestic producers also reported negative effects on investment and on growth and development due to subject imports.³³⁹

³³⁴ CR/PR at Table C.1. The domestic industry's operating income margin increased from 23.7 percent in 2021 to 24.2 percent in 2022, before decreasing to 14.7 percent in 2023; it was lower at 8.4 percent in interim 2024, compared with 16.7 percent in interim 2023. *Id.* The domestic industry's net income margin increased from *** percent in 2021 to *** percent in 2022, before decreasing to *** percent in 2023; it was lower at *** percent in interim 2024, compared with *** percent in interim 2023. *Id.*

³³⁵ U.S. producers' operating income margin increased from *** percent in 2021 to *** percent in 2022, before decreasing to *** percent in 2023; it was *** percent in interim 2024, compared with *** percent in interim 2023. CR/PR at Table C.1. U.S. producers' net income margin increased from *** percent in 2021 to *** percent in 2022, before decreasing to *** percent in 2023; it was *** percent in interim 2024, compared with *** percent in interim 2023. *Id.*

³³⁶ CR/PR at Table C.1.

³³⁷ CR/PR at Table C.1.

³³⁸ CR/PR at Table 6.15.

³³⁹ CR/PR at Table 6.17.

Cumulated subject import volume was significant throughout the POI and increased significantly as a share of apparent U.S. consumption during the period, including at the expense of the domestic industry, driven by significant underselling which increased on a volume basis throughout the POI. As the domestic industry lost sales and market share to subject imports during the period, its capacity, production, capacity utilization, U.S. shipments, and net sales quantity declined irregularly. Significant underselling by cumulated subject imports also depressed prices for the domestic like product to a significant degree, as domestic producers reduced their prices in an effort to compete with low-priced subject imports and regain sales and market share in 2023 and interim 2024, even as apparent U.S. consumption increased in interim 2024 compared to interim 2023. As a consequence, the domestic industry's net sales value, gross profit, operating income, net income, and operating and net income margins all deteriorated over the POI, and particularly in 2023 and interim 2024 as the domestic industry faced intensified underselling by cumulated subject imports and depressed domestic prices. Accordingly, we conclude that cumulated subject imports had a significant adverse impact on the domestic industry.

We have also considered whether there are other factors that may have had an adverse impact on the domestic industry during the POI to ensure that we are not attributing injury from such other factors to subject imports. Nonsubject imports' market share fluctuated within a narrow band over the course of the POI, and nonsubject imports remained the smallest source of supply to the U.S. market throughout the POI.³⁴⁰ Although the domestic industry lost *** percentage points of market share to nonsubject imports during the 2021-2023 period, the industry lost a much greater *** percentage points of market share to cumulated subject imports over the same period.³⁴¹ Further, nonsubject import AUVs were higher than subject import AUVs throughout the POI, and were higher than the domestic industry's U.S. shipment AUVs in 2023 and interim 2024, when subject imports depressed domestic prices.³⁴² Thus, nonsubject imports cannot explain the injury to the domestic industry that we have attributed to cumulated subject imports.

³⁴⁰ CR/PR at Tables 4.15 & C.1. The share of apparent U.S. consumption held by nonsubject imports increased overall by *** percentage points from 2021 to 2023, increasing from *** percent in 2021 to *** percent in 2022, before reverting to *** percent in 2023. *Id.* Nonsubject imports' market share was *** percent in interim 2024, as compared with *** percent in interim 2023. *Id.*

³⁴¹ CR/PR at Tables 4.15 & C.1.

³⁴² CR/PR at Table C.1. Nonsubject import AUVs were \$3.61 per pound in 2023 and \$3.26 per pound in interim 2024, while subject imports AUVs were \$1.65 per pound in 2023 and \$1.49 per pound in interim 2024, and the AUVs of the domestic industry's U.S. shipments were \$3.27 per pound in 2023 and \$2.58 per pound in interim 2024. *Id.* We recognize that AUV comparisons can be influenced by differences in product mix and changes in product mix over time.

We recognize that apparent U.S. consumption declined by *** percent from 2021 to 2023.³⁴³ As an initial matter, it does not appear based on questionnaire responses that a majority of market participants perceived a decline in demand.³⁴⁴ Furthermore, declining demand cannot explain the significant underselling by cumulated subject imports over the POI or the effects that cumulated subject imports had on the domestic industry by taking sales and market share from the industry. Indeed, the *** percent increase in apparent U.S. consumption in interim 2024 compared to interim 2023 coincided with the steepest percentage declines in the domestic industry's financial indicators of the POI.³⁴⁵ Thus, demand trends do not explain the injury to the domestic industry that we have attributed to cumulated subject imports.

³⁴³ CR/PR at Table C.1.

³⁴⁴ CR/PR at Table 2.6. Among responding U.S. importers, 17 importers reported that U.S. demand steadily increased or fluctuated up, 5 importers reported no change in demand, and 7 importers reported that U.S. demand steadily decreased or fluctuated down. *Id.* Among responding U.S. purchasers, 23 reported that U.S. demand steadily increased or fluctuated up, 5 purchasers reported no change in demand, at 18 purchasers reported that U.S. demand steadily decreased or fluctuated down. *Id.* Among responding U.S. producers, two producers reported that U.S. demand fluctuated down while one producer reported that U.S. demand fluctuated up. *Id.*

³⁴⁵ See CR/PR at Table C.1.

PPG argues that the domestic industry's history of supply problems, particularly those of Olin and Westlake, led cumulated subject imports to enter the U.S. market, citing the declarations of *force majeure* due to weather events, raw material shortages, and production problems as the reason cumulated subject imports entered the U.S. market and increased their market share.³⁴⁶ We are unpersuaded that domestic supply issues explain the domestic industry's injury that we find on this record. As an initial matter, the domestic industry's low and declining capacity utilization rates during the POI, as well as the low capacity utilization rates reported by individual domestic producers during the period, indicate that the industry had increasing amounts of excess capacity with which it could have increased production and U.S. shipments.³⁴⁷ As discussed in section VI.B.2, above, despite reported supply constraints, Olin and Westlake declared that they were both able to supply their contract customers with their usual volumes in 2021 and 2022, and correctly noted that the domestic producers supplied the market with a ***.³⁴⁸ Furthermore, although market participants reported intermittent supply constraints during the POI, most reported supply constraints occurred in 2021 and 2022.³⁴⁹ Had supply constraints been solely responsible for the market share shift from 2021 to 2022, with supply constraints resolved the domestic industry should have expected to regain additional sales and market share in 2023 and interim 2024, yet the domestic industry's market share remained *** and *** percentage points lower in 2023 and interim 2024 respectively than in 2021, while subject import market share remained *** and *** percentage points higher during the same periods, as they intensified their underselling and depressed domestic prices to a significant degree. Additionally, as discussed above in section VI.D., the record indicates that purchasers purchased subject imports instead of the domestic like product because they were lower priced, which indicates that subject import pricing contributed to the increased volume and sales of subject imports in the U.S. market during the POI.³⁵⁰

³⁴⁶ See, e.g., PPG Prehearing Br. at 23-30; Sherwin-Williams Prehearing Br. at 13-18.

³⁴⁷ CR/PR at Tables 3.9, 3.11, and C.1.

³⁴⁸ See, e.g., Petitioners Posthearing Br. at 7 and Exhibits 3 and 4; see also CR/PR at Table C.1.

(Continued...)

PPG argues that ***.³⁵¹ PPG contends that ***.³⁵² Olin disputes that characterization.³⁵³

³⁴⁹ CR/PR at 2.14 & Table 2.5. Purchasers reported relatively few supply constraints involving the domestic industry in 2023 and interim 2024. *Id.* We also note that several purchasers and a substantial number of importers also reported experiencing supply constraints with imports of epoxy resins during the POI and the vast majority of responding purchasers reported that the U.S. was “comparable,” if not “superior,” on availability in comparisons with all subject countries. *See id.* at Table 2.15.

³⁵⁰ PPG also argues that there is lack of correlation between cumulated subject import volumes and the domestic industry’s performance during the POI, with the industry’s performance strengthening as the volume of subject imports increased from 2021 to 2022, but weakening as the volume of cumulated subject imports declined from 2022 to 2023 and in interim 2024 compared to interim 2023. *See, e.g.,* PPG Prehearing Br. at 78-80. Although cumulated subject imports’ market share declined from 2022 to 2023 and in interim 2024 compared to interim 2023, it remained significant and higher in 2023, at *** percent, and in interim 2024, at *** percent, than in 2021, at *** percent, as subject imports retained much of the market share they had captured from the domestic industry during the 2021-2022 period. CR/PR at Tables 5.15 & C.1. At the same time, cumulated subject import underselling intensified on a volume basis in 2023 and interim 2024, depressing domestic prices to a significant degree and placing the domestic industry in a cost-price squeeze as its prices declined faster than its costs during the period, even as apparent U.S. consumption increased in interim 2024 compared to interim 2023. *Id.* at Tables 6.6 & C.1. Consequently, the declining market share of cumulated subject imports from 2022 to 2023 and in interim 2024 compared to interim 2023 does not sever the causal link that we have found between cumulated subject imports and the domestic industry’s declining performance during the POI.

³⁵¹ The parties contest what the “value over volume” strategy pertains to. Petitioners state that “Olin’s ‘Value over Volume’ strategy does ***. ***. As Mr. Kohl explained, ***.” Petitioners Final Comments at 5-6 (emphasis in original). Respondents claim that this strategy directly pertains to epoxy resin products. PPG Final Comments at 8 (citing to Olin 2021 Q3 Earnings Report which states at one point, “Prioritized epoxy value over volume, despite high demand across all major applications and geographies.”).

³⁵² *See* PPG Prehearing Br. at 60-61.

³⁵³ As stated by an industry witness for Olin in describing this so-called “value over volume” strategy: “It’s about maximizing the value of the last ton that you sell into the market. And as a market of chemicals, you’re trying to balance supply and demand, right? You’re not trying to put too much supply into the market. You’re trying to maximize the opportunities that you have in the marketplace... You’re trying to sell the most volume at the maximum value, and that’s basically what the value over volume strategy describes.” Hearing Tr. at 97 (Kohl).

The data in these final phase investigations indicate that *** in the process. However, as discussed above in section VI.D., *** does not address why purchasers did not buy more from ***. We also note that the AUVs of all sources were higher in 2022 than in 2021.³⁵⁴ Indeed, for the domestic industry as a whole, the net sales AUV increased by 24.8 percent, and unit COGS also increased by 24.8 percent, indicating that the domestic price increase was in line with increased costs.³⁵⁵ In any event, as also discussed in section VI.D., the record shows that subject import pricing, which was underselling the domestic like product, allowed subject imports to capture and retain sales and market share from the domestic industry during the POI.

VII. Conclusion

For the reasons stated above, we determine that an industry in the United States is materially injured by reason of imports of epoxy resins from South Korea, Taiwan, and Thailand found by Commerce to be sold in the United States at LTFV and to be subsidized by the governments of South Korea and Taiwan. We further determine that imports of epoxy resins from China and India found by Commerce to be sold in the United States at LTFV and to be subsidized by the governments of China and India are negligible and therefore terminate the investigations of imports of epoxy resins from China and India.

³⁵⁴ CR/PR at Table C.1.

³⁵⁵ CR/PR at Table C.1.

Part 1: Introduction

Background

These investigations result from petitions filed on April 3, 2024 with the U.S. Department of Commerce (“Commerce”) and the U.S. International Trade Commission (“USITC” or “Commission”) by the U.S. Epoxy Resin Producers Ad Hoc Coalition,¹ alleging that an industry in the United States is materially injured and threatened with material injury by reason of subsidized imports of epoxy resins from China, India, South Korea, and Taiwan and less-than-fair-value (“LTFV”) imports of epoxy resins from China, India, South Korea, Taiwan, and Thailand.² Table 1.1 presents information relating to the background of this proceeding.^{3 4}

Table 1.1 : Information relating to the background and schedule of this proceeding

Effective date	Action
April 3, 2024	Petitions filed with Commerce and the Commission; institution of the Commission’s countervailing and antidumping duty investigations (89 FR 24860, April 9, 2024)
April 23, 2024	Commerce’s initiation of countervailing and antidumping duty investigations (89 FR 33319 and 33324, April 29, 2024)
May 20, 2024	Commission’s preliminary countervailing and antidumping duty determinations (89 FR 45925, May 24, 2024)
September 13, 2024	Commerce’s preliminary countervailing duty determinations and alignment of final determinations with final antidumping duty determinations (89 FR 74889, 74891, 74896, and 74912, September 13, 2024)
November 13, 2024	Commerce’s preliminary antidumping duty determination for China and Commerce’s preliminary antidumping duty determinations and postponement of final determinations for India, South Korea, Taiwan, and Thailand (89 FR 89591, 89594, 89605, 89608, and 89612, November 13, 2024)
November 13, 2024	Scheduling of the final phase of the Commission’s countervailing and antidumping duty investigations (89 FR 92719, November 22, 2024)
November 29, 2024	Commerce’s postponement of final antidumping duty determination for China (89 FR 94709, November 29, 2024)
November 29, 2024	Revised scheduling of the final phase of the Commission’s countervailing and antidumping duty investigations (89 FR 99904, December 11, 2024)

¹ The coalition is comprised of domestic epoxy resin producers Olin Corporation, Clayton, Missouri, and Westlake Corporation, Houston, Texas.

² See the section entitled “The subject merchandise” in Part 1 of this report for a complete description of the merchandise subject in this proceeding.

³ Pertinent Federal Register notices are referenced in appendix A, and may be found at the Commission’s website (www.usitc.gov).

⁴ Appendix B presents the witnesses which appeared at the Commission’s hearing.

Effective date	Action
December 13, 2024	Commerce's amended preliminary antidumping duty determination for South Korea (89 FR 100972, December 13, 2024)
April 3, 2025	Commerce's final countervailing and antidumping duty determinations for China, India, South Korea, and Taiwan, and Commerce's final antidumping duty determination for Thailand (90 FR 14605, 14611, 14613, 14616, 14618, 14621, 14623, 14628, and 14636, April 3, 2025)
April 3, 2025	Commission's hearing
April 30, 2025	Commission's vote
May 19, 2025	Commission's views

Statutory criteria

Section 771(7)(B) of the Tariff Act of 1930 (the "Act") (19 U.S.C. § 1677(7)(B)) provides that in making its determinations of injury to an industry in the United States, the Commission--

shall consider (I) the volume of imports of the subject merchandise, (II) the effect of imports of that merchandise on prices in the United States for domestic like products, and (III) the impact of imports of such merchandise on domestic producers of domestic like products, but only in the context of production operations within the United States; and. . . may consider such other economic factors as are relevant to the determination regarding whether there is material injury by reason of imports.

Section 771(7)(C) of the Act (19 U.S.C. § 1677(7)(C)) further provides that--⁵

In evaluating the volume of imports of merchandise, the Commission shall consider whether the volume of imports of the merchandise, or any increase in that volume, either in absolute terms or relative to production or consumption in the United States is significant. . . In evaluating the effect of imports of such merchandise on prices, the Commission shall consider whether. . . (I) there has been significant price underselling by the imported merchandise as compared with the price of domestic like products of the United States, and (II) the effect of imports of such merchandise otherwise depresses prices to a significant degree or prevents price increases, which otherwise would have occurred, to a significant degree. . . In examining the impact required to be considered under subparagraph (B)(i)(III), the Commission shall evaluate (within the context of the business cycle and conditions of competition that are distinctive to the affected industry) all relevant economic factors which have a bearing on the state of the industry in the United States, including, but not limited to. . . (I) actual and potential decline in output, sales,

⁵ Amended by PL 114-27 (as signed, June 29, 2015), Trade Preferences Extension Act of 2015.

market share, gross profits, operating profits, net profits, ability to service debt, productivity, return on investments, return on assets, and utilization of capacity, (II) factors affecting domestic prices, (III) actual and potential negative effects on cash flow, inventories, employment, wages, growth, ability to raise capital, and investment, (IV) actual and potential negative effects on the existing development and production efforts of the domestic industry, including efforts to develop a derivative or more advanced version of the domestic like product, and (V) in {an antidumping investigation}, the magnitude of the margin of dumping.

In addition, Section 771(7)(J) of the Act (19 U.S.C. § 1677(7)(J)) provides that—⁶

(J) EFFECT OF PROFITABILITY.—The Commission may not determine that there is no material injury or threat of material injury to an industry in the United States merely because that industry is profitable or because the performance of that industry has recently improved.

Organization of report

Part 1 of this report presents information on the subject merchandise, subsidy rates and dumping margins, and domestic like product. Part 2 of this report presents information on conditions of competition and other relevant economic factors. Part 3 presents information on the condition of the U.S. industry, including data on capacity, production, shipments, inventories, and employment. Parts 4 and 5 present the volume of subject imports and pricing of domestic and imported products, respectively. Part 6 presents information on the financial experience of U.S. producers. Part 7 presents the statutory requirements and information obtained for use in the Commission's consideration of the question of threat of material injury as well as information regarding nonsubject countries.

⁶ Amended by PL 114-27 (as signed, June 29, 2015), Trade Preferences Extension Act of 2015.

Market summary

Epoxy resins are a class of thermosetting resins that, when reacted with a hardener or curing agent, form a strong, durable substance used in a vast array of commercial and industrial applications including protective coatings (e.g., power coatings, marine finishes, and can interiors), construction (e.g., industrial and commercial flooring and paving), composites (e.g., turbine blades, automotive and aerospace parts), electronics (e.g., printed circuit boards), and adhesives (e.g., plastic-to-plastic and plastic-to-metal bonding in furniture and appliance manufacturing).⁷

The leading U.S. producers of epoxy resins are Olin Corporation (“Olin”) and Westlake Corporation (“Westlake”). The leading producers of epoxy resins outside the United States include ***.⁸ The leading U.S. importers of epoxy resins include ***. U.S. purchasers tend to be firms that process epoxy resins into downstream products.

Apparent U.S. consumption of epoxy resins totaled approximately *** pounds (\$***) in 2023. At present, three firms are known to produce epoxy resins in the United States and five firms in the United States are known to process epoxy resins into additional in-scope product.⁹ In 2023, U.S. producers’ U.S. shipments of epoxy resins totaled *** pounds (\$***, inclusive of the value added by U.S. processors), which accounted for *** percent of apparent U.S. consumption by quantity and *** percent by value. U.S. imports from subject sources totaled 186.9 million pounds (\$312.0 million) in 2023 and accounted for *** percent of apparent U.S. consumption by quantity and *** percent by value. U.S. imports from nonsubject sources totaled 79.4 million pounds (\$303.5 million) in 2023 and accounted for *** percent of apparent U.S. consumption by quantity and *** percent by value.

⁷ Petitions, Vol. I, pp. 2–4, 9–10 and exh. I-7.

⁸ Petitions, Vol. I, exh. I-7.

⁹ One firm, Huntsman Advanced Materials Americas, LLC (“Huntsman”), reported that it was both a producer and processor of epoxy resins.

Summary data and data sources

A summary of data collected in this proceeding is presented in appendix C, tables C.1 through C.4. The Commission's questionnaires collected data for the years 2021 to 2023 and interim periods January to September of 2023 ("interim 2023") and January to September of 2024 ("interim 2024"). Except as noted, U.S. industry data are based on the information provided by seven firms which responded to the Commission's producer/processor questionnaire. U.S. imports are based on adjusted official U.S. imports statistics and the questionnaire response of 37 firms, which accounted for the majority of epoxy resins imports from subject and nonsubject sources in 2023. U.S. purchaser data are based on the questionnaire response of 57 firms which responded to the Commission's purchaser questionnaire. Foreign producer/exporter data are based on the questionnaire response of 14 firms, which provided information on their epoxy resin operations in China, India, South Korea, Taiwan, and Thailand.

Previous and related investigations

Epoxy resins have not been the subject of any prior related antidumping or countervailing duty investigations in the United States.¹⁰

¹⁰ The Commission, however, has conducted antidumping and countervailing duty investigations on products that contain epoxy resins. See Steel Wire Garment Hangers from Taiwan, Inv. No. 731-TA-1197 (Final), USITC Publication 4363 (November 2012), pp. 5, 1.6–1.11, and 4.10; Cast Iron Soil Pipe Fittings from China, Inv. Nos. 701-TA-583 and 731-TA-1381 (Final), USITC Publication 4812 (August 2018), pp. 24, 1.10–1.13, and 5.9; Cast Iron Soil Pipe from China, Inv. Nos. 701-TA-597 and 731-TA-1407 (Final), USITC Publication 4879 (April 2019), pp. 17, 1.10–1.14, and 5.10; Steel Racks from China, Inv. Nos. 701-TA-608 and 731-TA-1420 (Final), USITC Publication 4951 (September 2019), pp. 7, 1.10, 3.4–3.5, and 4.4; Acrylonitrile-Butadiene Rubber (NBR) from France, Mexico, and South Korea, Inv. Nos. 731-TA-1567-1569 (Final), USITC Publication 5336 (August 2022), pp. 6, 1.7, and 1.10; Prestressed Concrete Steel Wire Strand from Argentina, Colombia, Egypt, the Netherlands, Saudi Arabia, Taiwan, Turkey, and the United Arab Emirates, Inv. Nos. 701-TA-646 and 731-TA-1502-1504, 1508-1509, 1512, 1514, and 1516 (Final), USITC Publication 5153 (January 2021), pp. 1.15, 1.16, and 5.1.

Nature and extent of subsidies and sales at LTFV

Subsidies

On April 3, 2025, Commerce published a notice in the Federal Register of its final determination of countervailable subsidies for producers and exporters of epoxy resins from China, India, South Korea, and Taiwan.¹¹ Tables 1.2–1.5 present Commerce’s findings of subsidization of epoxy resins in the subject countries.

Table 1.2 Epoxy resins: Commerce’s final subsidy determination with respect to imports from China

Entity	Countervailing subsidy rate (percent ad valorem)
Jiangsu Sanmu Group Co., Ltd	547.76
Shandong Bluestar Dongda Chemical	547.76
All others	547.76

Source: 90 FR 14628, April 3, 2025.

Note: For further information on programs determined to be countervailable, see Commerce’s associated Issues and Decision Memorandum.

Table 1.3 Epoxy resins: Commerce’s final subsidy determination with respect to imports from India

Entity	Countervailing subsidy rate (percent ad valorem)
Atul Limited	10.66
Champion Advanced Materials	103.72
All others	10.66

Source: 90 FR 14636, April 3, 2025.

Note: For further information on programs determined to be countervailable, see Commerce’s associated Issues and Decision Memorandum.

¹¹ 90 FR 14605, 14618, 14628, and 14636, April 3, 2025.

Table 1.4 Epoxy resins: Commerce’s final subsidy determination with respect to imports from South Korea

Entity	Countervailing subsidy rate (percent ad valorem)
Kukdo Chemical Co., Ltd.	1.01
Kumho P&B Chemicals Inc.	1.84
All others	1.30

Source: 90 FR 14605, April 3, 2025.

Note: For further information on programs determined to be countervailable, see Commerce’s associated Issues and Decision Memorandum.

Note: In its final determination, Commerce found the following companies to be cross-owned with Kukdo Chemical Co., Ltd.: Kukdo Finechem Co., Ltd. In addition, Commerce found the following companies to be cross-owned with Kumho P&B Chemicals, Inc.: Kumho Petrochemical Co. Ltd. and Chemoil Corporation.

Table 1.5 Epoxy resins: Commerce’s final subsidy determination with respect to imports from Taiwan

Entity	Countervailing subsidy rate (percent ad valorem)
Chang Chun Plastics Co. Ltd.	19.13
Nan Ya Plastics Corp.	3.38
All others	11.35

Source: 90 FR 14618, April 3, 2025.

Note: For further information on programs determined to be countervailable, see Commerce’s associated Issues and Decision Memorandum.

Note: In its final determination, Commerce has found the following companies to be cross-owned with Chang Chun Plastics Co. Ltd.: Chang Chun Petrochemical Co., Ltd.; Dairen Chemical Corporation; Jinzhou Technology Co., Ltd.; and Taiwan Prosperity Chemical Corporation. In addition, Commerce found the following companies to be cross-owned with Nan Ya Plastics Corp.: Formosa Plastics Corporation; Formosa Chemicals & Fibre Corporation; and Formosa Petrochemical Corporation.

Sales at LTFV

On April 3, 2025, Commerce published a notice in the Federal Register of its final determination of sales at less-than-fair-value with respect to imports from China, India, South Korea, Taiwan, and Thailand.¹² Tables 1.6–1.10 present Commerce’s dumping margins with respect to imports of product from the subject countries.

¹² 90 FR 14611, 14613, 14616, 14621, and 14623, April 3, 2025.

Table 1.6 Epoxy resins: Commerce’s final weighted-average LTFV margins with respect to imports from China

Exporter/producer	Weighted-average dumping margin (percent)
China-wide entity	354.99

Source: 90 FR 14616, April 3, 2025.

Note: The China-wide entity includes: (1) Huntsman Advanced Materials (Guangdong) Company Ltd.; (2) Artmate Co. Ltd.; (3) Changzhou Original Chemical Co., Ltd.; (4) Jiangsu Ruiheng New Material Technology Co., Ltd.; (5) Jiangsu Sanmu Group Co., Ltd.; (6) Jushi Group Company Ltd.; (7) Mercury Far East Enterprise Ltd.; and (8) Shandong Deyuan Epoxy Resin Co., Ltd.

Note: Because no respondent qualified for a separate rate, Commerce did not calculate producer/exporter combination rates for its final determination.

Table 1.7 Epoxy resins: Commerce’s final weighted-average LTFV margins with respect to imports from India

Exporter/producer	Weighted-average dumping margin (percent)
Atul Limited	12.69
Champion Advanced Materials	15.68
All others	12.69

Source: 90 FR 14613, April 3, 2025.

Table 1.8 Epoxy resins: Commerce’s final weighted-average LTFV margins with respect to imports from South Korea

Exporter/producer	Weighted-average dumping margin (percent)
Kumho P&B Chemicals Inc	7.60
Kukdo Chemical Co., Ltd/Kukdo Finechem	5.68
All others	6.37

Source: 90 FR 14623, April 3, 2025.

Note: Commerce determined to treat Kukdo Chemical Co., Ltd and Kukdo Finechem as a single entity.

Table 1.9 Epoxy resins: Commerce’s final weighted-average LTFV margins with respect to imports from Taiwan

Exporter/producer	Weighted-average dumping margin (percent)
Chang Chun Plastics Co., Ltd	10.93
Nan Ya Plastics Corporation	26.98
All others	18.66

Source: 90 FR 14611, April 3, 2025.

Table 1.10 Epoxy resins: Commerce’s final weighted-average LTFV margins with respect to imports from Thailand

Exporter/producer	Weighted-average dumping margin (percent)
Aditya Birla Chemicals (Thailand) Limited	5.25
All others	5.25

Source: 90 FR 14621, April 3, 2025.

The subject merchandise

Commerce's scope

In the current proceeding, Commerce has defined the scope as follows:

The merchandise subject to these investigations are fully or partially uncured epoxy resins, also known as epoxide resins, polyepoxides, oxirane resins, ethoxyline resins, diglycidyl ether of bisphenol, (chloromethyl) oxirane, or aromatic diglycidyl, which are polymers or prepolymers containing epoxy groups (i.e., three-membered ring structures comprised of two carbon atoms and one oxygen atom). Epoxy resins range in physical form from low viscosity liquids to solids. All epoxy resins are covered by the scope of these investigations irrespective of physical form, viscosity, grade, purity, molecular weight, or molecular structure, and packaging.

Epoxy resins may contain modifiers or additives, such as hardeners, curatives, colorants, pigments, diluents, solvents, thickeners, fillers, plasticizers, softeners, flame retardants, toughening agents, catalysts, Bisphenol F, and ultraviolet light inhibitors, so long as the modifier or additive has not chemically reacted so as to cure the epoxy resin or convert it into a different product no longer containing epoxy groups. Such epoxy resins with modifiers or additives are included in the scope where the epoxy resin component comprises no less than 30 percent of the total weight of the product. The scope also includes blends of epoxy resins with different types of epoxy resins, with or without the inclusion of modifiers and additives, so long as the combined epoxy resin component comprises at least 30 percent of the total weight of the blend.

Epoxy resins that enter as part of a system or kit with separately packaged co-reactants, such as hardeners or curing agents, are within the scope. The scope does not include any separately packaged co-reactants that would not fall within the scope if entered on their own.

The scope includes merchandise matching the above description that has been processed in a third country, including by commingling, diluting, introducing, or removing modifiers or additives, or performing any other processing that would not otherwise remove the merchandise from the scope of the investigations if performed in the subject country.

The scope also includes epoxy resin that is commingled or blended with epoxy resin from sources not subject to these investigations. Only the subject component of such commingled products is covered by the scope of these investigations.

Excluded from the scope are phenoxy resins, which are polymers with a weight greater than 11,000 Daltons, a Melt Flow Index (MFI) at 200 °C

(392 °F) no less than 4 grams and no greater than 70 grams per 10 min, Glass-Transition Temperatures (Tg) no less than 80 °C (176 °F) and no greater than 100 °C (212 °F), and which contain no epoxy groups other than at the terminal ends of the molecule.

Excluded from the scope are certain paint and coating products, which are blends, mixtures, or other formulations of epoxy resin, curing agent, and pigment, in any form, packaged in one or more containers, wherein (1) the pigment represents a minimum of 10 percent of the total weight of the product, (2) the epoxy resin represents a maximum of 80 percent of the total weight of the product, and (3) the curing agent represents 5 to 40 percent of the total weight of the product.

Excluded from the scope are preimpregnated fabrics or fibers, often referred to as “pre-pregs,” which are composite materials consisting of fabrics or fibers (typically carbon or glass) impregnated with epoxy resin.

Also excluded from the scope is Tetramethyl Bisphenol F Diglycidyl Ether epoxy resin, also known as Tetramethyl Bisphenol F -DGE Polymer (TMBPF-DGE), that (1) has the chemical name: phenol, 4, 4'-methylenebis[2,6-dimethyl-, polymer with 2-(chloromethyl)oxirane, (2) falls under Chemical Abstract Services (CAS) Registry Number 113693-69-9, and (3) has an epoxy equivalent weight (EEW), also referred to as the weight per epoxide (WPE), of no less than 200 and no greater than 230 grams of epoxy resin per epoxy equivalent (g/eq or GEW).

This merchandise is currently classifiable under Harmonized Tariff Schedule of the United States (HTSUS) subheading 3907.30.0000. Subject merchandise may also be entered under subheadings 3907.29.0000, 3824.99.9397, 3214.10.0020, 2910.90.9100, 2910.90.9000, 2910.90.2000, and 1518.00.4000. The HTSUS subheadings are provided for convenience and customs purposes only; the written description of the scope is dispositive.^{13 14 15}

¹³ 90 FR 14605, 14611, 14613, 14616, 14618, 14621, 14623, 14628, and 14636, April 3, 2025; and Commerce’s Antidumping and Countervailing Duty Investigations on Certain Epoxy Resins from the People’s Republic of China, India, the Republic of Korea, Taiwan, and the Kingdom of Thailand: Final Scope Decision Memorandum, March 28, 2025.

¹⁴ HTS subheading 2910.90.9000 was discontinued and redesignated to 2910.90.9100 in January 2017. Pres. Proc. 9549, 81 F.R. 87401.

¹⁵ The penultimate paragraph (i.e., “Also excluded from the scope is Tetramethyl Bisphenol F Diglycidyl Ether epoxy resin {...}”) was not included in Commerce’s preliminary scope determination but was later added in Commerce’s final scope determination. Subsequently, Commission staff cured responding firms’ U.S. importer questionnaires to ensure that their data was accurately reported. See Part 4 of this report for more information.

Tariff treatment

Based upon the scope set forth by Commerce, information available to the Commission indicates that the merchandise subject to these investigations are imported under statistical reporting number 3907.30.0000 of the Harmonized Tariff Schedule of the United States (“HTSUS” or “HTS”). Subject merchandise may also be imported under HTS statistical reporting numbers 1518.00.4000, 2910.90.2000, 2910.90.9100,¹⁶ 3214.10.0020, 3824.99.9397, and 3907.29.0000. The 2024 general rate of duty is 3.7 percent ad valorem for HTS subheading 3214.10.00, 4.8 percent ad valorem for HTS subheading 2910.90.91, 5 percent ad valorem for HTS subheading 3824.99.93, 5.5 percent ad valorem for HTS subheading 2910.90.20, 6.1 percent ad valorem for HTS subheading 3907.30.00, 6.5 percent ad valorem for HTS subheading 3907.29.00, and 8 percent ad valorem for HTS subheading 1518.00.40.¹⁷ Decisions on the tariff classification and treatment of imported goods are within the authority of U.S. Customs and Border Protection (CBP).

Section 301 Tariffs, IEEPA, and Reciprocal Tariffs

Effective August 23, 2018, merchandise imported under HTS statistical reporting numbers 3907.29.0000 and 3907.30.0000 originating in China became subject to an additional 25 percent ad valorem duty under Section 301 of the Trade Act of 1974 (“Section 301”) under heading 9903.88.02.¹⁸

Effective September 24, 2018, merchandise imported under HTS statistical reporting numbers 2910.90.2000, 2910.90.9100, 3214.10.0020, 3824.99.9397 originating in China became subject to an additional 10 percent ad valorem duty under section 301 of the Trade Act of 1974. Effective May 10, 2019, the section 301 duty was increased to 25 percent ad valorem duty under Section 301 under heading 9903.88.03.¹⁹

¹⁶ HTS subheading 2910.90.9000 was discontinued and redesignated to 2910.90.9100 in January 2017. Pres. Proc. 9549, 81 F.R. 87401.

¹⁷ USITC, HTSUS (2025) Revision 10, USITC Publication 5615, April 2025.

¹⁸ 83 FR 40823, August 16, 2018. See also HTS heading 9903.88.02 and U.S. notes 20(c) and 20(d) to subchapter III of chapter 99 and related tariff provisions for this duty treatment. USITC, HTSUS (2025) Revision 10, USITC Publication 5615, April 2025, pp. 99.3.43 to 99.3.44, 99.3.354.

¹⁹ 83 FR 47974, September 21, 2018; 84 FR 20459, May 9, 2019. See also HTS headings 9903.88.03 and 9903.88.04 and U.S. notes 20(e), 20(f), and 20(g) to subchapter III of chapter 99 and related tariff provisions for this duty treatment. USITC, HTSUS (2025) Revision 10, USITC Publication 5615, April 2025, pp. 99.3.46 to 99.3.47, 99.3.354. Goods exported from China to the United States prior to May 10, 2019, and entering the United States prior to June 1, 2019, were not subject to the escalated 25 percent duty (84 FR 21892, May 15, 2019).

Effective September 1, 2019, merchandise imported under HTS statistical reporting number 1518.00.4000 originating in China became subject to an additional 15 percent ad valorem duty under section 301 of the Trade Act of 1974. Effective February 14, 2020, the section 301 duty was reduced to 7.5 percent under heading 9903.88.15.²⁰

Effective April 5, 2025, merchandise originating in India, South Korea, Taiwan, and Thailand are subject to an additional 10 percent ad valorem reciprocal duty under IEEPA.²¹ Effective April 5, 2025, merchandise originating in China were subject to an additional 10 percent ad valorem reciprocal duty under IEEPA. That reciprocal duty rose to 84 percent ad valorem effective April 9, 2025, and rose again to 125 percent effective April 10, 2025.²²

The product

Description and applications

Epoxy resins are a diverse class of prepolymers and polymers featuring epoxy groups.²³ The epoxy groups are highly reactive, and the resins do not become inactive until they are reacted with a curing agent. Curing agents can also be called curatives, hardeners, or cross-linking agents. The interaction with the curing agent is the curing process, and hundreds of chemicals can be used.²⁴ In their cured form, epoxy resins possess the following properties: strong adhesion, excellent resistance to corrosion and chemicals, high mechanical strength, and excellent properties for insulation applications. As an example of the high mechanical strength,

²⁰ 84 FR 45821, August 30, 2019; 85 FR 3741, January 22, 2020. See also HTS heading 9903.88.15 and U.S. notes 20(r) and 20(s) to subchapter III of chapter 99 and related tariff provisions for this duty treatment. USITC, HTSUS (2025) Revision 10, USITC Publication 5615, April 2025, pp. 99.3.106 to 99.3.119, 99.3.356.

²¹ 90 FR 15041, April 7, 2025. See also HTS heading 9903.01.25 and U.S. note 2(v) to subchapter III of chapter 99 and related tariff provisions for this duty treatment. USITC, HTSUS (2025) Revision 10, USITC Publication 5615, April 2025, pp. 99.3.12, 99.3.298.

²² The reciprocal duty is in addition to the 20 percent ad valorem duty under IEEPA that went into effect on March 4, 2025, for China. 90 FR 15041, April 7, 2025; 90 FR 15509, April 14, 2025; 90 FR 15625, April 15, 2025. See also HTS heading 9903.01.25 and 9903.01.63 and U.S. note 2(v) to subchapter III of chapter 99 and related tariff provisions for this duty treatment. USITC, HTSUS (2025) Revision 10, USITC Publication 5615, April 2025, pp. 99.3.12, 99.3.298, 99.3.305.

²³ An epoxy group is a three-atom ring: two atoms of carbon and one atom of oxygen. Its triangular structure has substantial ring strain, making the groups highly reactive. Wikipedia, "Epoxide," accessed February 27, 2025, <https://en.wikipedia.org/wiki/Epoxide>.

²⁴ Petitions, p. 8.

in their cured form, epoxy resins will adhere to most materials, including metals, concrete and glass.²⁵ The leading applications for epoxy resins are:

Coatings—

Protective coatings have traditionally been the largest market for epoxy resins. The major coating segments for this application include powder coatings; industrial maintenance and marine finishes; automotive primers, beverage, beer, and food can interiors; machinery and equipment; appliances; and surface industrial coatings.

Construction—

Epoxy resins are used in flooring, paving, and construction, primarily in industrial and commercial flooring applications.

Composites—

A composite is created when continuous, chopped, or woven fibers are embedded in a resin matrix. Epoxy-based composites are made from liquid epoxy resins and reinforcing glass, carbon, or aramid fibers. Composites have been used in military and space applications. Composites are also used in wind turbine blades, automotive and aerospace parts, pipes, tanks, snow skis, tennis racquets, fishing rods, surfboards, and golf club shafts.

Electrical and electronics laminates—

Epoxy resins are used to enclose, encapsulate, or seal a device in a protective matrix. Typically, brominated epoxy resins are used in the manufacture of printed circuit boards because of its flame-retardant properties.

Adhesives—

Epoxy resin adhesives are among the most widely used structural adhesives, known especially for their strong adhesion to a variety of materials. These are used in greater quantities in automotive assembly operations to bond dissimilar materials such as steel, plastics, and aluminum, which are difficult to bond with mechanical fasteners. Adhesives are also used in the aerospace segment.²⁶

²⁵ Conference transcript, p. 16 (Kohl).

²⁶ Petitions, pp. 9 to 10; Grasim's postconference brief, pp. 12 to 14; PPG's postconference brief, pp. 492 to 493 of 521 (.pdf enumeration); KBP's postconference brief, p. 10; exhibit 2.

Types of epoxy resins

Epoxy resins are characterized by the epoxy groups on the chemical structure, and there are various types. Production by firms and representative chemical abstracts service registry numbers (“CAS”) are shown in table 1.11. The following are the major types of these resins relevant to the scope:

- BADGE-type resins: the most common epoxy resin is bisphenol A diglycidyl ether, also known as BADGE or DGEBA, which is formed by reacting ECH (epichlorohydrin) with BPA (bisphenol-A). The majority of global production, 80 to 85 percent, is this type of reaction.²⁷
- Brominated resins are designed for applications requiring a high degree of flammability resistance.
- Novolac resins are used in electrical laminates and encapsulations, moldings and castings and reinforced plastics requiring high chemical resistance.
- Cycloaliphatic resins feature lower viscosities, higher heat-distortion temperatures, lower conductivity, and excellent resistance to weather exposure. These resins are particularly useful for electrical applications and for composites.
- Waterborne resins use water, as opposed to solvent or other chemicals, to lower viscosity and improve application properties. These resins are useful in structural applications or as coatings.
- Multifunctional epoxies are used to produce advanced composites, adhesives, and electronic encapsulations.
- Aliphatic epoxies are mostly used as reactive diluents to modify viscosity, as flexibilizing agents to increase elongation and impact resistance or as plasticizers and stabilizers for vinyl resins.
- Glycidyl amines are used as additives in conventional epoxy resins to increase cure rates and raise glass transition temperatures. They are applicable in use of carbon-fiber reinforced composites for the aerospace industry.
- Glycidyl imides are used extensively as curing agents for polyesters powder coatings.
- Glycidyl esters are used as agents to increase flexibility in other epoxy resins.²⁸

²⁷ Petitions, p. 10; Exhibit I—34.

²⁸ Petitions, pp. 10 to 12.

Table 1.11 Epoxy resins: U.S. production by epoxy type, by firm and representative chemical abstracts service registry numbers

Type	Example CAS Number	Olin Production	Westlake Production
BADGE-type resins	25068-38-6 25036-25-3 (solid)	Yes	Yes
Brominated resins	40039-93-9	Yes	Yes
Novolac resins	28064-14-4	Yes	Yes
Cycloaliphatic resins	30583-72-3	No	Yes
Waterborne resins	—	Yes	Yes
Multifunctional epoxies	28906-96-9 and 37382-79-9	Yes	Yes
Aliphatic epoxies	30499-70-8	Yes	Yes
Glycidyl amines	28768-32-3	No	Yes
Glycidyl imides	—	No	No
Glycidyl esters	—	No	Yes

Source: Conference transcript, pp. 123-125 (Weinmann and Espinosa); Petitioner's postconference brief, Exhibit I-17.

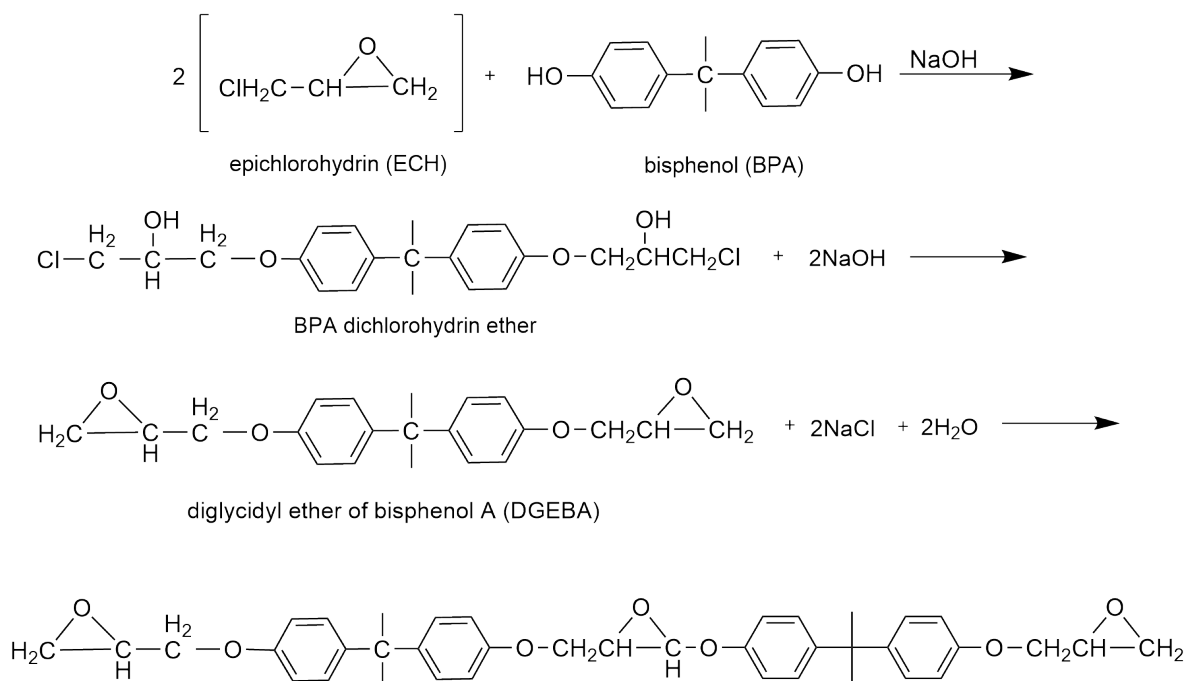
Note: Both Westlake and Olin produce Novolac, but not in the United States. CAS numbers shown represent in-scope compounds. Other examples of in-scope epoxy resins are CAS # 68609-97-2 (an example of an epoxy-functional reactive modifier), CAS # 24969-06-0 (a homopolymer of epichlorohydrin), and CAS # 9003-36-5 (an example of the Bisphenol-F diglycidyl ether or BFDGE epoxy resins). Huntsman produces a novolac resin called Hypox RF928 that is combined with a CTBN (carboxyl-terminated butadiene-acrylonitrile) co-polymer.²⁹

²⁹ Huntsman, "Hypox RF928 CTBN-Toughened EPN Adduct," accessed March 10, 2025, https://www.huntsman.com/docs/Documents/HyPoxRF928_US_e.pdf.

Manufacturing processes

There are many chemical reactions that can be carried out to manufacture an epoxy resin. About 80-85 percent of reactions globally utilize the raw materials of epichlorohydrin (“ECH”) and bisphenol-A (“BPA”), as shown in figure I.1.³⁰ The reaction is used in manufacturing by both Olin and Westlake.³¹

Figure 1.1 Epoxy Resins: Manufacturing of BADGE-type epoxy resins



Source: Petitions, p. 10, Exhibit I—34.

Note: In the general structure, n can vary depending on the manufacturer’s desired outcome. When n = 0, the compound is the same as the DGEBA compound.

³⁰ Petitions, p. 10; Exhibit I—34.

³¹ Westlake stated that the category that accounts for most of its production, and most of its sales, is based on liquid epoxy resin, especially the conventional variety made from epichlorohydrin and bisphenol-A. Olin also manufactures its BADGE product using the same reaction. Olin has a fully integrated facility which is highly capital intensive and cost about \$8 billion. Conference transcript, p. 24 (Bellinger), pp. 27 to 28 (Espinosa).

The manufacture of the chemical reaction described in figure 1.1 includes the following processes:

- 1) Reaction of ECH and BPA: ECH and BPA are infused into a reactor. These are melted and undergo the first stage reaction, which takes place at a constant temperature. In this first stage reaction, the epoxy radical is separated from the ECH to be attached to a hydroxyl radical from the BPA, thus producing chlorohydrin ether.
- 2) Reaction with caustic soda: A solution of 20 to 40 percent caustic soda is added to the reaction vessel as the chlorohydrin ether solution is brought to the boiling point. This addition causes a dechlorination reaction to occur, thus producing a terminal epoxy radical. The monoglycidyl ether BPA produced as a result continues to react with BPA and ECH and gradually forms a polymer.
- 3) Evaporation: After the polymer is produced, it is transferred through a storage tank to the ECH separation evaporator, where the ECH evaporates under a vacuum.
- 4) Separation: After the evaporation of unreacted ECH, the two phases are separated by adding an inert solvent, which is used to eliminate sodium chloride and the reaction by-product by the difference in specific gravity. The polymer with adjusted acidity is evaporated under vacuum to eliminate the solvent, thus obtaining epoxy product.
- 5) Washing: The resin is then washed with water.³²

³² Petitions, pp. 12 to 13.

The output epoxy resin can either be a liquid, semi-solid, or solid, depending on the amount of BPA that has been added.³³ When manufacturing liquid epoxy resins (“LER”), Westlake’s process uses various ratios of ECH to BPA to control the molecular weight of the epoxy resin. Westlake makes several grades of LER, and each LER type (or grade) uses a different ratio of ECH to BPA.³⁴ The final epoxy resin is shipped as a liquid or solid to customers. Westlake also makes blends, which are not the use of different ratios of ECH to BPA, but rather, different epoxy resins in the same container that are preferred in customers’ downstream applications.³⁵ In subject countries, Indian firm Atul ***.³⁶ Indian firm Grasim ***.³⁷ South Korea, Taiwan, and China ***.³⁸

Huntsman has confirmed that the products it sells have not undergone the curing process and that the epoxy group rings are not opened (with the products still chemically reactive, whether in liquid or solid forms).³⁹ According to Huntsman, ***.⁴⁰ ***.⁴¹

³³ Petitions, p. 10.

³⁴ Petitioner’s postconference brief, Exhibit I—17.

³⁵ An example is a liquid epoxy resin plus a low viscosity modifier, which is another epoxy resin. It helps the liquid to be emptied from the drum container. Conference transcript, p. 99 (Weinmann).

³⁶ Atul’s postconference brief, pp. 2 to 3.

³⁷ Chemical Economics Handbook, Epoxy Resins, October 2024, p. 76. Grasim’s postconference brief, Annexure I, p. 40 of 181 (.pdf enumeration).

³⁸ Chemical Economics Handbook, Epoxy Resins, October 2024, pp. 77 to 89, 98 to 102.

³⁹ Huntsman’s postconference brief, p. 4.

⁴⁰ Huntsman’s U.S. producers’ questionnaire response, section 5.2.

⁴¹ Huntsman’s U.S. producers’ questionnaire response, section 5.2.

There is a group of companies known as processors (or formulators⁴²) that purchase epoxy raw materials from other producers and subsequently blend and compound the product to its customer's requirements.⁴³ There are a wide variety of methods that can be used to modify epoxy such as by adding the following: adhesion promoters, thickeners, colorants, viscosity reducers, flexibilizers, mineral fillers (alumina, talc, silica), etc.⁴⁴ The downstream products range from flame retardants for circuit boards to impact resistant coating for military applications.⁴⁵ PPG does not produce base epoxy resins but instead purchases base epoxy resins as a raw material to integrate into its downstream coating products, both in-scope and out-of-scope.⁴⁶ Both 3M and Polytek ***.⁴⁷

⁴² The terms "formulators" and "processors" are sometimes used interchangeably, as the respondent PPG considers itself as both a formulator and a processor. PPG defines the term "formulator" as a company that combines epoxy with another material(s) through a chemical reaction resulting in a transformed final product, and PPG also defines the term processor as someone who "repackages or otherwise transfers the same material in a different physical format. The respondent PPG also indicated that processors "change the structure of materials" and then "take base epoxies and make them epoxy-functional different materials with them". Conference transcript, p. 161 (Marlier); PPG's U.S. producers' questionnaire response, section 1.2a; PPG's postconference brief, p. 4; PPG's U.S. producers' questionnaire response, section 1.2a; Hearing transcript, p. 228 (Marlier).

⁴³ ChemEurope, "Epoxy," accessed March 17, 2025, <https://www.chemurope.com/en/encyclopedia/Epoxy.html>.

⁴⁴ Flexibilizers increase the flexibility of epoxy resins. Adhesion promoters enhance bonding between two dissimilar surfaces. Colorants change the color of the compound. Thickeners increase the viscosity of a liquid. ChemEurope, "Epoxy," accessed March 17, 2025, <https://www.chemurope.com/en/encyclopedia/Epoxy.html>.

⁴⁵ Conference transcript, p. 26 (Espinosa).

⁴⁶ Conference transcript, p. 140 (Camsuzou); hearing transcript, p. 153 (Pierce); and PPG's posthearing brief, pp. 4 to 5.

⁴⁷ 3M-EMD's U.S. producers' questionnaire response, section 5.2; 3M-AASD's U.S. producers' questionnaire response, section 5.2; Polytek's U.S. producers' questionnaire response, section 5.2.

Domestic like product issues

No issues with respect to domestic like product have been raised in these investigations. In the preliminary phase of these investigations, the Commission defined a single domestic like product, coextensive with the scope.⁴⁸ In the final phase of these investigations, no parties requested data or other information necessary for the analysis of the domestic like product. Petitioner proposes the Commission should find that there is a single domestic like product consisting of all forms of epoxy resin within the scope.⁴⁹ Respondent PPG does not contest the domestic like product definition proposed by the Petitioner.^{50 51}

⁴⁸ Epoxy Resins from China, India, South Korea, Taiwan, and Thailand, Investigation Nos. 701-TA-716–719 and 731-TA-1683–1687 (Preliminary), Publication 5510 (May 2024), p. 10.

⁴⁹ Petitioner’s prehearing brief, pp. 9–11.

⁵⁰ PPG’s prehearing brief, pp. 6–7. PPG noted, however, that there are two categories of epoxy resins included in the domestic like product definition. There are what PPG categorizes as “base” epoxy resins, which consist of combining out-of-scope chemical inputs (BPA, ECH, and caustic soda) to create epoxy resins. But there are also “processed” epoxy resins, which consist of combining in-scope “base” epoxy resins with out-of-scope materials and creating further processed in-scope epoxy resins. *Id.*

⁵¹ No other party commented on issues related to the domestic like product in their prehearing or posthearing briefs.

Part 2: Conditions of competition in the U.S. market¹

U.S. market characteristics

Epoxy resins are a thermosetting resin which becomes insoluble and infusible on heating and reacts with hardening or curing agents to form a strong durable substance used in a vast array of important commercial and industrial applications.² Epoxy resins are used in a wide range of applications from raw materials for components in automotive and aerospace manufacturing, a raw material in components used in the renewable energy sector, a raw material for components in electrical goods, a rust-avoiding coating in a wide variety of goods ranging from bridges to water tanks, a protective layer that separates food and drinks from metal containers, and a component in adhesives with industrial and commercial uses.³ According to petitioners, epoxy resins are a critical raw material for the entire U.S. economy.⁴

Two of 3 U.S. producers indicated that the market was subject to distinctive conditions of competition, while the majority of responding importers (22 of 32) and purchasers (37 of 53) reported that the market was not subject to distinctive conditions of competition. Specifically, U.S. producer/importer *** reported that price and supply chain capabilities were distinct conditions of the epoxy resins market.⁵ Importer *** reported that global production capacity, seasonal factors, and economic factors are conditions of competition distinct to the epoxy resins market. Importer *** reported that Olin is a price leader in the U.S. market and has been especially aggressive on pricing after the first half of 2023. Importer *** reported that the presence of several suppliers in the global market allows for product differentiation and differing qualifications in the epoxy resins market. Purchasers cited global supply chain issues, availability, price changes, and planned and unplanned outages as distinct conditions of competition. Purchaser *** reported that “competition in the epoxy resins market has been reduced, as has access to competitively price epoxy resins since the announcement of {preliminary} antidumping and countervailing duties, that some non-domestic producers have reduced their supply to the United States, and that both domestic producers raised prices following the {preliminary} antidumping and countervailing duties.”

¹ For reporting purposes in Part 2, references to “U.S. producers” only includes Olin, Westlake, and Huntsman and does not include firms that identified as U.S. processors.

² Petitions, p. 2.

³ Petitions, pp. 2-3.

⁴ Hearing transcript, p. 18 (Kohl).

⁵ U.S. producer *** reported that unfairly traded imports are a distinct condition of competition in the epoxy resins market.

Importer/purchaser *** described a “highly unusual” epoxy market during 2021 to 2023 from a historical perspective. It reported that ocean freight capacity became tight due the effects of the COVID-19 pandemic in late 2020, making the supply of imported epoxies tight and expensive, then the “Texas Freeze” (also known as Winter Storm Uri) occurred in February 2021, which resulted in extended production shutdowns and force majeure from all U.S. epoxy manufacturers, which led to extreme shortages of epoxy resins in the U.S. through 2021. *** continued that domestic producers took this opportunity to raise prices as much as 265 percent and refused to return prices to reasonable levels even after their production returned to normal; Olin's CEO called it the “Value over Volume” strategy. It added that after the ocean freight crisis subsided, domestic producers began to lose share and finally returned prices to a reasonable, sustainable level. Importer/purchaser *** stated that the epoxy resins market in the United States is geographically concentrated in the Texas Gulf Coast area, making it vulnerable to frequent weather related events (including hurricanes and freezes), and that Olin and Westlake, vertically integrated producers, “often issue force majeure, halting the supply of epoxy resins to their customers and placing their customers on allocation for many months at a time.” *** also reported that the epoxy resins market in the United States is also characterized by Olin's express strategy, as described in public earnings calls and financial statements, to undersupply the market with the goal of keeping prices high.

Fifteen of 54 responding purchasers indicated that certain types of epoxy resins are only available from certain sources. Purchasers reported that high-bio content epoxy resin is only available from India, South Korea, and Thailand; Novolac (LEN) based epoxy resin is produced in China, Germany, South Korea, Switzerland, Taiwan, and Thailand; Bisphenol F epoxy resin is produced in China, Germany, India, the Netherlands, South Korea, Taiwan, and Thailand; phenylamines are produced in India; low color materials are available from South Korea and Taiwan but not the United States; and certain small volume grades of brominated epoxy resin are only produced in South Korea. Importer/purchaser *** reported that it qualifies raw materials based on the current manufacturing equipment and location and depending on the sensitivity of the finished good formula, many resins can be limited to a single country of origin even if the manufacturer makes product to similar specifications in another region; examples include KD-427 made in South Korea by Kukdo and DER 915 made in Germany by Olin.

Apparent U.S. consumption of epoxy resins decreased during 2021 through 2023, primarily driven by declines from 2022 to 2023. Overall, apparent U.S. consumption in 2023 was *** percent lower in terms of quantity than in 2021. Apparent U.S. consumption was higher in January to September (“interim”) 2024 than it was in interim 2023.

U.S. purchasers

The Commission received 57 usable questionnaire responses from firms that had purchased epoxy resins during January 2021 to September 2024.^{6 7 8} Twenty-four responding purchasers are end users, 23 are “formulator/blenders,” 10 are distributors, 10 are formulators, 6 are blenders, and 4 are of “other” firm type, including repackaging.⁹ In general, responding U.S. purchasers were located across the contiguous United States. The responding purchasers represented firms in a variety of domestic industries, including manufacturing of paints, coating, and adhesives, construction materials manufacturing, and electrical equipment and appliances manufacturing industries. The four largest responding purchasers of epoxy resins were ***. These purchasers accounted for over half of total reported purchases and imports; *** accounted for *** of total reported purchases and imports.

⁶ A list of responding purchasers can be found in table 5.16.

⁷ Of the 57 responding purchasers, 50 purchased the domestic epoxy resins, 16 purchased imports of the subject merchandise from China, 13 purchased imports of the subject merchandise from India, 35 purchased imports of the subject merchandise from South Korea, 27 purchased imports of the subject merchandise from Taiwan, 26 purchased imports of the subject merchandise from Thailand, and 19 purchased imports of epoxy resins from other sources; 8 did not know the source of their purchases.

⁸ Fifty-three purchasers indicated they had marketing/pricing knowledge of domestic product, 24 of Chinese product, 24 of Indian product, 42 of South Korean product, 36 of Taiwanese product, 31 of Thai product, and 19 of nonsubject sources, including Canada, Czech Republic, the European Union, Germany, Italy, Japan, the Netherlands, Poland, Saudia Arabia, Spain, Switzerland, and Turkey.

⁹ Purchasers could select more than one firm type.

Impact of section 301 tariffs

U.S. producers, importers, and purchasers were asked to report the impact of section 301 tariffs on overall demand, supply, prices, or raw material costs (table 2.1). All three U.S. producers, seven importers, and 13 purchasers reported that the section 301 tariffs on imports from China had an impact on the U.S. market. Generally, firms reported that the section 301 tariffs limited supply, increased raw material prices, increased prices, and made Chinese product less competitive and harder to obtain; however, firms stated that much of the impact of the section 301 tariffs occurred before January 1, 2021.

U.S. producer *** reported that section 301 tariffs had a limited impact on Chinese imports to the United States because epoxy resins from China arrived in the United States through Canada and possibly through Mexico.¹⁰ U.S. producer *** reported that section 301 tariffs have an impact on the price of Chinese imports but have not stopped them from entering the U.S. market. Purchaser *** reported that tariffs on Chinese-origin products largely removed Chinese producers from competing in the U.S. market prior to January 1, 2021, and the initial effect on U.S. business was limited as Korean, Taiwanese, and Thai companies increased their efforts to absorb the import demand. It continued that Chinese producers shifted their focus to Europe (and the rest of the world) for export business and global capacity remained relatively unchanged. Purchaser *** reported that China's BPA and LER markets have overcapacity, keeping their pricing flat. It added that domestic markets typically follow China's feedstock fluctuation, but sourcing significant share from China is not common with or without tariffs as they are known to cut off supply with little notice when their home market is strong.

Table 2.1 Epoxy resins: Count of firms' responses regarding the impact of the 301 tariffs on Chinese origin products, by firm type

Firm type	Yes	No	Don't know
U.S. producers	3	—	—
Importers	7	12	16
Purchasers	13	11	33

Source: Compiled from data submitted in response to Commission questionnaires.

¹⁰ See Part 7 of this report for additional information on Canadian exports of epoxy resins.

Channels of distribution

U.S. producers sold mainly to processors, while U.S. processors sold mainly to end users throughout the period. Importers from subject sources sold mainly to end users, as shown in table 2.2, primarily driven by imports from South Korea and Taiwan. The majority of sales of imports from China switched between processors and distributors throughout the period of investigation. Sales of imports from India were mostly to processors in 2021 and then became more evenly distributed among distributors, processors, and end users for the remainder of the period of investigation. The majority of sales of imports from Thailand were to processors in 2021, 2023, and interim 2024; a plurality of sales of imports from Thailand were to processors in 2022.

Table 2.2 Epoxy resins: Share of U.S. shipments by source, channel of distribution, and period

Shares in percent; interim is January to September

Source	Channel	2021	2022	2023	Interim 2023	Interim 2024
U.S. producers	Distributors	***	***	***	***	***
U.S. producers	Processors	***	***	***	***	***
U.S. producers	End users	***	***	***	***	***
U.S. processors	Distributors	***	***	***	***	***
U.S. processors	Processors	***	***	***	***	***
U.S. processors	End users	***	***	***	***	***
China	Distributors	***	***	***	***	***
China	Processors	***	***	***	***	***
China	End users	***	***	***	***	***
India	Distributors	***	***	***	***	***
India	Processors	***	***	***	***	***
India	End users	***	***	***	***	***
South Korea	Distributors	***	***	***	***	***
South Korea	Processors	***	***	***	***	***
South Korea	End users	***	***	***	***	***
Taiwan	Distributors	***	***	***	***	***
Taiwan	Processors	***	***	***	***	***
Taiwan	End users	***	***	***	***	***
Thailand	Distributors	***	***	***	***	***
Thailand	Processors	***	***	***	***	***
Thailand	End users	***	***	***	***	***
Subject sources	Distributors	***	***	***	***	***
Subject sources	Processors	***	***	***	***	***
Subject sources	End users	***	***	***	***	***
Subject sources less China and India	Distributors	***	***	***	***	***
Subject sources less China and India	Processors	***	***	***	***	***
Subject sources less China and India	End users	***	***	***	***	***
Nonsubject sources	Distributors	***	***	***	***	***
Nonsubject sources	Processors	***	***	***	***	***
Nonsubject sources	End users	***	***	***	***	***
Nonsubject sources plus China and India	Distributors	***	***	***	***	***
Nonsubject sources plus China and India	Processors	***	***	***	***	***
Nonsubject sources plus China and India	End users	***	***	***	***	***
All import sources	Distributors	***	***	***	***	***
All import sources	Processors	***	***	***	***	***
All import sources	End users	***	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires.

Geographic distribution

U.S. producers and importers from China and South Korea reported selling epoxy resins to all regions in the United States (table 2.3). Importers from India, Taiwan, and Thailand reported selling to all regions in the contiguous United States. For U.S. producers, *** percent of sales were within 100 miles of their production facility, *** percent were between 101 and 1,000 miles, and *** percent were over 1,000 miles. Importers from subject sources sold *** percent within 100 miles of their U.S. point of shipment, *** percent between 101 and 1,000 miles, and *** percent over 1,000 miles.

Table 2.3 Epoxy resins: Count of U.S. producers' and U.S. importers' geographic markets

Region	U.S. producers	China	India	South Korea	Taiwan	Thailand	Subject sources
Northeast	3	3	4	6	5	4	18
Midwest	3	2	4	9	6	5	20
Southeast	3	2	4	6	5	3	17
Central Southwest	3	3	5	5	5	2	15
Mountains	3	3	3	4	1	2	11
Pacific Coast	3	5	5	7	4	3	17
Other	1	2	0	1	0	0	3
All regions (except Other)	3	2	3	3	1	2	10
Reporting firms	3	5	6	12	9	6	23

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Other U.S. markets include AK, HI, PR, and VI.

Supply and demand considerations

U.S. supply

Table 2.4 provides a summary of the supply factors regarding epoxy resins from U.S. producers and from subject sources. Notably, during 2021 to 2023, South Korea had the highest production capacity, surpassing all other subject import sources and the United States, with Taiwan ranking second. While reported production capacity decreased in the United States percent during 2021 to 2023, it increased in China, India, and South Korea; remained unchanged in Thailand; and decreased in Taiwan. During the same period, capacity utilization declined in the United States, China, South Korea, and Taiwan, while it increased in India and was stable in Thailand.

In June 2024, India initiated an antidumping investigation on imports of liquid epoxy resins from China, South Korea, Saudi Arabia, Taiwan, and Thailand. In July 2024, the European Union initiated an antidumping investigation into imports of epoxy resins from China, South Korea, Taiwan, and Thailand.

According to the S&P Global Chemical Economics Handbook, ***.¹¹

The S&P Global Chemical Economics Handbook also stated that ***.¹²

¹¹ S&P Global, Chemical Economics Handbook: Epoxy Resins, October 2024, pp. 22, 24, and 42.

¹² S&P Global, Chemical Economics Handbook: Epoxy Resins, October 2024, pp. 7, 24.

Table 2.4 Epoxy resins: Supply factors that affect the ability to increase shipments to the U.S. market, by country

Quantity in 1,000 pounds; ratio and share in percent

Factor	Measure	U.S. producers	China	India	South Korea	Taiwan	Thailand	Subject suppliers
Capacity 2021	Quantity	***	***	***	***	***	***	3,067,231
Capacity 2023	Quantity	***	***	***	***	***	***	3,250,325
Capacity utilization 2021	Ratio	***	***	***	***	***	***	80.8
Capacity utilization 2023	Ratio	***	***	***	***	***	***	72.8
Inventories to total shipments 2021	Ratio	***	***	***	***	***	***	7.3
Inventories to total shipments 2023	Ratio	***	***	***	***	***	***	7.4
Home market shipments 2023	Share	***	***	***	***	***	***	48.4
Non-US export market shipments 2023	Share	***	***	***	***	***	***	41.9
Ability to shift production (firms reporting “yes”)	Count	***	***	***	***	***	***	4 of 14

Source: Compiled from data submitted in response to Commission questionnaires.

Note: The three responding U.S. producers accounted for the vast majority of U.S. production of epoxy resins in 2023. Responding foreign producer/exporter firms accounted for *** of U.S. imports of epoxy resins from China, *** of U.S. imports of epoxy resins from India, and *** U.S. imports of epoxy resins from South Korea, Taiwan, and Thailand in 2023. For additional data on the number of responding firms and their share of U.S. production, U.S. processors, and of U.S. imports from each subject country, please refer to Parts 3 and 7.

Domestic production

Based on available information, U.S. producers of epoxy resins have the ability to respond to changes in demand with large changes in the quantity of shipments of U.S.-produced epoxy resins to the U.S. market. The main contributing factors to this degree of responsiveness of supply are the availability of unused capacity and inventories and the ability to shift shipments from alternate markets. Factors mitigating responsiveness of supply include a limited ability to shift production to or from alternate products.

U.S. producer's production declines outpaced practical production capacity declines during 2021 to 2023, leading to a decline in capacity utilization. Inventories, as a share of total shipments, increased from 2021 to 2023. Exports were nearly *** of total shipments in 2023; U.S. producers' principal export markets were ***. Two U.S. producers (***) reported being able to switch production; however, *** reported that this ability was limited to a small portion of its overall epoxy resin capacity. *** reported that its ***. U.S. producer *** reported that epoxy resins reactive capabilities are very specialized; therefore, shifting production to other chemistries is almost impossible. Also, the design of the integrated plants (EPI, BPA) makes it very difficult to use other raw materials, if needed. U.S. producer *** reported that the vast majority of the epoxy resin capacity cannot be used to produce anything else other than epoxy resin. In addition, the machinery cannot be repurposed. U.S. producer *** reported that time and cost are most affected when shifting between product categories and different levels of washing and labor intense processes must be done to machine centers to go from one product type to another.

Subject imports from China

Based on limited available information, responding producers of epoxy resins from China have the ability to respond to changes in demand with large changes in the quantity of shipments of epoxy resins to the U.S. market. The main contributing factors to this degree of responsiveness of supply are the availability of unused capacity and some inventories. Factors mitigating responsiveness of supply include limited ability to shift shipments from alternate markets and limited ability to shift production to or from alternate products.

Based on questionnaire responses, Chinese producers' production declines outpaced practical production capacity declines during 2021 to 2023, leading to a decline in capacity utilization. Chinese producers' inventories were relatively stable from 2021 to 2023. Chinese producers' exports to non-U.S. markets were generally contained to the Chinese market and other Asian markets. Chinese producer *** reported that assets are versatile and can produce hardeners and bensoxazines but reported that some chemistries are not compatible and need extensive clean-up to make another product family, therefore it dedicates available assets to compatible chemistries to minimize change-over. Chinese producer *** reported that epoxy resins reactive capabilities are very specialized, shifting to other chemistries is almost impossible.

According to S&P Global Chemical Economics Handbook, ***.¹³

Subject imports from India

Based on available information, producers of epoxy resins from India have the ability to respond to changes in demand with moderate changes in the quantity of shipments of epoxy resins to the U.S. market. The main contributing factors to this degree of responsiveness of supply are some unused capacity and some ability to shift shipments from alternate markets. Factors mitigating responsiveness of supply include limited availability inventories and limited ability to shift production to or from alternate products.

¹³ S&P Global, Chemical Economics Handbook: Epoxy Resins, October 2024, pp. 81 and 82. ***.

Indian producers' production increases outpaced practical production capacity increases, leading to an increase in capacity utilization from 2021 to 2023. Inventories were relatively stable. Indian producers' exports to non-U.S. markets were generally contained to the Indian market, as well as Europe, the Middle East and North Africa, and other Asian markets. Other products that responding foreign producers reportedly can produce on the same equipment as epoxy resins are curing agents; polyols; other resins; such as waterborne and formulated resins; and hardeners. Producer *** reported that epoxy resins cannot be produced by the same reactors that are dedicated to the production of amine-based hardeners. Factors affecting foreign producers' ability to shift production include safety.

Subject imports from South Korea

Based on available information, producers of epoxy resins from South Korea have the ability to respond to changes in demand with large changes in the quantity of shipments of epoxy resins to the U.S. market. The main contributing factors to this degree of responsiveness of supply are the availability of unused capacity and ability to shift shipments from alternate markets. Factors mitigating responsiveness of supply include limited availability of unused inventories and no ability to shift production to or from alternate products.

South Korea producers' practical production capacity increased while production decreased, leading to a decrease in capacity utilization from 2021 to 2023. Inventories were relatively stable. South Korean producers' exports to non-U.S. markets were generally contained to the South Korean market, as well as Europe, India, Russia, Turkey, the United Arab Emirates, and other Asian markets. No South Korea producers reported being able to produce other products on the same equipment that produces epoxy resins. Producer *** reported that although it does not switch production between epoxy resins and other, non-epoxy resin products, it does switch production between different epoxy products. It stated that time, raw material supply and cost, and available skilled labor constrain its ability to shift capacity between different epoxy products.

Subject imports from Taiwan

Based on available information, producers of epoxy resins from Taiwan have the ability to respond to changes in demand with moderate-to-large changes in the quantity of shipments of epoxy resins to the U.S. market. The main contributing factors to this degree of responsiveness of supply are some unused capacity and the ability to shift shipments from alternate markets. Factors mitigating responsiveness of supply include limited availability of inventories and no ability to shift production to or from alternate products.

Producers from Taiwan production declines outpaced practical production capacity declines during 2021 to 2023, leading to a decline in capacity utilization. Producers' inventories were relatively stable from 2021 to 2023. Producers from Taiwan primarily exported to China, India, Japan, Malaysia, the Netherlands, Singapore, and Europe. No producers from Taiwan reported being able to produce other products on the same equipment that produces epoxy resins. Factors affecting foreign producers' ability to shift production include different processes and equipment.

Subject imports from Thailand

Based on available information, the sole responding producer of epoxy resins from Thailand, Aditya Thailand, has the ability to respond to changes in demand with moderate changes in the quantity of shipments of epoxy resins to the U.S. market. The main contributing factors to this degree of responsiveness of supply are some unused capacity, some inventories, and the ability to shift shipments from alternate markets. Factors mitigating responsiveness of supply include a limited ability to shift production to or from alternate products.

Aditya's practical production capacity *** and production ***, leading to an increase in capacity utilization from 2021 to 2023. Aditya's inventories increased **. Major export markets were **. Other products that responding foreign producers reportedly can produce on the same equipment as epoxy resins are **. Aditya reported that **.

Imports from nonsubject sources

Nonsubject imports accounted for *** percent of total U.S. imports by quantity in 2023. The largest sources of nonsubject imports during January 2021 to September 2024 were Germany, Canada, the Netherlands, and Japan. Combined, these countries accounted for 73.6 percent of nonsubject imports in 2023.

Supply constraints

All three U.S. producers and 13 of 31 responding importers reported that they had experienced supply constraints since January 1, 2021. All the U.S. producers and most importers that reported they had experienced supply constraints reported the constraints occurred during 2021 were caused by Winter Storm Uri (table 2.5). Thirty-eight of 57 responding purchasers reported that they had experienced supply constraints, the majority of which were experienced from U.S. producers in 2021 and 2022. U.S. producers Olin and Westlake declared force majeure in 2021; ***. Two importers reported supply chain constraints due to the COVID-19 pandemic. U.S. producer/importer *** reported that it periodically had constrained supply caused by surging demand, raw material delays, operational issues, and supply chain delays. Importer *** reported that it had to import epoxy resins itself when domestic producers struggled during the COVID-19 pandemic and then Winter Storm Uri. Most purchasers cited the constraints U.S. producers faced related to Winter Storm Uri, and sudden and extreme price increases that followed, and the constraints importers faced with logistical challenges in the wake of the COVID-19 pandemic.

Table 2.5 Epoxy resins: Count of firms' responses regarding timing of supply constraints, by firm type and source

Firm type	Source	2021	2022	2023	January 1 to April 3, 2024	Since April 3, 2024
U.S. producers	Domestic	3	0	0	0	0
Importers	Imported	13	9	8	5	6
Purchasers	Domestic	37	24	8	8	9
Purchasers	Imported	5	3	2	1	1

Source: Compiled from data submitted in response to Commission questionnaires.

New suppliers

Seven of 56 responding purchasers indicated that new suppliers entered the U.S. market since January 1, 2021. Purchasers cited Aditya Birla (India), which “has a U.S. presence now,”; Allchem International Pty. Ltd; Atul; Elantas; Epofinder; ISEP; Nagase; Novelchem; Spolchemie; and Xrun.

U.S. demand

Based on available information, the overall demand for epoxy resins is likely to experience small-to-moderate changes in response to changes in price. The main contributing factors are the limited range of substitute products and the variable cost share of epoxy resins in most of its end-use products.

End uses and cost share

U.S. demand for epoxy resins depends on the demand for U.S.-produced downstream products. Reported end uses include a wide variety of goods listed below. Epoxy resins account for a wide range of the share of the cost of end-use products in which they are used. Reported end uses and range of cost shares were:

- Adhesives, including for civil engineering and architecture, aerospace structural adhesives, anchoring adhesives, and structural adhesives (***)
- Balancing compound (***)
- Castings (***)
- Civil engineering or construction projects (***)
- Coatings, including coatings for vessels, automobiles, electronics, food and beverage cans, pipelines, powder coatings, liquid coatings, and industrial coatings (***)
- Composite frac plugs (***)
- Composite pipe (***)
- Consumer electronics (***)
- Construction, including civil engineering (***)
- CED/EDC colorants (***)
- Electrical switchgear (***)
- Epoxy counter tops, non-fabricated (***) and fabricated (***)
- Epoxy crack injection (***)

- Flooring (***)
- Modified epoxy resins (***)
- Nuclear waste storage container sealer (***)
- Standard epoxy blend (***)
- Tile grout (***)
- Vinyl ester resin (***)
- Vinyl lamination glue (***)
- Wind turbine blades (***)

Business cycles

All three U.S. producers, 19 of 33 responding importers, and 31 of 54 responding purchasers indicated that the market was subject to business cycles. Specifically, firms reported the epoxy resin market can follow general economic cycles, such as GDP, as well as the trends in the end users' markets, such as oil and gas, construction, specialty chemicals, aerospace, industrial, and transportation, which can be highly seasonal.

Demand trends

Two of three U.S. producers reported that U.S. demand for epoxy resins had fluctuated down since January 1, 2021, while a majority of responding importers and purchasers reported that U.S. demand had fluctuated up or steadily increased (table 2.6). U.S. producer/importer ***, which reported that U.S. demand had fluctuated down, cited economic downturn, depressed oil and gas and construction markets, "less car coatings and furniture and appliance," but that demand started to improve in 2024. Firms that reported that U.S. demand fluctuated up or steadily increased cited business growth and customer demand, GDP fluctuations, an unprecedented global shortage of epoxy resin, and more end uses for epoxy resins. Petitioners stated that demand for epoxy resins is expected to grow.¹⁴

¹⁴ Hearing transcript, p. 38 (Kaufman).

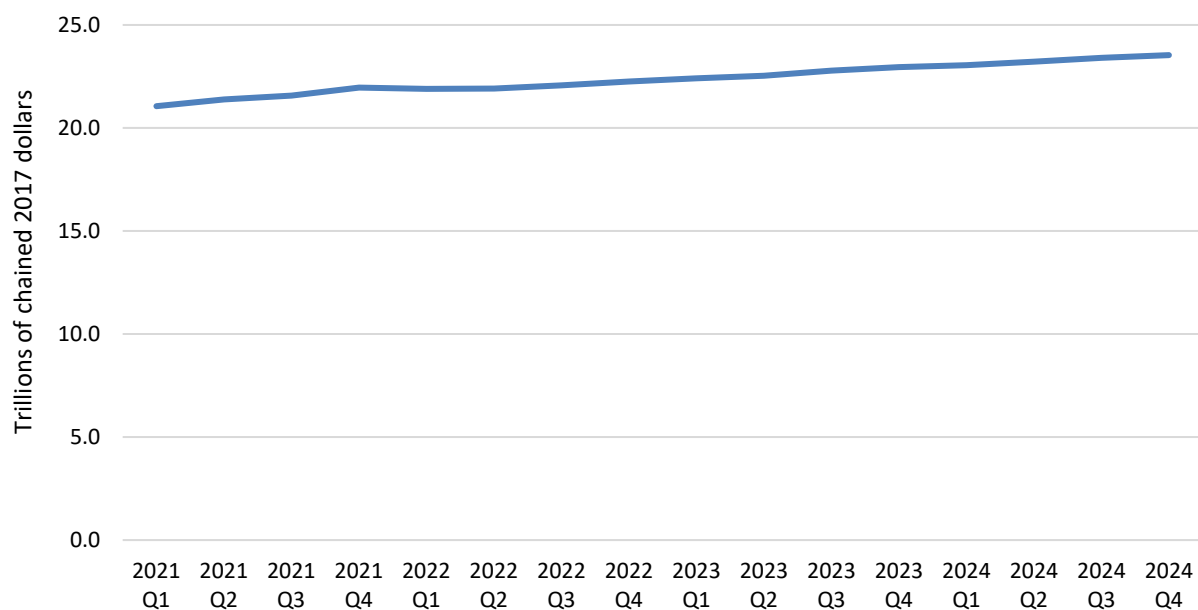
Table 2.6 Epoxy resins: Count of firms' responses regarding overall domestic and foreign demand, by firm type

Market	Firm type	Steadily Increase	Fluctuate Up	No change	Fluctuate Down	Steadily Decrease
Domestic demand	U.S. producers	0	1	0	2	0
Domestic demand	Importers	5	12	5	5	2
Domestic demand	Purchasers	8	15	5	15	3
Foreign demand	U.S. producers	0	1	0	2	0
Foreign demand	Importers	3	6	5	3	3
Foreign demand	Purchasers	3	8	9	8	2
Demand for end use products	Purchasers	10	9	5	15	3

Source: Compiled from data submitted in response to Commission questionnaires.

As shown in figure 2.1 and table 2.7, real gross domestic product ("GDP") grew by 11.8 percent from the first quarter of 2021 to the fourth quarter of 2024, notwithstanding a two-quarter decline in the first half of 2022.

Figure 2.1 Real GDP: Value, quarterly, seasonally adjusted annual rate, first quarter of 2021 to fourth quarter of 2024



Source: U.S. Bureau of Economic Analysis, Real Gross Domestic Product (GDPC1), retrieved from FRED, Federal Reserve Bank of St. Louis; <https://fred.stlouisfed.org/series/GDPC1>, retrieved March 4, 2025.

Table 2.7 Real GDP: Value, quarterly, seasonally adjusted annual rate, first quarter of 2021 to fourth quarter of 2024

Value in billions of chained 2017 dollars

Quarter	2021	2022	2023	2024
Q1	21,058	21,904	22,403	23,054
Q2	21,389	21,919	22,539	23,224
Q3	21,571	22,067	22,781	23,400
Q4	21,960	22,249	22,961	23,536

Source: U.S. Bureau of Economic Analysis, Real Gross Domestic Product (GDP1), retrieved from FRED, Federal Reserve Bank of St. Louis; <https://fred.stlouisfed.org/series/GDPC1>, retrieved March 4, 2025.

According to the S&P Global Chemical Economics Handbook, as presented in figures 2.2 and 2.3 and tables 2.8 and 2.9, ***.¹⁵

Figure 2.2 Percent of total U.S. consumption of epoxy resins by end use, annual, 2021 to 2024e

* * * * *

Source: S&P Global, Chemical Economics Handbook: Epoxy Resins, October 2024, pp. 25 and 26.

Notes: ***.

¹⁵ S&P Global, Chemical Economics Handbook: Epoxy Resins, October 2024, p. 25.

Figure 2.3 U.S. consumption of epoxy resins, annual, 2021 to 2024e

* * * * *

Source: S&P Global, Chemical Economics Handbook: Epoxy Resins, October 2024, pp. 25 and 26.

Note: ***.

Table 2.8 Percent of total U.S. consumption of epoxy resins by end use, annual, 2021 to 2024e

End use	2021	2022	2023	2024e
Protective coatings	***	***	***	***
Adhesives	***	***	***	***
Civil engineering	***	***	***	***
Vinyl ester resins	***	***	***	***
Composites	***	***	***	***
Electrical/electronic laminates	***	***	***	***
Embedding and tooling	***	***	***	***
Other	***	***	***	***
Total	100.0	100.0	100.0	100.0

Source: S&P Global, Chemical Economics Handbook: Epoxy Resins, October 2024, pp. 25 and 26.

Note: ***.

Table 2.9 U.S. consumption of epoxy resins, annual, 2021 to 2024e

Thousands of metric tons

End use	2021	2022	2023	2024e
Protective coatings	***	***	***	***
Adhesives	***	***	***	***
Civil engineering	***	***	***	***
Vinyl ester resins	***	***	***	***
Composites	***	***	***	***
Electrical/electronic laminates	***	***	***	***
Embedding and tooling	***	***	***	***
Other	***	***	***	***

Source: S&P Global, Chemical Economics Handbook: Epoxy Resins, October 2024, pp. 25 and 26.

Note: 2024e estimates based on S&P data compiled September 30, 2024.

Substitute products

Substitutes for epoxy resins are limited. Most U.S. producers (2 of 3), importers (30 of 31), and purchasers (52 of 56) reported that there were no substitutes. U.S. producer/importer *** reported polyester as a substitute in very limited uses. Purchaser *** reported polyester and acrylic can be substituted for epoxy resins for food and beverage can coatings and polyethylene and polypropylene 3-layer alternatives can be substituted in “P&M” coatings. Purchaser *** reported that polymer concrete and polyurethane can be substituted in flooring and polyurethane can also be substituted in coatings.

Substitutability issues

This section assesses the degree to which U.S.-produced epoxy resins and imports of epoxy resins from subject sources can be substituted for one another by examining the importance of certain purchasing factors and the comparability of epoxy resins from domestic and imported sources based on those factors. Based on available data, staff believes that there is a moderate to high degree of substitutability between domestically produced epoxy resins and epoxy resins imported from subject sources.¹⁶ Factors contributing to this level of substitutability include similar quality, lead times for epoxy resins from inventory, little preference for particular country of origin or producers, comparability between domestically produced epoxy resins and epoxy resins imported from subject sources across multiple purchase factors, and interchangeability between domestic and subject sources. Factors reducing substitutability include certain types of epoxy resins only being available only from subject sources, purchaser preferences for epoxy resins from subject sources over other sources, and significant factors other than price that firms consider. Availability and reliability of supply are very important factors to purchasers, many of which cited issues with procuring domestically produced epoxy resins during the period, forcing them to change or diversify their sourcing to maintain their own businesses.

Factors affecting purchasing decisions

Purchaser decisions based on source

As shown in table 2.10, most purchasers and their customers sometimes or never make purchasing decisions based on the producer or country of origin. Of the 19 purchasers that reported that they always make decisions based the manufacturer, four firms cited quality considerations; other reasons cited include product approval, strategic supply and technical development partners, sole source and approved distributor, established contracts, and supplier relationships. Purchaser *** reported that producer choice is important as supplier relationships are necessary for doing business and confidence in a producer's abilities is paramount.

¹⁶ The degree of substitution between domestic and imported epoxy resins depends upon the extent of product differentiation between the domestic and imported products and reflects how easily purchasers can switch from domestically produced epoxy resins to the epoxy resins imported from subject sources (or vice versa) when prices change. The degree of substitution may include such factors as quality differences (e.g., grade standards, defect rates, etc.), and differences in sales conditions (e.g., lead times between order and delivery dates, reliability of supply, product services, etc.).

Table 2.10 Epoxy resins: Count of purchasers' responses regarding frequency of purchasing decisions based on producer and country of origin

Firm making decision	Decision based on	Always	Usually	Sometimes	Never
Purchaser	Producer	19	4	9	24
Customer	Producer	1	2	8	37
Purchaser	Country	10	3	11	32
Customer	Country	0	0	12	37

Source: Compiled from data submitted in response to Commission questionnaires.

Importance of purchasing domestic product

Most purchasers (53 of 56 responding) reported that most or all of their purchases did not require purchasing U.S.-produced product. Four reported that domestic product was required by law (for 1 to 15 percent of their purchases), three reported it was required by their customers (for 8 to 10 percent of their purchases), and five reported other preferences for domestic product (for 8 to 100 percent of their purchases). Reasons cited for preferring domestic product included meeting FDA requirements, internal policies to buy domestic or not buy from China, and "trade secret."

Most important purchase factors

The most often cited top three factors that firms consider in their purchasing decisions for epoxy resins were quality (including product consistency, performance, clarity, 40 firms), availability/supply (including reliability/security of supply, 39 firms), price/cost (38 firms), and delivery performance (including on-time delivery and lead time, 9 firms), as shown in table 2.11. Quality was the most frequently cited first-most important factor (cited by 17 firms), followed by price/cost (12 firms); availability was the most frequently reported second-most important factor (23 firms) followed by quality (12 firms); and price was the most frequently reported third-most important factor (20 firms) followed by quality (11 firms).

Table 2.11 Epoxy resins: Count of ranking of factors used in purchasing decisions as reported by purchasers, by factor

Factor	First	Second	Third	Total
Quality/product consistency/performance/clarity	17	12	11	40
Availability/Supply/Reliability/Security of supply	11	23	5	39
Price/Cost	12	6	20	38
On-time delivery/lead time/delivery performance	1	5	3	9
Relationship/strategic partnership	4	0	0	4
All other factors	10	9	3	26

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Other factors include relationship/strategic partnership, “traditional supplier,” service/technical support, product range/offering, sole supplier, “contract,” research and development/product development support, qualification to customer specification, and safety.

A plurality of purchasers (27 of 57) reported that they usually purchase the lowest-priced product, while 21 purchasers reported that they sometimes buy the lowest-priced product, 8 never do, and 1 always purchases the lowest-priced product.

Importance of specified purchase factors

Purchasers were asked to rate the importance of 15 factors in their purchasing decisions (table 2.12). The factors rated as very important by more than three-quarters of responding purchasers were availability (54 firms), product consistency and reliability of supply (53 firms each), quality meets industry standards (51 firms), delivery time (43 firms), and price (42 firms).

Table 2.12 Epoxy resins: Count of purchasers’ responses regarding importance of purchase factors, by factor

Factor	Very important	Somewhat important	Not important
Availability	54	1	0
Delivery terms	31	24	0
Delivery time	43	12	0
Discounts offered	13	25	16
Minimum quantity requirements	8	25	22
Packaging	11	28	16
Payment terms	17	32	6
Price	42	13	0
Product consistency	53	2	0
Product range	12	27	15
Quality meets industry standards	51	4	0
Quality exceeds industry standards	15	31	9
Reliability of supply	53	2	0
Technical support/service	22	25	8
U.S. transportation costs	16	31	8

Source: Compiled from data submitted in response to Commission questionnaires.

Lead times

Epoxy resins are primarily sold from inventory. U.S. producers reported that *** percent of their commercial shipments were sold from inventory, with lead times averaging 8 days. The remaining *** percent of their commercial shipments were produced-to-order, with lead times averaging 23 days. Importers reported that 86.3 percent of their commercial shipments were sold from U.S. inventories, with lead times ranging from 3 to 15 days.¹⁷ The remaining 8.2 percent of their commercial shipments were produced-to-order, with lead times averaging 61 days, and 5.5 percent were sold from foreign inventories, with lead times averaging 62 days.

Supplier certification

Forty-five of 56 responding purchasers require their suppliers to become certified or qualified to sell epoxy resins to their firm. Most responding purchasers reported that the time to qualify a new supplier ranged from 5 to 365 days.¹⁸ Purchasers cited product trials and samples; quality testing; and certification to standards such as aerospace (AS9100), transportation (TS 16949), industrial quality (ISO90001), and APQP4WIND. Purchaser *** reported that suppliers submit a technical data sheet, safety data sheet, raw material information packed and three unique lots, then it screens the material to confirm it matches with the provided documentation and runs lab batch trials to see if the material performs in formulated products as desired; depending on warranty expectations, the formulated products will be put in extended testing for anywhere from 3 months to 2 years. Purchaser *** reported that analytical and applications testing to certify performance in its formulations have timelines that vary from 2 to 3 months to a year or more.

¹⁷ Two importers *** reported lead times of 30 days from U.S. inventory. Importer *** stated that it doesn't prepare a lot of stock in advance for customers to purchase so it reported 30 days average lead time to let them place order in advance for having better understanding of what customer needs. Staff email correspondence with ***, February 14, 2025. Importer *** stated that it requires ***, February 17, 2025.

¹⁸ Purchaser *** reported 500 days for aerospace qualification and purchaser *** reported 90 to 720 days depending on the product and end customer requirements.

Ten purchasers reported that a domestic or foreign supplier had failed in its attempt to qualify epoxy resins or had lost its approved status since 2021. Purchaser *** reported that Westlake’s certification for domestic product was revoked in 2024 because its packaging has a safety warning deemed incompatible with the purchaser’s site safety requirements and Westlake is no longer an approved supplier of that specific grade. It also reported that Kukdo lost a certification for a specific material made in Korea in 2022 because the volatile organic content was determined to be too high after secondary review. Purchaser *** reported that Olin is not approved in its automotive OEM applications. Purchaser *** reported that it is experiencing on-going quality issues with Huntsman product produced in Lansing, MI; the product is exhibiting quality defects in its molding operations and supplier has not been fully transparent as to the root causes of the problems. Three purchasers cited other quality issues with epoxy resins from Westlake, including they could not qualify Bis A epoxy due to performance (***), failed color specification test (***), and poor quality, unreliability, and untrustworthiness (***). Purchaser *** also noted that Olin failed a color specification test. Purchaser *** reported that Azelis failed internal testing in 2021 and has not been requalified due to continued quality issues.

Minimum quality specifications

As can be seen from table 2.13, most responding purchasers reported that domestically produced product always met minimum quality specifications. Most responding purchasers reported that the epoxy resins imported from China, India, South Korea, Taiwan, and Thailand always or usually met minimum quality specifications.

Table 2.13 Epoxy resins: Count of purchasers’ responses regarding suppliers’ ability to meet minimum quality specifications, by source

Source of purchases	Always	Usually	Sometimes	Rarely or never	Don’t Know
United States	29	18	4	2	3
China	8	8	4	1	32
India	10	6	2	1	34
South Korea	32	10	0	0	14
Taiwan	23	11	1	0	18
Thailand	13	12	3	0	25
Nonsubject sources	8	7	0	0	22

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Purchasers were asked how often domestically produced or imported epoxy resins meets minimum quality specifications for their own or their customers’ uses.

Fifty-five responding purchasers reported factors that determined quality including clarity, consistency, ability to meet specifications or certifications, color, viscosity, density, crystallization, epoxide content, hydrolysable chloride content, reactivity, compatibility with in-house formulations, performance, water content, purity, flexural strength, and stability.

Changes in purchasing patterns

Thirty-two purchasers reported that they had changed suppliers since January 1, 2021, while 25 reported that they had not. Specifically, firms dropped or reduced purchases from Westlake (cited by 3 firms), Aditya Birla (3 firms), Olin (2 firms), Huntsman (1 firm), and Kukdo (1 firm). Purchaser *** reported that Olin's pricing was unreasonable, predatory, and significantly above the market. Purchaser *** dropped Westlake "due to poor quality, missed deliveries, unreliable, and untrustworthy." Purchaser *** stated that Huntsman, Azelis and Westlake became "inactive" due to lack of material and availability. Firms added or increased purchases from Aditya Birla (cited by 6 firms), Kumho (or KPB, 4 firms), Kukdo (3 firms), Nanya (2 firms), Allchem International, Northspec, Redox, AVS Chemicals, Chang Chun, H&C, and Composites One (1 firm each). Purchaser *** stated that during the COVID-19 pandemic, disruptions in imports coupled with significant surges in container costs provided an opportunity for domestic epoxy producers to capitalize on market conditions, resulting in a unprecedented escalation in pricing over a condensed timeframe and by May 2021, domestic prices had doubled, and by January 2022, they had tripled, with this inflated pricing persisting for approximately 24 months. The firm opined that it "may be that domestic producers exploited market conditions with their pricing strategies, and their exorbitant price hikes did not align with increases in their cost structure." In addition, there was a period of time during which domestic production was curtailed resulting in elevated domestic prices, which forced *** to throttle manufacturing capacity to mitigate facility closures. *** stated that it wasn't until container prices declined and epoxy imports stabilized that domestic producers began to gradually adjust their pricing downwards. In 2022, *** stated that its procurement strategy shifted towards importing epoxy resin from Asian producers, complementing existing procurement practices established in China and Malaysia for decades, and the introduction of Kukdo epoxy into its facilities prompted domestic epoxy producers to reevaluate their pricing structures.

Firms also reported changes because of material availability; competitive bidding processes; qualifying new sources; maintaining a pool of qualified suppliers and move purchasing volume based on supply chain resiliency, delivery needs, pricing, and the requirement for high-bio content material; and de-risking portfolio by expanding supply base.

Purchasers were also asked about changes in their purchasing patterns from different countries since January 1, 2021 (table 2.14). The majority of responding purchasers reported that their purchases of U.S.-produced product fluctuated down or steadily decreased because of less demand, cost, lack of price support, record high prices, force majeure, availability, inability to form new agreements, and unreliable supply. Importer/purchaser *** reported that Winter Storm Uri resulted in supply disruptions regardless of price and both domestic producers were equally impacted as they are located in the same geographic region. It continued that domestic producers made it clear in earnings calls and in messaging that they intended to use this force majeure as an opportunity to maximize profits, damaging trust and led to the building of relationships with vendors that also raised pricing in response to Winter Storm Uri, but to a rational level and with stated intentions to return to normal market conditions when possible. Importer/purchaser *** also stated that domestic producers sold their businesses during this time, making return to normal industry behavior unpalatable to new investors. Purchaser *** reported that throughout 2021 and 2022, both domestic producers consistently claimed they had limited supply and drove price up to close to \$4 per pound, which caused *** to search for alternative options around the globe. It continued that only in late 2023 did either domestic supplier express any sort of willingness to provide consistent supply at a fair price and that it had numerous conversations that \$4 per pound was the new standard for epoxy and it would not move (“ratchet” strategy); *** stated that its business would have been unsustainable throughout this approach. Changes in purchase patterns among the subject sources were mixed; reasons for increasing purchases from subject sources was diversification, reliability, product improvement, availability, and commercial competitiveness.¹⁹

¹⁹ Staff believes references to “both domestic producers” refers to Olin and Westlake.

Table 2.14 Epoxy resins: Count of purchasers' responses regarding changes in purchase patterns from U.S., subject, and nonsubject sources

Source of purchases	Steadily Increase	Fluctuate Up	No change	Fluctuate Down	Steadily Decrease	Did not purchase
United States	5	13	4	21	8	2
China	1	1	6	6	2	28
India	1	3	4	4	1	30
South Korea	6	10	6	11	2	14
Taiwan	3	9	4	7	4	17
Thailand	3	8	7	7	2	19
Nonsubject sources	1	3	7	1	6	24
Sources unknown	0	3	4	2	3	31

Source: Compiled from data submitted in response to Commission questionnaires.

Purchase factor comparisons of domestic products, subject imports, and nonsubject imports

Purchasers were asked a number of questions comparing epoxy resins produced in the United States, subject sources, and nonsubject sources. First, purchasers were asked for a country-by-country comparison on the same 15 factors (table 2.15) for which they were asked to rate the importance.²⁰

Most purchasers reported that U.S.-produced epoxy resins and epoxy resins imported from China, India, South Korea, Taiwan, and Thailand were comparable on the vast majority of factors. Domestically produced epoxy resins were rated superior on delivery time when compared to China, India, Thailand, and all other sources and on availability when compared to Taiwan.

²⁰ Comparisons among subject sources and of subject sources to other sources are presented in Appendix D.

Table 2.15 Epoxy resins: Count of purchasers' responses comparing U.S.-produced and imported product, by factor and country pair

Factor	Country pair	Superior	Comparable	Inferior
Availability	U.S. v. China	6	12	3
Delivery terms	U.S. v. China	9	10	2
Delivery time	U.S. v. China	14	2	5
Discounts offered	U.S. v. China	1	12	6
Minimum quantity requirements	U.S. v. China	3	15	2
Packaging	U.S. v. China	3	18	0
Payment terms	U.S. v. China	4	13	4
Price	U.S. v. China	2	10	10
Product consistency	U.S. v. China	4	16	1
Product range	U.S. v. China	4	15	1
Quality meets industry standards	U.S. v. China	2	19	0
Quality exceeds industry standards	U.S. v. China	1	17	1
Reliability of supply	U.S. v. China	5	12	4
Technical support/service	U.S. v. China	7	11	3
U.S. transportation costs	U.S. v. China	5	12	3

Table continued.

Table 2.15 (Continued) Epoxy resins: Count of purchasers' responses comparing U.S.-produced and imported product, by factor and country pair

Factor	Country pair	Superior	Comparable	Inferior
Availability	U.S. v. India	4	14	4
Delivery terms	U.S. v. India	5	14	2
Delivery time	U.S. v. India	13	4	5
Discounts offered	U.S. v. India	1	13	7
Minimum quantity requirements	U.S. v. India	2	18	2
Packaging	U.S. v. India	0	22	0
Payment terms	U.S. v. India	3	14	4
Price ¹	U.S. v. India	3	10	10
Product consistency	U.S. v. India	2	19	1
Product range	U.S. v. India	5	15	2
Quality meets industry standards	U.S. v. India	2	20	0
Quality exceeds industry standards	U.S. v. India	0	19	2
Reliability of supply	U.S. v. India	1	17	4
Technical support/service	U.S. v. India	4	13	5
U.S. transportation costs	U.S. v. India	4	15	3

Table continued.

Table 2.15 (Continued) Epoxy resins: Count of purchasers' responses comparing U.S.-produced and imported product, by factor and country pair

Factor	Country pair	Superior	Comparable	Inferior
Availability	U.S. v. South Korea	5	28	8
Delivery terms	U.S. v. South Korea	3	34	2
Delivery time	U.S. v. South Korea	13	23	5
Discounts offered	U.S. v. South Korea	1	27	10
Minimum quantity requirements	U.S. v. South Korea	1	38	1
Packaging	U.S. v. South Korea	1	40	0
Payment terms	U.S. v. South Korea	2	32	5
Price	U.S. v. South Korea	3	22	18
Product consistency	U.S. v. South Korea	0	31	10
Product range	U.S. v. South Korea	3	33	5
Quality meets industry standards	U.S. v. South Korea	1	35	5
Quality exceeds industry standards	U.S. v. South Korea	2	33	6
Reliability of supply	U.S. v. South Korea	1	33	7
Technical support/service	U.S. v. South Korea	5	31	4
U.S. transportation costs	U.S. v. South Korea	4	37	0

Table continued.

Table 2.15 (Continued) Epoxy resins: Count of purchasers' responses comparing U.S.-produced and imported product, by factor and country pair

Factor	Country pair	Superior	Comparable	Inferior
Availability	U.S. v. Taiwan	20	12	3
Delivery terms	U.S. v. Taiwan	1	24	9
Delivery time	U.S. v. Taiwan	4	28	3
Discounts offered	U.S. v. Taiwan	1	35	0
Minimum quantity requirements	U.S. v. Taiwan	4	22	7
Packaging	U.S. v. Taiwan	1	19	16
Payment terms	U.S. v. Taiwan	3	29	3
Price	U.S. v. Taiwan	6	28	0
Product consistency	U.S. v. Taiwan	2	32	2
Product range	U.S. v. Taiwan	2	29	3
Quality meets industry standards	U.S. v. Taiwan	4	27	3
Quality exceeds industry standards	U.S. v. Taiwan	5	27	3
Reliability of supply	U.S. v. Taiwan	4	30	1
Technical support/service	U.S. v. Taiwan	4	26	6
U.S. transportation costs	U.S. v. Taiwan	4	26	6

Table continued.

Table 2.15 (Continued) Epoxy resins: Count of purchasers' responses comparing U.S.-produced and imported product, by factor and country pair

Factor	Country pair	Superior	Comparable	Inferior
Availability	U.S. v. Thailand	4	20	4
Delivery terms	U.S. v. Thailand	3	23	2
Delivery time	U.S. v. Thailand	14	10	4
Discounts offered	U.S. v. Thailand	1	22	5
Minimum quantity requirements	U.S. v. Thailand	2	23	3
Packaging	U.S. v. Thailand	1	27	0
Payment terms	U.S. v. Thailand	3	20	5
Price	U.S. v. Thailand	2	18	8
Product consistency	U.S. v. Thailand	2	26	0
Product range	U.S. v. Thailand	3	23	2
Quality meets industry standards	U.S. v. Thailand	1	27	0
Quality exceeds industry standards	U.S. v. Thailand	0	27	0
Reliability of supply	U.S. v. Thailand	4	21	3
Technical support/service	U.S. v. Thailand	5	21	2
U.S. transportation costs	U.S. v. Thailand	4	23	1

Table continued.

Table 2.15 (Continued) Epoxy resins: Count of purchasers' responses comparing U.S.-produced and imported product, by factor and country pair

Factor	Country pair	Superior	Comparable	Inferior
Availability	U.S. v. Nonsubject	4	8	2
Delivery terms	U.S. v. Nonsubject	3	9	1
Delivery time	U.S. v. Nonsubject	7	4	2
Discounts offered	U.S. v. Nonsubject	0	10	2
Minimum quantity requirements	U.S. v. Nonsubject	0	11	2
Packaging	U.S. v. Nonsubject	1	12	1
Payment terms	U.S. v. Nonsubject	2	8	3
Price	U.S. v. Nonsubject	1	8	5
Product consistency	U.S. v. Nonsubject	2	9	3
Product range	U.S. v. Nonsubject	2	9	1
Quality meets industry standards	U.S. v. Nonsubject	1	11	2
Quality exceeds industry standards	U.S. v. Nonsubject	2	8	3
Reliability of supply	U.S. v. Nonsubject	3	8	3
Technical support/service	U.S. v. Nonsubject	4	7	3
U.S. transportation costs	U.S. v. Nonsubject	3	9	1

Source: Compiled from data submitted in response to Commission questionnaires.

Note: With respect to cost/price factors, a rating of superior means that the cost/price for the first source in the country pair is generally lower. For example, if a firm reported "U.S. superior," it meant that the U.S. product was generally priced lower than the imported product.

Comparison of U.S.-produced and imported epoxy resins

In order to determine whether U.S.-produced epoxy resins can generally be used in the same applications as imports from China, India, South Korea, Taiwan, and Thailand, U.S. producers, importers, and purchasers were asked whether the products can always, frequently, sometimes, or never be used interchangeably. As shown in tables 2.16 to 2.18, all three U.S. producers and most responding importers and purchasers reported that domestically produced epoxy resins and epoxy resins imported from China, India, South Korea, Taiwan, and Thailand are always or frequently interchangeable. Importers and purchasers that reported limited interchangeability cited: quality, including clarity; source approval; availability generally and availability of high bio-content specifically; and meeting customer specifications. Generally, firms stated that liquid epoxy resins (LER) are interchangeable. Purchaser *** reported that the range of epoxy resins in the scope of this petition is broad, and each finished good formulation is designed with a specific epoxy product in mind. It continued that two countries can produce materials in the same category and even to very similar specifications and still not be acceptable alternatives; this is less due to any inherent merit in the epoxy, and more due to the quality of the formulated coating. Importer *** reported that Olin is not compliant with its standards, the only other U.S. producer of Bis A (subject to validation), Westlake, has informed *** that it requires Chinese components to produce its Bis A resin. As a result, Westlake is not vertically integrated like Olin and other Bis A manufacturers, which limits its competitiveness and effectively excludes it as a viable option. *** continued that it procures Bis F epoxy resin from Westlake and has recently received confirmation that Westlake will be unable to supply it until ***. Historically, particularly during the COVID-19 pandemic, multiple U.S. suppliers were unable to fulfill raw material requirements, necessitating procurement from alternative sources in Asia.

Table 2.16 Epoxy resins: Count of U.S. producers reporting the interchangeability between product produced in the United States and in other countries, by country pair

Country pair	Always	Frequently	Sometimes	Never
United States vs. China	2	1	0	0
United States vs. India	2	1	0	0
United States vs. South Korea	2	1	0	0
United States vs. Taiwan	2	1	0	0
United States vs. Thailand	2	1	0	0
China vs. India	2	1	0	0
China vs. South Korea	2	1	0	0
China vs. Taiwan	2	1	0	0
China vs. Thailand	2	1	0	0
India vs. South Korea	2	1	0	0
India vs. Taiwan	2	1	0	0
India vs. Thailand	2	1	0	0
South Korea vs. Taiwan	2	1	0	0
South Korea vs. Thailand	2	1	0	0
Taiwan vs. Thailand	2	1	0	0
United States vs. Other	2	1	0	0
China vs. Other	2	1	0	0
India vs. Other	2	1	0	0
South Korea vs. Other	2	1	0	0
Taiwan vs. Other	2	1	0	0
Thailand vs. Other	2	1	0	0

Source: Compiled from data submitted in response to Commission questionnaires.

Table 2.17 Epoxy resins: Count of importers reporting the interchangeability between product produced in the United States and in other countries, by country pair

Country pair	Always	Frequently	Sometimes	Never
United States vs. China	5	5	5	0
United States vs. India	3	5	5	0
United States vs. South Korea	8	9	6	0
United States vs. Taiwan	7	8	4	0
United States vs. Thailand	6	7	4	0
China vs. India	3	5	2	0
China vs. South Korea	4	5	3	0
China vs. Taiwan	4	6	2	0
China vs. Thailand	4	5	2	0
India vs. South Korea	4	4	5	0
India vs. Taiwan	4	5	2	0
India vs. Thailand	3	4	3	0
South Korea vs. Taiwan	5	6	3	0
South Korea vs. Thailand	4	5	3	0
Taiwan vs. Thailand	4	6	2	0
United States vs. Other	7	2	5	0
China vs. Other	3	2	2	0
India vs. Other	3	3	2	0
South Korea vs. Other	5	3	3	0
Taiwan vs. Other	5	2	2	0
Thailand vs. Other	3	2	2	0

Source: Compiled from data submitted in response to Commission questionnaires.

Table 2.18 Epoxy resins: Count of purchasers reporting the interchangeability between product produced in the United States and in other countries, by country pair

Country pair	Always	Frequently	Sometimes	Never
United States vs. China	11	5	7	3
United States vs. India	8	9	9	2
United States vs. South Korea	20	15	8	2
United States vs. Taiwan	17	11	9	2
United States vs. Thailand	13	9	7	2
China vs. India	5	6	3	3
China vs. South Korea	9	5	5	2
China vs. Taiwan	8	4	5	2
China vs. Thailand	6	5	6	2
India vs. South Korea	8	9	6	2
India vs. Taiwan	7	8	6	2
India vs. Thailand	7	5	7	2
South Korea vs. Taiwan	17	11	3	2
South Korea vs. Thailand	13	6	6	2
Taiwan vs. Thailand	12	5	8	2
United States vs. Other	6	3	7	2
China vs. Other	3	2	4	2
India vs. Other	3	3	4	2
South Korea vs. Other	4	4	4	2
Taiwan vs. Other	5	3	4	2
Thailand vs. Other	3	2	4	2

Source: Compiled from data submitted in response to Commission questionnaires.

In addition, U.S. producers, importers, and purchasers were asked to assess how often differences other than price were significant in sales of epoxy resins from the United States, subject, or nonsubject sources. As seen in tables 2.19 to 2.21, most U.S. producers, a majority of responding importers, and at least half of responding purchasers reported that there are sometimes or never significant factors other than price between domestically produced epoxy resins and epoxy resins imported from China, India, South Korea, Taiwan, Thailand, and nonsubject sources. U.S. producer *** reported that customers that carry end use quality specifications in markets including automotive and aerospace have rigorous and lengthy processes for manufacturing and raw material qualifications and specifications. Several importers and purchasers that reported that there are always or frequently significant factors other than price cited were continuity and reliability of supply, quality, business relationships, service, product range, compatibility of material for end-use applications, transportation network, technical support, customer specification requirements, lead time, high minimum order quantities, payment terms, ease of contracting, strength of ESG program, and past performance.

Table 2.19 Epoxy resins: Count of U.S. producers reporting the significance of differences other than price between product produced in the United States and in other countries, by country pair

Country pair	Always	Frequently	Sometimes	Never
United States vs. China	0	1	0	2
United States vs. India	0	1	0	2
United States vs. South Korea	0	1	0	2
United States vs. Taiwan	0	1	0	2
United States vs. Thailand	0	1	0	2
China vs. India	0	1	0	2
China vs. South Korea	0	1	0	2
China vs. Taiwan	0	1	0	2
China vs. Thailand	0	1	0	2
India vs. South Korea	0	1	0	2
India vs. Taiwan	0	1	0	2
India vs. Thailand	0	1	0	2
South Korea vs. Taiwan	0	1	0	2
South Korea vs. Thailand	0	1	0	2
Taiwan vs. Thailand	0	1	0	2
United States vs. Other	0	1	0	2
China vs. Other	0	1	0	2
India vs. Other	0	1	0	2
South Korea vs. Other	0	1	0	2
Taiwan vs. Other	0	1	0	2
Thailand vs. Other	0	1	0	2

Source: Compiled from data submitted in response to Commission questionnaires.

Table 2.20 Epoxy resins: Count of importers reporting the significance of differences other than price between product produced in the United States and in other countries, by country pair

Country pair	Always	Frequently	Sometimes	Never
United States vs. China	4	1	5	3
United States vs. India	3	2	6	2
United States vs. South Korea	5	3	6	4
United States vs. Taiwan	4	2	6	4
United States vs. Thailand	4	2	5	4
China vs. India	2	1	3	2
China vs. South Korea	2	2	2	3
China vs. Taiwan	2	1	2	3
China vs. Thailand	3	1	2	2
India vs. South Korea	2	2	3	2
India vs. Taiwan	2	1	3	2
India vs. Thailand	2	1	4	3
South Korea vs. Taiwan	2	2	1	3
South Korea vs. Thailand	2	3	2	2
Taiwan vs. Thailand	2	1	3	3
United States vs. Other	2	1	4	3
China vs. Other	1	1	1	2
India vs. Other	1	1	1	2
South Korea vs. Other	1	2	1	2
Taiwan vs. Other	1	1	1	2
Thailand vs. Other	1	1	1	2

Source: Compiled from data submitted in response to Commission questionnaires.

Table 2.21 Epoxy resins: Count of purchasers reporting the significance of differences other than price between product produced in the United States and in other countries, by country pair

Country pair	Always	Frequently	Sometimes	Never
United States vs. China	8	5	9	5
United States vs. India	5	8	8	6
United States vs. South Korea	8	12	12	12
United States vs. Taiwan	5	10	16	6
United States vs. Thailand	5	5	14	8
China vs. India	4	1	6	5
China vs. South Korea	6	1	7	7
China vs. Taiwan	4	1	5	8
China vs. Thailand	4	1	6	6
India vs. South Korea	5	3	8	9
India vs. Taiwan	4	3	8	6
India vs. Thailand	4	2	8	7
South Korea vs. Taiwan	7	3	14	7
South Korea vs. Thailand	6	2	9	8
Taiwan vs. Thailand	5	2	10	8
United States vs. Other	4	3	5	4
China vs. Other	3	1	3	3
India vs. Other	4	1	3	3
South Korea vs. Other	4	2	3	3
Taiwan vs. Other	3	2	4	3
Thailand vs. Other	3	1	4	3

Source: Compiled from data submitted in response to Commission questionnaires.

Elasticity estimates

This section discusses elasticity estimates; no parties commented on these estimates in their briefs.

U.S. supply elasticity

The domestic supply elasticity for epoxy resins measures the sensitivity of the quantity supplied by U.S. producers to changes in the U.S. market price of epoxy resins. The elasticity of domestic supply depends on several factors including the level of excess capacity, the ease with which producers can alter capacity, producers' ability to shift to production of other products, the existence of inventories, and the availability of alternate markets for U.S.-produced epoxy resins. Analysis of these factors above indicates that the U.S. industry has the ability to substantially increase or decrease shipments to the U.S. market; an estimate in the range of 6 to 10 is suggested.

U.S. demand elasticity

The U.S. demand elasticity for epoxy resins measures the sensitivity of the overall quantity demanded to a change in the U.S. market price of epoxy resins. This estimate depends on factors discussed above such as the existence, availability, and commercial viability of substitute products, as well as the component share of the epoxy resins in the production of any downstream products. Based on the available information, the aggregate demand for epoxy resins is likely to be inelastic; a range of -0.25 to -0.75 is suggested.

Substitution elasticity

The elasticity of substitution depends upon the extent of product differentiation between the domestic and imported products.²¹ Product differentiation, in turn, depends upon such factors as quality (e.g., chemistry, appearance, etc.) and conditions of sale (e.g., availability, sales terms/discounts/promotions, etc.). Based on available information, the elasticity of substitution between U.S.-produced epoxy resins and imported epoxy resins are likely to be in the range of 3 to 6. Factors contributing to this level of substitutability include similar quality, lead times for epoxy resins from inventory, little preference for particular country of origin or producers, comparability between domestically produced epoxy resins and epoxy resins imported from subject sources across multiple purchase factors, and interchangeability between domestic and subject sources. Factors reducing substitutability include certain types of epoxy resins only being available only from subject sources, purchaser preferences for epoxy resins from subject sources over other sources, and significant factors other than price that firms consider. Availability and reliability of supply are very important factors to purchasers, many of which cited issues with procuring domestically produced epoxy resins during the period, forcing them to change or diversify their sourcing to maintain their own businesses.

²¹ The substitution elasticity measures the responsiveness of the relative U.S. consumption levels of the subject imports and the domestic like products to changes in their relative prices. This reflects how easily purchasers switch from the U.S. product to the subject products (or vice versa) when prices change.

Part 3: U.S. producers' and U.S. processors' production, shipments, and employment

The Commission analyzes a number of factors in making injury determinations (see 19 U.S.C. §§ 1677(7)(B) and 1677(7)(C)). Information on the subsidies and dumping margins was presented in Part 1 of this report and information on the volume and pricing of imports of the subject merchandise is presented in Part 4 and Part 5. Information on the other factors specified is presented in this section and/or Part 6 and (except as noted) is based on the questionnaire responses four processors and three producers, which accounted for the vast majority of U.S. production of epoxy resins in 2023.

U.S. producers and U.S. processors

The Commission issued 25 firms a U.S. producer/processor questionnaire.¹ Seven firms provided usable data on their operations.² Three of the seven firms—Huntsman, Olin, and Westlake—identified as U.S. producers and five of the seven firms—3M - AASD, 3M – EMD, Huntsman, Polytek, and PPG—identified as U.S. processors.³ Table 3.1 presents a list of these responding firms, their position on the petitions, their production/processing location(s), and the share of their total production and processing in 2023.

¹ A U.S. processor is a firm that imports and/or purchases in-scope epoxy resins and conducts further processing of them into another form of in-scope product.

² The Commission also received questionnaire responses from two firms, ***, which reported that they did not produce or process epoxy resins in the United States since January 1, 2021.

³ Huntsman was the only responding firm which identified as both a U.S. producer and a U.S. processor of epoxy resins.

Table 3.1 Epoxy resins: U.S. producers and processors, their position on the petitions, location of production, and share of reported production and processing, 2023

Shares in percent

Firm	Position on petitions	Production/processing location(s)	Share of production	Share of processing
3M - AASD	***	Hutchinson, MN Springfield, MO	***	***
3M - EMD	***	Angleton, TX	***	***
Huntsman	***	McIntosh, AL East Lansing, MI Los Angeles, CA Maple Shade, NJ	***	***
Olin	Petitioner	Freeport, TX Roberta, GA	***	***
Polytek	***	Franklin, IN St. Paul, MN Kalamazoo, MI	***	***
PPG	***	Oak Creek, WI Delaware, OH Little Rock, AR Circleville, OH Kansas City, KS Oklahoma City, OK	***	***
Westlake	Petitioner	Deer Park, TX Lakeland, FL Argo, IL	***	***
All firms	Various	Various	100.0	100.0

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Olin and Westlake are petitioning firms. 3M – AASD and 3M – EMD ***. Polytek ***. Huntsman and PPG ***.

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "—".

Table 3.2 presents information on U.S. producers' and processors' ownership, related and/or affiliated firms. U.S. producer Olin reported ***.

U.S. producer Westlake reported ***.

U.S. producer and processor Huntsman reported ***.

U.S. processor 3M Company (both its AASD and EMD divisions) reported ***.

U.S. processor Polytek reported ***.

U.S. processor PPG reported ***.

Table 3.2 Epoxy resins: U.S. producers' and processors' ownership, related and/or affiliated firms

Reporting firm	Relationship type and related firm	Details of relationship
***	***	***
***	***	***
***	***	***
***	***	***
***	***	***
***	***	***
***	***	***
***	***	***

Reporting firm	Relationship type and related firm	Details of relationship
***	***	***
***	***	***
***	***	***
***	***	***
***	***	***
***	***	***
***	***	***
***	***	***
***	***	***
***	***	***
***	***	***
***	***	***
***	***	***
***	***	***
***	***	***

Source: Compiled from data submitted in response to Commission questionnaires.

Events in the U.S. industry

Table 3.3 presents events in the U.S. epoxy resins industry since January 1, 2021.

Table 3.3 Epoxy resins: Industry events, since January 1, 2021

Item	Firm	Event
Acquisition	Huntsman	On January 15, 2021, Huntsman acquired Gabriel Performance Products, a chemical manufacturer of specialty additives and epoxy curing agents, for \$251 million.
Weather	Multiple firms	In February 2021, Winter Storm Uri hit Texas chemical plants, which make up nearly 75 percent of U.S. chemical production, and these chemicals are used as raw material for many other companies' chemical manufacturing processes, including the petitioner. As much as 80 percent of U.S. basic organic chemicals capacity was offline after the storm, and up to 60 percent was still offline in mid-March 2021.
Acquisition	Polytek	On February 4, 2021, Polytek acquired Endurance Technologies, a company that specializes in manufacturing epoxy and polyurethane system.
Force majeure	Westlake and Olin	On February 19, 2021, Westlake declared a force majeure on its caustic soda, chlorine, poly vinyl chloride and vinyl chloride plants. The Olin Corporation announced on February 16, 2021, that the production of chlorine, caustic soda, dichloroethane, epoxy resin, hydrochloric acid and other products at its Freeport, Texas complex had encountered force majeure. This affected the downstream construction market.
Acquisition	PPG	On February 22, 2021, PPG acquired Versaflex, a manufacturer that specializes in polyurethane and epoxy coatings for water and wastewater infrastructure applications.
Acquisition	Polytek	On September 7, 2021, Polytek acquired Specialty Resin & Chemical, a supplier of coating products which include top epoxy resin and polyurethane resin.
Closure	Olin	On October 21, 2021, the Olin Corporation announced that it planned to permanently shut down the remaining diaphragm-grade chlor-alkali capacity (approximately 200,000 Electrochemical Unit "ECU" tons) at its McIntosh, Alabama facility.
Acquisition	Westlake	In 2022, Westlake Chemical Corporation completed the acquisition of Hexion Inc.'s global epoxy business for approximately \$1.2 billion in an all-cash transaction.
Force Majeure	Olin	From April 20 to June 15, 2022, Olin declared a force majeure on its chlor-alkali and other products after a compressor caught fire and a chlorine leak occurred at the company's Plaquemine chlor-alkali facility.
Force Majeure	Westlake	On June 15, 2022, Westlake declares a force majeure on chlorine and caustic soda in the United States due to failures in critical processing equipment. The sites were not specified in the letter to customers.
Closure	Olin	On August 24, 2022, the Olin Corporation announced that it planned to permanently shut down approximately 225,000 ECU tons of diaphragm-grade chlor-alkali capacity at its Freeport, TX facility.
Weather	Multiple firms	In December 2022, multiple chemical plants in Texas shut down due to cold weather. As Texas chemical plants make up a majority of chemical production, various raw materials for downstream companies were affected.

Item	Firm	Event
Sale	Huntsman	On February 28, 2023, Huntsman sold its textile chemicals and dyes business ("Textile Effects Business") to Archroma for \$593 million.
Ceased operations	Olin	On March 21, 2023, Olin Corporation announced that it had made the decision to cease operations at its Cumene facility in Terneuzen, Netherlands, and solid epoxy resin production at its facilities in Gumi, South Korea and Guaruja, Brazil. Olin's first quarter 2023 results were forecast to include approximately \$57 million of restructuring charges associated with these plans, of which approximately \$15 million were non-cash asset impairment charges.
Decreased epoxy resin and upstream capacity	Olin	On June 20, 2023, Olin announced the decision to cease all operations at its Gumi, South Korea facility, reduce epoxy resin and upstream capacity at its Freeport, Texas facility, and reduce sales and support staffing across Asia. Olin's second quarter 2023 results were forecast to include approximately \$12 million of restructuring charges associated with these plans of which approximately \$6 million represents non-cash asset impairment charges.
Weather	Olin	On July 15, 2024, Olin declared force majeure and temporarily halted the operation of its Freeport, TX facility due to Hurricane Beryl. This event affected the following divisions: chlor alkali products, vinyls, and aromatics (epoxy).
Sale	Huntsman	On September 6, 2024, Polyrho USA announced the purchase of Huntsman's chemical manufacturing plant in Maple Shade, New Jersey. Polyrho plans to recommission the manufacturing plant.
Other	Olin	On February 25, 2025, the law firm of Levi & Korsinsky notified investors that it has started an investigation of Olin Corporation for possible violations of federal securities laws. On January 30, 2025, Olin issued a press release citing "challenging industry conditions" due to soft consumer demand for epoxy products and subsidized competition from Asia.

Source: United States Securities and Exchange Commission, "2023 Annual Report on Form 10-K," accessed March 3, 2025, <https://www.huntsman.com/investors/financials/sec-filings/content/0001437749-24-005185/0001437749-24-005185.pdf>; Coatings World, "Westlake Completes Acquisition of Hexion's Epoxy Business," February 7, 2022, https://www.coatingsworld.com/issues/2022-03-01/view_breaking-news/westlake-completes-acquisition-of-hexions-epoxy-business/; MDM, "PPRG Completes Acquisition of VersaFlex," February 22, 2021, <https://www.mdm.com/news/operations/earnings/ppg-completes-acquisition-of-versaflex/>; Pennsylvania Business Report, "Polytek Acquires Minnesota-Based Polyurethane, Epoxy System Company," February 4, 2021, <https://pennbizreport.com/news/18918-polytek-acquires-minnesota-based-polyurethane-epoxy-systems-company/>; Paint & Coatings Industry, "Hexion Holdings Completes Sale of Epoxy Businesses to Westlake Chemical," February 8, 2022, <https://www.pcimag.com/articles/109743-hexion-holdings-completes-sale-of-epoxy-businesses-to-westlake-chemical>; Westlake Press Release, "Westlake to Acquire Hexion's Global Epoxy Business," November 24, 2021, <https://www.westlake.com/news/archive?year=2021>; Luke Metzger, "The Texas Freeze: Timeline of Events," Environment Texas, January 31, 2022, <https://environmentamerica.org/texas/center/articles/the-texas-freeze-timeline-of-events/>; S&P Global, "Impact of Winter Storm Uri on Chemical Markets," accessed April 27, 2024, <https://www.spglobal.com/commodityinsights/en/ci/topic/impact-of-winter-storm-uri-on-chemical-markets.html>; Jess Donald, "Winter Storm Uri, 2021: The Economic Impact of the Storm," Comptroller.Texas.Gov, October 2021, <https://comptroller.texas.gov/economy/fiscal-notes/archive/2021/oct/winter-storm-impact.php>;

Table continued.

Table 3.3 (Continued) Epoxy resins: Public industry events, since January 1, 2021

Source: Petitioner's postconference brief, pp. 37-38; Jesse Thompson, "Texas Winter Deep Freeze Broke Refining, Petrochemical Supply Chains," Federal Reserve Bank of Dallas, Southwest Economy, second quarter 2021, <https://www.dallasfed.org/research/swe/2021/swe2102/swe2102c>; Al Greenwood, "More Texas Chem Plants Shut Down Amid Cold Weather," ICIS, December 23, 2023, <https://www.icis.com/explore/resources/news/2022/12/23/10839145/more-texas-chem-plants-shut-down-amid-cold-weather/>; PR Newswire, "Polytek Development Corp. Announces Acquisition of Specialty Resin & Chemical," September 7, 2021, <https://www.prnewswire.com/news-releases/polytek-development-corp-announces-acquisition-of-specialty-resin--chemical-301368906.html>; ; ECHEMI, "Dow and other manufacturers have a long way to restart their petrochemical equip," February 22, 2021, <https://www.echemi.com/cms/142972.html>; David Poole, "Force Majeure Hits Construction and Consumer Market Hard," March 10, 2021, <https://www.linkedin.com/pulse/force-majeure-hits-construction-consumer-market-hard-david-poole>; ; Everchem, "More Chlor-alkali Woes," June 16, 2022, <https://everchem.com/more-chlor-alkali-woes/>; S&P Global, "Westlake Declares Force Majeure on US Chlor-alkali," June 15, 2022, <https://www.spglobal.com/commodityinsights/en/market-insights/latest-news/chemicals/061522-westlake-declares-force-majeure-on-us-chlor-alkali-letter>; Olin Press Release, "Olin to Shut Down Additional Chlor-alkali Capacity," October 21, 2021, <https://olin.com/investors/events-presentations/press-releases/#b2iLibScrollTo>; Olin Press Release, "Olin Announces Chlor-alkali Capacity Reduction," <https://olin.com/investors/events-presentations/press-releases/#b2iLibScrollTo>; Olin Press Release, "Olin Announces Epoxy Facility Closures As Part of On-going Restructuring Program," March 21, 2023, <https://olin.com/investors/events-presentations/press-releases/#b2iLibScrollTo>; Olin Press Release, "Olin Updates Second Quarter 2023 Outlook and Announces Additional Epoxy Restructuring Actions," June 20, 2023, <https://olin.com/investors/events-presentations/press-releases/#b2iLibScrollTo>; MDM, "Chemical Distributor Olin Declares Force Majeure after Hurricane," July 15, 2024, <https://www.mdm.com/news/top-distributor-sectors/chemicals-plastics-distribution/chemical-distributor-olin-declares-force-majeure-after-hurricane/>; WKBN, "Olin Corporation Investigated by Shareholder Rights Advocates – Investors Should Contact Levi & Korsinsky Regarding Potential Securities Law Violations – OLN", February 25, 2025, <https://www.wkbn.com/business/press-releases/accesswire/991619/olin-corporation-investigated-by-shareholder-rights-advocates-investors-should-contact-levi-korsinsky-regarding-potential-securities-law-violations-olin/>; United States Securities and Exchange Commission, "2023 Annual Report on Form 10-K," accessed March 3, 2025, <https://www.huntsman.com/investors/financials/sec-filings/content/0001437749-24-005185/0001437749-24-005185.pdf>; Paint & Coatings Industry, "Polyrheo USA Acquires Huntsman Facility," September 6, 2024, <https://www.pcimag.com/articles/112724-polyrheo-usa-acquires-huntsman-facility>.

U.S. producers in the United States were asked to report any change in the character of their operations or organization relating to the production of epoxy resins since 2021. All three responding U.S. producers indicated in their questionnaires that they had experienced such changes. Table 3.4 presents the changes identified by these producers. Since 2021, U.S. producers have reported plant closures, shutdowns, and curtailments at their U.S. facilities as a consequence of supply chain issues, unfairly traded imports, and weather-related force majeure.

Table 3.4 Epoxy resins: U.S. producers' reported changes in operations, since January 1, 2021

Item	Firm name and narrative response on changes in operations
Plant closings	***
Plant closings	***
Prolonged shutdowns	***
Prolonged shutdowns	***
Prolonged shutdowns	***
Production curtailments	***
Production curtailments	***

Item	Firm name and narrative response on changes in operations
Production curtailments	***
Relocations	***
Acquisitions	***
Acquisitions	***
Consolidations	***
Weather-related or force majeure events	***
Weather-related or force majeure events	***
Weather-related or force majeure events	***
Other	***
Other	***

Source: Compiled from data submitted in response to Commission questionnaires.

Domestic activities

U.S. producers and processors were asked to describe their firms' domestic production operations relating to epoxy resins, including incorporation of imported or purchased epoxy resins that is converted into another in-scope form of epoxy resins in the United States prior to commercial sale. Table 3.5 presents U.S. producers' and processors' reported epoxy resins domestic production operations.

Table 3.5 Epoxy resins: U.S. producers' and processors' reported domestic production operations

Firm	Narrative response on domestic production operations
3M - AASD	***
3M - EMD	***

Firm	Narrative response on domestic production operations
Huntsman	***

Firm	Narrative response on domestic production operations
Olin	***
Polytek	***
PPG	***
Westlake	***

Source: Compiled from data submitted in response to Commission questionnaires.

U.S. producers and processors were asked to describe the nature and extent of their epoxy resin domestic operations as they pertain to several factors including capital investments, technical expertise, value added, employment, quantity, and costs. Table 3.6 presents U.S. producers' and processors' reported narratives regarding these factors.

Table 3.6 Epoxy resins: U.S. producers' and U.S. processors' responses regarding domestic production operations, by factor

Factor	Firm name and narrative response on factor
Capital investments	***
Capital investments	***
Capital investments	***
Capital investments	***
Capital investments	***
Capital investments	***
Capital investments	***
Technical expertise	***

Factor	Firm name and narrative response on factor
Technical expertise	***
Technical expertise	***
Technical expertise	***
Technical expertise	***
Technical expertise	***
Technical expertise	***

Factor	Firm name and narrative response on factor
Value added	***
Value added	***
Value added	***
Value added	***
Value added	***
Value added	***
Value added	***
Employment	***
Employment	***

Factor	Firm name and narrative response on factor
Employment	***
Employment	***
Employment	***
Employment	***
Employment	***
Quantity, type, and source of parts	***
Quantity, type, and source of parts	***
Quantity, type, and source of parts	***
Quantity, type, and source of parts	***
Quantity, type, and source of parts	***
Quantity, type, and source of parts	***
Quantity, type, and source of parts	***
Quantity, type, and source of parts	***

Factor	Firm name and narrative response on factor
Costs and activities	***
Costs and activities	***
Costs and activities	***
Costs and activities	***
Costs and activities	***
Costs and activities	***
Costs and activities	***

Source: Compiled from data submitted in response to Commission questionnaires.

Table 3.7 summarizes U.S. producers' and U.S. processors' reported data on domestic epoxy resin operations by different financial and economic factors.

Table 3.7 Epoxy resins: U.S. producers' and U.S. processors' reported data on domestic production operations, by factor

Value noted in table; value added in percent; employment in average number of PRWs

Factor	3M - AASD (processor)	3M - EMD (processor)	Huntsman (processor)	Polytek (processor)	PPG (processor)	All processors
Capital investments: Greenfield	***	***	***	***	***	***
Capital investments: Assets	***	***	***	***	***	***
Capital investments: Capital expenditures	***	***	***	***	***	***
Technical expertise: R & D expenses	***	***	***	***	***	***
Value added	*** percent	*** percent	*** percent	*** percent	*** percent	*** percent
Employment	*** PRWs	*** PRWs	*** PRWs	*** PRWs	*** PRWs	*** PRWs
Quantity, type, and source of parts	Domestic epoxy resin: *** percent; Subject epoxy resin *** percent; Nonsubject epoxy resin *** percent; Other raw materials *** percent	Domestic epoxy resin: *** percent; Subject epoxy resin *** percent; Nonsubject epoxy resin *** percent; Other raw materials *** percent	Domestic epoxy resin: *** percent; Subject epoxy resin *** percent; Nonsubject epoxy resin *** percent; Other raw materials *** percent	Domestic epoxy resin: *** percent; Subject epoxy resin *** percent; Nonsubject epoxy resin *** percent; Other raw materials *** percent	Domestic epoxy resin: *** percent; Subject epoxy resin *** percent; Nonsubject epoxy resin *** percent; Other raw materials *** percent	Domestic epoxy resin: *** percent; Subject epoxy resin *** percent; Nonsubject epoxy resin *** percent; Other raw materials *** percent

Table continued.

Table 3.7 (Continued) Epoxy resins: U.S. producers' and U.S. processors' reported data on domestic production operations, by factor

Value noted in table; value added in percent; employment in average number of PRWs

Factor	Huntsman (producer)	Olin (producer)	Westlake (producer)	All producers
Capital investments: Greenfield	***	***	***	***
Capital investments: Assets	***	***	***	***
Capital investments: Capital expenditures	***	***	***	***
Technical expertise: R & D expenses	***	***	***	***
Value added	*** percent	*** percent	*** percent	*** percent
Employment	*** PRWs	*** PRWs	*** PRWs	*** PRWs
Quantity, type, and source of parts	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Greenfield refers to the investment that would be required to replicate a company's current operations if the plant(s) were constructed from scratch on greenfield land. Value added is calculated as the share of conversion costs (direct labor and other factory costs) out of total cost of goods sold (COGS). Quantity, type, and source of parts reflects 2023 data collected on raw materials by source for processors. For additional firm level data on responding processors, see appendix E. ***. Zeroes, null values, and undefined calculations are suppressed and shown as "—".

Note: Interim data is not presented as interim data was not collected for certain factors.

Table 3.8 presents U.S. producers' and processors' ratings and narratives regarding their subjective opinion as to the complexity, intensity, and importance of their epoxy resin operations conducted in the United States. On a scale of 1 to 5, with 1 being minimally complex, intense, or important and 5 being extremely complex, intense, or important, U.S. producers' average rating was a *** and U.S. processors' average rating was a ***.

Table 3.8 Epoxy resins: U.S. producers' and U.S. processors' reported complexity and importance of operations

Ratings of 1 are minimally complex, intense, or important; Ratings of 5 are extremely complex, intense, or important

Firm	Rating	Narrative response on complexity and importance rating
3M - AASD	***	***
3M - EMD	***	***
Huntsman	***	***

Firm	Rating	Narrative response on complexity and importance rating
Olin	***	***
Polytek	***	***
PPG	***	***
Westlake	***	***
U.S. producers average	***	NA
U.S. processors average	***	NA
All firms	4.6	NA

Source: Compiled from data submitted in response to Commission questionnaires.

U.S. producers' and processors' production, capacity, and capacity utilization

U.S. producers

Table 3.9 presents installed and practical overall capacity and production on the same equipment. Consistent with plant closures, shutdowns, and curtailments (as noted above), U.S. producers' capacity and production decreased across all metrics during January 2021 through September 2024. Practical overall capacity decreased by *** percent, from *** pounds in 2021 to *** pounds in 2023. It was lower by *** percent in interim 2024 compared with interim 2023. Practical overall production decreased by *** percent, from *** pounds in 2021 to *** pounds in 2023. It was lower by *** percent in interim 2024 compared with interim 2023.

Table 3.9 Epoxy resins: U.S. producers' installed and practical capacity, production, and utilization on the same equipment as subject production, by period

Capacity and production in 1,000 pounds; utilization in percent; interim period is January through September

Item	Measure	2021	2022	2023	Interim 2023	Interim 2024
Installed overall	Capacity	***	***	***	***	***
Installed overall	Production	***	***	***	***	***
Installed overall	Utilization	***	***	***	***	***
Practical overall	Capacity	***	***	***	***	***
Practical overall	Production	***	***	***	***	***
Practical overall	Utilization	***	***	***	***	***
Practical epoxy resins	Capacity	***	***	***	***	***
Practical epoxy resins	Production	***	***	***	***	***
Practical epoxy resins	Utilization	***	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "—".

Table 3.10 presents U.S. producers' reported narratives regarding practical capacity constraints. U.S. producers reported production bottlenecks, existing labor agreements, supply change issues, and unfairly traded imports as constraints to overall capacity.

Table 3.10 Epoxy resins: U.S. producers' reported constraints to practical overall capacity, since January 1, 2021

Item	Firm name and narrative response on constraints to practical overall capacity
Production bottlenecks	***
Existing labor force	***
Supply of material inputs	***
Other constraints	***

Source: Compiled from data submitted in response to Commission questionnaires.

Table 3.11 and figure 3.1 present U.S. producers' practical epoxy resins production, capacity, and capacity utilization. Capacity and production, and, consequently, capacity utilization declined during January 2021 through September 2024. Capacity, largely led by ***, decreased by *** percent from *** pounds in 2021 to *** pounds in 2023. It was lower by *** percent in interim 2024 compared with interim 2023. Production, largely due to curtailments as noted above, decreased by *** percent, from *** pounds in 2021 to *** pounds in 2023. It was lower by *** percent in interim 2024 compared with interim 2023. Capacity utilization irregularly decreased by *** percentage points from *** percent in 2021 to *** percent in 2023. It was lower by *** percentage point in interim 2024 compare with interim 2023.

Table 3.11 Epoxy resins: U.S. producers' output, by firm and period

Practical capacity

Capacity in 1,000 pounds; interim period is January through September

Firm	2021	2022	2023	Interim 2023	Interim 2024
Huntsman	***	***	***	***	***
Olin	***	***	***	***	***
Westlake	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table 3.11 (Continued) : U.S. producers' output, by firm and period

Production

Production in 1,000 pounds; interim period is January through September

Firm	2021	2022	2023	Interim 2023	Interim 2024
Huntsman	***	***	***	***	***
Olin	***	***	***	***	***
Westlake	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table 3.11 (Continued) Epoxy resins: U.S. producers' output, by firm and period

Capacity utilization

Capacity utilization ratios in percent; interim period is January through September

Firm	2021	2022	2023	Interim 2023	Interim 2024
Huntsman	***	***	***	***	***
Olin	***	***	***	***	***
Westlake	***	***	***	***	***
All firms	***	***	***	***	***

Note: Capacity utilization ratio represents the ratio of the U.S. producer's production to its production capacity.

Table continued.

Table 3.11 (Continued) Epoxy resins: U.S. producers' output, by firm and period

Share of production

Share of production in percent; interim period is January through September

Firm	2021	2022	2023	Interim 2023	Interim 2024
Huntsman	***	***	***	***	***
Olin	***	***	***	***	***
Westlake	***	***	***	***	***
All firms	100.0	100.0	100.0	100.0	100.0

Source: Compiled from data submitted in response to Commission questionnaires.

Figure 3.1 Epoxy resins U.S. producers' output, by period

* * * * *

Source: Compiled from data submitted in response to Commission questionnaires.

U.S. processors

Table 3.12 and figure 3.2 present U.S. processors' practical epoxy resins production, capacity, and capacity utilization.⁴ Capacity irregularly decreased by *** percent during 2021 through 2023, from *** pounds in 2021 up to *** pounds in 2022 before declining to *** pounds in 2023. It was lower by *** percent in interim 2024 compared with interim 2023. Production increased by *** percent from *** pounds in 2021 to *** pounds in 2023. However, it was lower by *** percent in interim 2024 compared with interim 2023. Despite decreasing capacity, increasing production resulted in capacity utilization increasing by *** percentage points from 2021 to 2023. It was higher by *** percentage points in interim 2024 compared with interim 2023.

Table 3.12 Epoxy resins: U.S. processors' output, by firm and period

Practical capacity

Capacity in 1,000 pounds; interim period is January through September

Firm	2021	2022	2023	Interim 2023	Interim 2024
3M - AASD	***	***	***	***	***
3M - EMD	***	***	***	***	***
Huntsman	***	***	***	***	***
Polytek	***	***	***	***	***
PPG	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table 3.12 (Continued) : U.S. processors' output, by firm and period

Production

Production in 1,000 pounds; interim period is January through September

Firm	2021	2022	2023	Interim 2023	Interim 2024
3M - AASD	***	***	***	***	***
3M - EMD	***	***	***	***	***
Huntsman	***	***	***	***	***
Polytek	***	***	***	***	***
PPG	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

⁴ For additional firm-level data on responding U.S. processors' processing operations, see appendix E.

Table 3.12 (Continued) Epoxy resins: U.S. processors' output, by firm and period**Capacity utilization**

Capacity utilization ratios in percent; interim period is January through September

Firm	2021	2022	2023	Interim 2023	Interim 2024
3M - AASD	***	***	***	***	***
3M - EMD	***	***	***	***	***
Huntsman	***	***	***	***	***
Polytek	***	***	***	***	***
PPG	***	***	***	***	***
All firms	***	***	***	***	***

Note: Capacity utilization ratio represents the ratio of the U.S. processor's production to its production capacity.

Table continued.

Table 3.12 (Continued) Epoxy resins: U.S. processors' output, by firm and period**Share of production**

Share of production in percent; interim period is January through September

Firm	2021	2022	2023	Interim 2023	Interim 2024
3M - AASD	***	***	***	***	***
3M - EMD	***	***	***	***	***
Huntsman	***	***	***	***	***
Polytek	***	***	***	***	***
PPG	***	***	***	***	***
All firms	100.0	100.0	100.0	100.0	100.0

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "—".

Figure 3.2 Epoxy resins: U.S. processors' output, by period

* * * * *

Source: Compiled from data submitted in response to Commission questionnaires.

U.S. processors are firms that import and/or purchase in-scope epoxy resins and processes them to produce additional in-scope epoxy resins. Table 3.13 presents U.S. processors' production of epoxy resins and the source input used to produce the in-scope merchandise.⁵ In each period examined, U.S. processors predominantly used epoxy resins purchased/imported from subject sources to produce their in-scope epoxy resins, followed by purchases from domestic suppliers and then purchases/imports from nonsubject sources. The share of production utilizing purchases/imports from subject sources to all other inputs ranged between *** percent (in interim 2024) and *** percent (in 2021).

Table 3.13 Epoxy resins: U.S. processors' processing, by input type and period

Quantity in 1,000 pounds; share in percent; interim period is January through September

Processing input	Measure	2021	2022	2023	Interim 2023	Interim 2024
Domestic	Quantity	***	***	***	***	***
Subject imports	Quantity	***	***	***	***	***
Nonsubject imports	Quantity	***	***	***	***	***
All imports	Quantity	***	***	***	***	***
All production	Quantity	***	***	***	***	***
Domestic	Share	***	***	***	***	***
Subject imports	Share	***	***	***	***	***
Nonsubject imports	Share	***	***	***	***	***
All imports	Share	***	***	***	***	***
All production	Share	100.0	100.0	100.0	100.0	100.0

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "—".

⁵ U.S. processors were asked to report the source input of the epoxy resins used to product the additional in-scope epoxy resins. U.S. processors were given three option to select from: (1) using epoxy resins purchased from domestic suppliers, (2) using epoxy resins purchased/imported from subject sources, and (3) using epoxy resins from purchased/imported nonsubject sources.

Alternative products

Two of three U.S. producers, ***, reported production of other products on the same equipment and machinery used to produce epoxy resins (table 3.14). *** reported these other products as *** and *** reported ***. The share of out-of-scope-production to all production on the same equipment ranged between *** percent (in interim 2023) and *** percent (in 2022).

Table 3.14 Epoxy resins: U.S. producers' overall production on the same equipment as in-scope production, by product type and period

Quantity in 1,000 pounds; share in percent; interim period is January through September

Product type	Measure	2021	2022	2023	Interim 2023	Interim 2024
Epoxy resins	Quantity	***	***	***	***	***
Other products	Quantity	***	***	***	***	***
All products	Quantity	***	***	***	***	***
Epoxy resins	Share	***	***	***	***	***
Other products	Share	***	***	***	***	***
All products	Share	100.0	100.0	100.0	100.0	100.0

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "—".

U.S. processors were asked to report on their epoxy resin processing operations, as noted (tables 3.12 and 3.13). In addition, U.S. processor we asked to report if they processed both in-scope epoxy resins and out-of-scope epoxy resins. Three of five processors, ***, reported in the affirmative.

U.S. producers' and processors' shipments and exports

U.S. producers

Tables 3.15 and 3.16 presents U.S. producers' U.S. shipments, export shipments, and total shipments. The majority of U.S. producers' shipments were U.S. commercial shipments.⁶ U.S. producers' U.S. shipments, by quantity, decreased by *** percent from *** pounds in 2021 to *** pounds in 2023. U.S. shipments, however, were higher by *** percent in interim 2024 compared with interim 2023.⁷

U.S. producers' exports, which ranged between *** percent and *** percent as share of total shipments during 2021 through 2023, decreased by *** percent from *** pounds in 2021 to *** pounds in 2023.⁸ Exports were lower by *** percent in interim 2024 compared with interim 2023.

Total shipments, consequently, followed the trend of declining U.S. shipments and exports, decreasing by *** percent from *** pounds in 2021 to *** pounds in 2023. Total shipments were lower by *** percent in interim 2024 compared with interim 2023.

⁶ *** reported transfers to related firms within U.S. shipments. As discussed in Part 6, *** reported transfers to related firms within ***, however these are ***. *** reported internal consumption. ***. Staff phone interview with ***. As a result, internal consumption is presented ***.

⁷ ***'s U.S. shipments declined in each period and were lower in interim 2024 compared with interim 2023; ***'s U.S. shipments also decreased by *** percent, from 2021 to 2022 and ***' U.S. shipments decreased by *** percent, from 2022 to 2023. Both ***'s U.S. shipments were higher in interim 2024 compared with interim 2023.

⁸ U.S. producers reported exports to ***. *** reported ***.

The average unit values for total shipments irregularly decreased by *** percent during 2021 through 2023, from \$*** per pound in 2021 up to \$*** per pound in 2022 before declining to \$*** per pound in 2023. The average unit values were also lower by *** percent in interim 2024 at \$*** per pound compared with interim 2023 at \$*** per pound.⁹

Table 3.15 Epoxy resins: U.S. producers' total shipments, by destination and period

Quantity in 1,000 pounds; value in 1,000 dollars; unit values in dollars per pound; shares in percent; interim period is January through September

Item	Measure	2021	2022	2023	Interim 2023	Interim 2024
U.S. shipments	Quantity	***	***	***	***	***
Export shipments	Quantity	***	***	***	***	***
Total shipments	Quantity	***	***	***	***	***
U.S. shipments	Value	***	***	***	***	***
Export shipments	Value	***	***	***	***	***
Total shipments	Value	***	***	***	***	***
U.S. shipments	Unit value	***	***	***	***	***
Export shipments	Unit value	***	***	***	***	***
Total shipments	Unit value	***	***	***	***	***
U.S. shipments	Share of quantity	***	***	***	***	***
Export shipments	Share of quantity	***	***	***	***	***
Total shipments	Share of quantity	100.0	100.0	100.0	100.0	100.0
U.S. shipments	Share of value	***	***	***	***	***
Export shipments	Share of value	***	***	***	***	***
Total shipments	Share of value	100.0	100.0	100.0	100.0	100.0

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "—".

⁹ Of the three producers, ***'s average unit values increased during 2021 through 2023 and were higher in interim 2024 compared with interim 2023. During the periods examined, ***'s average unit values were consistently the highest, while ***'s were consistently the lowest.

Table 3.16 Epoxy resins: U.S. producers' U.S. shipments, by type and period

Quantity in 1,000 pounds; value in 1,000 dollars; unit values in dollars per pound; interim period is January through September

Item	Measure	2021	2022	2023	Interim 2023	Interim 2024
Commercial U.S. shipments	Quantity	***	***	***	***	***
Internal consumption	Quantity	***	***	***	***	***
Transfers to related firms	Quantity	***	***	***	***	***
U.S. shipments	Quantity	***	***	***	***	***
Commercial U.S. shipments	Value	***	***	***	***	***
Internal consumption	Value	***	***	***	***	***
Transfers to related firms	Value	***	***	***	***	***
U.S. shipments	Value	***	***	***	***	***
Commercial U.S. shipments	Unit value	***	***	***	***	***
Internal consumption	Unit value	***	***	***	***	***
Transfers to related firms	Unit value	***	***	***	***	***
U.S. shipments	Unit value	***	***	***	***	***
Commercial U.S. shipments	Share of quantity	***	***	***	***	***
Internal consumption	Share of quantity	***	***	***	***	***
Transfers to related firms	Share of quantity	***	***	***	***	***
U.S. shipments	Share of quantity	100.0	100.0	100.0	100.0	100.0
Commercial U.S. shipments	Share of value	***	***	***	***	***
Internal consumption	Share of value	***	***	***	***	***
Transfers to related firms	Share of value	***	***	***	***	***
U.S. shipments	Share of value	100.0	100.0	100.0	100.0	100.0

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "—".

U.S. processors

Tables 3.17 and 3.18 presents U.S. processors' U.S. shipments, export shipments, and total shipments. The majority of U.S. processors' U.S. shipments were internally consumed.¹⁰ Internal consumption as a share of total U.S. shipments ranged between *** percent (in interim 2024) and *** percent (in 2021). Internal consumption, however, decreased by *** percent during 2021 through 2023, and was lower by *** percent in interim 2024 compared with interim 2023. Despite decreasing internal consumption, during 2021 through 2023, commercial shipments and transfer to related firms increased by *** percent and *** percent, respectively.¹¹ Consequently, total U.S. shipments also increased by *** percent, from *** pounds in 2021 to *** pounds in 2023. U.S. shipments were higher by *** percent in interim 2024 compared with interim 2023.

U.S. processors' exports as a share of total shipments ranged between *** percent (in interim 2023) and *** percent (in 2022).¹² Exports, largely led by ***, irregularly decreased by *** percent, from *** pounds in 2021 up to *** pounds in 2022 before declining to *** pounds in 2023. Exports were lower by *** percent in interim 2024 compared to interim 2024.

Total shipments, largely reflecting the trend with U.S. shipments, increased by *** percent, from *** pounds in 2021 to *** pounds in 2023. Total shipments were also higher by *** percent in interim 2024 compared with interim 2023.

The average unit values for total shipments, largely led by ***, increased by *** percent from \$*** per pound in 2021 to \$*** per pound in 2023. The average unit values, however, were lower by *** percent in interim 2024 at \$*** per pound compared with interim 2023 at \$*** per pound.

¹⁰ Three firms, ***, reported internal consumption. *** accounted for the vast majority of internal consumption. In 2023, ***'s share of internal consumption to total U.S. shipments accounted for *** percent.

¹¹ *** reported transfers to related firms.

¹² U.S. processors reported exports to ***.

Table 3.17 Epoxy resins: U.S. processors' total shipments, by destination and period

Quantity in 1,000 pounds; value in 1,000 dollars; unit values in dollars per pound; shares in percent; interim period is January through September

Item	Measure	2021	2022	2023	Interim 2023	Interim 2024
U.S. shipments	Quantity	***	***	***	***	***
Export shipments	Quantity	***	***	***	***	***
Total shipments	Quantity	***	***	***	***	***
U.S. shipments	Value	***	***	***	***	***
Export shipments	Value	***	***	***	***	***
Total shipments	Value	***	***	***	***	***
U.S. shipments	Unit value	***	***	***	***	***
Export shipments	Unit value	***	***	***	***	***
Total shipments	Unit value	***	***	***	***	***
U.S. shipments	Share of quantity	***	***	***	***	***
Export shipments	Share of quantity	***	***	***	***	***
Total shipments	Share of quantity	100.0	100.0	100.0	100.0	100.0
U.S. shipments	Share of value	***	***	***	***	***
Export shipments	Share of value	***	***	***	***	***
Total shipments	Share of value	100.0	100.0	100.0	100.0	100.0

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "—".

Table 3.18 Epoxy resins: U.S. processors' U.S. shipments, by type and period

Quantity in 1,000 pounds; value in 1,000 dollars; unit values in dollars per pound; interim period is January through September

Item	Measure	2021	2022	2023	Interim 2023	Interim 2024
Commercial U.S. shipments	Quantity	***	***	***	***	***
Internal consumption	Quantity	***	***	***	***	***
Transfers to related firms	Quantity	***	***	***	***	***
U.S. shipments	Quantity	***	***	***	***	***
Commercial U.S. shipments	Value	***	***	***	***	***
Internal consumption	Value	***	***	***	***	***
Transfers to related firms	Value	***	***	***	***	***
U.S. shipments	Value	***	***	***	***	***
Commercial U.S. shipments	Unit value	***	***	***	***	***
Internal consumption	Unit value	***	***	***	***	***
Transfers to related firms	Unit value	***	***	***	***	***
U.S. shipments	Unit value	***	***	***	***	***
Commercial U.S. shipments	Share of quantity	***	***	***	***	***
Internal consumption	Share of quantity	***	***	***	***	***
Transfers to related firms	Share of quantity	***	***	***	***	***
U.S. shipments	Share of quantity	100.0	100.0	100.0	100.0	100.0
Commercial U.S. shipments	Share of value	***	***	***	***	***
Internal consumption	Share of value	***	***	***	***	***
Transfers to related firms	Share of value	***	***	***	***	***
U.S. shipments	Share of value	100.0	100.0	100.0	100.0	100.0

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "—".

U.S. producers' and processors' U.S. shipments used in apparent consumption

Table 3.19 presents U.S. producers' and processors' U.S. shipments by quantity and value that are used to calculate apparent U.S. consumption. For further information on apparent U.S. consumption, see Part 4 and appendix C of this report.

Table 3.19 Epoxy resins: U.S. producers' and processors' U.S. shipments for use in apparent consumption, by period

Quantity in 1,000 pounds; value in 1,000 dollars; interim period is January through September

Item	Measure	2021	2022	2023	Interim 2023	Interim 2024
U.S. producers	Quantity	***	***	***	***	***
U.S. producers	Value	***	***	***	***	***
U.S. processors: value added to domestic	Value	***	***	***	***	***
U.S. producers and processors: fully domestic	Value	***	***	***	***	***
U.S. processors: valued added to imports	Value	***	***	***	***	***
U.S. producers and processors: Total	Value	***	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Quantity for U.S. shipments reflects only producers' U.S. shipment quantities. Value for U.S. shipments reflects epoxy resins sold in the United States from domestically manufactured epoxy resins (including the value added by U.S. processors to domestic epoxy resin), as well as the incremental value added by U.S. processors to imported epoxy resins. In measuring consumption and market share this methodology avoids reclassifying and/or double counting merchandise already reported as an import. Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "—".

Captive consumption

Section 771(7)(C)(iv) of the Act states that—¹³

If domestic producers internally transfer significant production of the domestic like product for the production of a downstream article and sell significant production of the domestic like product in the merchant market, and the Commission finds that—

- (I) the domestic like product produced that is internally transferred for processing into that downstream article does not enter the merchant market for the domestic like product,*
- (II) the domestic like product is the predominant material input in the production of that downstream article, and*
- (III) then the Commission, in determining market share and the factors affecting financial performance . . . , shall focus primarily on the merchant market for the domestic like product.*

Transfers and sales

As reported in table 3.16 above, internal consumption accounted for between *** percent (interim 2024) and *** percent (2021) of the quantity of U.S. producers' U.S. shipments of epoxy resins during the periods examined, while *** transfers to related firms within the U.S. producers' U.S. shipments of epoxy resins.¹⁴

As reported in table 3.18 above, internal consumption accounted for between *** percent (interim 2024) and *** percent (2021) of the quantity of U.S. processors' U.S. shipments of epoxy resins during the periods examined, while transfers to related firms accounted for between *** percent (interim 2024) and *** percent (2021).

¹³ Amended by PL 114-27 (as signed, June 29, 2015), Trade Preferences Extension Act of 2015.

¹⁴ As noted above, *** reported internal consumption shipments ***. Staff phone interview with ***. As a result, internal consumption is presented ***.

First statutory criterion in captive consumption

The first requirement for application of the captive consumption provision is that the domestic like product that is internally transferred for processing into that downstream article not enter the merchant market for the domestic like product. U.S. producers and processors reported that *** internal consumption and transfers to related firms are ***. *** U.S. producer or processor reported diverting *** the internally consumed or transferred epoxy resins to the merchant market (see appendix G).

Second statutory criterion in captive consumption

The second criterion of the captive consumption provision concerns whether the domestic like product is the predominant material input in the production of the downstream article that is captively produced. With respect to the downstream articles resulting from captive production, epoxy resins reportedly comprise *** percent of the finished cost of downstream products by quantity and *** percent by value (see appendix G).

U.S. producers' and processors' inventories

U.S. producers

Table 3.20 presents U.S. producers' end-of-period inventories and the ratio of these inventories to U.S. producers' production, U.S. shipments, and total shipments. Inventories decreased by *** percent from *** pounds in 2021 to *** pounds in 2023. Inventories in interim 2023 at *** pounds were the highest among all periods examined.¹⁵ Inventories, however, were lower by *** percent in interim 2024 compared with interim 2023. Despite decreasing inventories, as well as decreasing production and shipments as noted above, the ratio of inventories to production and the ratio of inventories to total shipments increased by *** and *** percentage points, respectively, during 2021 through 2023. However, because of relative high inventories during January to September 2023, all inventory ratios were lower in interim 2024 compared with interim 2023.

Table 3.20 Epoxy resins: U.S. producers' inventories and their ratio to select items, by period

Quantity in 1,000 pounds; ratios in percent; interim period is January through September

Item	2021	2022	2023	Interim 2023	Interim 2024
End-of-period inventory quantity	***	***	***	***	***
Inventory ratio to U.S. production	***	***	***	***	***
Inventory ratio to U.S. shipments	***	***	***	***	***
Inventory ratio to total shipments	***	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "—".

¹⁵ *** reported that ***. *** reported that ***.

U.S. processors

Table 3.21 presents U.S. processors' end-of-period inventories and the ratio of these inventories to U.S. processors' production, U.S. shipments, and total shipments. Inventories, largely led by ***, increased by *** percent from *** pounds in 2021 to *** pounds in 2023. Inventories in interim 2023 at *** pounds were the highest among all periods examined. Inventories, however, were lower by *** percent in interim 2024 compared with interim 2023. Increasing inventories combined with increasing production and total shipments (as noted above) resulted, consequently, in increasing inventory to production and inventory to total shipments ratios during 2021 through 2023. However, because of relative high inventories during January to September 2023, all inventory ratios were lower in interim 2024 compared with interim 2023.

Table 3.21 Epoxy resins: U.S. processors' inventories and their ratio to select items, by period

Quantity in 1,000 pounds; ratios in percent; interim period is January through September

Item	2021	2022	2023	Interim 2023	Interim 2024
End-of-period inventory quantity	***	***	***	***	***
Inventory ratio to U.S. production	***	***	***	***	***
Inventory ratio to U.S. shipments	***	***	***	***	***
Inventory ratio to total shipments	***	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "—".

U.S. producers' imports from subject sources

*** reported imports of epoxy resins from subject sources. Tables 3.22 through 3.24 present U.S. producers' U.S. production, imports of epoxy resins, and ratio of their subject imports to domestic production.¹⁶ Table 3.25 presents U.S. producers' narrative reasons for importing epoxy resins.

Table 3.22 Epoxy resins: *'s U.S. production, U.S. imports from subject sources, and ratio of subject imports to production, by period**

Quantity in 1,000 pounds; ratios in percent; interim period is January through September

Item	Measure	2021	2022	2023	Interim 2023	Interim 2024
U.S. production	Quantity	***	***	***	***	***
Imports from ***	Quantity	***	***	***	***	***
Imports from ***	Quantity	***	***	***	***	***
Imports from ***	Quantity	***	***	***	***	***
Imports from ***	Quantity	***	***	***	***	***
Subject sources	Quantity	***	***	***	***	***
Subject sources less ***	Quantity	***	***	***	***	***
Imports from *** to U.S. production	Ratio	***	***	***	***	***
Imports from *** to U.S. production	Ratio	***	***	***	***	***
Imports from *** to U.S. production	Ratio	***	***	***	***	***
Imports from *** to U.S. production	Ratio	***	***	***	***	***
Imports from subject sources to U.S. production	Ratio	***	***	***	***	***
Imports from subject sources less *** to U.S. production	Ratio	***	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "—".

¹⁶ For U.S. processors' U.S. imports from subject sources, see appendix E.

Table 3.23 Epoxy resins: *'s U.S. production, U.S. imports from subject sources, and ratio of subject imports to production, by period**

Quantity in 1,000 pounds; ratios in percent; interim period is January through September

Item	Measure	2021	2022	2023	Interim 2023	Interim 2024
U.S. production	Quantity	***	***	***	***	***
Imports from ***	Quantity	***	***	***	***	***
Imports from ***	Quantity	***	***	***	***	***
Imports from ***	Quantity	***	***	***	***	***
Subject sources	Quantity	***	***	***	***	***
Imports from *** to U.S. production	Ratio	***	***	***	***	***
Imports from *** to U.S. production	Ratio	***	***	***	***	***
Imports from *** to U.S. production	Ratio	***	***	***	***	***
Imports from subject sources to U.S. production	Ratio	***	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "—".

Table 3.24 Epoxy resins: *'s U.S. production, U.S. imports from subject sources, and ratio of subject imports to production, by period**

Quantity in 1,000 pounds; ratios in percent; interim period is January through September

Item	Measure	2021	2022	2023	Interim 2023	Interim 2024
U.S. production	Quantity	***	***	***	***	***
Imports from ***	Quantity	***	***	***	***	***
Imports from *** to U.S. production	Ratio	***	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "—".

Table 3.25 Epoxy resins: U.S. producers' reasons for imports, by firm

Item	Narrative response on reasons for importing
***'s reason for importing	***
***'s reason for importing	***
***'s reason for importing	***

Source: Compiled from data submitted in response to Commission questionnaires.

U.S. producers' purchases of imports from subject sources

U.S. producer *** reported purchasing subject merchandise from ***, which is a U.S. importer of epoxy resins from ***. Table 3.26 presents ***'s purchases and the ratio of those purchases to ***'s imports.^{17 18}

Table 3.26 Epoxy resins: *'s U.S. purchases of subject merchandise and select ratio, by period**

Quantity in 1,000 pounds; ratios in percent; interim period is January through September

Item	Measure	2021	2022	2023	Interim 2023	Interim 2024
U.S. purchases of imports from *** imported by ***	Quantity	***	***	***	***	***
U.S. importer ***'s imports from ***	Quantity	***	***	***	***	***
***'s U.S. purchases of imports from *** to U.S. importer ***'s imports from ***	Ratio	***	***	***	***	***
Overall U.S. imports from ***	Quantity	***	***	***	***	***
U.S. importer ***'s imports from *** to overall U.S. imports from ***	Ratio	***	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "—".

¹⁷ *** are presented in appendix E.

¹⁸ U.S. producer, ***, also reported purchases of epoxy resins from other domestic sources. *** reported domestic purchases ***.

U.S. producers' and processors' employment, wages, and productivity

U.S. producers

Table 3.27 presents U.S. producers' employment-related data. During 2021 through 2023, the number of production and related workers (PRWs) decreased. The decline was specifically attributable to ***, which reported decreases (from *** PRWs in 2021 to *** PRWs in 2023) due to a combination of plant closures and declining demand. All three U.S. producers, however, reported lower numbers of PRWs in interim 2024 compared with interim 2023. *** attributed their decreases to downsizing auxiliary positions in customer service, marketing, sales, and research and development. Despite the decrease in PRWs, the hours worked per PRW increased during 2021 through 2023, and was higher in interim 2024 compared with interim 2023. Total wages paid and hourly wages paid to PRWs both decreased during 2021 through 2023, but were higher in interim 2024 compared with interim 2023.¹⁹ Productivity, following trends in declining production and total hours worked, also decreased during 2021 through 2023, and it was lower in interim 2024 compared with interim 2023.

Table 3.27 Epoxy resins: U.S. producers' employment related information, by item and period

Item	2021	2022	2023	Interim 2023	Interim 2024
Production and related workers (PRWs) (number)	***	***	***	***	***
Total hours worked (1,000 hours)	***	***	***	***	***
Hours worked per PRW (hours)	***	***	***	***	***
Wages paid (\$1,000)	***	***	***	***	***
Hourly wages (dollars per hour)	***	***	***	***	***
Productivity (pounds per hour)	***	***	***	***	***
Unit labor costs (dollars per pound)	***	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires.

¹⁹ Wage trends between interim periods were largely led by ***.

U.S processors

Table 3.28 presents U.S. processors' employment-related data. Three of five processors reported a decrease in the number of PRWs during 2021 through 2023. However, ***, the processor with the most PRWs, reported increases during the period investigation and, consequently, drove employment trends among processors.²⁰ Total wages paid and hourly wages paid to PRWs both increased during 2021 through 2023, and were higher in interim 2024 compare with interim 2023. Productivity, following trends in increasing production and total hours worked, also increased during 2021 through 2023, and was it was higher in interim 2024 compared with interim 2023.

Table 3.28 Epoxy resins: U.S. processors' employment related information, by item and period

Item	2021	2022	2023	Interim 2023	Interim 2024
Production and related workers (PRWs) (number)	***	***	***	***	***
Total hours worked (1,000 hours)	***	***	***	***	***
Hours worked per PRW (hours)	***	***	***	***	***
Wages paid (\$1,000)	***	***	***	***	***
Hourly wages (dollars per hour)	***	***	***	***	***
Productivity (pounds per hour)	***	***	***	***	***
Unit labor costs (dollars per pound)	***	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires.

²⁰ ***.

U.S. producers and processors

Table 3.29 presents U.S. producers' and processors' combined employment-related data. In aggregate, the number of PRWs decrease during 2021 through 2023, and the number was lower in interim 2024 compared with interim 2023. All other metrics, total hours worked, hours worked per PRW, total wages paid, and hourly wages to paid to PRWs increased during 2021 through 2023. Interim period data was mixed. Total hours worked and hours worked per PRW were lower in interim 2024 compare with interim 2023, while total wages and hourly wages paid to PRWs were higher in interim 2024 compared with interim 2023.

Table 3.29 Epoxy resins: U.S. producers' and processors' combined employment related information, by item and period

Item	2021	2022	2023	Interim 2023	Interim 2024
Production and related workers (PRWs) (number)	***	***	***	***	***
Total hours worked (1,000 hours)	***	***	***	***	***
Hours worked per PRW (hours)	***	***	***	***	***
Wages paid (\$1,000)	***	***	***	***	***
Hourly wages (dollars per hour)	***	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires.

Part 4: U.S. imports, apparent U.S. consumption, and market shares

U.S. importers

The Commission issued importer questionnaires to 83 firms believed to be importers of epoxy resins, as well as to all known U.S. producers and processors of epoxy resins.¹ The Commission received 37 questionnaire responses from firms which import epoxy resins into the United States.² The responding firms' imports accounted for the majority of epoxy resin imports from subject and nonsubject sources in 2023.³ ⁴ In light of the coverage, U.S. import data and related information are based on the response of U.S. importers and adjusted Commerce official import statistics for HTSUS 3907.30.0000, the primary statistical reporting number for epoxy resins. Table 4.1 lists all responding U.S. importers of epoxy resins from subject and nonsubject sources, their headquarters, and their shares of U.S. imports in 2023.⁵

¹ The Commission issued questionnaires to those firms identified in the petitions; party briefs; staff research; and proprietary, Census-edited Customs' import records.

² The Commission also received questionnaire responses from seven firms which reported that they did not import subject epoxy resins into the United States since January 1, 2021. These firms include: ***.

³ Adjusted official U.S. imports statistics for HTSUS statistical reporting number 3907.30.0000 (table 4.2) show that 186.9 million pounds of epoxy resins from subject sources entered the United States in 2023. Firms responding to the U.S. importer questionnaire reported that they entered a total of *** pounds of epoxy resins from subject sources into the United States in 2023. Consequently, responding importers accounted for *** percent of subject imports in 2023. At the subject country-level, using the same coverage calculation methodology as above, in 2023, responding importers accounted for *** percent of imports from China, *** percent from India, *** percent from South Korea, *** percent from Taiwan, and *** percent from Thailand.

⁴ Adjusted official U.S. imports statistics for HTSUS statistical reporting number 3907.30.0000 (table 4.2) show that 79.4 million pounds of epoxy resins from nonsubject sources entered the United States in 2023. Firms responding to the U.S. importer questionnaire reported that they entered a total of *** pounds of epoxy resins from nonsubject sources into the United States in 2023. Consequently, responding importers accounted for *** percent of nonsubject imports in 2023.

⁵ As discussed in Part 1 of this report, in its final determinations, Commerce revised the scope of the investigations with additional language to exclude tetramethyl bisphenol F diglycidyl ether epoxy resin. This change was made after the Commission had issued its final-phase questionnaires. Consequently, on April 4, 2025, Commission staff contacted all responding 37 U.S. importers to inquire if the data they had reported included imports of the newly excluded epoxy resin. Twenty-eight firms, representing approximately *** percent of total subject merchandise imports in 2023, provided a response. Of the 28 responding firms, *** reported importing the excluded product, specifically from ***. Import data of the excluded product have been removed from this report.

Table 4.1 Epoxy resins: U.S. importers, their headquarters, and share of total imports within a given source by firm, 2023 Share in percent

Firm	Headquarters	China	India	South Korea	Taiwan	Thailand
3M	Saint Paul, MN	***	***	***	***	***
Aditya	Florence, KY	***	***	***	***	***
AOC	Collierville, TN	***	***	***	***	***
Atul USA	Charlotte, NC	***	***	***	***	***
BASF	Florham Park, NJ	***	***	***	***	***
Cardolite	Bristol, PA	***	***	***	***	***
Chang Chun	Wexford, PA	***	***	***	***	***
Chemoil	Seoul, KO	***	***	***	***	***
CMP Coatings	Belle Chasse, LA	***	***	***	***	***
Composites One	Schaumburg, IL	***	***	***	***	***
Copps	Mequon, WI	***	***	***	***	***
Dorsett & Jackson	Los Angeles, CA	***	***	***	***	***
Dupont	Wilmington, DE	***	***	***	***	***
EMCO	Pleasant Prairie, WI	***	***	***	***	***
Evonik	Trexlerstown, PA	***	***	***	***	***
Hempel	Conroe, TX	***	***	***	***	***
Huntsman	The Woodlands, TX	***	***	***	***	***
ICC	New York, NY	***	***	***	***	***
INEOS	League City, TX	***	***	***	***	***
Innovative Resin	Newark, NJ	***	***	***	***	***
InterAtlas	St. Catharines, ON	***	***	***	***	***
International Paint	Nashville, TN	***	***	***	***	***
Kaneka	Houston, TX	***	***	***	***	***
KPB	Seoul, KO	***	***	***	***	***
Kukdo	Suwanee, GA	***	***	***	***	***
Labsurface	Mascouche, QC	***	***	***	***	***
Master Bond	Hackensack, NJ	***	***	***	***	***
Olin	Clayton, MO	***	***	***	***	***
PPG	Pittsburgh, PA	***	***	***	***	***
Redox	Lakewood, CA	***	***	***	***	***
Royce	East Rutherford, NJ	***	***	***	***	***
Sherwin-Williams	Cleveland, OH	***	***	***	***	***
Simpson Strong	Pleasanton, CA	***	***	***	***	***
Tight Line	Earth City, MO	***	***	***	***	***
Vestas	Windsor, CO	***	***	***	***	***
Westlake	Houston, TX	***	***	***	***	***
Whitaker	Atlanta, GA	***	***	***	***	***
All firms	Various	100.0	100.0	100.0	100.0	100.0

Table continued.

Table 4.1 (Continued) Epoxy resins: U.S. importers, their headquarters, and share of total imports within a given source by firm, 2023

Shares in percent

Firm	Headquarters	Subject sources	Nonsubject sources	All import sources
3M	Saint Paul, MN	***	***	***
Aditya	Florence, KY	***	***	***
AOC	Collierville, TN	***	***	***
Atul USA	Charlotte, NC	***	***	***
BASF	Florham Park, NJ	***	***	***
Cardolite	Bristol, PA	***	***	***
Chang Chun	Wexford, PA	***	***	***
Chemoil	Seoul, KO	***	***	***
CMP Coatings	Belle Chasse, LA	***	***	***
Composites One	Schaumburg, IL	***	***	***
Copps	Mequon, WI	***	***	***
Dorsett & Jackson	Los Angeles, CA	***	***	***
Dupont	Wilmington, DE	***	***	***
EMCO	Pleasant Prairie, WI	***	***	***
Evonik	Trexlerstown, PA	***	***	***
Hempel	Conroe, TX	***	***	***
Huntsman	The Woodlands, TX	***	***	***
ICC	New York, NY	***	***	***
INEOS	League City, TX	***	***	***
Innovative Resin	Newark, NJ	***	***	***
InterAtlas	St. Catharines, ON	***	***	***
International Paint	Nashville, TN	***	***	***
Kaneka	Houston, TX	***	***	***
KPB	Seoul, KO	***	***	***
Kukdo	Suwanee, GA	***	***	***
Labsurface	Mascouche, QC	***	***	***
Master Bond	Hackensack, NJ	***	***	***
Olin	Clayton, MO	***	***	***
PPG	Pittsburgh, PA	***	***	***
Redox	Lakewood, CA	***	***	***
Royce	East Rutherford, NJ	***	***	***
Sherwin-Williams	Cleveland, OH	***	***	***
Simpson Strong	Pleasanton, CA	***	***	***
Tight Line	Earth City, MO	***	***	***
Vestas	Windsor, CO	***	***	***
Westlake	Houston, TX	***	***	***
Whitaker	Atlanta, GA	***	***	***
All firms	Various	100.0	100.0	100.0

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "—".

U.S. imports

Table 4.2 and figure 4.1 present data for U.S. imports of epoxy resins from subject and nonsubject sources during January 1, 2021 through September 30, 2024, and table 4.3 presents changes in U.S. imports between periods.

During the period of investigation, U.S. imports of epoxy resins from subject sources decreased irregularly from 191.1 million pounds in 2021 up to 235.4 million pounds in 2022 before declining to 186.9 million pounds in 2023. Subject imports were lower in interim 2024 at 142.4 million pounds compared with interim 2023 at 150.5 million pounds. U.S. imports of epoxy resins from South Korea were the leading driver of import trends, as South Korea accounted for between *** and *** percent of total imports during the periods examined. Although imports from subject India, Taiwan, and Thailand increased from 2021 to 2023, imports from South Korea, as well as imports from China, declined, resulting in a decrease of subject imports by 2.2 percent during 2021 through 2023. Interim period data for each specific subject country was mixed; however, imports from subject sources combined were lower by 5.4 percent in interim 2024 compared with interim 2023.

U.S. imports of epoxy resins from nonsubject sources also decrease irregularly by 12.7 percent during 2021 through 2023 but were higher by 19.3 percent in interim 2024 compared with interim 2023. Similarly, following this trend, U.S. imports of epoxy resins from all sources combined irregularly decreased by 5.6 percent during 2021 through 2023 but were higher by 1.6 percent in interim 2024 compared with interim 2023.

The decrease in U.S. imports from all sources compared to the decrease in U.S. production, as discussed in Part 3 of this report, was relatively tempered. As a result, the ratio of imports to production increased during 2021 through 2023, from *** percent in 2021 to *** percent in 2023. The ratio was higher in interim 2024 at *** percent compared with interim 2023 at *** percent.

The average unit value (“AUV”) of imports from subject sources decreased by 29.3 percent during 2021 through 2023, from \$2.36 per pound in 2021 to \$1.67 per pound in 2023. The AUVs for imports from subject sources were also lower by 13.5 percent in interim 2024 at \$1.50 per pound compared with interim 2023 at \$1.74 per pound. Conversely, the AUVs of imports from nonsubject sources increased by 28.1 percent from \$2.98 per pound in 2021 to \$3.82 per pound in 2023. The AUVs of imports from nonsubject sources, however, were lower by 12.8 percent in interim 2024 at \$3.41 per pound compared with interim 2023 at \$3.92 per pound.

Table 4.2 Epoxy resins: U.S. imports, by source and period Quantity in 1,000 pounds; value in 1,000 dollars; unit values in dollars per pound; interim period is January through September

Source	Measure	2021	2022	2023	Interim 2023	Interim 2024
China	Quantity	***	***	***	***	***
India	Quantity	***	***	***	***	***
South Korea	Quantity	***	***	***	***	***
Taiwan	Quantity	***	***	***	***	***
Thailand	Quantity	***	***	***	***	***
Subject sources	Quantity	191,146	235,393	186,859	150,539	142,438
Subject sources less China and India	Quantity	179,850	222,429	176,821	141,886	135,253
Nonsubject sources	Quantity	90,962	96,688	79,407	59,517	70,976
Nonsubject sources plus China and India	Quantity	102,257	109,651	89,446	68,169	78,160
All import sources	Quantity	282,107	332,081	266,266	210,056	213,414
China	Value	***	***	***	***	***
India	Value	***	***	***	***	***
South Korea	Value	***	***	***	***	***
Taiwan	Value	***	***	***	***	***
Thailand	Value	***	***	***	***	***
Subject sources	Value	451,705	634,939	311,979	261,283	213,794
Subject sources less China and India	Value	421,496	600,537	292,117	245,099	201,387
Nonsubject sources	Value	271,434	357,428	303,463	233,038	242,337
Nonsubject sources plus China and India	Value	301,643	391,830	323,325	249,223	254,744
All import sources	Value	723,139	992,367	615,442	494,321	456,132
China	Unit value	***	***	***	***	***
India	Unit value	***	***	***	***	***
South Korea	Unit value	***	***	***	***	***
Taiwan	Unit value	***	***	***	***	***
Thailand	Unit value	***	***	***	***	***
Subject sources	Unit value	2.36	2.70	1.67	1.74	1.50
Subject sources less China and India	Unit value	2.34	2.70	1.65	1.73	1.49
Nonsubject sources	Unit value	2.98	3.70	3.82	3.92	3.41
Nonsubject sources plus China and India	Unit value	2.95	3.57	3.61	3.66	3.26
All import sources	Unit value	2.56	2.99	2.31	2.35	2.14

Table continued.

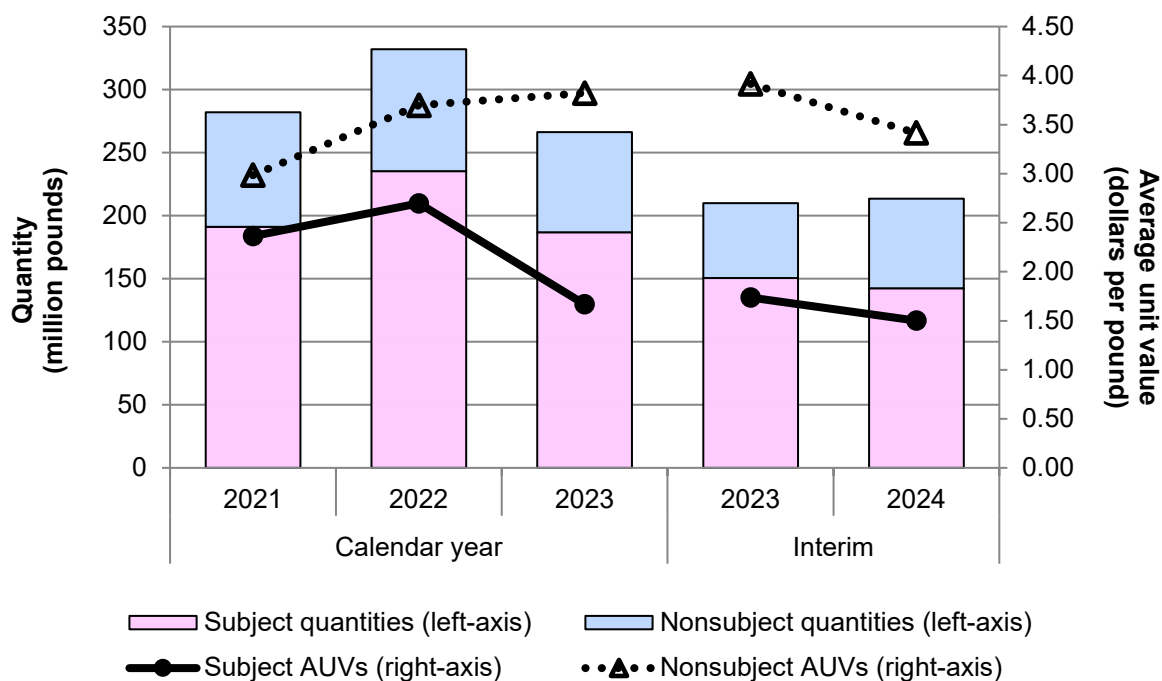
Table 4.2 (Continued) Epoxy resins: U.S. imports, by source and period Share and ratio in percent; ratio represents the ratio to U.S. producers' production; interim period is January through September

Source	Measure	2021	2022	2023	Interim 2023	Interim 2024
China	Share of quantity	***	***	***	***	***
India	Share of quantity	***	***	***	***	***
South Korea	Share of quantity	***	***	***	***	***
Taiwan	Share of quantity	***	***	***	***	***
Thailand	Share of quantity	***	***	***	***	***
Subject sources	Share of quantity	67.8	70.9	70.2	71.7	66.7
Subject sources less China and India	Share of quantity	63.8	67.0	66.4	67.5	63.4
Nonsubject sources	Share of quantity	32.2	29.1	29.8	28.3	33.3
Nonsubject sources plus China and India	Share of quantity	36.2	33.0	33.6	32.5	36.6
All import sources	Share of quantity	100.0	100.0	100.0	100.0	100.0
China	Share of value	***	***	***	***	***
India	Share of value	***	***	***	***	***
South Korea	Share of value	***	***	***	***	***
Taiwan	Share of value	***	***	***	***	***
Thailand	Share of value	***	***	***	***	***
Subject sources	Share of value	62.5	64.0	50.7	52.9	46.9
Subject sources less China and India	Share of value	58.3	60.5	47.5	49.6	44.2
Nonsubject sources	Share of value	37.5	36.0	49.3	47.1	53.1
Nonsubject sources plus China and India	Share of value	41.7	39.5	52.5	50.4	55.8
All import sources	Share of value	100.0	100.0	100.0	100.0	100.0
China	Ratio	***	***	***	***	***
India	Ratio	***	***	***	***	***
South Korea	Ratio	***	***	***	***	***
Taiwan	Ratio	***	***	***	***	***
Thailand	Ratio	***	***	***	***	***
Subject sources	Ratio	***	***	***	***	***
Subject sources less China and India	Ratio	***	***	***	***	***
Nonsubject sources	Ratio	***	***	***	***	***
Nonsubject sources plus China and India	Ratio	***	***	***	***	***
All import sources	Ratio	***	***	***	***	***

Source: Adjusted official U.S. imports statistics of the U.S. Department of Commerce Census Bureau using HTS statistical reporting number 3907.30.0000, accessed December 30, 2024. Official U.S. imports statistics were adjusted to add in epoxy resins imported under other HTS statistical reporting numbers as reported in responses to commission questionnaires, as well as to remove out-of-scope products imported under the primary HTS number for epoxy resins as reported as responses to commission questionnaires. Import data are based on the imports for consumption data series, and values are landed, duty-paid values.

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "—".

Figure 4.1 Epoxy resins: U.S. import quantities and average unit values, by source and period



Source: Adjusted official U.S. imports statistics of the U.S. Department of Commerce Census Bureau using HTS statistical reporting number 3907.30.0000, accessed December 30, 2024. Official U.S. imports statistics were adjusted to add in epoxy resins imported under other HTS statistical reporting numbers as reported in responses to commission questionnaires, as well as to remove out-of-scope products imported under the primary HTS number for epoxy resins as reported as responses to commission questionnaires. Import data are based on the imports for consumption data series, and values are landed, duty-paid values.

Table 4.3 Epoxy resins: Changes in U.S. imports, by source and period

Changes (Δ) in percent (%); interim period is January through September

Source	Measure	2021 to 2023	2021 to 2022	2022 to 2023	Interim 2023 to 2024
China	%Δ Quantity	▼***	▼***	▼***	▼***
India	%Δ Quantity	▲***	▲***	▼***	▲***
South Korea	%Δ Quantity	▼***	▲***	▼***	▲***
Taiwan	%Δ Quantity	▲***	▲***	▲***	▼***
Thailand	%Δ Quantity	▲***	▼***	▲***	▲***
Subject sources	%Δ Quantity	▼(2.2)	▲23.1	▼(20.6)	▼(5.4)
Subject sources less China and India	%Δ Quantity	▼(1.7)	▲23.7	▼(20.5)	▼(4.7)
Nonsubject sources	%Δ Quantity	▼(12.7)	▲6.3	▼(17.9)	▲19.3
Nonsubject sources plus China and India	%Δ Quantity	▼(12.5)	▲7.2	▼(18.4)	▲14.7
All import sources	%Δ Quantity	▼(5.6)	▲17.7	▼(19.8)	▲1.6
China	%Δ Value	▼***	▼***	▼***	▼***
India	%Δ Value	▲***	▲***	▼***	▼***
South Korea	%Δ Value	▼***	▲***	▼***	▼***
Taiwan	%Δ Value	▲***	▲***	▼***	▼***
Thailand	%Δ Value	▼***	▲***	▼***	▲***
Subject sources	%Δ Value	▼(30.9)	▲40.6	▼(50.9)	▼(18.2)
Subject sources less China and India	%Δ Value	▼(30.7)	▲42.5	▼(51.4)	▼(17.8)
Nonsubject sources	%Δ Value	▲11.8	▲31.7	▼(15.1)	▲4.0
Nonsubject sources plus China and India	%Δ Value	▲7.2	▲29.9	▼(17.5)	▲2.2
All import sources	%Δ Value	▼(14.9)	▲37.2	▼(38.0)	▼(7.7)
China	%Δ Unit value	▼***	▼***	▼***	▼***
India	%Δ Unit value	▼***	▲***	▼***	▼***
South Korea	%Δ Unit value	▼***	▲***	▼***	▼***
Taiwan	%Δ Unit value	▼***	▼***	▼***	▼***
Thailand	%Δ Unit value	▼***	▲***	▼***	▼***
Subject sources	%Δ Unit value	▼(29.3)	▲14.1	▼(38.1)	▼(13.5)
Subject sources less China and India	%Δ Unit value	▼(29.5)	▲15.2	▼(38.8)	▼(13.8)
Nonsubject sources	%Δ Unit value	▲28.1	▲23.9	▲3.4	▼(12.8)
Nonsubject sources plus China and India	%Δ Unit value	▲22.5	▲21.1	▲1.2	▼(10.9)
All import sources	%Δ Unit value	▼(9.8)	▲16.6	▼(22.7)	▼(9.2)

Source: Adjusted official U.S. imports statistics of the U.S. Department of Commerce Census Bureau using HTS statistical reporting number 3907.30.0000, accessed December 30, 2024. Official U.S. imports statistics were adjusted to add in epoxy resins imported under other HTS statistical reporting numbers as reported in responses to commission questionnaires, as well as to remove out-of-scope products imported under the primary HTS number for epoxy resins as reported as responses to commission questionnaires. Import data are based on the imports for consumption data series, and values are landed, duty-paid values.

Note: Shares and ratios shown as “0.0” percent represent non-zero values less than “0.05” percent (if positive) and greater than “(0.05)” percent (if negative). Zeroes, null values, and undefined calculations are suppressed and shown as “—”. Period changes preceded by a “▲” represent an increase, while period changes preceded by a “▼” represent a decrease.

U.S. producers' imports

As discussed in Part 3 of this report, several U.S. producers and processors are also importers of epoxy resins. Table 4.4 and table 4.5 present U.S. producers' and processors' imports, respectively, of epoxy resins from subject and nonsubject sources during January 2021 through September 2024.⁶ The ratio of U.S. producers' subject imports to all subject source imports was less than 3.0 percent in any period examined, while the ratio of U.S. processors' subject imports to all subject source imports was less than 5.5 percent.

Table 4.4 Epoxy resins: U.S. producers' and their affiliates' U.S. imports, by source and period

Quantity in 1,000 pounds; ratios in percent; interim period is January through September

Source	Measure	2021	2022	2023	Interim 2023	Interim 2024
China	Quantity	***	***	***	***	***
India	Quantity	***	***	***	***	***
South Korea	Quantity	***	***	***	***	***
Taiwan	Quantity	***	***	***	***	***
Thailand	Quantity	***	***	***	***	***
Subject sources	Quantity	2,048	6,863	1,974	1,806	2,607
Subject sources less China and India	Quantity	1,764	5,067	1,733	1,585	2,482
Nonsubject sources	Quantity	42,106	38,833	34,247	26,299	29,880
Nonsubject sources plus China and India	Quantity	42,390	40,629	34,488	26,520	30,005
All import sources	Quantity	44,154	45,696	36,221	28,105	32,487
China	Ratio	***	***	***	***	***
India	Ratio	***	***	***	***	***
South Korea	Ratio	***	***	***	***	***
Taiwan	Ratio	***	***	***	***	***
Thailand	Ratio	***	***	***	***	***
Subject sources	Ratio	1.1	2.9	1.1	1.2	1.8
Subject sources less China and India	Ratio	1.0	2.3	1.0	1.1	1.8
Nonsubject sources	Ratio	46.3	40.2	43.1	44.2	42.1
Nonsubject sources plus China and India	Ratio	41.5	37.1	38.6	38.9	38.4
All import sources	Ratio	15.7	13.8	13.6	13.4	15.2

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "---". Ratio calculated as the quantity controlled by U.S. producers based on questionnaire data relative to adjusted U.S. imports statistics as shown in table 4.2.

⁶ *** reported importing epoxy resins during the period of investigation.

Table 4.5 Epoxy resins: U.S. producers', U.S. processors', and/or their affiliates' U.S. imports, by source and period

Quantity in 1,000 pounds; ratios in percent; interim period is January through September

Source	Measure	2021	2022	2023	Interim 2023	Interim 2024
China	Quantity	***	***	***	***	***
India	Quantity	***	***	***	***	***
South Korea	Quantity	***	***	***	***	***
Taiwan	Quantity	***	***	***	***	***
Thailand	Quantity	***	***	***	***	***
Subject sources	Quantity	7,455	12,300	6,352	4,712	5,207
Subject sources less China and India	Quantity	7,157	10,435	6,048	4,428	5,014
Nonsubject sources	Quantity	51,910	48,918	44,260	34,005	38,923
Nonsubject sources plus China and India	Quantity	52,208	50,783	44,564	34,289	39,116
All import sources	Quantity	59,365	61,218	50,612	38,717	44,130
China	Ratio	***	***	***	***	***
India	Ratio	***	***	***	***	***
South Korea	Ratio	***	***	***	***	***
Taiwan	Ratio	***	***	***	***	***
Thailand	Ratio	***	***	***	***	***
Subject sources	Ratio	3.9	5.2	3.4	3.1	3.7
Subject sources less China and India	Ratio	4.0	4.7	3.4	3.1	3.7
Nonsubject sources	Ratio	57.1	50.6	55.7	57.1	54.8
Nonsubject sources plus China and India	Ratio	51.1	46.3	49.8	50.3	50.0
All import sources	Ratio	21.0	18.4	19.0	18.4	20.7

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "---". Ratio calculated as the quantity controlled by U.S. producers based on questionnaire data relative to adjusted U.S. imports statistics as shown in table 4.2.

Negligibility

The statute requires that an investigation be terminated without an injury determination if imports of the subject merchandise are found to be negligible.⁷ Negligible imports are generally defined in the Act, as amended, as imports from a country of merchandise corresponding to a domestic like product where such imports account for less than 3 percent of the volume of all such merchandise imported into the United States in the most recent 12-month period for which data are available that precedes the filing of the petition or the initiation of the investigation. However, if there are imports of such merchandise from a number of countries subject to investigations initiated on the same day that individually account for less than 3 percent of the total volume of the subject merchandise, and if the imports from those countries collectively account for more than 7 percent of the volume of all such merchandise imported into the United States during the applicable 12-month period, then imports from such countries are deemed not to be negligible.⁸

Table 4.6 presents U.S. imports in the twelve-month period preceding the filing of the petitions. Aggregate subject country imports accounted for *** percent of total imports during April 2023 through March 2024. During this period, U.S. imports of epoxy resins from China and India were each less than 3.0 percent of total imports.

⁷ Sections 703(a)(1), 705(b)(1), 733(a)(1), and 735(b)(1) of the Act (19 U.S.C. §§ 1671b(a)(1), 1671d(b)(1), 1673b(a)(1), and 1673d(b)(1)).

⁸ Section 771 (24) of the Act (19 U.S.C § 1677(24)).

Table 4.6 Epoxy resins: U.S. imports in the twelve-month period preceding the filing of the petitions, April 2023 through March 2024

Quantity in 1,000 pounds; share of quantity in percent

Source of imports	Quantity	Share of quantity
China	***	***
India	***	***
South Korea	***	***
Taiwan	***	***
Thailand	***	***
All other sources	***	***
All import sources	260,771	100.0

Source: Adjusted official U.S. imports statistics of the U.S. Department of Commerce Census Bureau using HTS statistical reporting number 3907.30.0000, accessed December 30, 2024. Official U.S. imports statistics were adjusted to add in epoxy resins imported under other HTS statistical reporting numbers as reported in responses to commission questionnaires, as well as to remove out-of-scope products imported under the primary HTS number for epoxy resins as reported as responses to commission questionnaires. Import data are based on the imports for consumption data series.

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "—".

U.S. imports from China and India

Tables 4.7 and 4.8 present U.S. imports of epoxy resins from China and India, respectively, during various monthly periods prior to and after the filing of the petitions in March 2024. Figure 4.2 shows the share of U.S. imports from China and India to total imports during these various monthly periods.⁹

⁹ Firms responding to the Commission's U.S. importer questionnaire were asked to report their U.S. imports of epoxy resins from Canada that were of Chinese origin. Of the 37 responding U.S. importers, ***. U.S. importers' questionnaire, section 2.11.

Table 4.7 Epoxy resins: U.S. imports from China and all sources in various monthly periods prior to and after the filing of the petitions, by period

Quantity in 1,000 pounds; share of quantity in percent

Twelve month period through to and including	China quantity	Other than China quantity	All import sources quantity	China share	Other than China share	All import sources share
Jan 2022	***	***	***	***	***	100.0
Feb 2022	***	***	***	***	***	100.0
Mar 2022	***	***	***	***	***	100.0
Apr 2022	***	***	***	***	***	100.0
May 2022	***	***	***	***	***	100.0
Jun 2022	***	***	***	***	***	100.0
Jul 2022	***	***	***	***	***	100.0
Aug 2022	***	***	***	***	***	100.0
Sep 2022	***	***	***	***	***	100.0
Oct 2022	***	***	***	***	***	100.0
Nov 2022	***	***	***	***	***	100.0
Dec 2022	***	***	***	***	***	100.0
Jan 2023	***	***	***	***	***	100.0
Feb 2023	***	***	***	***	***	100.0
Mar 2023	***	***	***	***	***	100.0
Apr 2023	***	***	***	***	***	100.0
May 2023	***	***	***	***	***	100.0
Jun 2023	***	***	***	***	***	100.0
Jul 2023	***	***	***	***	***	100.0
Aug 2023	***	***	***	***	***	100.0
Sep 2023	***	***	***	***	***	100.0
Oct 2023	***	***	***	***	***	100.0
Nov 2023	***	***	***	***	***	100.0
Dec 2023	***	***	***	***	***	100.0
Jan 2024	***	***	***	***	***	100.0
Feb 2024	***	***	***	***	***	100.0
Mar 2024	***	***	***	***	***	100.0
Apr 2024	***	***	***	***	***	100.0
May 2024	***	***	***	***	***	100.0
Jun 2024	***	***	***	***	***	100.0
Jul 2024	***	***	***	***	***	100.0
Aug 2024	***	***	***	***	***	100.0
Sep 2024	***	***	***	***	***	100.0

Source: Adjusted official U.S. imports statistics of the U.S. Department of Commerce Census Bureau using HTS statistical reporting number 3907.30.0000, accessed December 30, 2024. Official U.S. imports statistics were adjusted to add in epoxy resins imported under other HTS statistical reporting numbers as reported in responses to commission questionnaires, as well as to remove out-of-scope products imported under the primary HTS number for epoxy resins as reported as responses to commission questionnaires. Import data are based on the imports for consumption data series, and values are landed, duty-paid values.

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "—".

Table 4.8 Epoxy resins: U.S. imports from India and all sources in various monthly periods prior to and after the filing of the petitions, by period

Quantity in 1,000 pounds; share of quantity in percent

Twelve month period through to and including	India quantity	Other than India quantity	All import sources quantity	India share	Other than India share	All import sources share
Jan 2022	***	***	***	***	***	100.0
Feb 2022	***	***	***	***	***	100.0
Mar 2022	***	***	***	***	***	100.0
Apr 2022	***	***	***	***	***	100.0
May 2022	***	***	***	***	***	100.0
Jun 2022	***	***	***	***	***	100.0
Jul 2022	***	***	***	***	***	100.0
Aug 2022	***	***	***	***	***	100.0
Sep 2022	***	***	***	***	***	100.0
Oct 2022	***	***	***	***	***	100.0
Nov 2022	***	***	***	***	***	100.0
Dec 2022	***	***	***	***	***	100.0
Jan 2023	***	***	***	***	***	100.0
Feb 2023	***	***	***	***	***	100.0
Mar 2023	***	***	***	***	***	100.0
Apr 2023	***	***	***	***	***	100.0
May 2023	***	***	***	***	***	100.0
Jun 2023	***	***	***	***	***	100.0
Jul 2023	***	***	***	***	***	100.0
Aug 2023	***	***	***	***	***	100.0
Sep 2023	***	***	***	***	***	100.0
Oct 2023	***	***	***	***	***	100.0
Nov 2023	***	***	***	***	***	100.0
Dec 2023	***	***	***	***	***	100.0
Jan 2024	***	***	***	***	***	100.0
Feb 2024	***	***	***	***	***	100.0
Mar 2024	***	***	***	***	***	100.0
Apr 2024	***	***	***	***	***	100.0
May 2024	***	***	***	***	***	100.0
Jun 2024	***	***	***	***	***	100.0
Jul 2024	***	***	***	***	***	100.0
Aug 2024	***	***	***	***	***	100.0
Sep 2024	***	***	***	***	***	100.0

Source: Adjusted official U.S. imports statistics of the U.S. Department of Commerce Census Bureau using HTS statistical reporting number 3907.30.0000, accessed December 30, 2024. Official U.S. imports statistics were adjusted to add in epoxy resins imported under other HTS statistical reporting numbers as reported in responses to commission questionnaires, as well as to remove out-of-scope products imported under the primary HTS number for epoxy resins as reported as responses to commission questionnaires. Import data are based on the imports for consumption data series, and values are landed, duty-paid values.

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "—".

Figure 4.2 Epoxy resins: Share of U.S. imports from China and India to total imports in various monthly periods prior to and after the filing of the petitions, by period

* * * * *

Source: Adjusted official U.S. imports statistics of the U.S. Department of Commerce Census Bureau using HTS statistical reporting number 3907.30.0000, accessed December 30, 2024. Official U.S. imports statistics were adjusted to add in epoxy resins imported under other HTS statistical reporting numbers as reported in responses to commission questionnaires, as well as to remove out-of-scope products imported under the primary HTS number for epoxy resins as reported as responses to commission questionnaires. Import data are based on the imports for consumption data series, and values are landed, duty-paid values.

Critical circumstances¹⁰

On April 3, 2025, Commerce issued its final countervailing duty determination that “critical circumstances” exist with regard to imports from China of epoxy resins for Jiangsu Sanmu Group Co., Ltd. (Sanmu), Shandong Bluestar Dongda Chemical (Bluestar), and all other producers and/or exporters of epoxy resins from China.¹¹ In addition, on April 3, 2025, Commerce issued its final antidumping duty determination that “critical circumstances” exist with regard to imports of epoxy resins from China for the “China-wide entity.”¹²

In this proceeding, if both Commerce and the Commission make affirmative final critical circumstances determinations, certain subject imports may be subject to duties retroactive by 90 days from the effective date of Commerce’s preliminary affirmative countervailing duty and LTFV determinations, or September 13, 2024 and November 13, 2024, respectively. Tables 4.9 and 4.10 and figure 4.3 present this data.

¹⁰ When petitioners file timely allegations of critical circumstances, Commerce examines whether there is a reasonable basis to believe or suspect that (1) either there is a history of dumping and material injury by reason of dumped imports in the United States or elsewhere of the subject merchandise, or the person by whom, or for whose account, the merchandise was imported knew or should have known that the exporter was selling the subject merchandise at LTFV and that there was likely to be material injury by reason of such sales; and (2) there have been massive imports of the subject merchandise over a relatively short period.

¹¹ 90 FR 14628, April 3, 2025.

¹² 90 FR 14616, April 3, 2025. The “China-wide” entity includes the following firms: (1) Huntsman Advanced Materials (Guangdong) Company Ltd.; (2) Artmate Co. Ltd.; (3) Changzhou Original Chemical Co., Ltd.; (4) Jiangsu Ruiheng New Material Technology Co., Ltd.; (5) Jiangsu Sanmu Group Co., Ltd.; (6) Jushi Group Company Ltd.; (7) Mercury Far East Enterprise Ltd.; and (8) Shandong Deyuan Epoxy Resin Co., Ltd. *Id.*

Table 4.9 Epoxy resins: U.S. imports from China subject to final affirmative Commerce critical circumstances determination in the AD/CVD investigations, by month

Quantity in 1,000 pounds

Month	Relation to petition	Quantity
Oct 2023	Before	***
Nov 2023	Before	***
Dec 2023	Before	***
Jan 2024	Before	***
Feb 2024	Before	***
Mar 2024	Before	***
Apr 2024	After	***
May 2024	After	***
Jun 2024	After	***
Jul 2024	After	***
Aug 2024	After	***
Sep 2024	After	***

Table continued.

Table 4.9 (Continued) Epoxy resins: U.S. imports from China subject to final affirmative Commerce critical circumstances determination in the AD/CVD investigations, by differing number of months before and after the filing of the petitions

Quantity in 1,000 pounds

Comparison pre-post petitions period	Cumulative before period quantity	Cumulative after period quantity	Difference in percent
1 month	***	***	0.4
2 months	***	***	5.6
3 months	***	***	6.9
4 months	***	***	7.2
5 months	***	***	5.5
6 months	***	***	2.8

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "---". In the AD/CVD investigations, Commerce in its final determinations found critical circumstances exist for imports from China.

Figure 4.3 Epoxy resins: U.S. imports from China subject to final affirmative Commerce critical circumstances determination in the AD/CVD investigations, by month

* * * * *

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "---". In the AD/CVD investigations, Commerce in its final determinations found critical circumstances exist for imports from China.

Table 4.10 Epoxy resins: U.S. inventories of imports from China subject to final affirmative Commerce critical circumstances determinations in the AD/CVD investigations, by month

Quantity in 1,000 pounds; index in percent where January 31, 2024 = 100.0 percent

Month	Quantity	Index
Mar 2024	***	100.0
Apr 2024	***	***
May 2024	***	***
Jun 2024	***	***
Jul 2024	***	***
Aug 2024	***	***
Sep 2024	***	***

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "---". In the AD/CVD investigations, Commerce in its final determinations found critical circumstances exist for imports from China.

Cumulation considerations

In assessing whether imports should be cumulated, the Commission determines whether U.S. imports from the subject countries compete with each other and with the domestic like product and has generally considered four factors: (1) fungibility, (2) presence of sales or offers to sell in the same geographical markets, (3) common or similar channels of distribution, and (4) simultaneous presence in the market. Information regarding channels of distribution, market areas, and interchangeability appear in Part 2. Additional information concerning fungibility, geographical markets, and simultaneous presence in the market is presented below.

Fungibility

Form type

U.S. producers, processors, and importer were asked to report on their U.S. shipments of epoxy resins by form type, specifically their U.S. shipments of epoxy resins in a liquid/solution form versus epoxy resins in a solid/semi-solid form. Table 4.11 and figure 4.4 present firms' U.S. shipments by form type in 2023.¹³ U.S. producers and importers predominantly or exclusively shipped epoxy resins that are in a liquid/solution form. In 2023, *** percent of U.S. producers' U.S. shipments, *** percent of U.S. processors' U.S. shipments, and *** percent of U.S. importers' total U.S. shipments were of epoxy resins in a liquid/solution form.

¹³ Appendix F contains additional data regarding U.S. producers', processors', and importers' U.S. shipments of epoxy resins by form type.

Table 4.11 Epoxy resins: U.S. producers', U.S. processors' and U.S. importers' U.S. shipments, by source and form, 2023

Quantity in 1,000 pounds

Source	Liquid / solution	Solid/semi-solid	All forms
U.S. producers	***	***	***
U.S. processors	***	***	***
China	***	***	***
India	***	***	***
South Korea	***	***	***
Taiwan	***	***	***
Thailand	***	***	***
Subject sources	***	***	150,536
Subject sources less China and India	***	***	146,967
Nonsubject sources	***	***	47,238
Nonsubject sources plus China and India	***	***	50,807
All import sources	***	***	197,774
All sources	***	***	***

Table continued.

Table 4.11 (Continued) Epoxy resins: U.S. producers', U.S. processors' and U.S. importers' U.S. shipments, by source and form, 2023

Share across in percent

Source	Liquid/solution	Solid/semi-solid	All forms
U.S. producers	***	***	100.0
U.S. processors	***	***	100.0
China	***	***	100.0
India	***	***	100.0
South Korea	***	***	100.0
Taiwan	***	***	100.0
Thailand	***	***	100.0
Subject sources	***	***	100.0
Subject sources less China and India	***	***	100.0
Nonsubject sources	***	***	100.0
Nonsubject sources plus China and India	***	***	100.0
All import sources	***	***	100.0
All sources	***	***	100.0

Table continued.

Table 4.11 (Continued) Epoxy resins: U.S. producers', U.S. processors' and U.S. importers' U.S. shipments, by source and form, 2023

Share down in percent

Source	Liquid/solution	Solid/semi-solid	All forms
U.S. producers	***	***	***
U.S. processors	***	***	***
China	***	***	***
India	***	***	***
South Korea	***	***	***
Taiwan	***	***	***
Thailand	***	***	***
Subject sources	***	***	***
Subject sources less China and India	***	***	***
Nonsubject sources	***	***	***
Nonsubject sources plus China and India	***	***	***
All import sources	***	***	***
All sources	100.0	100.0	100.0

Source: Compiled from data submitted in response to Commission questionnaires.

Note: U.S. processors' input epoxy resins from U.S. producers and import sources and therefore their data are not included in the all sources total to avoid double counting. Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "—".

Figure 4.4 Epoxy resins: U.S. producers', U.S. processors' and U.S. importers' U.S. shipments, by source and form, 2023

* * * * *

Source: Compiled from data submitted in response to Commission questionnaires.

Group type

U.S. producers, processors, and importers were also asked to report on their U.S. shipments of epoxy resins by three group types:

- Group 1: BADGE-type epoxy resins, bisphenol-F epoxy resins, epoxy solutions and epoxy blends;
- Group 2: brominated, novolac, cycloaliphatic and waterborne epoxy resins; and
- Group 3: multifunctional, aliphatic, glycidyl amine, and all other epoxy resins.

Table 4.12 and figure 4.5 present firms' U.S. shipments by group type in 2023.¹⁴ U.S. producers and importers predominantly shipped epoxy resins from Group 1, while U.S. processors predominately shipped epoxy resins from Group 3. In 2023, *** percent of U.S. producers' U.S. shipments and *** percent of U.S. importers' total U.S. shipments were of epoxy resins from Group 1, while *** percent of U.S. processors' U.S. shipments were of epoxy resins from Group 3.

Table 4.12 Epoxy resins: U.S. producers', U.S. processors' and U.S. importers' U.S. shipments, by source and product group, 2023

Quantity in 1,000 pounds

Source	Group 1	Group 2	Group 3	All product groups
U.S. producers	***	***	***	***
U.S. processors	***	***	***	***
China	***	***	***	***
India	***	***	***	***
South Korea	***	***	***	***
Taiwan	***	***	***	***
Thailand	***	***	***	***
Subject sources	***	***	***	150,536
Subject sources less China and India	***	***	***	146,967
Nonsubject sources	***	***	***	47,238
Nonsubject sources plus China and India	***	***	***	50,807
All import sources	***	***	***	197,774
All sources	***	***	***	***

Table continued.

¹⁴ Appendix F contains additional data regarding U.S. producers', processors', and importers' U.S. shipments of epoxy resins by group type.

Table 4.12 (Continued) Epoxy resins: U.S. producers', U.S. processors' and U.S. importers' U.S. shipments, by source and product group, 2023

Share across in percent

Source	Group 1	Group 2	Group 3	All product groups
U.S. producers	***	***	***	100.0
U.S. processors	***	***	***	100.0
China	***	***	***	100.0
India	***	***	***	100.0
South Korea	***	***	***	100.0
Taiwan	***	***	***	100.0
Thailand	***	***	***	100.0
Subject sources	***	***	***	100.0
Subject sources less China and India	***	***	***	100.0
Nonsubject sources	***	***	***	100.0
Nonsubject sources plus China and India	***	***	***	100.0
All import sources	***	***	***	100.0
All sources	***	***	***	100.0

Table continued.

Table 4.12 (Continued) Epoxy resins: U.S. producers', U.S. processors' and U.S. importers' U.S. shipments, by source and product group, 2023

Share down in percent

Source	Group 1	Group 2	Group 3	All product groups
U.S. producers	***	***	***	***
U.S. processors	***	***	***	***
China	***	***	***	***
India	***	***	***	***
South Korea	***	***	***	***
Taiwan	***	***	***	***
Thailand	***	***	***	***
Subject sources	***	***	***	***
Subject sources less China and India	***	***	***	***
Nonsubject sources	***	***	***	***
Nonsubject sources plus China and India	***	***	***	***
All import sources	***	***	***	***
All sources	100.0	100.0	100.0	100.0

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "—".

Note: Shares may exceed 100 percent. U.S. processors process epoxy resins from domestic producers' inputs and import sources, therefore U.S. processors' data are not included in the all sources total to avoid double counting.

Figure 4.5 Epoxy resins: U.S. producers', U.S. processors' and U.S. importers' U.S. shipments, by source and product group, 2023

* * * * *

Source: Compiled from data submitted in response to Commission questionnaires.

Geographical markets

Table 4.13 presents data on U.S. imports of epoxy resins by border of entry in 2023. According to official U.S. import statistics, imports of epoxy resins from all five subject countries and nonsubject sources entered the United States through all four borders of entry during 2023.

Table 4.13 Epoxy resins: U.S. imports, by source and by border of entry, 2023

Quantity in 1,000 pounds

Source	East	North	South	West	All borders
China	1,096	1,178	522	1,287	4,084
India	2,295	1,378	949	99	4,720
South Korea	19,053	66,491	32,248	6,888	124,680
Taiwan	10,840	18,216	5,783	5,150	39,990
Thailand	2,024	5,050	4,701	943	12,719
Subject sources	35,308	92,315	44,204	14,367	186,193
Subject sources less China and India	31,917	89,758	42,733	12,980	177,389
Nonsubject sources	18,723	18,787	30,298	2,733	70,540
Nonsubject sources plus China and India	22,114	21,343	31,768	4,119	79,345
All import sources	54,031	111,101	74,501	17,100	256,733

Table continued.

Table 4.13 (Continued) Epoxy resins: U.S. imports, by source and by border of entry, 2023

Share across in percent

Source	East	North	South	West	All borders
China	26.8	28.9	12.8	31.5	100.0
India	48.6	29.2	20.1	2.1	100.0
South Korea	15.3	53.3	25.9	5.5	100.0
Taiwan	27.1	45.6	14.5	12.9	100.0
Thailand	15.9	39.7	37.0	7.4	100.0
Subject sources	19.0	49.6	23.7	7.7	100.0
Subject sources less China and India	18.0	50.6	24.1	7.3	100.0
Nonsubject sources	26.5	26.6	43.0	3.9	100.0
Nonsubject sources plus China and India	27.9	26.9	40.0	5.2	100.0
All import sources	21.0	43.3	29.0	6.7	100.0

Table continued.

Table 4.13 (Continued) Epoxy resins: U.S. imports, by source and by border of entry, 2023

Share down in percent

Source	East	North	South	West	All borders
China	2.0	1.1	0.7	7.5	1.6
India	4.2	1.2	1.3	0.6	1.8
South Korea	35.3	59.8	43.3	40.3	48.6
Taiwan	20.1	16.4	7.8	30.1	15.6
Thailand	3.7	4.5	6.3	5.5	5.0
Subject sources	65.3	83.1	59.3	84.0	72.5
Subject sources less China and India	59.1	80.8	57.4	75.9	69.1
Nonsubject sources	34.7	16.9	40.7	16.0	27.5
Nonsubject sources plus China and India	40.9	19.2	42.6	24.1	30.9
All import sources	100.0	100.0	100.0	100.0	100.0

Source: Compiled from official U.S. import statistics of the U.S. Department of Commerce Census Bureau using statistical reporting number 3907.30.0000, accessed December 30, 2024. Imports are based on the imports for consumption data series.

Note: Data reflect unadjusted official U.S. import statistics for the primary HTS statistical reporting number and therefore have not been adjusted to exclude out-of-scope data under that primary code. Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "—".

Presence in the market

Table 4.14 and figures 4.6 and 4.7 present monthly data for U.S. imports of epoxy resins during the period of investigation. Imports of epoxy resins from subject and nonsubject sources entered the United States each month between January 2021 and September 2024.

Table 4.14 Epoxy resins: U.S. imports, by month and source

Quantity in 1,000 pounds

Year	Month	China	India	South Korea	Taiwan	Thailand
2021	January	***	***	***	***	***
2021	February	***	***	***	***	***
2021	March	***	***	***	***	***
2021	April	***	***	***	***	***
2021	May	***	***	***	***	***
2021	June	***	***	***	***	***
2021	July	***	***	***	***	***
2021	August	***	***	***	***	***
2021	September	***	***	***	***	***
2021	October	***	***	***	***	***
2021	November	***	***	***	***	***
2021	December	***	***	***	***	***
2022	January	***	***	***	***	***
2022	February	***	***	***	***	***
2022	March	***	***	***	***	***
2022	April	***	***	***	***	***
2022	May	***	***	***	***	***
2022	June	***	***	***	***	***
2022	July	***	***	***	***	***
2022	August	***	***	***	***	***
2022	September	***	***	***	***	***
2022	October	***	***	***	***	***
2022	November	***	***	***	***	***
2022	December	***	***	***	***	***

Table continued.

Table 4.14 (Continued) Epoxy resins: U.S. imports by month and source

Quantity in 1,000 pounds

Year	Month	China	India	South Korea	Taiwan	Thailand
2023	January	***	***	***	***	***
2023	February	***	***	***	***	***
2023	March	***	***	***	***	***
2023	April	***	***	***	***	***
2023	May	***	***	***	***	***
2023	June	***	***	***	***	***
2023	July	***	***	***	***	***
2023	August	***	***	***	***	***
2023	September	***	***	***	***	***
2023	October	***	***	***	***	***
2023	November	***	***	***	***	***
2023	December	***	***	***	***	***
2024	January	***	***	***	***	***
2024	February	***	***	***	***	***
2024	March	***	***	***	***	***
2024	April	***	***	***	***	***
2024	May	***	***	***	***	***
2024	June	***	***	***	***	***
2024	July	***	***	***	***	***
2024	August	***	***	***	***	***
2024	September	***	***	***	***	***

Table continued.

Table 4.14 (Continued) Epoxy resins: U.S. imports, by month and source

Quantity in 1,000 pounds

Year	Month	Subject sources	Subject sources less China and India	Nonsubject sources	Nonsubject sources plus China and India	All import sources
2021	January	7,710	7,101	5,956	6,565	13,666
2021	February	7,567	7,052	6,155	6,670	13,722
2021	March	15,621	14,361	8,638	9,898	24,259
2021	April	22,728	22,106	9,557	10,180	32,285
2021	May	16,485	15,507	9,218	10,196	25,703
2021	June	21,829	20,102	7,528	9,256	29,358
2021	July	15,290	13,975	7,876	9,191	23,166
2021	August	20,873	19,988	7,257	8,142	28,130
2021	September	19,783	19,039	7,306	8,049	27,089
2021	October	15,307	14,037	7,776	9,046	23,083
2021	November	14,193	13,329	7,259	8,123	21,452
2021	December	14,170	13,662	6,435	6,942	20,605
2022	January	15,972	14,984	7,735	8,724	23,708
2022	February	18,123	17,041	8,540	9,622	26,663
2022	March	19,821	18,585	9,060	10,296	28,881
2022	April	21,742	20,198	7,964	9,508	29,706
2022	May	24,128	23,497	8,093	8,724	32,221
2022	June	24,758	23,626	7,039	8,171	31,797
2022	July	20,072	19,184	8,782	9,671	28,855
2022	August	21,812	20,563	8,815	10,064	30,628
2022	September	24,480	23,388	9,509	10,602	33,990
2022	October	21,855	20,871	8,217	9,202	30,073
2022	November	14,620	13,264	6,750	8,106	21,370
2022	December	7,608	6,829	6,182	6,961	13,790

Table continued.

Table 4.14 (Continued) Epoxy resins: U.S. imports, by month and source

Quantity in 1,000 pounds

Year	Month	Subject	Subject sources less China and India	Nonsubject sources	Nonsubject sources plus China and India	All import sources
2023	January	17,893	16,588	6,160	7,465	24,053
2023	February	10,209	9,352	5,111	5,968	15,320
2023	March	22,559	22,008	7,522	8,073	30,081
2023	April	19,786	18,921	8,103	8,969	27,890
2023	May	20,025	19,150	6,405	7,280	26,429
2023	June	14,433	13,671	6,287	7,049	20,720
2023	July	15,127	13,995	5,683	6,814	20,810
2023	August	16,726	15,530	7,911	9,107	24,637
2023	September	14,128	13,020	6,336	7,444	20,464
2023	October	13,054	12,460	8,009	8,603	21,063
2023	November	12,338	11,997	6,100	6,441	18,438
2023	December	10,928	10,477	5,781	6,231	16,708
2024	January	13,119	12,553	6,384	6,950	19,503
2024	February	13,512	12,985	7,723	8,250	21,235
2024	March	11,550	11,036	9,301	9,815	20,851
2024	April	19,662	18,926	8,344	9,080	28,005
2024	May	17,292	16,436	8,600	9,455	25,891
2024	June	19,487	18,662	7,644	8,469	27,131
2024	July	17,446	16,021	8,123	9,548	25,569
2024	August	14,325	13,776	7,718	8,267	22,043
2024	September	16,047	14,859	7,140	8,328	23,187

Source: Adjusted official U.S. imports statistics of the U.S. Department of Commerce Census Bureau using HTS statistical reporting number 3907.30.0000, accessed December 30, 2024. Official U.S. imports statistics were adjusted to add in epoxy resins imported under other HTS statistical reporting numbers as reported in responses to commission questionnaires, as well as to remove out-of-scope products imported under the primary HTS number for epoxy resins as reported as responses to commission questionnaires. Import data are based on the imports for consumption data series.

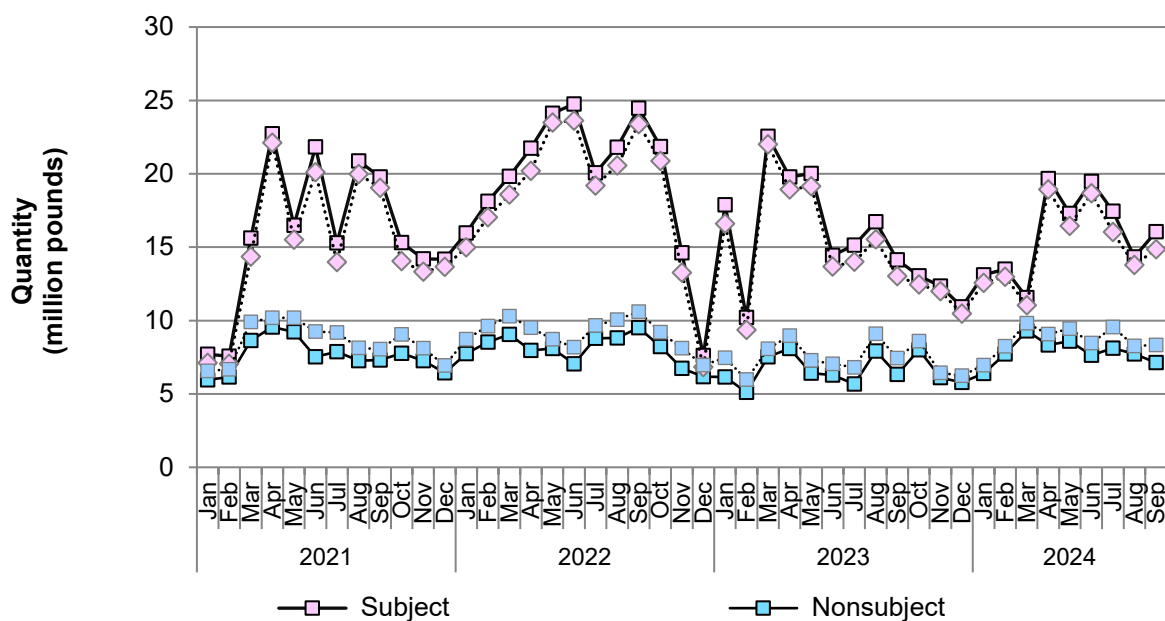
Note: Zeroes, null values, and undefined calculations are suppressed and shown as “—”.

Figure 4.6 Epoxy resins: U.S. imports from individual subject sources, by month

* * * * *

Source: Adjusted official U.S. imports statistics of the U.S. Department of Commerce Census Bureau using HTS statistical reporting number 3907.30.0000, accessed December 30, 2024. Official U.S. imports statistics were adjusted to add in epoxy resins imported under other HTS statistical reporting numbers as reported in responses to commission questionnaires, as well as to remove out-of-scope products imported under the primary HTS number for epoxy resins as reported as responses to commission questionnaires. Import data are based on the imports for consumption data series.

Figure 4.7 Epoxy resins: U.S. imports from aggregated subject and nonsubject sources, by month



Source: Adjusted official U.S. imports statistics of the U.S. Department of Commerce Census Bureau using HTS statistical reporting number 3907.30.0000, accessed December 30, 2024. Official U.S. imports statistics were adjusted to add in epoxy resins imported under other HTS statistical reporting numbers as reported in responses to commission questionnaires, as well as to remove out-of-scope products imported under the primary HTS number for epoxy resins as reported as responses to commission questionnaires. Import data are based on the imports for consumption data series.

Apparent U.S. consumption and market shares of the total market¹⁵

Quantity

Table 4.15 and figure 4.8 present quantity data on apparent U.S. consumption and U.S. market shares for the total market. Declining U.S. producers' U.S. shipments, as discussed in Part 3 of this report, coupled with decreasing U.S. imports of epoxy resins from subject and nonsubject sources resulted in an overall decline in apparent U.S. consumption during 2021 through 2023. Apparent U.S. consumption decreased by *** percent from *** pounds in 2021 to *** pounds in 2023. Apparent U.S. consumption, however, was higher by *** percent in interim 2024 at *** pounds compared with interim 2023 at *** pounds.

Table 4.15 Epoxy resins: Apparent U.S. total market consumption and market shares based on quantity, by source and period

Quantity in 1,000 pounds; interim period is January through September

Source	Measure	2021	2022	2023	Interim 2023	Interim 2024
Huntsman	Quantity	***	***	***	***	***
Olin	Quantity	***	***	***	***	***
Westlake	Quantity	***	***	***	***	***
All U.S. producers	Quantity	***	***	***	***	***
China	Quantity	***	***	***	***	***
India	Quantity	***	***	***	***	***
South Korea	Quantity	***	***	***	***	***
Taiwan	Quantity	***	***	***	***	***
Thailand	Quantity	***	***	***	***	***
Subject sources	Quantity	191,146	235,393	186,859	150,539	142,438
Subject sources less China and India	Quantity	179,850	222,429	176,821	141,886	135,253
Nonsubject sources	Quantity	90,962	96,688	79,407	59,517	70,976
Nonsubject sources plus China and India	Quantity	102,257	109,651	89,446	68,169	78,160
All import sources	Quantity	282,107	332,081	266,266	210,056	213,414
All sources	Quantity	***	***	***	***	***

Table continued.

¹⁵ Apparent U.S. consumption and market shares for the merchant market are presented in appendix G.

Table 4.15 (Continued) Epoxy resins: Apparent U.S. total market consumption and market shares based on quantity, by source and period

Shares in percent; interim period is January through September

Source	Measure	2021	2022	2023	Interim 2023	Interim 2024
Huntsman	Share	***	***	***	***	***
Olin	Share	***	***	***	***	***
Westlake	Share	***	***	***	***	***
All U.S. producers	Share	***	***	***	***	***
China	Share	***	***	***	***	***
India	Share	***	***	***	***	***
South Korea	Share	***	***	***	***	***
Taiwan	Share	***	***	***	***	***
Thailand	Share	***	***	***	***	***
Subject sources	Share	***	***	***	***	***
Subject sources less China and India	Share	***	***	***	***	***
Nonsubject sources	Share	***	***	***	***	***
Nonsubject sources plus China and India	Share	***	***	***	***	***
All import sources	Share	***	***	***	***	***
All sources	Share	100.0	100.0	100.0	100.0	100.0

Source: Compiled from data submitted in response to Commission questionnaires and adjusted official U.S. imports statistics of the U.S. Department of Commerce Census Bureau using HTS statistical reporting number 3907.30.0000, accessed December 30, 2024. Official U.S. imports statistics were adjusted to add in epoxy resins imported under other HTS statistical reporting numbers as reported in responses to commission questionnaires, as well as to remove out-of-scope products imported under the primary HTS number for epoxy resins as reported as responses to commission questionnaires. Import data are based on the imports for consumption data series.

Note: Quantity for U.S. shipments reflects only producers' U.S. shipment quantities. In measuring consumption and market share this methodology avoids reclassifying and/or double counting merchandise already reported as an import. Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "—".

Figure 4.8 Epoxy resins: Apparent U.S. total market consumption and market shares based on quantity, by source and period

* * * * *

Source: Compiled from data submitted in response to Commission questionnaires and adjusted official U.S. imports statistics of the U.S. Department of Commerce Census Bureau using HTS statistical reporting number 3907.30.0000, accessed December 30, 2024. Official U.S. imports statistics were adjusted to add in epoxy resins imported under other HTS statistical reporting numbers as reported in responses to commission questionnaires, as well as to remove out-of-scope products imported under the primary HTS number for epoxy resins as reported as responses to commission questionnaires. Import data are based on the imports for consumption data series.

Value

Table 4.16 and figure 4.9 present value data on apparent U.S. consumption and U.S. market shares for the total market. The combined value of U.S. producers' and processors' U.S. shipments, as well as the value of U.S. imports of epoxy resins from all sources, declined irregularly during 2021 through 2023. Consequently, apparent U.S. consumption by value also decreased irregularly by *** percent, from \$*** in 2021 to \$*** in 2023. Apparent U.S. consumption by value was lower by *** percent in interim 2024 at \$*** compare with interim 2023 at \$***.

Table 4.16 Epoxy resins: Apparent U.S. total market consumption and market shares based on value, by source and period

Value in 1,000 dollars; interim period is January through September

Source	Measure	2021	2022	2023	Interim 2023	Interim 2024
Huntsman	Value	***	***	***	***	***
Olin	Value	***	***	***	***	***
Westlake	Value	***	***	***	***	***
All U.S. producers	Value	***	***	***	***	***
U.S. processors: Value added to domestic	Value	***	***	***	***	***
U.S. producers and processors: Fully domestic	Value	***	***	***	***	***
U.S. processors: Valued added to imports	Value	***	***	***	***	***
U.S. producers and processors: Total	Value	***	***	***	***	***
China	Value	***	***	***	***	***
India	Value	***	***	***	***	***
South Korea	Value	***	***	***	***	***
Taiwan	Value	***	***	***	***	***
Thailand	Value	***	***	***	***	***
Subject sources	Value	451,705	634,939	311,979	261,283	213,794
Subject sources less China and India	Value	421,496	600,537	292,117	245,099	201,387
Nonsubject sources	Value	271,434	357,428	303,463	233,038	242,337
Nonsubject sources plus China and India	Value	301,643	391,830	323,325	249,223	254,744
All import sources	Value	723,139	992,367	615,442	494,321	456,132
All sources	Value	***	***	***	***	***

Table continued.

Table 4.16 (Continued) Epoxy resins: Apparent U.S. total market consumption and market shares based on value, by source and period

Shares in percent; interim period is January through September

Source	Measure	2021	2022	2023	Interim 2023	Interim 2024
Huntsman	Share	***	***	***	***	***
Olin	Share	***	***	***	***	***
Westlake	Share	***	***	***	***	***
All U.S. producers	Share	***	***	***	***	***
U.S. processors: Value added to domestic	Share	***	***	***	***	***
U.S. producers and processors: Fully domestic	Share	***	***	***	***	***
U.S. processors: Valued added to imports	Share	***	***	***	***	***
U.S. producers and processors: Total	Share	***	***	***	***	***
China	Share	***	***	***	***	***
India	Share	***	***	***	***	***
South Korea	Share	***	***	***	***	***
Taiwan	Share	***	***	***	***	***
Thailand	Share	***	***	***	***	***
Subject sources	Share	***	***	***	***	***
Subject sources less China and India	Share	***	***	***	***	***
Nonsubject sources	Share	***	***	***	***	***
Nonsubject sources plus China and India	Share	***	***	***	***	***
All import sources	Share	***	***	***	***	***
All sources	Share	100.0	100.0	100.0	100.0	100.0

Source: Compiled from data submitted in response to Commission questionnaires and adjusted official U.S. imports statistics of the U.S. Department of Commerce Census Bureau using HTS statistical reporting number 3907.30.0000, accessed December 30, 2024. Official U.S. imports statistics were adjusted to add in epoxy resins imported under other HTS statistical reporting numbers as reported in responses to commission questionnaires, as well as to remove out-of-scope products imported under the primary HTS number for epoxy resins as reported as responses to commission questionnaires. Import data are based on the imports for consumption data series, and import values are landed, duty-paid values.

Note: Quantity for U.S. shipments reflects only producers' U.S. shipment quantities. Value for U.S. shipments reflects epoxy resin sold in the United States from domestically manufactured epoxy resin (including the value added by U.S. processors to domestic epoxy resin), as well as the incremental value added by U.S. processors to imported epoxy resin. In measuring consumption and market share this methodology avoids reclassifying and/or double counting merchandise already reported as an import. Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "—".

Figure 4.9 Epoxy resins: Apparent U.S. total market consumption based on value, by source and period

* * * * *

Source: Compiled from data submitted in response to Commission questionnaires and adjusted official U.S. imports statistics of the U.S. Department of Commerce Census Bureau using HTS statistical reporting number 3907.30.0000, accessed December 30, 2024. Official U.S. imports statistics were adjusted to add in epoxy resins imported under other HTS statistical reporting numbers as reported in responses to commission questionnaires, as well as to remove out-of-scope products imported under the primary HTS number for epoxy resins as reported as responses to commission questionnaires. Import data are based on the imports for consumption data series, and import values are landed, duty-paid values.

Part 5: Pricing data¹

Factors affecting prices

Raw material costs

Epoxy resins can have different chemical compositions.² Bisphenol A diglycidyl ether (referred to as BADGE or DGEBA), the most common epoxy resin, is formed by reacting epichlorohydrin (ECH) with bisphenol-A (BPA).³ There are no publicly available data on the cost of ECH or BPA. Importers *** reported indexing contracts to ECH and BPA price indices. Raw materials, as a share of U.S. producers' cost of goods sold (COGS), declined from *** percent in 2021 to *** percent in 2023, and were *** percent in interim 2024.

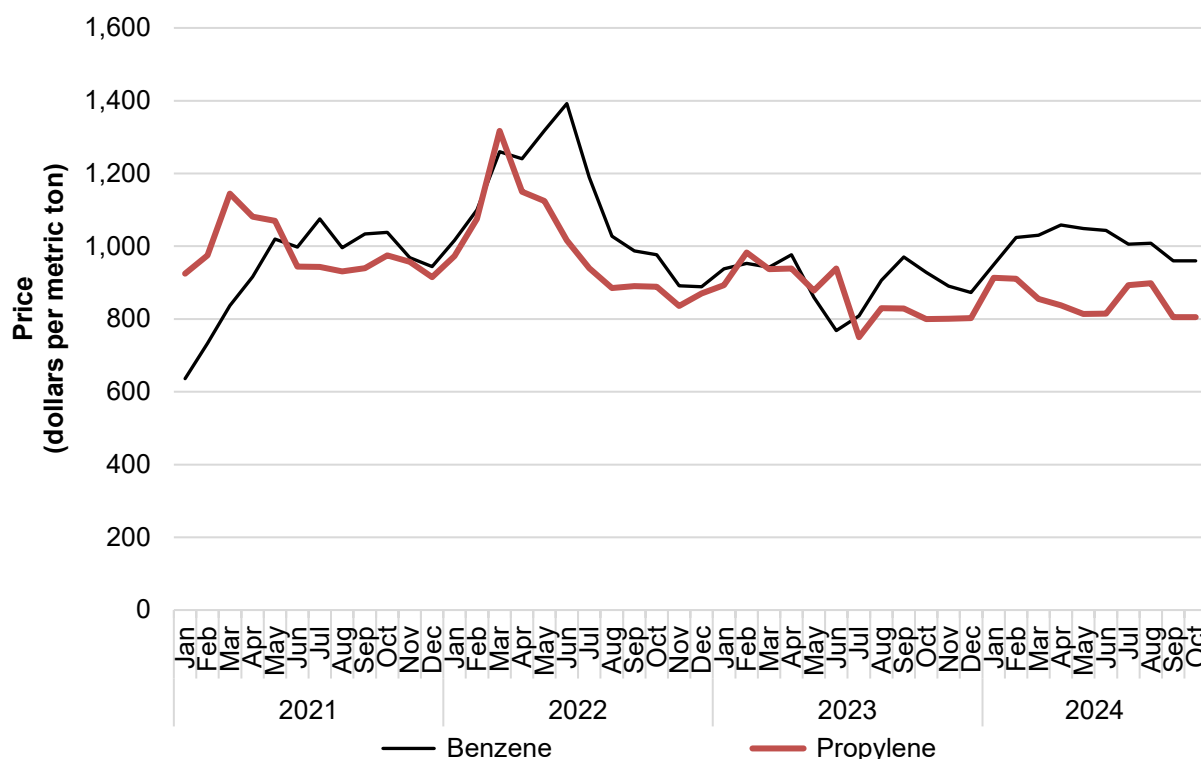
Related raw material costs that are publicly available include benzene and propylene (figure 5.1 and tables 5.1 and 5.2). Epoxy resins can contain benzene and ECH is commonly derived from propylene. The global price of benzene increased irregularly by 118.9 percent from January 2021 to June 2022, then declined irregularly by 31.0 percent through October 2024. Benzene prices increased by 50.9 percent between January 2021 and September 2024, with constant prices between September and October 2024. The global price of propylene fluctuated between January 2021 to March 2022, with an overall increase of 42.4 percent, then declined irregularly by 38.9 percent through October 2024. Propylene prices decreased by 13.0 percent between January 2021 and September 2024, with constant prices between September and October 2024.

¹ For reporting purposes in Part 5, references to "U.S. producers" only includes Olin, Westlake, and Huntsman and does not include firms that identified as U.S. processors.

² Petitions, p. 10.

³ Petitions, p. 10.

Figure 5.1 Raw materials: Worldwide price of benzene and propylene, monthly, January 2021 to October 2024



Source: Krungsri Research. (November 6, 2024), monthly price of benzene worldwide from January 2020 to October 2024 (in U.S. dollars per metric ton), <https://www.statista.com/statistics/1318336/monthly-price-benzene-worldwide/>, retrieved March 5, 2025; Krungsri Research. (November 16, 2024), monthly price of propylene worldwide from January 2020 to October 2024 (in U.S. dollars per metric ton), <https://www.statista.com/statistics/1318104/monthly-price-propylene-worldwide/>, Retrieved March 5, 2025.

Table 5.1 Raw materials: Worldwide price of benzene, monthly, January 2021 to October 2024

Price in dollars per metric ton

Month	2021	2022	2023	2024
January	636	1,016	938	949
February	733	1,100	953	1,024
March	837	1,260	942	1,030
April	916	1,240	977	1,058
May	1,020	1,318	860	1,049
June	998	1,392	768	1,043
July	1,075	1,189	809	1,006
August	996	1,028	906	1,008
September	1,034	987	970	960
October	1,038	977	928	960
November	969	891	890	NA
December	944	889	873	NA

Source: Krungsri Research. (November 6, 2024), monthly price of benzene worldwide from January 2020 to October 2024 (in U.S. dollars per metric ton), <https://www.statista.com/statistics/1318336/monthly-price-benzene-worldwide/>, retrieved March 5, 2025.

Table 5.2 Raw materials: Worldwide price of propylene, monthly, January 2021 to October 2024

Price in dollars per metric ton

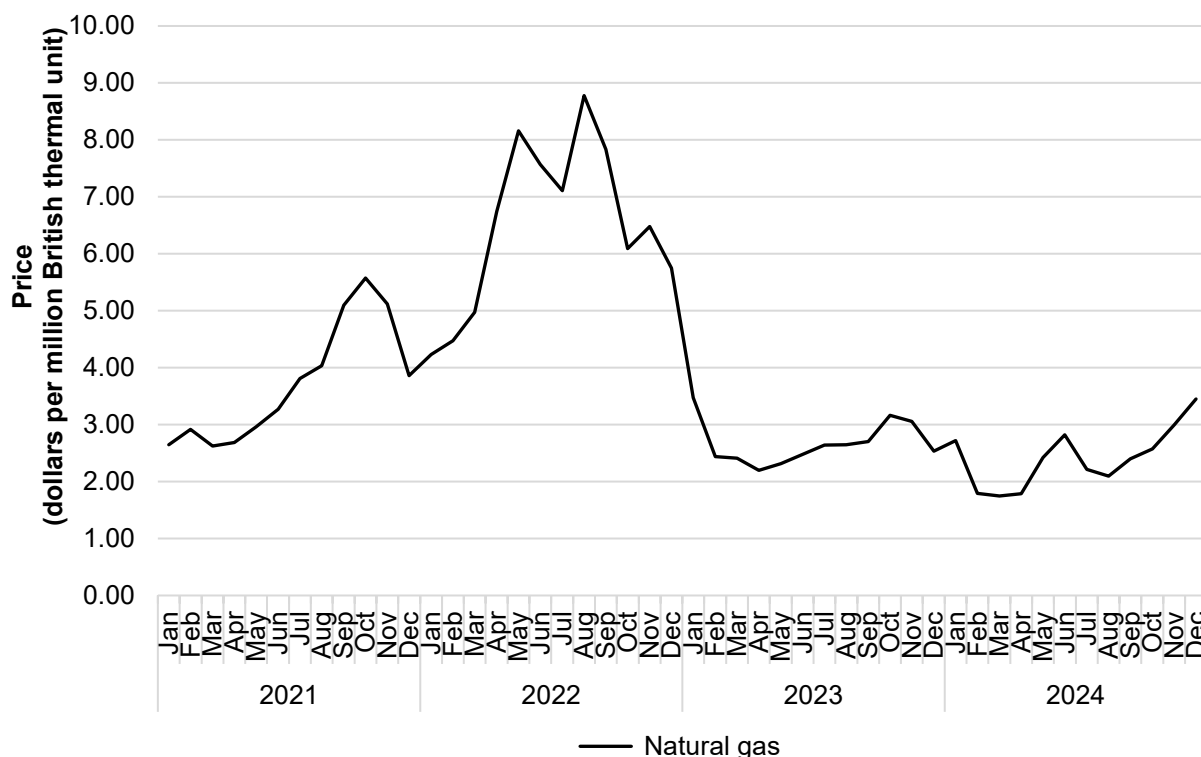
Month	2021	2022	2023	2024
January	925	973	893	913
February	975	1,075	983	911
March	1,145	1,317	937	855
April	1,081	1,150	939	838
May	1,070	1,124	878	814
June	944	1,016	939	815
July	943	940	750	893
August	931	885	830	898
September	940	890	829	805
October	975	889	800	805
November	957	836	801	NA
December	915	870	802	NA

Source: Krungsri Research. (November 16, 2024), monthly price of propylene worldwide from January 2020 to October 2024 (in U.S. dollars per metric ton), <https://www.statista.com/statistics/1318104/monthly-price-propylene-worldwide/>, Retrieved March 5, 2025.

Other related material costs include natural gas (figure 5.2 and table 5.3). Natural gas can impact the production of epoxy resins as propylene is a byproduct of natural gas refining.⁴ The global price of natural gas increased by 110.2 percent from January to October 2021, fluctuated with an overall increase of 57.6 percent from October 2021 to August 2022, and then declined by 60.7 percent through December 2024. Natural gas prices decreased by 9.4 percent between January 2021 and September 2024, followed by an increase of 43.8 percent from September to December 2024.

⁴ Importer *** reported that ECH and BPA are extracted from crude oil.

Figure 5.2 Raw materials: Global price of natural gas, U.S. Henry Hub Gas, not seasonally adjusted, monthly, January 2021 to December 2024



Source: International Monetary Fund, Global price of Natural Gas, US Henry Hub Gas ***, retrieved from FRED, Federal Reserve Bank of St. Louis; <https://fred.stlouisfed.org/series/PNGASUSUSDM>, March 5, 2025.

Table 5.3 Raw materials: Global price of Natural Gas, U.S. Henry Hub Gas, monthly, not seasonally adjusted

U.S. Dollars per million Metric British Thermal Unit (BTU)

Month	2021	2022	2023	2024
January	2.65	4.23	3.47	2.72
February	2.92	4.48	2.44	1.79
March	2.62	4.97	2.41	1.75
April	2.68	6.74	2.20	1.79
May	2.96	8.16	2.32	2.42
June	3.27	7.57	2.48	2.82
July	3.81	7.11	2.64	2.22
August	4.03	8.78	2.65	2.10
September	5.10	7.84	2.70	2.40
October	5.57	6.09	3.17	2.57
November	5.12	6.48	3.06	2.99
December	3.86	5.75	2.53	3.45

Source: International Monetary Fund, Global price of Natural Gas, US Henry Hub Gas ***, retrieved from FRED, Federal Reserve Bank of St. Louis; <https://fred.stlouisfed.org/series/PNGASUSUSDM>, March 5, 2025.

All three of the U.S. producers and most responding importers reported that the costs of raw materials fluctuated upward since January 1, 2021. U.S. producer/importer *** reported that raw material prices fluctuated from 2021 to 2023, with an overall increase in raw material prices between the beginning of 2021 to 2023. *** reported that it was unable to fully pass raw material price increases onto customers due to unfairly traded imports. U.S. producer/importer *** reported a benzene price spike. Importers reported supply chain issues (such as the winter freeze in the Gulf region that shut down production), increasing freight costs, and the cost of crude oil. Importer *** reported that increases in raw material costs were driven by *** and that market reports described increases of *** percent in BPA and ECH prices between January 2021 and September 2024. Eight of the 26 responding importers reported that the costs of raw materials steadily decreased or fluctuated downward since January 1, 2021. Importer *** reported that raw material prices have trended lower after the COVID-19 pandemic.

Transportation costs to the U.S. market

Transportation costs for epoxy resins shipped from subject countries to the United States averaged 21.7 percent for China, 6.4 percent for India, 6.1 percent for South Korea, 10.3 percent for Taiwan, and 9.9 percent for Thailand during 2023. These estimates were derived from official import data and represent the transportation and other charges on imports.⁵

U.S. inland transportation costs

Three responding U.S. producers and most (20 of 25) importers reported that they typically arrange transportation to their customers; five importers reported that their customer typically arranges transportation. U.S. producer *** reported that its U.S. inland transportation costs ranged were 10 percent and U.S. producer *** reported that its U.S. inland transportation costs were 6 percent while most importers reported costs of 1 to 8 percent.⁶

⁵ The estimated transportation costs were obtained by subtracting the customs value from the c.i.f. value of the imports for 2023 and then dividing by the customs value based on the HTS statistical reporting number 3907.30.0000.

⁶ Importer *** reported inland transportation costs were 100 percent of the cost share of epoxy resins.

Pricing practices

Pricing methods

U.S. producers reported setting prices using transaction-by-transaction negotiations, contracts, and price lists. Most importers reported setting prices using transaction-by-transaction negotiations, though several also reported using contracts, set price lists, and other methods as well (table 5.4).

Table 5.4 Epoxy resins: Count of U.S. producers' and importers' reported price setting methods

Method	U.S. producers	Importers
Transaction-by-transaction	3	17
Contract	3	7
Set price list	3	7
Other	1	6
Responding firms	3	24

Source: Compiled from data submitted in response to Commission questionnaires.

Note: The sum of responses down may not add up to the total number of responding firms as each firm was instructed to check all applicable price setting methods employed.

U.S. producers reported selling about half of their epoxy resins in the spot market and the other half under annual and long-term contracts⁷ while importers reported selling the most of their epoxy resins in the spot market and under short-term contracts (table 5.5).

Table 5.5 Epoxy resins: U.S. producers' and importers' shares of commercial U.S. shipments by type of sale, 2023

Share in percent

Type of sale	U.S. producers	Subject importers
Long-term contracts	***	***
Annual contracts	***	***
Short-term contracts	***	***
Spot sales	***	***
Total	100.0	100.0

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Because of rounding, figures may not add to the totals shown.

⁷ U.S. producer Olin reported selling *** percent of its epoxy resins in the spot market and *** percent under annual contracts. U.S. producer Westlake reported selling *** percent in the spot market, *** percent under annual contracts, and *** percent under long-term contracts. U.S. producer Huntsman reported selling *** percent in the spot market, *** percent under annual contracts, and *** percent under long-term contracts.

With respect to annual contracts, one U.S. producer (***) reported that it allows for price renegotiation while the other two U.S. producers do not. U.S. producer *** reported that it fixes quantity and U.S. producer *** reported it fixes price in their annual contracts. U.S. producers *** index annual contracts to raw material price indices while U.S. producer *** reported that it does not in annual contracts. Long-term contract lengths ranged from a year and a half (***) to five years (***). With respect to long-term contracts, U.S. producers *** reported not allowing for price renegotiation. *** reported it fixes prices and does not index to raw material price indices while *** reported that it does index long-term contracts to raw material price indices. These price indices include Chemical Market Analytics (formerly IHS Markit), Independent Commodity Intelligence Services (“ICIS”), and Tecnon OrbiChem.

Four importers (***) reported selling under short-term contracts. Importer *** reported its short-term contracts last 12 days and *** reported they last 90 days. Two importers (***) reported they allow for price renegotiation in short-term contracts while two importers (***) do not. Two importers (***) fix quantities, *** fixes price, and *** fixes both quantities and price. Only importer *** reported indexing short-term contracts to raw material price indices, *** reported they do not.

Three importers reported selling under annual contracts: *** and two importers reported selling epoxy resins under long-term contracts: ***. *** reported that it allows for price renegotiation and indexes annual contracts to raw materials prices, citing ICIS China main port BPA and ECH. *** does not allow for price renegotiation, fixes both quantity and price, and indexes annual and long-term contracts to raw materials, citing ICIS BPA, ECH, and LER. *** reported that it does not allow for price renegotiation and indexes annual and long-term contracts to raw materials, citing Chemical Market Analytics, ICIS, and Tecnon OrbiChem.

Twenty-four purchasers reported that they purchase product monthly, 23 purchase weekly,⁸ 6 purchase quarterly, 3 purchase daily, 1 purchases annually, and one purchases on demand. Forty-five of 57 purchasers reported that their purchasing frequency had not changed since 2021. Several purchasers cited changing demand in end use products changed their purchasing frequency since 2021. Purchasers reported contacting between 1 and 10 suppliers before making a purchase, with most falling in the 2 to 3 suppliers range.

⁸ Purchaser *** reported it purchases several times a week.

Sales terms and discounts

U.S. producers and importers typically quote prices on a delivered basis, though two U.S. producers and 12 importers reported quoting prices on an f.o.b. basis. Three U.S. producers offer total volume discounts and one offers a quantity discount. The majority of importers do not have a discount policy, four offer total volume discounts, one offers a quantity discount, and five offer other discounts, including early payment discounts and discounts for product that is about to expire or become stale.

Price leadership

Twenty-four purchasers reported that Olin/Blue Cube was a price leader, 15 firms listed Westlake/Hexion, 5 firms listed KPB (also known as Kumho), 3 firms listed Kukdo, and one firm each listed Aditya, Composite One, Huntsman, IMCD, Nan Ya, and CCP as price leaders.⁹ Purchasers indicating the presence of price leaders indicated that Olin and Westlake actively announce price increases. Purchaser *** reported that Olin's CEO is on record discussing their "price ratchet" strategy which involved bringing Olin's "global chemical assets down to a 50 percent utilization rate for a whole year {to} preserve product pricing" (Olin CEO Scott Sutton, April 28, 2022). It continued that Westlake similarly followed with higher prices on the same products and both companies also announced subsequent price increases on epoxy resins, citing similar drivers, such as supply chain disruptions and subsequent raw material cost increases. Purchaser *** reported that Olin typically announces price changes to the broad market by reporting to CMA, Tecnon, etc., instead of rolling out customer-tailored pricing confidentially and Westlake typically follows with a public announcement. *** noted that other firms do not publicly announce their price increases to the market. Purchaser *** reported that Olin and Westlake actively announce price increases that do not necessarily always stick, but it gives direction on their expectations. It also stated that neither producer will announce decreases, but they will negotiate individually with each buyer on the price. *** stated that importers will give an individual price offer, but do not typically announce a general price increase to the market; the importers will make reference to market movement and may reference announced increases by Olin or Westlake if known.

⁹ Ten purchasers listed Olin and Westlake as price leaders.

Purchaser *** reported that Olin was the first to raise prices above \$4 per pound in 2021, the slowest to bring their prices down, and the least communicative throughout the crisis. *** also stated that Kumho (KPB) was the first to provide lower cost epoxy after 2021 and communicated the most relevant cost information each month.

Price data

The Commission requested U.S. producers and importers to provide quarterly data for the total quantity and f.o.b. value of the following epoxy resins products shipped to unrelated U.S. customers during January 2021 to September 2024.

Product 1.-- Bisphenol A liquid epoxy resin, basic commodity grade (i.e., D.E.R. 331, EPON 828, KER 828, YD 128, NPEL128, BE-188, and SM 828), sold in bulk (ISO Tanks or Tank Truck).

Product 2.-- Bisphenol A liquid epoxy resin, basic commodity grade (i.e., D.E.R. 331, EPON 828, KER 828, YD 128, NPEL128, BE-188, and SM 828), sold in packages (Totes, Intermediate Bulk Containers (“IBCs”), or drums).

Product 3.-- Bisphenol A solid epoxy resin, Type 3, Epoxy Equivalent Weight (“EEW”) based on solids range between 700-850 g/eq (i.e., D.E.R. 663U, D.E.R. 663UE, EPON 2003, KD 213, KD 243C, KER 3033, NPES 903H, BE 503, YD 903).

Product 4.-- Bisphenol A solid epoxy resin, Type 4, Epoxy Equivalent Weight (“EEW”) based on solids range between 800-1,000 g/eq (i.e., D.E.R. 664UE, EPON 2004, KD 214L, NPES 904H, BE 504H).

Three U.S. producers and 15 importers provided usable pricing data for sales of the requested products, although not all firms reported pricing for all products for all quarters.^{10 11} Pricing data reported by these firms accounted for approximately *** percent of U.S. producers' U.S. shipments of epoxy resins, 41.7 percent of U.S. shipments of subject imports from China, 52.0 percent of U.S. shipments of subject imports from India, 93.4 percent of U.S. shipments of subject imports from South Korea, 55.2 percent of U.S. shipments of subject imports from Taiwan, and 53.7 percent of U.S. shipments of subject imports from Thailand in 2023.¹² Price data for products 1 to 4 are presented in tables 5.6 to 5.9 and figures 5.3 to 5.6.

¹⁰ Per-unit pricing data are calculated from total quantity and total value data provided by U.S. producers and importers. The precision and variation of these figures may be affected by rounding, limited quantities, and producer or importer estimates.

¹¹ Importer *** reported incorrect quantity units in the price data for product 2 from South Korea and products 1 and 2 from Taiwan. Staff has yet to receive the revision from the firm and has excluded their data from the pricing data.

¹² Pricing coverage is based on U.S. shipments reported in questionnaires.

Table 5.6 Epoxy resins: Weighted-average f.o.b. prices and quantities of domestic and imported product 1 and margins of underselling/(overselling), by source and quarter

Price in dollars per pound, quantity in 1,000 pounds, margin in percent.

Period	U.S. price	U.S. quantity	China price	China quantity	China margin	India price	India quantity	India margin
2021 Q1	***	***	***	***	***	***	***	***
2021 Q2	***	***	***	***	***	***	***	***
2021 Q3	***	***	***	***	***	***	***	***
2021 Q4	***	***	***	***	***	***	***	***
2022 Q1	***	***	***	***	***	***	***	***
2022 Q2	***	***	***	***	***	***	***	***
2022 Q3	***	***	***	***	***	***	***	***
2022 Q4	***	***	***	***	***	***	***	***
2023 Q1	***	***	***	***	***	***	***	***
2023 Q2	***	***	***	***	***	***	***	***
2023 Q3	***	***	***	***	***	***	***	***
2023 Q4	***	***	***	***	***	***	***	***
2024 Q1	***	***	***	***	***	***	***	***
2024 Q2	***	***	***	***	***	***	***	***
2024 Q3	***	***	***	***	***	***	***	***

Period	South Korea price	South Korea quantity	South Korea margin	Taiwan price	Taiwan quantity	Taiwan margin	Thailand price	Thailand quantity	Thailand margin
2021 Q1	***	***	***	***	***	***	***	***	***
2021 Q2	***	***	***	***	***	***	***	***	***
2021 Q3	***	***	***	***	***	***	***	***	***
2021 Q4	***	***	***	***	***	***	***	***	***
2022 Q1	***	***	***	***	***	***	***	***	***
2022 Q2	***	***	***	***	***	***	***	***	***
2022 Q3	***	***	***	***	***	***	***	***	***
2022 Q4	***	***	***	***	***	***	***	***	***
2023 Q1	***	***	***	***	***	***	***	***	***
2023 Q2	***	***	***	***	***	***	***	***	***
2023 Q3	***	***	***	***	***	***	***	***	***
2023 Q4	***	***	***	***	***	***	***	***	***
2024 Q1	***	***	***	***	***	***	***	***	***
2024 Q2	***	***	***	***	***	***	***	***	***
2024 Q3	***	***	***	***	***	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Product 1: Bisphenol A liquid epoxy resin, basic commodity grade (i.e., D.E.R. 331, EPON 828, KER 828, YD 128, NPEL128, BE-188, and SM 828), sold in bulk (ISO Tanks or Tank Truck). The *** prices for epoxy resins imported from China are driven by importer ***.

Figure 5.3 Epoxy resins: Weighted-average f.o.b. prices and quantities of domestic and imported product 1, by source and quarter

Price of product 1

* * * * *

Volume of product 1

* * * * *

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Product 1: Bisphenol A liquid epoxy resin, basic commodity grade (i.e., D.E.R. 331, EPON 828, KER 828, YD 128, NPEL128, BE-188, and SM 828), sold in bulk (ISO Tanks or Tank Truck). The *** prices for epoxy resins imported from China are driven by importer ***.

Table 5.7 Epoxy resins: Weighted-average f.o.b. prices and quantities of domestic and imported product 2 and margins of underselling/(overselling), by source and quarter

Price in dollars per pound, quantity in 1,000 pounds, margin in percent.

Period	U.S. price	U.S. quantity	China price	China quantity	China margin	India price	India quantity	India margin
2021 Q1	***	***	***	***	***	***	***	***
2021 Q2	***	***	***	***	***	***	***	***
2021 Q3	***	***	***	***	***	***	***	***
2021 Q4	***	***	***	***	***	***	***	***
2022 Q1	***	***	***	***	***	***	***	***
2022 Q2	***	***	***	***	***	***	***	***
2022 Q3	***	***	***	***	***	***	***	***
2022 Q4	***	***	***	***	***	***	***	***
2023 Q1	***	***	***	***	***	***	***	***
2023 Q2	***	***	***	***	***	***	***	***
2023 Q3	***	***	***	***	***	***	***	***
2023 Q4	***	***	***	***	***	***	***	***
2024 Q1	***	***	***	***	***	***	***	***
2024 Q2	***	***	***	***	***	***	***	***
2024 Q3	***	***	***	***	***	***	***	***

Period	South Korea price	South Korea quantity	South Korea margin	Taiwan price	Taiwan quantity	Taiwan margin	Thailand price	Thailand quantity	Thailand margin
2021 Q1	***	***	***	***	***	***	***	***	***
2021 Q2	***	***	***	***	***	***	***	***	***
2021 Q3	***	***	***	***	***	***	***	***	***
2021 Q4	***	***	***	***	***	***	***	***	***
2022 Q1	***	***	***	***	***	***	***	***	***
2022 Q2	***	***	***	***	***	***	***	***	***
2022 Q3	***	***	***	***	***	***	***	***	***
2022 Q4	***	***	***	***	***	***	***	***	***
2023 Q1	***	***	***	***	***	***	***	***	***
2023 Q2	***	***	***	***	***	***	***	***	***
2023 Q3	***	***	***	***	***	***	***	***	***
2023 Q4	***	***	***	***	***	***	***	***	***
2024 Q1	***	***	***	***	***	***	***	***	***
2024 Q2	***	***	***	***	***	***	***	***	***
2024 Q3	***	***	***	***	***	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Product 2: Bisphenol A liquid epoxy resin, basic commodity grade (i.e., D.E.R. 331, EPON 828, KER 828, YD 128, NPEL128, BE-188, and SM 828), sold in packages (Totes, Intermediate Bulk Containers (“IBCs”), or drums). The *** prices for epoxy resins imported from China are driven by importer

***.

Figure 5.4 Epoxy resins: Weighted-average f.o.b. prices and quantities of domestic and imported product 2, by source and quarter

Price of product 2

* * * * *

Volume of product 2

* * * * *

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Product 2: Bisphenol A liquid epoxy resin, basic commodity grade (i.e., D.E.R. 331, EPON 828, KER 828, YD 128, NPEL128, BE-188, and SM 828), sold in packages (Totes, Intermediate Bulk Containers (“IBCs”), or drums). The *** prices for epoxy resins imported from China are driven by importer ***.

Table 5.8 Epoxy resins: Weighted-average f.o.b. prices and quantities of domestic and imported product 3 and margins of underselling/(overselling), by source and quarter

Price in dollars per pound, quantity in 1,000 pounds, margin in percent.

Period	U.S. price	U.S. quantity	China price	China quantity	China margin	India price	India quantity	India margin
2021 Q1	***	***	***	***	***	***	***	***
2021 Q2	***	***	***	***	***	***	***	***
2021 Q3	***	***	***	***	***	***	***	***
2021 Q4	***	***	***	***	***	***	***	***
2022 Q1	***	***	***	***	***	***	***	***
2022 Q2	***	***	***	***	***	***	***	***
2022 Q3	***	***	***	***	***	***	***	***
2022 Q4	***	***	***	***	***	***	***	***
2023 Q1	***	***	***	***	***	***	***	***
2023 Q2	***	***	***	***	***	***	***	***
2023 Q3	***	***	***	***	***	***	***	***
2023 Q4	***	***	***	***	***	***	***	***
2024 Q1	***	***	***	***	***	***	***	***
2024 Q2	***	***	***	***	***	***	***	***
2024 Q3	***	***	***	***	***	***	***	***

Period	South Korea price	South Korea quantity	South Korea margin	Taiwan price	Taiwan quantity	Taiwan margin	Thailand price	Thailand quantity	Thailand margin
2021 Q1	***	***	***	***	***	***	***	***	***
2021 Q2	***	***	***	***	***	***	***	***	***
2021 Q3	***	***	***	***	***	***	***	***	***
2021 Q4	***	***	***	***	***	***	***	***	***
2022 Q1	***	***	***	***	***	***	***	***	***
2022 Q2	***	***	***	***	***	***	***	***	***
2022 Q3	***	***	***	***	***	***	***	***	***
2022 Q4	***	***	***	***	***	***	***	***	***
2023 Q1	***	***	***	***	***	***	***	***	***
2023 Q2	***	***	***	***	***	***	***	***	***
2023 Q3	***	***	***	***	***	***	***	***	***
2023 Q4	***	***	***	***	***	***	***	***	***
2024 Q1	***	***	***	***	***	***	***	***	***
2024 Q2	***	***	***	***	***	***	***	***	***
2024 Q3	***	***	***	***	***	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Product 3: Bisphenol A solid epoxy resin, Type 3, Epoxy Equivalent Weight (“EEW”) based on solids range between 700-850 g/eq (i.e., D.E.R. 663U, D.E.R. 663UE, EPON 2003, KD 213, KD 243C, KER 3033, NPES 903H, BE 503, YD 903).

Figure 5.5 Epoxy resins: Weighted-average f.o.b. prices and quantities of domestic and imported product 3, by source and quarter

Price of product 3

* * * * *

Volume of product 3

* * * * *

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Product 3: Bisphenol A solid epoxy resin, Type 3, Epoxy Equivalent Weight ("EEW") based on solids range between 700-850 g/eq (i.e., D.E.R. 663U, D.E.R. 663UE, EPON 2003, KD 213, KD 243C, KER 3033, NPES 903H, BE 503, YD 903).

Table 5.9 Epoxy resins: Weighted-average f.o.b. prices and quantities of domestic and imported product 4 and margins of underselling/(overselling), by source and quarter

Price in dollars per pound, quantity in 1,000 pounds, margin in percent.

Period	U.S. price	U.S. quantity	China price	China quantity	China margin	India price	India quantity	India margin
2021 Q1	***	***	***	***	***	***	***	***
2021 Q2	***	***	***	***	***	***	***	***
2021 Q3	***	***	***	***	***	***	***	***
2021 Q4	***	***	***	***	***	***	***	***
2022 Q1	***	***	***	***	***	***	***	***
2022 Q2	***	***	***	***	***	***	***	***
2022 Q3	***	***	***	***	***	***	***	***
2022 Q4	***	***	***	***	***	***	***	***
2023 Q1	***	***	***	***	***	***	***	***
2023 Q2	***	***	***	***	***	***	***	***
2023 Q3	***	***	***	***	***	***	***	***
2023 Q4	***	***	***	***	***	***	***	***
2024 Q1	***	***	***	***	***	***	***	***
2024 Q2	***	***	***	***	***	***	***	***
2024 Q3	***	***	***	***	***	***	***	***

Period	South Korea price	South Korea quantity	South Korea margin	Taiwan price	Taiwan quantity	Taiwan margin	Thailand price	Thailand quantity	Thailand margin
2021 Q1	***	***	***	***	***	***	***	***	***
2021 Q2	***	***	***	***	***	***	***	***	***
2021 Q3	***	***	***	***	***	***	***	***	***
2021 Q4	***	***	***	***	***	***	***	***	***
2022 Q1	***	***	***	***	***	***	***	***	***
2022 Q2	***	***	***	***	***	***	***	***	***
2022 Q3	***	***	***	***	***	***	***	***	***
2022 Q4	***	***	***	***	***	***	***	***	***
2023 Q1	***	***	***	***	***	***	***	***	***
2023 Q2	***	***	***	***	***	***	***	***	***
2023 Q3	***	***	***	***	***	***	***	***	***
2023 Q4	***	***	***	***	***	***	***	***	***
2024 Q1	***	***	***	***	***	***	***	***	***
2024 Q2	***	***	***	***	***	***	***	***	***
2024 Q3	***	***	***	***	***	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Product 4: Bisphenol A solid epoxy resin, Type 4, Epoxy Equivalent Weight (“EEW”) based on solids range between 800-1,000 g/eq (i.e., D.E.R. 664UE, EPON 2004, KD 214L, NPES 904H, BE 504H).

Figure 5.6 Epoxy resins: Weighted-average f.o.b. prices and quantities of domestic and imported product 4, by source and quarter

Price of product 4

* * * * *

Volume of product 4

* * * * *

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Product 4: Bisphenol A solid epoxy resin, Type 4, Epoxy Equivalent Weight ("EEW") based on solids range between 800-1,000 g/eq (i.e., D.E.R. 664UE, EPON 2004, KD 214L, NPES 904H, BE 504H).

Price trends

In general, prices decreased during January 2021 to September 2024, though not for all products from all sources. Table 5.10 summarizes the price trends, by country and by product. As shown in the table, domestic price decreases for products 1 and 3 ranged from *** to *** percent during January 2021 to September 2024 and domestic price increases for products 2 and 4 ranged from *** percent to *** percent. Import price changes ranged from *** percent decrease to *** percent increase.¹³ Tables 5.11 and 5.12 and figures 5.7 and 5.8 present indexed price data.

¹³ There were an insufficient number of quarters reported to calculate price trends for product 4 imported from subject countries.

Table 5.10 Epoxy resins: Summary of price data, by product and source, January 2021 to September 2024

Quantity in 1,000 pounds, price in dollars per pound

Product	Source	Number of quarters	Quantity of shipments	Low price	High price	First quarter price	Last quarter price	Percent change in price over period
Product 1	United States	15	***	***	***	***	***	***
Product 1	China	10	***	***	***	***	***	***
Product 1	India	7	***	***	***	***	***	***
Product 1	South Korea	15	***	***	***	***	***	***
Product 1	Taiwan	15	***	***	***	***	***	***
Product 1	Thailand	15	***	***	***	***	***	***
Product 2	United States	15	***	***	***	***	***	***
Product 2	China	15	***	***	***	***	***	***
Product 2	India	15	***	***	***	***	***	***
Product 2	South Korea	15	***	***	***	***	***	***
Product 2	Taiwan	13	***	***	***	***	***	***
Product 2	Thailand	15	***	***	***	***	***	***
Product 3	United States	15	***	***	***	***	***	***
Product 3	China	—	***	***	***	***	***	***
Product 3	India	—	***	***	***	***	***	***
Product 3	South Korea	15	***	***	***	***	***	***
Product 3	Taiwan	15	***	***	***	***	***	***
Product 3	Thailand	14	***	***	***	***	***	***
Product 4	United States	15	***	***	***	***	***	***
Product 4	China	—	***	***	***	***	***	***
Product 4	India	1	***	***	***	***	***	***
Product 4	South Korea	8	***	***	***	***	***	***
Product 4	Taiwan	4	***	***	***	***	***	***
Product 4	Thailand	6	***	***	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Percent change column is percentage change from the first quarter 2021 to the last quarter in 2024.

Figure 5.7 Epoxy resins: Indexed U.S. producer prices, by quarter

* * * * *

Source: Compiled from data submitted in response to Commission questionnaires.

Figure 5.8 Epoxy resins: Indexed subject U.S. importer prices, by quarter

* * * * *

Source: Compiled from data submitted in response to Commission questionnaires.

Table 5.11 Epoxy resins: Indexed U.S. producer prices, by quarter

Period	Product 1	Product 2	Product 3	Product 4
2021 Q1	100.0	100.0	100.0	100.0
2021 Q2	***	***	***	***
2021 Q3	***	***	***	***
2021 Q4	***	***	***	***
2022 Q1	***	***	***	***
2022 Q2	***	***	***	***
2022 Q3	***	***	***	***
2022 Q4	***	***	***	***
2023 Q1	***	***	***	***
2023 Q2	***	***	***	***
2023 Q3	***	***	***	***
2023 Q4	***	***	***	***
2024 Q1	***	***	***	***
2024 Q2	***	***	***	***
2024 Q3	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "—".

Table 5.12 Epoxy resins: Indexed subject U.S. importer prices, by quarter

Period	Product 1	Product 2	Product 3	Product 4
2021 Q1	100.0	100.0	100.0	
2021 Q2	***	***	***	100.0
2021 Q3	***	***	***	***
2021 Q4	***	***	***	***
2022 Q1	***	***	***	***
2022 Q2	***	***	***	***
2022 Q3	***	***	***	***
2022 Q4	***	***	***	***
2023 Q1	***	***	***	***
2023 Q2	***	***	***	***
2023 Q3	***	***	***	***
2023 Q4	***	***	***	***
2024 Q1	***	***	***	***
2024 Q2	***	***	***	***
2024 Q3	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "—". Products 1 through 3 are indexed to 2021 Q1 while product 4 is indexed to 2021 Q2.

Price comparisons

As shown in table 5.13, prices for product imported from China were below those for U.S.-produced product in 1 of 25 instances (151,000 pounds); margins of underselling were *** percent. In the remaining 24 instances (514,000 pounds), prices for product from China were between *** and *** percent above prices for the domestic product. Prices for product imported from India were below those for U.S.-produced product in 12 of 23 instances (*** pounds); margins of underselling ranged from *** to *** percent. In the remaining 11 instances (*** pounds), prices for product from India were between *** and *** percent above prices for the domestic product. Prices for product imported from South Korea were below those for U.S.-produced product in 38 of 53 instances (*** pounds); margins of underselling ranged from *** to *** percent. In the remaining 15 instances (*** pounds), prices for product from South Korea were between *** and *** percent above prices for the domestic product. Prices for product imported from Taiwan were below those for U.S.-produced product in 34 of 47 instances (*** pounds); margins of underselling ranged from *** to *** percent. In the remaining 13 instances (*** pounds), prices for product from Taiwan were between *** and *** percent above prices for the domestic product. Prices for product imported from Thailand were below those for U.S.-produced product in 41 of 50 instances (*** pounds); margins of underselling ranged from *** to *** percent. In the remaining 9 instances (*** pounds), prices for product from Thailand were between *** and *** percent above prices for the domestic product.

Table 5.13 Epoxy resins: Instances of underselling and overselling and the range and average of margins, by source

Quantity in 1,000 pounds; margin in percent

Source	Type	Number of quarters	Quantity	Average margin	Min margin	Max margin
China	Underselling	1	***	***	***	***
India	Underselling	12	***	***	***	***
South Korea	Underselling	38	***	***	***	***
Taiwan	Underselling	34	***	***	***	***
Thailand	Underselling	41	***	***	***	***
Total, all subject sources	Underselling	126	***	***	***	***
Total, subject sources less China and India	Underselling	113	***	***	***	***
China	Overselling	24	***	***	***	***
India	Overselling	11	***	***	***	***
South Korea	Overselling	15	***	***	***	***
Taiwan	Overselling	13	***	***	***	***
Thailand	Overselling	9	***	***	***	***
Total, all subject sources	Overselling	72	***	***	***	***
Total, subject sources less China and India	Overselling	37	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires.

Note: These data include only quarters in which there is a comparison between the U.S. and subject product.

Table 5.14 Epoxy resins: Instances of underselling and overselling and the range and average of margins, by product

Quantity in 1,000 pounds; margin in percent

Aggregation	Products	Type	Number of instances	Quantity	Average margin	Min margin	Max margin
Subject sources	Product 1	Underselling	31	***	***	***	***
Subject sources	Product 2	Underselling	48	***	***	***	***
Subject sources	Product 3	Underselling	35	***	***	***	***
Subject sources	Product 4	Underselling	12	***	***	***	***
Subject sources	All products	Underselling	126	***	***	***	***
Subject sources	Product 1	Overselling	31	***	***	***	***
Subject sources	Product 2	Overselling	25	***	***	***	***
Subject sources	Product 3	Overselling	9	***	***	***	***
Subject sources	Product 4	Overselling	7	***	***	***	***
Subject sources	All products	Overselling	72	***	***	***	***
Subject sources less China and India	Product 1	Underselling	28	***	***	***	***
Subject sources less China and India	Product 2	Underselling	39	***	***	***	***
Subject sources less China and India	Product 3	Underselling	35	***	***	***	***
Subject sources less China and India	Product 4	Underselling	11	***	***	***	***
Subject sources less China and India	All products	Underselling	113	***	***	***	***
Subject sources less China and India	Product 1	Overselling	17	***	***	***	***
Subject sources less China and India	Product 2	Overselling	4	***	***	***	***
Subject sources less China and India	Product 3	Overselling	9	***	***	***	***
Subject sources less China and India	Product 4	Overselling	7	***	***	***	***
Subject sources less China and India	All products	Overselling	37	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires.

Note: These data include only quarters in which there is a comparison between the U.S. and subject product.

Table 5.15 Epoxy resins: Instances of underselling and overselling and the range and average of margins, by year

Quantity in 1,000 pounds; margin in percent

Aggregation	Period	Type	Number of instances	Quantity	Average margin	Min margin	Max margin
Subject sources	2021	Underselling	32	***	***	***	***
Subject sources	2022	Underselling	40	***	***	***	***
Subject sources	2023	Underselling	26	***	***	***	***
Subject sources	Interim 2024	Underselling	28	***	***	***	***
Subject sources	All periods	Underselling	126	***	***	***	***
Subject sources	2021	Overselling	13	***	***	***	***
Subject sources	2022	Overselling	11	***	***	***	***
Subject sources	2023	Overselling	32	***	***	***	***
Subject sources	Interim 2024	Overselling	16	***	***	***	***
Subject sources	All periods	Overselling	72	***	***	***	***
Subject sources less China and India	2021	Underselling	29	***	***	***	***
Subject sources less China and India	2022	Underselling	35	***	***	***	***
Subject sources less China and India	2023	Underselling	25	***	***	***	***
Subject sources less China and India	Interim 2024	Underselling	24	***	***	***	***
Subject sources less China and India	All periods	Underselling	113	***	***	***	***
Subject sources less China and India	2021	Overselling	8	***	***	***	***
Subject sources less China and India	2022	Overselling	2	***	***	***	***
Subject sources less China and India	2023	Overselling	18	***	***	***	***
Subject sources less China and India	Interim 2024	Overselling	9	***	***	***	***
Subject sources less China and India	All periods	Overselling	37	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires.

Note: These data include only quarters in which there is a comparison between the U.S. and subject product.

Lost sales and lost revenue

In the preliminary phase of these investigations, the Commission requested that U.S. producers of epoxy resins report purchasers with which they experienced instances of lost sales or revenue due to competition from imports of epoxy resins from subject sources during January 2021 to December 2023. Petitioners submitted lost sales and lost revenue allegations. Responding U.S. producers identified 20 firms with which they lost sales and revenue. In the final phase of the investigation, of the three responding U.S. producers, three reported that they had to reduce prices, two reported that they had to roll back announced price increases, and three firms reported that they had lost sales.

Staff contacted 116 purchasers and received responses from 57 purchasers.¹⁴ Responding purchasers reported purchasing 1.4 billion pounds of epoxy resins during January 2021 to September 2024 (table 5.16).

¹⁴ Two purchasers, *** submitted lost sales lost revenue survey responses in the preliminary phase, but did not submit purchaser questionnaire responses in the final phase.

Quantity in 1,000 pounds, share in percent

Table continued.

Quantity in 1,000 pounds, share in percent

Source: Compiled from data submitted in response to Commission questionnaires.

5.29

Of the 56 responding purchasers, 44 reported that, since 2021, they had purchased imported epoxy resins from subject sources instead of U.S.-produced product. Of these 44 purchasers, 12 reported purchasing imports from China, 8 reported purchasing imports from India, 35 reported purchasing imports from South Korea, 23 reported purchasing imports from Taiwan, and 21 reported purchasing imports from Thailand instead of U.S.-produced product. Of the 44 purchasers, 33 firms reported that the subject imports were priced lower (7 from China, 8 from India, 26 from South Korea, 21 from Taiwan, and 12 from Thailand). Fifteen of these purchasers reported that price was a primary reason for the decision to purchase subject imports (4 from China, 5 from India, 13 from South Korea, 11 from Taiwan, and 5 from Thailand) rather than U.S.-produced product. Fifteen purchasers estimated the quantity of epoxy resins from subject sources purchased instead of domestic product; quantities ranged from *** pounds to *** pounds (tables 5.17 and 5.18).¹⁵ Purchasers identified product availability, securing supply chains, and product quality as non-price reasons for purchasing imported rather than U.S.-produced product.

Of the 57 purchasers, 10 reported that U.S. producers had reduced prices in order to compete with lower-priced imports from subject sources; 23 reported that U.S. producers had not reduced prices and 24 reported that they did not know (table 5.19). The reported estimated price reduction ranged from *** to *** percent to compete with imports from China, *** to *** percent to compete with imports from South Korea, *** to *** percent to compete with imports from Taiwan, and *** to *** percent to compete with imports from Thailand (table 5.20).¹⁶ In describing the price reductions, purchasers indicated there were price fluctuations since 2021 and reported that the market was impacted by many events, such as the COVID-19 pandemic and the Texas freeze.

¹⁵ Purchasers *** estimated quantities purchased instead of U.S.-produced epoxy resins (***); however, they also reported that price was not a primary reason for their purchases of subject imports. Staff has not included their estimates in this analysis.

¹⁶ One firm (**) reported that U.S. producers had reduced prices in order to compete with lower-priced imports, but this firm did not report an estimated of the reduction in U.S. producers' prices. No other firms reported price reductions with respect to India.

Table 5.17 Epoxy resins: Purchasers' responses to purchasing subject imports instead of domestic product, by firm

Quantity in 1,000 pounds

Purchaser	Purchased subject imports instead of domestic	Imports priced lower	Choice based on price	Quantity	Explanation
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***

Table continued.

Table 5.17 (Continued) Epoxy resins: Purchasers' responses to purchasing subject imports instead of domestic product, by firm

Quantity in 1,000 pounds

Purchaser	Purchased subject imports instead of domestic	Imports priced lower	Choice based on price	Quantity	Explanation
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***

Table continued.

Table 5.17 (Continued) Epoxy resins: Purchasers' responses to purchasing subject imports instead of domestic product, by firm

Quantity in 1,000 pounds

Purchaser	Purchased subject imports instead of domestic	Imports priced lower	Choice based on price	Quantity	Explanation
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***

Table continued.

Table 5.17 (Continued) Epoxy resins: Purchasers' responses to purchasing subject imports instead of domestic product, by firm

Quantity in 1,000 pounds

Purchaser	Purchased subject imports instead of domestic	Imports priced lower	Choice based on price	Quantity	Explanation
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***

Table continued.

Table 5.17 (Continued) Epoxy resins: Purchasers' responses to purchasing subject imports instead of domestic product, by firm

Quantity in 1,000 pounds

Purchaser	Purchased subject imports instead of domestic	Imports priced lower	Choice based on price	Quantity	Explanation
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
All firms	Yes--44; No--12	Yes--33; No--11	Yes--15; No--29	***	NA

Source: Compiled from data submitted in response to Commission questionnaires.

Table 5.18 Epoxy resins: Purchasers' responses to purchasing subject imports instead of domestic product, by source

Quantity in 1,000 pounds

Source	Count of purchasers reporting subject imports instead of domestic	Count of purchasers reported that imports were priced lower	Count of purchasers reporting that price was a primary reason for shift	Quantity
China	12	7	4	***
India	8	8	5	***
Korea	35	26	13	***
Taiwan	23	21	11	***
Thailand	21	12	5	***
Subject sources	44	33	15	***
Subject sources less China and India	24	18	6	***

Source: Compiled from data submitted in response to Commission questionnaires.

Table 5.19 Epoxy resins: Purchasers' responses to U.S. producer price reductions, by firm

Purchaser	Reported producers lowered prices	Estimated percent of U.S. price reduction	Explanation
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***

Table continued.

Table 5.19 (Continued) Epoxy resins: Purchasers' responses to U.S. producer price reductions, by firm

Purchaser	Reported producers lowered prices	Estimated percent of U.S. price reduction	Explanation
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***

Table continued.

Table 5.19 (Continued) Epoxy resins: Purchasers' responses to U.S. producer price reductions, by firm

Purchaser	Reported producers lowered prices	Estimated percent of U.S. price reduction	Explanation
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***

Table continued.

Purchaser	Reported producers lowered prices	Estimated percent of U.S. price reduction	Explanation
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
All firms	Yes--10; No--23	***	NA

Table 5.20 Epoxy resins: Purchasers' responses to U.S. producer price reductions, by source

Source	Count of purchasers reporting U.S. producers reduced prices	Average percent of estimated U.S. price reduction	Range of percent of estimated U.S. price reductions
China	3	***	***
India	1	***	***
Korea	9	***	***
Taiwan	8	***	***
Thailand	3	***	***
Subject sources	10	***	***
Subject sources less China and India	6	***	***

Source: Compiled from data submitted in response to Commission questionnaires.

Some purchasers provided additional information, including challenges with sourcing from domestic sources during supply chain disruptions and how foreign producers have helped diversify the market. Purchaser *** reported that epoxy resin prices in the United States and Asia were “aligned with ample availability from local producers” prior to the COVID-19 pandemic, “local producers increased sharply their price leveraging on limited supply availability” in 2021 after the Texas freeze, and that “local producers re-aligned their price to the market” in 2023. Purchaser *** reported that the “main concern we have with regards to the supply of epoxy resins is quality control and assurance,” and that they had to look at foreign producers for these reasons as domestic sourcing has resulted in unacceptable quality given their technical requirements. Purchaser *** reported that “domestic and international suppliers both serve and important role in the marketplace.”

Part 6: Financial experience of U.S. producers and processors

Background¹

Three U.S. producers (Huntsman, Olin, and Westlake) and four U.S. processors (3M – AASD, 3M – EMD, Polytek, and PPG) provided usable financial results on their epoxy resin operations.² All of the U.S. producers provided data on a calendar year and GAAP basis.^{3 4}

Each of the three U.S. producers are publicly traded companies or wholly owned by a publicly traded company.⁵ In terms of distinguishing operational features, Olin described the degree to which it is integrated back to basic inputs.⁶ In addition to noting that its operations are integrated back to the production of BPA, Westlake stated that its Deer Park plant in Texas is ***.⁷

¹ The following abbreviations are used in this section: generally accepted accounting principles (“GAAP”), net sales (“NS”), cost of goods sold (“COGS”), selling, general, and administrative expenses (“SG&A expenses”), average unit values (“AUVs”), research and development expenses (“R&D expenses”), and return on assets (“ROA”).

² Huntsman reported that it is a U.S. producer and a processor, ***. Huntsman’s U.S. producer questionnaire, sections 3.19 and 6.15.

³ U.S. producer questionnaire responses, sections 3.2A.2 and 3.2B.4.

⁴ Staff verified the results of Olin with its corporate records and all adjustments were incorporated into this report. Olin’s U.S. producer questionnaire response was revised as follows: ***. Staff verification report, Olin, April 3, 2025.

⁵ Olin’s epoxy resins operations take place within the company’s Epoxy segment. Olin 2023 10-K, pp. 6-7. Westlake’s epoxy resins operations take place within the company’s Performance and Essential Materials segment. Westlake 2023 10-K, p. 1. Huntsman’s epoxy resins operations take place within the parent corporation’s Advanced Materials segment. Huntsman Corporation 10-K, pp. 7.

⁶ ***. Submission from ***, April 29, 2024.

⁷ Submission from ***, April 29, 2024.

Huntsman's U.S. producer operations included ***. In addition, throughout the period examined, ***.⁸

Operations on epoxy resins

Figure 6.1 presents each U.S. producers' share of the U.S. producers' aggregate net sales quantity in 2023. Aggregate financial results for U.S. producers' epoxy resins operations are presented in table 6.1, while the corresponding changes in AUVs for those results are presented in table 6.2.

Figure 6.2 presents each U.S. processors' share of U.S. processors' aggregate net sales quantity in 2023. Aggregate financial results for U.S. processors' operations related to purchased and/or imported epoxy resins are presented in table 6.3, while the corresponding changes in AUVs for those results are presented in table 6.4.

Lastly, figure 6.3 presents each firms' share of the U.S. producers' and processors' combined net sales quantity in 2023. Table 6.5 presents the U.S. producers' and processors' combined financial results for epoxy resins, and table 6.6 presents the corresponding changes in AUVs.⁹

⁸ Staff phone interview with ***.

⁹ Combined merchant market financial results are shown in appendix H. ***.

Figure 6.1 Epoxy resins: U.S. producers' share of net sales quantity in 2023, by firm

* * * * *

Source: Compiled from data submitted in response to Commission questionnaires.

Table 6.1 Epoxy resins: U.S. producers' results of operations, by item and period

Quantity in 1,000 pounds; value in 1,000 dollars; ratios in percent; interim is January to September

Item	Measure	2021	2022	2023	Interim 2023	Interim 2024
Commercial sales	Quantity	***	***	***	***	***
Internal consumption	Quantity	***	***	***	***	***
Transfers to related firms	Quantity	***	***	***	***	***
Total net sales	Quantity	***	***	***	***	***
Commercial sales	Value	***	***	***	***	***
Internal consumption	Value	***	***	***	***	***
Transfers to related firms	Value	***	***	***	***	***
Total net sales	Value	***	***	***	***	***
COGS: Raw materials	Value	***	***	***	***	***
COGS: Direct labor	Value	***	***	***	***	***
COGS: Other factory	Value	***	***	***	***	***
COGS: Total	Value	***	***	***	***	***
Gross profit or (loss)	Value	***	***	***	***	***
SG&A expenses	Value	***	***	***	***	***
Operating income or (loss)	Value	***	***	***	***	***
Interest expense	Value	***	***	***	***	***
All other expenses	Value	***	***	***	***	***
All other income	Value	***	***	***	***	***
Net income or (loss)	Value	***	***	***	***	***
Depreciation/amortization	Value	***	***	***	***	***
Cash flow	Value	***	***	***	***	***
COGS: Raw materials	Ratio to NS	***	***	***	***	***
COGS: Direct labor	Ratio to NS	***	***	***	***	***
COGS: Other factory	Ratio to NS	***	***	***	***	***
COGS: Total	Ratio to NS	***	***	***	***	***
Gross profit	Ratio to NS	***	***	***	***	***
SG&A expense	Ratio to NS	***	***	***	***	***
Operating income or (loss)	Ratio to NS	***	***	***	***	***
Net income or (loss)	Ratio to NS	***	***	***	***	***

Table continued.

Table 6.1 (Continued) Epoxy resins: U.S. producers' results of operations, by item and period

Shares in percent; unit values in dollars per pound; count in number of firms reporting; interim is January to September

Item	Measure	2021	2022	2023	Interim 2023	Interim 2024
COGS: Raw materials	Share of COGS	***	***	***	***	***
COGS: Direct labor	Share of COGS	***	***	***	***	***
COGS: Other factory	Share of COGS	***	***	***	***	***
COGS: Total	Share of COGS	***	***	***	***	***
Commercial sales	Unit value	***	***	***	***	***
Internal consumption	Unit value	***	***	***	***	***
Transfers to related firms	Unit value	***	***	***	***	***
Total net sales	Unit value	***	***	***	***	***
COGS: Raw materials	Unit value	***	***	***	***	***
COGS: Direct labor	Unit value	***	***	***	***	***
COGS: Other factory	Unit value	***	***	***	***	***
COGS: Total	Unit value	***	***	***	***	***
Gross profit or (loss)	Unit value	***	***	***	***	***
SG&A expenses	Unit value	***	***	***	***	***
Operating income or (loss)	Unit value	***	***	***	***	***
Net income or (loss)	Unit value	***	***	***	***	***
Operating losses	Count	***	***	***	***	***
Net losses	Count	***	***	***	***	***
Data	Count	3	3	3	3	3

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Zeroes, null values, and undefined calculations are suppressed and shown as “—”.

Table 6.2 Epoxy resins: Changes in AUVs between comparison periods for U.S. producers' total market operations

Changes in percent; interim is January to September

Item	2021–23	2021–22	2022–23	Interim 2023–24
Commercial sales	▼ ***	▲ ***	▼ ***	▼ ***
Internal consumption	***	***	***	***
Transfers to related firms	▼ ***	▲ ***	▼ ***	▼ ***
Total net sales	▼ ***	▲ ***	▼ ***	▼ ***
COGS: Raw materials	▼ ***	▲ ***	▼ ***	▼ ***
COGS: Direct labor	▲ ***	▲ ***	▼ ***	▲ ***
COGS: Other factory	▲ ***	▲ ***	▼ ***	▼ ***
COGS: Total	▲ ***	▲ ***	▼ ***	▼ ***

Table continued.

Table 6.2 (Continued) Epoxy resins: Changes in AUVs between comparison periods for U.S. producers' total market operations

Changes in dollars per pound; interim is January to September

Item	2021–23	2021–22	2022–23	Interim 2023–24
Commercial sales	▼ ***	▲ ***	▼ ***	▼ ***
Internal consumption	***	***	***	***
Transfers to related firms	▼ ***	▲ ***	▼ ***	▼ ***
Total net sales	▼ ***	▲ ***	▼ ***	▼ ***
COGS: Raw materials	▼ ***	▲ ***	▼ ***	▼ ***
COGS: Direct labor	▲ ***	▲ ***	▼ ***	▲ ***
COGS: Other factory	▲ ***	▲ ***	▼ ***	▼ ***
COGS: Total	▲ ***	▲ ***	▼ ***	▼ ***
Gross profit or (loss)	▼ ***	▲ ***	▼ ***	▼ ***
SG&A expense	▼ ***	▲ ***	▼ ***	▲ ***
Operating income or (loss)	▼ ***	▲ ***	▼ ***	▼ ***
Net income or (loss)	▼ ***	▲ ***	▼ ***	▼ ***

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Unit values shown as “0.00” represent values greater than zero, but less than “0.005.” Zeroes, null values, and undefined calculations are suppressed and shown as “—”. Period changes preceded by a “▲” represent an increase, while period changes preceded by a “▼” represent a decrease.

Figure 6.2 Epoxy resins: U.S. processors' share of net sales quantity in 2023, by firm

* * * * *

Source: Compiled from data submitted in response to Commission questionnaires.

Table 6.3 Epoxy resins: U.S. processors' results of operations, by item and period

Quantity in 1,000 pounds; value in 1,000 dollars; ratios in percent; interim is January to September

Item	Measure	2021	2022	2023	Interim 2023	Interim 2024
Commercial sales	Quantity	***	***	***	***	***
Internal consumption	Quantity	***	***	***	***	***
Transfers to related firms	Quantity	***	***	***	***	***
Total net sales	Quantity	***	***	***	***	***
Commercial sales	Value	***	***	***	***	***
Internal consumption	Value	***	***	***	***	***
Transfers to related firms	Value	***	***	***	***	***
Total net sales	Value	***	***	***	***	***
COGS: Domestic epoxy resins	Value	***	***	***	***	***
COGS: Subject epoxy resins	Value	***	***	***	***	***
COGS: Nonsubject epoxy resins	Value	***	***	***	***	***
COGS: Total epoxy resins	Value	***	***	***	***	***
COGS: All other materials	Value	***	***	***	***	***
COGS: Total raw materials	Value	***	***	***	***	***
COGS: Direct labor	Value	***	***	***	***	***
COGS: Other factory	Value	***	***	***	***	***
COGS: Total	Value	***	***	***	***	***
Gross profit or (loss)	Value	***	***	***	***	***
SG&A expenses	Value	***	***	***	***	***
Operating income or (loss)	Value	***	***	***	***	***
Interest expense	Value	***	***	***	***	***
All other expenses	Value	***	***	***	***	***
All other income	Value	***	***	***	***	***
Net income or (loss)	Value	***	***	***	***	***
Depreciation/amortization	Value	***	***	***	***	***
Cash flow	Value	***	***	***	***	***
COGS: Total raw materials	Ratio to NS	***	***	***	***	***
COGS: Direct labor	Ratio to NS	***	***	***	***	***
COGS: Other factory	Ratio to NS	***	***	***	***	***
COGS: Total	Ratio to NS	***	***	***	***	***
Gross profit	Ratio to NS	***	***	***	***	***
SG&A expense	Ratio to NS	***	***	***	***	***
Operating income or (loss)	Ratio to NS	***	***	***	***	***
Net income or (loss)	Ratio to NS	***	***	***	***	***

Table continued.

Table 6.3 (Continued) Epoxy resins: U.S. processors' results of operations, by item and period

Shares in percent; unit values in dollars per pound; count in number of firms reporting; interim is January to September

Item	Measure	2021	2022	2023	Interim 2023	Interim 2024
COGS: Total epoxy resins	Share of COGS	***	***	***	***	***
COGS: All other materials	Share of COGS	***	***	***	***	***
COGS: Total raw materials	Share of COGS	***	***	***	***	***
COGS: Direct labor	Share of COGS	***	***	***	***	***
COGS: Other factory	Share of COGS	***	***	***	***	***
COGS: Total	Share of COGS	***	***	***	***	***
Commercial sales	Unit value	***	***	***	***	***
Internal consumption	Unit value	***	***	***	***	***
Transfers to related firms	Unit value	***	***	***	***	***
Total net sales	Unit value	***	***	***	***	***
COGS: Total epoxy resins	Unit value	***	***	***	***	***
COGS: All other materials	Unit value	***	***	***	***	***
COGS: Total raw materials	Unit value	***	***	***	***	***
COGS: Direct labor	Unit value	***	***	***	***	***
COGS: Other factory	Unit value	***	***	***	***	***
COGS: Total	Unit value	***	***	***	***	***
Gross profit or (loss)	Unit value	***	***	***	***	***
SG&A expenses	Unit value	***	***	***	***	***
Operating income or (loss)	Unit value	***	***	***	***	***
Net income or (loss)	Unit value	***	***	***	***	***
Operating losses	Count	***	***	***	***	***
Net losses	Count	***	***	***	***	***
Data	Count	5	5	5	5	5

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Due to the nature of combining U.S. producer and U.S. processor operations, there will be double-counting within net sales to the extent that U.S. processors use domestically produced epoxy resins in their processing operations. The value of domestically produced epoxy resins that were used as inputs by U.S. processors represented *** percent of the U.S. producers' and processors' combined net sales value in 2023.

Table 6.4 Epoxy resins: Changes in AUVs between comparison periods for U.S. processors' operations

Changes in percent; interim is January to September

Item	2021-23	2021-22	2022-23	Interim 2023-24
Commercial sales	▲ ***	▲ ***	▼ ***	▼ ***
Internal consumption	▲ ***	▲ ***	▲ ***	▼ ***
Transfers to related firms	▲ ***	▲ ***	▼ ***	▼ ***
Total net sales	▲ ***	▲ ***	▲ ***	▼ ***
COGS: Total epoxy resins	▲ ***	▲ ***	▼ ***	▼ ***
COGS: All other materials	▲ ***	▲ ***	▼ ***	▼ ***
COGS: Total raw materials	▲ ***	▲ ***	▼ ***	▼ ***
COGS: Direct labor	▲ ***	▲ ***	▼ ***	▼ ***
COGS: Other factory	▲ ***	▲ ***	▼ ***	▲ ***
COGS: Total	▲ ***	▲ ***	▼ ***	▼ ***

Table continued.

Table 6.4 (Continued) Epoxy resins: Changes in AUVs between comparison periods for U.S. processors' operations

Changes in dollars per pound; interim is January to September

Item	2021-23	2021-22	2022-23	Interim 2023-24
Commercial sales	▲ ***	▲ ***	▼ ***	▼ ***
Internal consumption	▲ ***	▲ ***	▲ ***	▼ ***
Transfers to related firms	▲ ***	▲ ***	▼ ***	▼ ***
Total net sales	▲ ***	▲ ***	▲ ***	▼ ***
COGS: Total epoxy resins	▲ ***	▲ ***	▼ ***	▼ ***
COGS: All other materials	▲ ***	▲ ***	▼ ***	▼ ***
COGS: Total raw materials	▲ ***	▲ ***	▼ ***	▼ ***
COGS: Direct labor	▲ ***	▲ ***	▼ ***	▼ ***
COGS: Other factory	▲ ***	▲ ***	▼ ***	▲ ***
COGS: Total	▲ ***	▲ ***	▼ ***	▼ ***
Gross profit or (loss)	▲ ***	▼ ***	▲ ***	▼ ***
SG&A expense	▲ ***	▲ ***	▲ ***	▼ ***
Operating income or (loss)	▲ ***	▼ ***	▲ ***	▼ ***
Net income or (loss)	▲ ***	▼ ***	▲ ***	▼ ***

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Changes in unit values shown as “0.00” represent values greater than zero, but less than “0.005.” Period changes preceded by a “▲” represent an increase, while period changes preceded by a “▼” represent a decrease.

Figure 6.3 Epoxy resins: U.S. producers' and processors' share of the combined net sales quantity in 2023, by firm

* * * * *

Source: Compiled from data submitted in response to Commission questionnaires.

Table 6.5 Epoxy resins: U.S. producers' and U.S. processors' combined financial results of operations, by item and period

Quantity in 1,000 pounds; value in 1,000 dollars; ratios in percent; interim is January to September

Item	Measure	2021	2022	2023	Interim 2023	Interim 2024
Commercial sales	Quantity	***	***	***	***	***
Internal consumption	Quantity	***	***	***	***	***
Transfers to related firms	Quantity	***	***	***	***	***
Total net sales	Quantity	832,641	712,335	698,247	532,996	518,097
Commercial sales	Value	***	***	***	***	***
Internal consumption	Value	***	***	***	***	***
Transfers to related firms	Value	***	***	***	***	***
Total net sales	Value	2,214,114	2,364,388	1,816,363	1,436,094	1,185,007
COGS: Raw materials	Value	946,224	1,015,581	801,563	632,112	553,103
COGS: Direct labor	Value	104,508	119,073	109,218	83,656	80,310
COGS: Other factory	Value	383,377	396,644	354,565	271,892	251,891
COGS: Total	Value	1,434,109	1,531,298	1,265,346	987,660	885,304
Gross profit or (loss)	Value	780,005	833,090	551,017	448,434	299,703
SG&A expenses	Value	254,434	260,178	284,059	208,501	200,095
Operating income or (loss)	Value	525,571	572,912	266,958	239,933	99,608
Interest expense	Value	***	***	***	***	***
All other expenses	Value	***	***	***	***	***
All other income	Value	***	***	***	***	***
Net income or (loss)	Value	***	***	***	***	***
Depreciation/amortization	Value	***	***	***	***	***
Cash flow	Value	***	***	***	***	***
COGS: Raw materials	Ratio to NS	42.7	43.0	44.1	44.0	46.7
COGS: Direct labor	Ratio to NS	4.7	5.0	6.0	5.8	6.8
COGS: Other factory	Ratio to NS	17.3	16.8	19.5	18.9	21.3
COGS: Total	Ratio to NS	64.8	64.8	69.7	68.8	74.7
Gross profit	Ratio to NS	35.2	35.2	30.3	31.2	25.3
SG&A expense	Ratio to NS	11.5	11.0	15.6	14.5	16.9
Operating income or (loss)	Ratio to NS	23.7	24.2	14.7	16.7	8.4
Net income or (loss)	Ratio to NS	***	***	***	***	***

Table continued.

Table 6.5 (Continued) Epoxy resins: U.S. producers' and U.S. processors' combined results of operations, by item and period

Shares in percent; unit values in dollars per pound; count in number of firms reporting; interim is January to September

Item	Measure	2021	2022	2023	Interim 2023	Interim 2024
COGS: Raw materials	Share of COGS	66.0	66.3	63.3	64.0	62.5
COGS: Direct labor	Share of COGS	7.3	7.8	8.6	8.5	9.1
COGS: Other factory	Share of COGS	26.7	25.9	28.0	27.5	28.5
COGS: Total	Share of COGS	100.0	100.0	100.0	100.0	100.0
Commercial sales	Unit value	***	***	***	***	***
Internal consumption	Unit value	***	***	***	***	***
Transfers to related firms	Unit value	***	***	***	***	***
Total net sales	Unit value	2.66	3.32	2.60	2.69	2.29
COGS: Raw materials	Unit value	1.14	1.43	1.15	1.19	1.07
COGS: Direct labor	Unit value	0.13	0.17	0.16	0.16	0.16
COGS: Other factory	Unit value	0.46	0.56	0.51	0.51	0.49
COGS: Total	Unit value	1.72	2.15	1.81	1.85	1.71
Gross profit or (loss)	Unit value	0.94	1.17	0.79	0.84	0.58
SG&A expenses	Unit value	0.31	0.37	0.41	0.39	0.39
Operating income or (loss)	Unit value	0.63	0.80	0.38	0.45	0.19
Net income or (loss)	Unit value	***	***	***	***	***
Operating losses	Count	***	***	***	***	***
Net losses	Count	***	***	***	***	***
Data	Count	7	7	7	7	7

Source: Compiled from data submitted in response to Commission questionnaires.

Table 6.6 Epoxy resins: Changes in AUVs between comparison periods for U.S. producers' and U.S. processors' combined total market operations

Changes in percent; interim is January to September

Item	2021-23	2021-22	2022-23	Interim 2023-24
Commercial sales	▼***	▲***	▼***	▼***
Internal consumption	▲***	▲***	▲***	▼***
Transfers to related firms	▼***	▲***	▼***	▼***
Total net sales	▼(2.2)	▲24.8	▼(21.6)	▼(15.1)
COGS: Raw materials	▲1.0	▲25.5	▼(19.5)	▼(10.0)
COGS: Direct labor	▲24.6	▲33.2	▼(6.4)	▼(1.2)
COGS: Other factory	▲10.3	▲20.9	▼(8.8)	▼(4.7)
COGS: Total	▲5.2	▲24.8	▼(15.7)	▼(7.8)

Table continued.

Table 6.6 (Continued) Epoxy resins: Changes in AUVs between comparison periods for U.S. producers' and U.S. processors' combined total market operations

Changes in dollars per pound; interim is January to September

Item	2021-23	2021-22	2022-23	Interim 2023-24
Commercial sales	▼***	▲***	▼***	▼***
Internal consumption	▲***	▲***	▲***	▼***
Transfers to related firms	▼***	▲***	▼***	▼***
Total net sales	▼(0.06)	▲0.66	▼(0.72)	▼(0.41)
COGS: Raw materials	▲0.01	▲0.29	▼(0.28)	▼(0.12)
COGS: Direct labor	▲0.03	▲0.04	▼(0.01)	▼(0.00)
COGS: Other factory	▲0.05	▲0.10	▼(0.05)	▼(0.02)
COGS: Total	▲0.09	▲0.43	▼(0.34)	▼(0.14)
Gross profit or (loss)	▼(0.15)	▲0.23	▼(0.38)	▼(0.26)
SG&A expense	▲0.10	▲0.06	▲0.04	▼(0.00)
Operating income or (loss)	▼(0.25)	▲0.17	▼(0.42)	▼(0.26)
Net income or (loss)	▼***	▲***	▼***	▼***

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Percentages and unit values shown as "0.0" or "0.00" represent values greater than zero, but less than "0.05" or "0.005," respectively. Period changes preceded by a "▲" represent an increase, while period changes preceded by a "▼" represent a decrease.

Table 6.7 Epoxy resins: U.S. producers' and processors' sales, costs/expenses, and profitability, by firm and period

Net sales quantity

Quantity in 1,000 pounds; interim is January to September

Firm	2021	2022	2023	Interim 2023	Interim 2024
Huntsman: Production operations	***	***	***	***	***
Olin	***	***	***	***	***
Westlake	***	***	***	***	***
All U.S. producers	***	***	***	***	***
3M - AASD	***	***	***	***	***
3M - EMD	***	***	***	***	***
Huntsman: Processing operations	***	***	***	***	***
Polytek	***	***	***	***	***
PPG	***	***	***	***	***
All U.S. processors	***	***	***	***	***
U.S. producers and U.S. processors combined	832,641	712,335	698,247	532,996	518,097

Table continued.

Table 6.7 (Continued) Epoxy resins: U.S. producers' and processors' sales, costs/expenses, and profitability, by firm and period

Net sales value

Value in 1,000 dollars; interim is January to September

Firm	2021	2022	2023	Interim 2023	Interim 2024
Huntsman: Production operations	***	***	***	***	***
Olin	***	***	***	***	***
Westlake	***	***	***	***	***
All U.S. producers	***	***	***	***	***
3M - AASD	***	***	***	***	***
3M - EMD	***	***	***	***	***
Huntsman: Processing operations	***	***	***	***	***
Polytek	***	***	***	***	***
PPG	***	***	***	***	***
All U.S. processors	***	***	***	***	***
U.S. producers and U.S. processors combined	2,214,114	2,364,388	1,816,363	1,436,094	1,185,007

Table continued.

Table 6.7 (Continued) Epoxy resins: U.S. producers' and processors' sales, costs/expenses, and profitability, by firm and period

COGS

Value in 1,000 dollars; interim is January to September

Firm	2021	2022	2023	Interim 2023	Interim 2024
Huntsman: Production operations	***	***	***	***	***
Olin	***	***	***	***	***
Westlake	***	***	***	***	***
All U.S. producers	***	***	***	***	***
3M - AASD	***	***	***	***	***
3M - EMD	***	***	***	***	***
Huntsman: Processing operations	***	***	***	***	***
Polytek	***	***	***	***	***
PPG	***	***	***	***	***
All U.S. processors	***	***	***	***	***
U.S. producers and U.S. processors combined	1,434,109	1,531,298	1,265,346	987,660	885,304

Table continued.

Table 6.7 (Continued) Epoxy resins: U.S. producers' and processors' sales, costs/expenses, and profitability, by firm and period

Gross profit or (loss)

Value in 1,000 dollars; interim is January to September

Firm	2021	2022	2023	Interim 2023	Interim 2024
Huntsman: Production operations	***	***	***	***	***
Olin	***	***	***	***	***
Westlake	***	***	***	***	***
All U.S. producers	***	***	***	***	***
3M - AASD	***	***	***	***	***
3M - EMD	***	***	***	***	***
Huntsman: Processing operations	***	***	***	***	***
Polytek	***	***	***	***	***
PPG	***	***	***	***	***
All U.S. processors	***	***	***	***	***
U.S. producers and U.S. processors combined	780,005	833,090	551,017	448,434	299,703

Table continued.

Table 6.7 (Continued) Epoxy resins: U.S. producers' and processors' sales, costs/expenses, and profitability, by firm and period

SG&A expenses

Value in 1,000 dollars; interim is January to September

Firm	2021	2022	2023	Interim 2023	Interim 2024
Huntsman: Production operations	***	***	***	***	***
Olin	***	***	***	***	***
Westlake	***	***	***	***	***
All U.S. producers	***	***	***	***	***
3M - AASD	***	***	***	***	***
3M - EMD	***	***	***	***	***
Huntsman: Processing operations	***	***	***	***	***
Polytek	***	***	***	***	***
PPG	***	***	***	***	***
All U.S. processors	***	***	***	***	***
U.S. producers and U.S. processors combined	254,434	260,178	284,059	208,501	200,095

Table continued.

Table 6.7 (Continued) Epoxy resins: U.S. producers' and processors' sales, costs/expenses, and profitability, by firm and period

Operating income or (loss)

Value in 1,000 dollars; interim is January to September

Firm	2021	2022	2023	Interim 2023	Interim 2024
Huntsman: Production operations	***	***	***	***	***
Olin	***	***	***	***	***
Westlake	***	***	***	***	***
All U.S. producers	***	***	***	***	***
3M - AASD	***	***	***	***	***
3M - EMD	***	***	***	***	***
Huntsman: Processing operations	***	***	***	***	***
Polytek	***	***	***	***	***
PPG	***	***	***	***	***
All U.S. processors	***	***	***	***	***
U.S. producers and U.S. processors combined	525,571	572,912	266,958	239,933	99,608

Table continued.

Table 6.7 (Continued) Epoxy resins: U.S. producers' and processors' sales, costs/expenses, and profitability, by firm and period

Net income or (loss)

Value in 1,000 dollars; interim is January to September

Firm	2021	2022	2023	Interim 2023	Interim 2024
Huntsman: Production operations	***	***	***	***	***
Olin	***	***	***	***	***
Westlake	***	***	***	***	***
All U.S. producers	***	***	***	***	***
3M - AASD	***	***	***	***	***
3M - EMD	***	***	***	***	***
Huntsman: Processing operations	***	***	***	***	***
Polytek	***	***	***	***	***
PPG	***	***	***	***	***
All U.S. processors	***	***	***	***	***
U.S. producers and U.S. processors combined	***	***	***	***	***

Table continued.

Table 6.7 (Continued) Epoxy resins: U.S. producers' and processors' sales, costs/expenses, and profitability, by firm and period

COGS to net sales ratio

Ratios in percent; interim is January to September

Firm	2021	2022	2023	Interim 2023	Interim 2024
Huntsman: Production operations	***	***	***	***	***
Olin	***	***	***	***	***
Westlake	***	***	***	***	***
All U.S. producers	***	***	***	***	***
3M - AASD	***	***	***	***	***
3M - EMD	***	***	***	***	***
Huntsman: Processing operations	***	***	***	***	***
Polytek	***	***	***	***	***
PPG	***	***	***	***	***
All U.S. processors	***	***	***	***	***
U.S. producers and U.S. processors combined	64.8	64.8	69.7	68.8	74.7

Table continued.

Table 6.7 (Continued) Epoxy resins: U.S. producers' and processors' sales, costs/expenses, and profitability, by firm and period

Gross profit or (loss) to net sales ratio

Ratios in percent; interim is January to September

Firm	2021	2022	2023	Interim 2023	Interim 2024
Huntsman: Production operations	***	***	***	***	***
Olin	***	***	***	***	***
Westlake	***	***	***	***	***
All U.S. producers	***	***	***	***	***
3M - AASD	***	***	***	***	***
3M - EMD	***	***	***	***	***
Huntsman: Processing operations	***	***	***	***	***
Polytek	***	***	***	***	***
PPG	***	***	***	***	***
All U.S. processors	***	***	***	***	***
U.S. producers and U.S. processors combined	35.2	35.2	30.3	31.2	25.3

Table continued.

Table 6.7 (Continued) Epoxy resins: U.S. producers' and processors' sales, costs/expenses, and profitability, by firm and period

SG&A expenses to net sales ratio

Ratios in percent; interim is January to September

Firm	2021	2022	2023	Interim 2023	Interim 2024
Huntsman: Production operations	***	***	***	***	***
Olin	***	***	***	***	***
Westlake	***	***	***	***	***
All U.S. producers	***	***	***	***	***
3M - AASD	***	***	***	***	***
3M - EMD	***	***	***	***	***
Huntsman: Processing operations	***	***	***	***	***
Polytek	***	***	***	***	***
PPG	***	***	***	***	***
All U.S. processors	***	***	***	***	***
U.S. producers and U.S. processors combined	11.5	11.0	15.6	14.5	16.9

Table continued.

Table 6.7 (Continued) Epoxy resins: U.S. producers' and processors' sales, costs/expenses, and profitability, by firm and period

Operating income or (loss) to net sales ratio

Ratios in percent; interim is January to September

Firm	2021	2022	2023	Interim 2023	Interim 2024
Huntsman: Production operations	***	***	***	***	***
Olin	***	***	***	***	***
Westlake	***	***	***	***	***
All U.S. producers	***	***	***	***	***
3M - AASD	***	***	***	***	***
3M - EMD	***	***	***	***	***
Huntsman: Processing operations	***	***	***	***	***
Polytek	***	***	***	***	***
PPG	***	***	***	***	***
All U.S. processors	***	***	***	***	***
U.S. producers and U.S. processors combined	23.7	24.2	14.7	16.7	8.4

Table continued.

Table 6.7 (Continued) Epoxy resins: U.S. producers' and processors' sales, costs/expenses, and profitability, by firm and period

Net income or (loss) to net sales ratio

Ratios in percent; interim is January to September

Firm	2021	2022	2023	Interim 2023	Interim 2024
Huntsman: Production operations	***	***	***	***	***
Olin	***	***	***	***	***
Westlake	***	***	***	***	***
All U.S. producers	***	***	***	***	***
3M - AASD	***	***	***	***	***
3M - EMD	***	***	***	***	***
Huntsman: Processing operations	***	***	***	***	***
Polytek	***	***	***	***	***
PPG	***	***	***	***	***
All U.S. processors	***	***	***	***	***
U.S. producers and U.S. processors combined	***	***	***	***	***

Table continued.

Table 6.7 (Continued) Epoxy resins: U.S. producers' and processors' sales, costs/expenses, and profitability, by firm and period

Unit net sales value

Unit values in dollars per pound; interim is January to September

Firm	2021	2022	2023	Interim 2023	Interim 2024
Huntsman: Production operations	***	***	***	***	***
Olin	***	***	***	***	***
Westlake	***	***	***	***	***
All U.S. producers	***	***	***	***	***
3M - AASD	***	***	***	***	***
3M - EMD	***	***	***	***	***
Huntsman: Processing operations	***	***	***	***	***
Polytek	***	***	***	***	***
PPG	***	***	***	***	***
All U.S. processors	***	***	***	***	***
U.S. producers and U.S. processors combined	2.66	3.32	2.60	2.69	2.29

Table continued.

Table 6.7 (Continued) Epoxy resins: U.S. producers' and processors' sales, costs/expenses, and profitability, by firm and period

Unit raw material costs

Unit values in dollars per pound; interim is January to September

Firm	2021	2022	2023	Interim 2023	Interim 2024
Huntsman: Production operations	***	***	***	***	***
Olin	***	***	***	***	***
Westlake	***	***	***	***	***
All U.S. producers	***	***	***	***	***
3M - AASD	***	***	***	***	***
3M - EMD	***	***	***	***	***
Huntsman: Processing operations	***	***	***	***	***
Polytek	***	***	***	***	***
PPG	***	***	***	***	***
All U.S. processors	***	***	***	***	***
U.S. producers and U.S. processors combined	1.14	1.43	1.15	1.19	1.07

Table continued.

Table 6.7 (Continued) Epoxy resins: U.S. producers' and processors' sales, costs/expenses, and profitability, by firm and period

Unit direct labor costs

Unit values in dollars per pound; interim is January to September

Firm	2021	2022	2023	Interim 2023	Interim 2024
Huntsman: Production operations	***	***	***	***	***
Olin	***	***	***	***	***
Westlake	***	***	***	***	***
All U.S. producers	***	***	***	***	***
3M - AASD	***	***	***	***	***
3M - EMD	***	***	***	***	***
Huntsman: Processing operations	***	***	***	***	***
Polytek	***	***	***	***	***
PPG	***	***	***	***	***
All U.S. processors	***	***	***	***	***
U.S. producers and U.S. processors combined	0.13	0.17	0.16	0.16	0.16

Table continued.

Table 6.7 (Continued) Epoxy resins: U.S. producers' and processors' sales, costs/expenses, and profitability, by firm and period

Unit other factory costs

Unit values in dollars per pound; interim is January to September

Firm	2021	2022	2023	Interim 2023	Interim 2024
Huntsman: Production operations	***	***	***	***	***
Olin	***	***	***	***	***
Westlake	***	***	***	***	***
All U.S. producers	***	***	***	***	***
3M - AASD	***	***	***	***	***
3M - EMD	***	***	***	***	***
Huntsman: Processing operations	***	***	***	***	***
Polytek	***	***	***	***	***
PPG	***	***	***	***	***
All U.S. processors	***	***	***	***	***
U.S. producers and U.S. processors combined	0.46	0.56	0.51	0.51	0.49

Table continued.

Table 6.7 (Continued) Epoxy resins: U.S. producers' and processors' sales, costs/expenses, and profitability, by firm and period

Unit COGS

Unit values in dollars per pound; interim is January to September

Firm	2021	2022	2023	Interim 2023	Interim 2024
Huntsman: Production operations	***	***	***	***	***
Olin	***	***	***	***	***
Westlake	***	***	***	***	***
All U.S. producers	***	***	***	***	***
3M - AASD	***	***	***	***	***
3M - EMD	***	***	***	***	***
Huntsman: Processing operations	***	***	***	***	***
Polytek	***	***	***	***	***
PPG	***	***	***	***	***
All U.S. processors	***	***	***	***	***
U.S. producers and U.S. processors combined	1.72	2.15	1.81	1.85	1.71

Table continued.

Table 6.7 (Continued) Epoxy resins: U.S. producers' and processors' sales, costs/expenses, and profitability, by firm and period

Unit gross profit or (loss)

Unit values in dollars per pound; interim is January to September

Firm	2021	2022	2023	Interim 2023	Interim 2024
Huntsman: Production operations	***	***	***	***	***
Olin	***	***	***	***	***
Westlake	***	***	***	***	***
All U.S. producers	***	***	***	***	***
3M - AASD	***	***	***	***	***
3M - EMD	***	***	***	***	***
Huntsman: Processing operations	***	***	***	***	***
Polytek	***	***	***	***	***
PPG	***	***	***	***	***
All U.S. processors	***	***	***	***	***
U.S. producers and U.S. processors combined	0.94	1.17	0.79	0.84	0.58

Table continued.

Table 6.7 (Continued) Epoxy resins: U.S. producers' and processors' sales, costs/expenses, and profitability, by firm and period

Unit SG&A expenses

Unit values in dollars per pound; interim is January to September

Firm	2021	2022	2023	Interim 2023	Interim 2024
Huntsman: Production operations	***	***	***	***	***
Olin	***	***	***	***	***
Westlake	***	***	***	***	***
All U.S. producers	***	***	***	***	***
3M - AASD	***	***	***	***	***
3M - EMD	***	***	***	***	***
Huntsman: Processing operations	***	***	***	***	***
Polytek	***	***	***	***	***
PPG	***	***	***	***	***
All U.S. processors	***	***	***	***	***
U.S. producers and U.S. processors combined	0.31	0.37	0.41	0.39	0.39

Table continued.

Table 6.7 (Continued) Epoxy resins: U.S. producers' and processors' sales, costs/expenses, and profitability, by firm and period

Unit operating income or (loss)

Unit values in dollars per pound; interim is January to September

Firm	2021	2022	2023	Interim 2023	Interim 2024
Huntsman: Production operations	***	***	***	***	***
Olin	***	***	***	***	***
Westlake	***	***	***	***	***
All U.S. producers	***	***	***	***	***
3M - AASD	***	***	***	***	***
3M - EMD	***	***	***	***	***
Huntsman: Processing operations	***	***	***	***	***
Polytek	***	***	***	***	***
PPG	***	***	***	***	***
All U.S. processors	***	***	***	***	***
U.S. producers and U.S. processors combined	0.63	0.80	0.38	0.45	0.19

Table continued.

Table 6.7 (Continued) Epoxy resins: U.S. producers' and processors' sales, costs/expenses, and profitability, by firm and period

Unit net income or (loss)

Unit values in dollars per pound; interim is January to September

Firm	2021	2022	2023	Interim 2023	Interim 2024
Huntsman: Production operations	***	***	***	***	***
Olin	***	***	***	***	***
Westlake	***	***	***	***	***
All U.S. producers	***	***	***	***	***
3M - AASD	***	***	***	***	***
3M - EMD	***	***	***	***	***
Huntsman: Processing operations	***	***	***	***	***
Polytek	***	***	***	***	***
PPG	***	***	***	***	***
All U.S. processors	***	***	***	***	***
U.S. producers and U.S. processors combined	***	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires.

Net sales

For the period as a whole (January 1, 2021 to September 30, 2024), commercial sales of epoxy resins accounted for the majority of U.S. producers' aggregate net sales quantity (***) percent) with transfers to related firms accounting for the remainder (***) percent).¹⁰ ¹¹ For U.S. processors' operations, internal consumption accounted for the majority of aggregate net sales quantity (***) percent), followed by commercial sales (***) percent), and transfers to related firms (***) percent).¹² The composition of U.S. producers' and U.S. processors' aggregate net sales quantity for the period examined was *** percent commercial sales, *** percent internal consumption, and *** percent transfers to related firms.¹³

¹⁰ *** reported transfers to related firms, which *** described as essentially the ***. Submission from ***, April 29, 2024; ***. As discussed in Part 3, ***.

¹¹ While all companies provided their financial results on a calendar-year basis, U.S. producers' and U.S. processors' total shipments in Part 3 do not match total net sales in Part 6. This is because ***. Staff phone interview with ***.

¹² ***.

¹³ Merchant market results for all firms combined are included in appendix H.

U.S. producers¹⁴

The U.S. producers' aggregate net sales quantity of epoxy resins declined from 2021 to 2023, with the largest absolute decline occurring from 2021 to 2022, and it was lower in interim 2024 than in interim 2023 (table 6.1). *** U.S. producers reported an overall decrease in net sales quantity from 2021 to 2023, but the lower net sales quantity in interim 2024 was *** attributable to ***, as *** in interim 2024 that *** higher than in interim 2023.

The U.S. producers' average per-pound net sales value increased from 2021 to its highest level in 2022 and then declined in 2023 for an overall decrease between 2021 and 2023. It was lower in interim 2024 (reaching a period low) than in interim 2023. *** matching the aggregate U.S. producer directional trends.¹⁵

*** had average net sales values that ***, with *** having slightly higher AUVs in each period examined. ***.

U.S. processors

U.S. processors' net sales quantity, value, and average unit value each increased from 2021 to 2023 and were lower in interim 2024 than in interim 2023. On a company-specific basis, four of five firms reported an overall increase in net sales quantity, value, and unit value between 2021 and 2023. Four firms also reported a lower net sales value in interim 2024 than interim 2023, however only three of five companies reported a lower net sales quantity and average unit value.¹⁶

¹⁴ As shown in figure 6.1, ***.

¹⁵ ***.

¹⁶ ***. *** U.S. producer questionnaire response, section V-6. ***. Email from ***.

Cost of goods sold and gross profit or loss

U.S. producers

As shown in table 6.1, U.S. producers' raw material costs accounted for approximately *** of their aggregate epoxy resins COGS during the period examined. The average per-pound raw material cost increased from \$*** in 2021, to a period high of \$*** in 2022, decreased to \$*** in 2023 and was lower in interim 2024 (\$***) than in interim 2023 (\$***).

Olin and Westlake are integrated with respect to upstream feedstocks, with Westlake producing BPA and Olin producing both BPA and ECH.¹⁷ ***, reported the lowest average raw material cost throughout the period. The fluctuations between periods experienced by *** were also less pronounced than those of ***. Company-specific cost assignments reflect the level of vertical integration and extent to which inputs are produced versus purchased.

Table 6.8 presents the U.S. producers' raw materials, by type. Olin and Westlake reported that BPA and ECH accounted for the largest share of raw material costs with *** identified as an important secondary input.¹⁸ *** reported purchasing inputs from related suppliers.¹⁹

¹⁷ Conference transcript, p. 67 (Bellinger). With regard to its overall operations, Westlake is a "... major producer of bisphenol-A ("BPA") and epichlorohydrin ("ECH")..." Westlake 2023 10-K, p. 5.

¹⁸ ***. *** U.S. producer questionnaires, section 3.9c.

***. *** U.S. producer questionnaire, section 3.9c.

¹⁹ The related supplier inputs reported by *** were ***, respectively, of its 2023 COGS. The corresponding valuation basis was ***. *** U.S. producer questionnaire response, sections 3.5 to 3.7a. The related supplier input reported by *** was ***, accounting for *** percent of 2023 COGS. The corresponding valuation basis was reported to be ***. *** U.S. producer questionnaire response, sections 3.5 to 3.7a. ***. Submission from ***, April 29, 2024.

Table 6.8 Epoxy resins: U.S. producers' raw material costs in 2023

Value in 1,000 dollars; unit values in dollars per pound; share of value in percent

Item	Value	Unit value	Share of value
BPA	***	***	***
ECH	***	***	***
Other material inputs	***	***	***
Total, raw materials	***	***	100.0

Source: Compiled from data submitted in response to Commission questionnaires.

Direct labor cost is the smallest component of U.S. producers' epoxy resins COGS (ranging from a low of *** percent of COGS in 2021 to a high of *** percent in interim 2024). The U.S. producers' average per-pound direct labor cost remained within a relatively narrow range. When comparing the two primary producers, *** reported the lowest average direct labor cost, while *** was somewhat higher.²⁰

U.S. producers' other factory costs, consistent with a capital-intensive manufacturing process, represent the second-largest component of epoxy resins' COGS (ranging from a low of *** percent of COGS in 2021 to a high of *** percent in 2023).²¹ *** U.S. producers reported average per-pound other factory costs that increased overall from 2021 to 2023 and were lower in interim 2024 than in interim 2023. ***.²² Additionally, ***.²³

²⁰ ***.

²¹ Conference transcript, p. 27 (Espinosa), p. 30 (Kaufman). As described by a Westlake company official, "... epoxy resin production is highly capital-intensive. Thus, any rate of production below full capacity utilization has a direct and significant effect on our per-unit fixed costs of production." Ibid.

²² The ***. U.S. producer questionnaire responses, section 3.10.

²³ In 2023, ***. U.S. producer questionnaire responses, section 3.10.

In contrast with raw material cost AUVs, *** had other factory cost AUVs that were higher than *** throughout the period examined. This likely reflects *** (see table 3.11). *** attributed increases in its average other factory costs in 2022 and 2023 to ***.²⁴ ***.²⁵

The U.S. producers' average per-pound COGS increased from 2021 to its highest level of the period examined in 2022 and then declined in 2023, returning to the level reported in 2021. The relatively large increase from 2021 to 2022 of the average per-pound COGS primarily reflects higher average raw material costs and, to a lesser extent, higher average other factory costs. In 2023, the decline in average per-pound COGS primarily reflects lower average raw material costs.²⁶ U.S. producers' average per-pound COGS was lower in interim 2024 than in interim 2023, primarily reflecting a lower average raw material cost, and to a lesser extent, lower average other factory costs.

The ratio of the U.S. producers' aggregate COGS to net sales value decreased slightly from *** percent in 2021 to *** percent in 2022, but then increased to *** percent in 2023; it hit a period high in interim 2024, at *** percent, which was higher than the *** percent experienced in interim 2023. The producers' gross profit decreased irregularly from \$*** in 2021 to \$*** in 2023 and was lower in interim 2024, at \$***, than in interim 2023, at \$***.

²⁴ Submission from ***, April 29, 2024.

²⁵ Submission from ***, April 29, 2024.

²⁶ *** integrated of the two primary U.S. producers, reported a more pronounced increase (2022) and decrease (2023) in its average raw material costs.

U.S. processors

As shown in table 6.3, U.S. processors' raw material costs represented *** percent of processors' aggregate COGS in 2023. The processors' raw material cost AUV increased irregularly from 2021 to 2023 but was lower in interim 2024 than in interim 2023.

Table 6.9 shows the shares of raw materials, by type and source for processors. Epoxy resins comprised *** percent of U.S. processors' aggregate raw materials, with other material inputs accounting for the remainder.²⁷ One respondent indicated its other material inputs included ***.^{28 29 30}

Table 6.9 Epoxy resins: U.S. processors' raw material costs in 2023

Value in 1,000 dollars; unit values in dollars per pound; share of value in percent

Item	Value	Share of value
Domestic epoxy resin costs	***	***
Subject epoxy resin costs	***	***
Nonsubject epoxy resin costs	***	***
All epoxy resin costs	***	***
Other material inputs	***	***
All raw material costs	***	100.0

Source: Compiled from data submitted in response to Commission questionnaires.

U.S. processors' direct labor costs accounted for *** percent of total COGS in 2023 (table 6.3). Processors' direct labor AUVs increased irregularly from 2021 to 2023 but were lower in interim 2024 than in interim 2023. Other factory costs accounted for the remaining *** percent of U.S. processors' aggregate COGS in 2023. On a per-pound basis, other factory costs fluctuated within a relatively narrow range during the period examined (between \$*** and \$*** per pound).

²⁷ This share is somewhat overstated because ***. Email from ***. This overstatement is likely ***.

²⁸ U.S. producer questionnaire responses, section 6.6.

²⁹ As mentioned previously, ***.

³⁰ The processors' average per-pound cost of epoxy resins was between \$*** and \$*** during the period examined. The relatively low unit values likely reflect the fact that the epoxy resins component of any blends only needs to account for a minimum of 30 percent of the total weight.

The ratio of the processors' aggregate COGS to net sales value increased from *** percent in 2021 to *** percent in 2022, decreased to *** percent in 2023, and was lower in interim 2024, at *** percent, than in interim 2023, at *** percent. The processors' gross profit increased from \$*** in 2021 to \$*** in 2023 but was lower in interim 2024, at \$***, than in interim 2023, at \$***.

Combined gross profit or loss

For U.S. producers and processors, total gross profit decreased irregularly from 2021 to 2023 and was lower in interim 2024 than in interim 2023. The overall decrease from 2021 to 2023 was driven by the decrease in the U.S. producers' gross profit, despite the U.S. processors' increase. While all firms except *** reported a lower gross profit in interim 2024 than in interim 2023, *** reported the largest company-specific decreases and were responsible for the majority of the combined decrease in interim 2024.

SG&A expenses and operating income or loss

As shown in table 6.1, U.S. producers' aggregate SG&A expenses decreased between 2021 and 2023 but were higher in interim 2024 than in interim 2023. The U.S. producers' SG&A expense ratios (SG&A expenses divided by net sales value) ranged from a low of *** percent in 2022 to a high of *** percent in interim 2024. After a relatively moderate increase in U.S. producers' aggregate operating income from 2021 to 2022, it decreased *** in 2023, decreasing by *** percent overall between 2021 and 2023. It worsened in interim 2024, when the U.S. producers reported ***, compared with *** in interim 2023.³¹

As shown in table 6.3, U.S. processors' aggregate SG&A expenses increased from 2021 to 2023 but were lower in interim 2024 than in interim 2023. The ratio of U.S. processors' SG&A expenses to net sales value was *** higher than for U.S. producers, ranging from a low of *** percent in 2022 and interim 2023 to a high of *** percent in 2021.³² The U.S. processors' operating income increased irregularly from 2021 to 2023 but was lower in interim 2024 than it was in interim 2023.

³¹ ***.

³² Though *** U.S. processors reported *** higher SG&A expense ratios relative to the two primary U.S. producers. In 2023, the U.S. processors' company-specific SG&A expense ratios ranged from *** percent, compared to Olin and Westlake's *** and *** percent, respectively. ***.

The U.S. producers' and processors' combined operating income increased moderately from 2021 to 2022, but then decreased noticeably in 2023, for an overall decrease of 49.2 percent between 2021 and 2023. It was 58.5 percent lower in interim 2024 than in interim 2023.

All other expenses and net income or loss

Classified below the operating income level are interest expense, all other expenses, and all other income. For U.S. producers, *** accounted for the *** majority of reported interest expense and other expenses, while *** accounted for the ***. Directionally, the U.S. producers' operating and net income were the same between 2021 and 2022 (both decreasing), between 2022 and 2023 (both increasing), and between the comparable interim periods (lower in interim 2024).

For the U.S. processors, *** accounted for the vast majority of the post-operating income line items.³³ Directionally, the U.S. producers' operating and net income were the same between 2021 and 2022 (both increasing), between 2022 and 2023 (both declining), and between the comparable interim periods (lower in interim 2024).

Combined net income for U.S. producers and processors increased from \$*** in 2021 to \$*** in 2022, and then decreased to \$*** in 2023. It was lower in interim 2024 (\$****) than in interim 2023 (\$****).³⁴

³³ ***.

³⁴ Due to the variability in product mix and cost structures among U.S. producers and processors, a variance analysis would not be meaningful and is thus not shown.

Capital expenditures and research and development expenses

Tables 6.10 and 6.12 present capital expenditures and R&D expenses, respectively. Tables 6.11 and 6.13 present the firms' narrative explanations of the nature, focus, and significance of their capital expenditures and R&D expenses, respectively.

As shown in table 6.10, U.S. producers and U.S. processors capital expenditures both decreased irregularly from 2021 to 2023 and were lower in interim 2024 than in interim 2023.³⁵ Table 6.12 shows that U.S. producers and U.S. processors had opposite directional trends for R&D expenses. U.S. producers' R&D expenses decreased from 2021 to 2023 but were higher in interim 2024 than in interim 2023, whereas U.S. processors' R&D expenses increased from 2021 to 2023 but were lower in interim 2024 than in interim 2023.

Table 6.10 Epoxy resins: U.S. producers' and processors' capital expenditures, by firm and period

Value in 1,000 dollars; interim is January to September

Firm	2021	2022	2023	Interim 2023	Interim 2024
Huntsman: Production operations	***	***	***	***	***
Olin	***	***	***	***	***
Westlake	***	***	***	***	***
All U.S. producers	***	***	***	***	***
3M - AASD	***	***	***	***	***
3M - EMD	***	***	***	***	***
Huntsman: Processing operations	***	***	***	***	***
Polytek	***	***	***	***	***
PPG	***	***	***	***	***
All U.S. processors	***	***	***	***	***
U.S. producers and U.S. processors combined	77,008	51,212	51,235	36,231	32,306

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Zeroes, null values, and undefined calculations are suppressed and shown as “—”.

³⁵ *** . *** U.S. producer questionnaire, section II-2a.

Table 6.11 Epoxy resins: U.S. producers' and processors' narrative descriptions of their capital expenditures, by firm

Firm	Narrative on capital expenditures
U.S. producer/processor: Huntsman	***
U.S. producer: Olin	***
U.S. producer: Westlake	***
U.S. processor: 3M - AASD	***
U.S. processor: 3M - EMD	***
U.S. processor: PPG	***
U.S. processor: Polytek	***

Source: Compiled from data submitted in response to Commission questionnaires.

Table 6.12 Epoxy resins: U.S. producers' and processors' R&D expenses, by firm and period

Value in 1,000 dollars

Firm	2021	2022	2023	Interim 2023	Interim 2024
Huntsman: Production operations	***	***	***	***	***
Olin	***	***	***	***	***
Westlake	***	***	***	***	***
All U.S. producers	***	***	***	***	***
3M - AASD	***	***	***	***	***
3M - EMD	***	***	***	***	***
Huntsman: Processing operations	***	***	***	***	***
Polytek	***	***	***	***	***
PPG	***	***	***	***	***
All U.S. processors	***	***	***	***	***
U.S. producers and U.S. processors combined	37,941	37,574	38,032	31,633	29,743

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Zeroes, null values, and undefined calculations are suppressed and shown as “—”.

Table 6.13 Epoxy resins: U.S. producers' and processors' narrative descriptions of their R&D expenses, by firm

Firm	Narrative on R&D expenses
U.S. producer/processor: Huntsman	***
U.S. producer: Olin	***
U.S. producer: Westlake	***
U.S. processor: 3M - AASD	***
U.S. processor: 3M - EMD	***
U.S. processor: PPG	***
U.S. processor: Polytek	***

Source: Compiled from data submitted in response to Commission questionnaires.

Assets and return on assets

Table 6.14 presents data on the U.S. producers' and processors' total assets while table 6.15 presents their operating ROA.³⁶ Table 6.16 presents U.S. producers' and processors' narrative responses explaining their major asset categories and any significant changes in asset levels over time. The U.S. producers and processors aggregate assets increased from 2021 to 2023 which was attributable to an increase in U.S. processors' assets, as U.S. producers' assets declined due, in part, to the ***.

Table 6.14 Epoxy resins: U.S. producers' and processors' total net assets, by firm and period

Value in 1,000 dollars

Firm	2021	2022	2023
Huntsman: Production operations	***	***	***
Olin	***	***	***
Westlake	***	***	***
All U.S. producers	***	***	***
3M - AASD	***	***	***
3M - EMD	***	***	***
Huntsman: Processing operations	***	***	***
Polytek	***	***	***
PPG	***	***	***
All U.S. processors	***	***	***
U.S. producers and U.S. processors combined	2,008,803	2,099,846	2,159,260

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Zeroes, null values, and undefined calculations are suppressed and shown as “—”.

³⁶ The operating ROA is calculated as operating income divided by total assets. With respect to a firm's overall operations, the total asset value reflects an aggregation of a number of assets which are generally not product specific. Thus, high-level allocations are generally required in order to report a total asset value on a product-specific basis.

Table 6.15 Epoxy resins: U.S. producers' and processors' operating ROA, by firm and period

Ratio in percent

Firm	2021	2022	2023
Huntsman: Production operations	***	***	***
Olin	***	***	***
Westlake	***	***	***
All U.S. producers	***	***	***
3M - AASD	***	***	***
3M - EMD	***	***	***
Huntsman: Processing operations	***	***	***
Polytek	***	***	***
PPG	***	***	***
All U.S. processors	***	***	***
U.S. producers and U.S. processors combined	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Zeroes, null values, and undefined calculations are suppressed and shown as “—”.

Table 6.16 Epoxy resins: U.S. producers' and processors' narrative descriptions of their total net assets, by firm

Firm	Narrative on assets
U.S. producer/processor: Huntsman	***
U.S. producer: Olin	***
U.S. producer: Westlake	***
U.S. processor: 3M - AASD	***
U.S. processor: 3M - EMD	***
U.S. processor: PPG	***
U.S. processor: Polytek	***

Source: Compiled from data submitted in response to Commission questionnaires.

Capital and investment

The Commission requested U.S. producers and processors of epoxy resins to describe any actual or potential negative effects of imports of epoxy resins from China, India, South Korea, Taiwan, and Thailand on their firms' growth, investment, ability to raise capital, development and production efforts, or the scale of capital investments. Tables 6.17 and 6.19 present the number of U.S. producers and U.S. processors, respectively, reporting an impact in each category. Tables 6.18 and 6.20 provide the U.S. producers' and U.S. processors' narrative responses describing these effects.

Table 6.17 Epoxy resins: Count of U.S. producers indicating actual and anticipated negative effects of imports from subject sources on investment, growth, and development since January 1, 2021, by effect

Number of firms reporting

Effect	Category	Count
Cancellation, postponement, or rejection of expansion projects	Investment	***
Denial or rejection of investment proposal	Investment	***
Reduction in the size of capital investments	Investment	***
Return on specific investments negatively impacted	Investment	***
Other investment effects	Investment	***
Any negative effects on investment	Investment	***
Rejection of bank loans	Growth	***
Lowering of credit rating	Growth	***
Problem related to the issue of stocks or bonds	Growth	***
Ability to service debt	Growth	***
Other growth and development effects	Growth	***
Any negative effects on growth and development	Growth	***
Anticipated negative effects of imports	Future	***

Source: Compiled from data submitted in response to Commission questionnaires.

Table 6.18 Epoxy resins: U.S. producers' narratives relating to actual and anticipated negative effects of imports on investment, growth, and development, since January 1, 2021, by firm and effect

Item	Firm name and narrative on impact of imports
***	***
***	***
***	***
***	***
***	***
***	***
***	***
***	***

Source: Compiled from data submitted in response to Commission questionnaires.

Table 6.19 Epoxy resins: Count of U.S. processors indicating actual and anticipated negative effects of imports from subject sources on investment, growth, and development since January 1, 2021, by effect

Number of firms reporting

Effect	Category	Count
Cancellation, postponement, or rejection of expansion projects	Investment	***
Denial or rejection of investment proposal	Investment	***
Reduction in the size of capital investments	Investment	***
Return on specific investments negatively impacted	Investment	***
Other investment effects	Investment	***
Any negative effects on investment	Investment	***
Rejection of bank loans	Growth	***
Lowering of credit rating	Growth	***
Problem related to the issue of stocks or bonds	Growth	***
Ability to service debt	Growth	***
Other growth and development effects	Growth	***
Any negative effects on growth and development	Growth	***
Anticipated negative effects of imports	Future	***

Source: Compiled from data submitted in response to Commission questionnaires.

Note: ***. *** U.S. producer questionnaire, section 6.13.

Table 6.20 Epoxy resins: U.S. processors' narratives relating to actual and anticipated negative effects of imports on investment, growth, and development, since January 1, 2021, by firm and effect

Item	Firm name and narrative on impact of imports
***	***
***	***
***	***
***	***
***	***

Source: Compiled from data submitted in response to Commission questionnaires.

Note: ***. *** U.S. producer questionnaire responses, section 6.13.

Part 7: Threat considerations and information on nonsubject countries

Section 771(7)(F)(i) of the Act (19 U.S.C. § 1677(7)(F)(i)) provides that—

In determining whether an industry in the United States is threatened with material injury by reason of imports (or sales for importation) of the subject merchandise, the Commission shall consider, among other relevant economic factors¹--

- (I) if a countervailable subsidy is involved, such information as may be presented to it by the administering authority as to the nature of the subsidy (particularly as to whether the countervailable subsidy is a subsidy described in Article 3 or 6.1 of the Subsidies Agreement), and whether imports of the subject merchandise are likely to increase,*
- (II) any existing unused production capacity or imminent, substantial increase in production capacity in the exporting country indicating the likelihood of substantially increased imports of the subject merchandise into the United States, taking into account the availability of other export markets to absorb any additional exports,*
- (III) a significant rate of increase of the volume or market penetration of imports of the subject merchandise indicating the likelihood of substantially increased imports,*
- (IV) whether imports of the subject merchandise are entering at prices that are likely to have a significant depressing or suppressing effect on domestic prices, and are likely to increase demand for further imports,*
- (V) inventories of the subject merchandise,*

¹ Section 771(7)(F)(ii) of the Act (19 U.S.C. § 1677(7)(F)(ii)) provides that “The Commission shall consider {these factors} . . . as a whole in making a determination of whether further dumped or subsidized imports are imminent and whether material injury by reason of imports would occur unless an order is issued or a suspension agreement is accepted under this title. The presence or absence of any factor which the Commission is required to consider . . . shall not necessarily give decisive guidance with respect to the determination. Such a determination may not be made on the basis of mere conjecture or supposition.”

- (VI) *the potential for product-shifting if production facilities in the foreign country, which can be used to produce the subject merchandise, are currently being used to produce other products,*
- (VII) *in any investigation under this title which involves imports of both a raw agricultural product (within the meaning of paragraph (4)(E)(iv)) and any product processed from such raw agricultural product, the likelihood that there will be increased imports, by reason of product shifting, if there is an affirmative determination by the Commission under section 705(b)(1) or 735(b)(1) with respect to either the raw agricultural product or the processed agricultural product (but not both),*
- (VIII) *the actual and potential negative effects on the existing development and production efforts of the domestic industry, including efforts to develop a derivative or more advanced version of the domestic like product, and*
- (IX) *any other demonstrable adverse trends that indicate the probability that there is likely to be material injury by reason of imports (or sale for importation) of the subject merchandise (whether or not it is actually being imported at the time).²*

Information on the nature of the subsidies was presented earlier in this report; information on the volume and pricing of imports of the subject merchandise is presented in Parts 4 and 5; and information on the effects of imports of the subject merchandise on U.S. producers' existing development and production efforts is presented in Part 6. Information on inventories of the subject merchandise; foreign producers' operations, including the potential for "product-shifting;" any other threat indicators, if applicable; and any dumping in third-country markets, follows. Also presented in this section of the report is information obtained for consideration by the Commission on nonsubject countries.

² Section 771(7)(F)(iii) of the Act (19 U.S.C. § 1677(7)(F)(iii)) further provides that, in antidumping investigations, "... the Commission shall consider whether dumping in the markets of foreign countries (as evidenced by dumping findings or antidumping remedies in other WTO member markets against the same class or kind of merchandise manufactured or exported by the same party as under investigation) suggests a threat of material injury to the domestic industry."

Subject countries

The Commission issued foreign producers' or exporters' questionnaires to 75 firms believed to produce and/or export epoxy resins from China, India, South Korea, Taiwan, and Thailand.³ Usable responses to the Commission's questionnaire were received from 14 firms.⁴ Table 7.1 presents a summary of the number of responding firms from each subject country, these firms' estimated share of in-country epoxy resins production in 2023, and their estimated share of exports as a share of U.S. imports from subject country in 2023.

Table 7.1 Epoxy resins: Number of responding producers/exporters, approximate share of production, and exports to the United States as a share of U.S. imports, by subject foreign industry, 2023

Subject foreign industry	Number of responding firms	Approximate share of production (percent)	Exports as a share of U.S. imports from subject country (percent)
China	2	***	***
India	4	***	***
South Korea	4	***	***
Taiwan	3	***	***
Thailand	1	***	***
All subject foreign industries	14	*** to ***	*** to ***
All subject foreign industries less China and India	8	*** to ***	*** to ***

Source: Compiled from data submitted in response to Commission questionnaires.

Note: "Approximate share of production" reflects the responding firms' estimates of their production as a share of total country production of epoxy resins in 2023. Since not all firms have perfect knowledge of the industry in their home market, different firms might use different denominators in estimating their firm's share of the total requested. For countries in which more than one firm responded, the average denominator for reasonably reported estimates is used in the share presented. Approximate shares are rounded to the nearest whole number.

Note: "Exports as a share of U.S. imports" reflects a comparison of export data reported by firms in response to the Commission's foreign producer/exporter questionnaire with adjusted official Commerce import statistics using HTS statistical reporting numbers 3907.30.0000, accessed December 30, 2024 (as presented in table 4.2).

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "---".

³ These firms were identified through a review of information submitted in the petitions and presented in third-party sources.

⁴ The Commission also received questionnaire response from *** which reported that it did not produce and/or export epoxy resins from subject sources since January 1, 2021.

Table 7.2 presents information on the epoxy resin operations of the responding subject foreign producers and exporters in 2023. Of the responding 14 firms, *** of South Korea accounted for the largest share of production and exports to the United States. In 2023, these firms' share of production was *** percent and their share of exports to the United States accounted for *** percent.

Table 7.2 Epoxy resins: Summary data for subject foreign producers/exporters, by subject foreign industry and firm, 2023

Subject foreign industry: Producer	Production (1,000 pounds)	Share of reported production (percent)	Exports to the United States (1,000 pounds)	Share of reported exports to the United States (percent)	Total shipments (1,000 pounds)	Share of firm's total shipments exported to the United States (percent)
China: Blue Cube CN	***	***	***	***	***	***
China: Huntsman	***	***	***	***	***	***
India: Atul	***	***	***	***	***	***
India: Cardolite	***	***	***	***	***	***
India: Champion	***	***	***	***	***	***
India: Grasim India	***	***	***	***	***	***
South Korea: Blue Cube KR	***	***	***	***	***	***
South Korea: KPB	***	***	***	***	***	***
South Korea: Kukdo	***	***	***	***	***	***
South Korea: Westlake	***	***	***	***	***	***
Taiwan: Chang Chun	***	***	***	***	***	***
Taiwan: Nan Ya	***	***	***	***	***	***
Taiwan: Swancor	***	***	***	***	***	***
Thailand: Aditya Thailand	***	***	***	***	***	***
All individual producers	2,365,303	100.0	232,415	100.0	2,391,949	9.7
All individual producers less China and India	***	***	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "—".

Table 7.3 presents summary information on responding subject foreign resellers of epoxy resins. In 2023, resellers' exports to the United States accounted for *** percent of total exports reported by responding subject foreign producers/exporters.

Table 7.3 Epoxy resins: Summary data for subject foreign resellers, by subject foreign industry and firm, 2023

Subject foreign industry: Reseller	Resales exported to the United States (1,000 pounds)	Share of resales exported to the United States (percent)
China: Atul	***	***
China: Nan Ya Plastics	***	***
India: Champion	***	***
South Korea: Atul	***	***
South Korea: Champion	***	***
Taiwan: Atul	***	***
All individual resellers	2,104	100.0
All individual resellers less China and India	***	***

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "—".

Note: Resales are purchased from a different country than the foreign producers' countries of origin.

Table 7.4 presents a summary of reported epoxy resins production in each subject country, exports from each subject country to the United States, and total shipments from each subject country in 2023. In 2023, South Korea accounted for the largest share of epoxy resins production among all subject sources (***) percent). South Korea also accounted for the largest share of exports to the United States (***) percent). South Korea's exports to the United States as a share of their total shipments was *** percent, the highest among all subject countries.

Table 7.4 Epoxy resins: Summary data for subject foreign producers, by subject foreign industry, 2023

Subject foreign industry	Production (1,000 pounds)	Share of reported production (percent)	Exports to the United States (1,000 pounds)	Share of reported exports to the United States (percent)	Total shipments (1,000 pounds)	Share of firm's total shipments exported to the United States (percent)
China	***	***	***	***	***	***
India	***	***	***	***	***	***
South Korea	***	***	***	***	***	***
Taiwan	***	***	***	***	***	***
Thailand	***	***	***	***	***	***
All subject foreign industries	2,365,303	100.0	232,415	100.0	2,391,949	9.7
All subject foreign industries less China and India	***	***	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "—".

Industry events in the subject countries

Table 7.5 presents events in the subject countries' industries since January 1, 2021.

Table 7.5 Epoxy resins: Important industry events in the subject foreign industry since 2021

Item	Country	Firm: Event
Expansion	Thailand	On April 12, 2021, the ambassador to India visited Thailand to learn more about a technology that will allow for epoxy resins to be recycled, called Recyclamine®. The Aditya Birla Group was in the process of establishing a new manufacturing plant for Recyclamine® with 10,000 tons (20 million pounds, equivalent to 20,000 thousand pounds) per annum capacity, located in Thailand. The plant would subsequently be expanded to 50,000 tons (200 million pounds or 200,000 thousand pounds) per annum capacity. It was stated that in coming years, Thailand will be the pioneer and hub for Recyclamine® the product will be exported all over the world.
Expansion	India	On June 15, 2021, it was announced that Aditya would increase epoxy product capacity by approximately 125 kilo tonnes (275.578 million pounds, equivalent to 275,578 thousand pounds) per annum through a brown field expansion at its Vilayat, Gujarat, India location. It will include standard & specialty epoxy products along with curing agents.
Expansion	China	On January 6, 2022, it was announced that Yangnong was scheduled to start a new 180 kilo tonnes (396.832 million pounds, equivalent to 396,832 thousand pounds) per annum epoxy resin plant in December 2021. Though not designated for full operation immediately, it was set to increase supply to the market early in 2022. A further 280 kilo tonnes (617.294 million pounds, equivalent to 617,294 thousand pounds) per annum capacity was planned to come online in 2022, followed by an extra 1,160 kilo tonnes (2.557 billion pounds, equivalent to 2,557,362 thousand pounds) per annum epoxy resins capacity in the next two to three years.
Expansion	South Korea	On April 13, 2022, it was announced that KPB said it will continue to expand the annual production capacity of its epoxy resin while focusing on developing high-value epoxy using its own technologies. In addition, the company is aiming to secure a stable supply of raw materials for epoxy resins through joint investments.
Expansion	South Korea	On August 8, 2022, KPB announced that it had entered into a partnership with OCIM to produce 100 kilo tonnes (220.462 million pounds, equivalent to 220,462 thousand pounds) per annum of epichlorohydrin (a raw material for epoxy resin) in Malaysia.
Ceased operations	South Korea	On March 21, 2023, Olin Corp. announced that it made the decision to cease operations at its Cumene facility in Terneuzen, Netherlands (nonsubject) and solid epoxy resin production at its facilities in Gumi, South Korea and Guaruja, Brazil. Olin's first quarter 2023 results were forecast to include approximately \$57 million of restructuring charges associated with these plans of which approximately \$15 million of these restructuring charges represent non-cash asset impairment charges.

Item	Country	Firm: Event
Expansion	South Korea	On April 15, 2023, it was announced in the Korea Times that KPB aims to solidify its position in the global market by constructing an additional plant to produce 60,000 tons (120 million pounds, equivalent to 120,000 thousand pounds) of epoxy resin by the fourth quarter of 2023.
Expansion	China	On May 11, 2023, it was announced the new development of electronic grade epoxy resin and special resin new materials, with a capacity of 200,000 tons (400 million pounds, equivalent to 400,000 thousand pounds) per year.

Source: Kim Jae-heun, "Kumho Petrochemical Group Invests in New Growth Engines," The Korea Times, April 13, 2022, https://www.koreatimes.co.kr/www/tech/2024/05/129_327281.html; The Korea Times, "Kumho Petrochemical to overcome economic slowdown with strategic agility," April 16, 2023 Update, https://www.koreatimes.co.kr/www/tech/2024/05/129_349066.html; Jeong Seong Wook, "OCIM and Kumho P&B Venture to Produce Epichlorohydrin (ECH) In Sarawak, The First ECH Project in Malaysia," MIDA, August 8, 2022, <https://www.mida.gov.my/media-release/ocim-and-kumho-pb-venture-to-produce-epichlorohydrin-ech-in-sarawak-the-first-ech-project-in-malaysia/>; Coatings World, "Aditya Birla Advanced Materials Invests in Epoxy Resins, Curing Agents Business," June 15, 2021, https://www.coatingsworld.com/contents/view_breaking-news/2021-06-15/aditya-birla-advanced-materials-invests-in-epoxy-resins-curing-agents-business/; The Bangkok Post, "Ambassador of India to Thailand visits Aditya Birla Group's Chemical Business's Advanced Materials Plant," April 12, 2021, <https://www.bangkokpost.com/thailand/pr/2098879/ambassador-of-india-to-thailand-visits-aditya-birla-groups-chemical-businesss-advanced-materials-plant>; Sunny Zhang, "How Will New Capacities Reshape the Epoxy Resin Market in China?" January 6, 2022, <https://www.orbichem.com/blog/how-will-new-capacities-reshape-the-epoxy-resin-market-in-china>; Patricia Jose Perez, "Largest Electronic Grade Epoxy Resin Project Announces Production of 200,000 Tons/Year," ChemAnalyst, May 11, 2023, <https://www.chemanalyst.com/NewsAndDeals/NewsDetails/largest-electronic-grade-epoxy-resin-project-announces-production-of-200000-tons-year-17269>.

Changes in operations

Subject producers were asked to report any change in the character of their operations or organization relating to the production of epoxy resins since 2021. Nine out of the 14 firms indicated in their questionnaires that they had experienced such changes. One firm reported a plant closing and three firms reported prolonged shutdowns. Six firms reported expansions, one firm reported a relocation, and one firm reported an acquisition. Tables 7.6 and 7.7 present the changes identified by these foreign producers.

Table 7.6 Epoxy resins: Count of reported changes in operations since January 1, 2021, by subject foreign industry and type of change in operation

Count in number of firms reporting

Item	China	India	South Korea	Taiwan	Thailand	Subject foreign industries	Subject foreign industries less China and India
Plant openings	***	***	***	***	***	0	***
Plant closings	***	***	***	***	***	1	***
Prolonged shutdowns	***	***	***	***	***	3	***
Production curtailments	***	***	***	***	***	0	***
Relocations	***	***	***	***	***	1	***
Expansions	***	***	***	***	***	6	***
Acquisitions	***	***	***	***	***	1	***
Consolidations	***	***	***	***	***	0	***
Weather-related or force majeure events	***	***	***	***	***	0	***
Other	***	***	***	***	***	0	***
Any change	***	***	***	***	***	12	***

Source: Compiled from data submitted in response to Commission questionnaires.

Table 7.7 Epoxy resins: Reported changes in operations in subject foreign industries since January 1, 2021, by reported change category and firm

Item	Subject foreign industry: Firm name and accompanying narrative response regarding changes in operations
Plant closings	***
Prolonged shutdowns	***
Prolonged shutdowns	***
Prolonged shutdowns	***
Relocations	***
Expansions	***

Item	Subject foreign industry: Firm name and accompanying narrative response regarding changes in operations
Expansions	***
Expansions	***
Expansions	***
Expansions	***
Expansions	***
Acquisitions	***

Source: Compiled from data submitted in response to Commission questionnaires.

In addition to changes in operations, subject foreign producers also reported on anticipated changes. Subject foreign producers also commented on the impact of the COVID-19 pandemic on their epoxy resins operations. Firms' narrative responses are presented in tables 7.8 and 7.9, respectively.

Table 7.8 Epoxy resins: Foreign producers' reported anticipated changes in operations in subject foreign industries, by firm

Firm	Narrative on anticipated changes in operations
Aditya Thailand	***
Blue Cube KR	***
KPB	***
Westlake	***

Source: Compiled from data submitted in response to Commission questionnaires.

Table 7.9 Epoxy resins: Foreign producers' reported COVID-19 impact in subject foreign industries, by firm

Firm	Narrative on COVID-19 impact
Blue Cube CN	***
KPB	***

Source: Compiled from data submitted in response to Commission questionnaires.

Installed and practical overall capacity

Table 7.10 presents data on subject foreign producers' installed and practical overall capacity and production on the same equipment and table 7.11 presents the data less China and India. Consistent with company expansions (as noted above), subject foreign producers' practical overall capacity increased by 5.9 percent during 2021 through 2023 and it was higher by 8.3 percent in interim 2024 compared with interim 2023. However, despite increasing capacity, subject foreign producers' practical overall production decreased by 3.9 percent, from 2.52 billion pounds in 2021 to 2.42 billion pounds in 2023. Practical overall production, however, was higher by 2.6 percent in interim 2024 compared with interim 2023. Practical overall utilization, consequently, decreased by 7.4 percentage points during 2021 through 2023 and it was also lower by 3.8 percentage points in interim 2024 compared with interim 2023.

Table 7.10 Epoxy resins: Producers' in subject foreign industries installed and practical capacity and production on the same equipment as subject production, by period

Capacity and production in 1,000 pounds; utilization in percent; interim period is January through September

Item	Measure	2021	2022	2023	Interim 2023	Interim 2024
Installed overall	Capacity	3,750,584	3,830,672	4,012,180	3,054,425	3,303,577
Installed overall	Production	2,518,919	2,343,615	2,421,000	1,829,188	1,877,473
Installed overall	Utilization	67.2	61.2	60.3	59.9	56.8
Practical overall	Capacity	3,150,399	3,198,861	3,334,810	2,545,138	2,755,383
Practical overall	Production	2,518,919	2,343,615	2,421,000	1,829,188	1,877,473
Practical overall	Utilization	80.0	73.3	72.6	71.9	68.1
Practical Epoxy resins	Capacity	3,067,231	3,116,621	3,250,325	2,481,863	2,689,298
Practical Epoxy resins	Production	2,477,803	2,299,505	2,365,303	1,787,853	1,827,098
Practical Epoxy resins	Utilization	80.8	73.8	72.8	72.0	67.9

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "—".

Table 7.11 Epoxy resins: Producers' in subject foreign industries installed and practical capacity and production on the same equipment as subject production less China and India, by period

Capacity and production in 1,000 pounds; utilization in percent; Interim period is January through September

Item	Measure	2021	2022	2023	Interim 2023	Interim 2024
Installed overall	Capacity	***	***	***	***	***
Installed overall	Production	***	***	***	***	***
Installed overall	Utilization	***	***	***	***	***
Practical overall	Capacity	***	***	***	***	***
Practical overall	Production	***	***	***	***	***
Practical overall	Utilization	***	***	***	***	***
Practical Epoxy resins	Capacity	***	***	***	***	***
Practical Epoxy resins	Production	***	***	***	***	***
Practical Epoxy resins	Utilization	***	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "—".

Constraints on capacity

Tables 7.12 and 7.13 presents subject foreign producers' reported production and capacity constraints since January 1, 2021. Firms reported constraints with production bottlenecks, labor, supplies, logistics, and other factors including shutdowns for maintenance/repairs and regulations to maintain environmental and safety standards.

Table 7.12 Epoxy resins: Count of reported production constraints, by subject foreign industry and type of constraint

Count in number of firms reporting

Type of constraint	China	India	South Korea	Taiwan	Thailand	Subject foreign industries	Subject foreign industries less China and India
Production bottlenecks	***	***	***	***	***	1	***
Existing labor force	***	***	***	***	***	3	***
Supply of material inputs	***	***	***	***	***	1	***
Fuel or energy	***	***	***	***	***	0	***
Storage capacity	***	***	***	***	***	0	***
Logistics/transportation	***	***	***	***	***	1	***
Other constraints	***	***	***	***	***	6	***
Any constraint	***	***	***	***	***	12	***

Source: Compiled from data submitted in response to Commission questionnaires.

Table 7.13 Epoxy resins: Producers' in subject foreign industries reported constraints to practical overall capacity since January 1, 2021, by type of subject foreign industry, firm, and type of constraint

Type of constraint	Subject foreign industry, firm name, and narrative response on constraints to practical overall capacity
Production bottlenecks	***
Existing labor force	***
Existing labor force	***
Existing labor force	***
Supply of material inputs	***
Logistics/transportation	***
Other constraints	***
Other constraints	***

Type of constraint	Subject foreign industry, firm name, and narrative response on constraints to practical overall capacity
Other constraints	***
Other constraints	***
Other constraints	***
Other constraints	***

Source: Compiled from data submitted in response to Commission questionnaires.

Operations on epoxy resins

Aggregate epoxy resins operations in the subject countries

Table 7.14 presents information on the epoxy resin operations of the responding producers, exporters, and resellers (aggregate data for all subject foreign industries) and table 7.15 presents the data less China and India. Subject foreign producers' practical epoxy resins capacity, like overall capacity, increased during the periods examined. Largely led by ***, capacity increased by 6.0 percent during 2021 through 2023, it was higher in interim 2024 compared with interim 2023, and it is projected to be higher in 2025 compare with 2024 and 2023. Conversely, practical epoxy resins production, largely led by ***, decreased by 4.5 percent from 2.48 billion pounds in 2021 to 2.37 billion pounds in 2023. Practical production, however, was higher in interim 2024 compared with interim 2023, and it is projected to be higher in 2025 compared with 2024 and 2023.

The majority of subject foreign producers'/exporters' shipments consisted of home market shipments. Subject foreign producers'/exporters' exports to the United States as a share of their total shipments were less than 11.0 percent during 2021 through 2023 and projected 2024 and 2025. Notwithstanding, subject foreign producers' and resellers' exports to the United States, largely led by ***, increased by 22.8 percent from 190.9 million pounds in 2021 to 234.5 million pounds in 2023. Exports to the United States were also projected to be higher in 2025 compared with 2024 and 2023.

Table 7.14 Epoxy resins: Data on subject foreign industries, by item and period

Quantity in 1,000 pounds; interim period is January through September

Item	2021	2022	2023
Capacity	3,067,231	3,116,621	3,250,325
Production	2,477,803	2,299,505	2,365,303
End-of-period inventories	176,054	204,240	177,594
Internal consumption	446,790	430,354	480,515
Commercial home market shipments	688,928	670,019	676,065
Home market shipments	1,135,718	1,100,373	1,156,580
Exports to the United States	190,877	210,708	232,415
Exports to all other markets	1,086,652	960,236	1,002,954
Export shipments	1,277,529	1,170,944	1,235,369
Total shipments	2,413,247	2,271,317	2,391,949
Resales exported to the United States	45	188	2,104
Total exports to the United States	190,922	210,896	234,519

Table continued.

Table 7.14 (Continued) Epoxy resins: Data on subject foreign industries, by item and period

Quantity in 1,000 pounds; interim period is January through September

Item	Interim 2023	Interim 2024	Projection 2024	Projection 2025
Capacity	2,481,863	2,689,298	3,524,023	3,558,968
Production	1,787,853	1,827,098	2,317,397	2,602,604
End-of-period inventories	169,949	176,552	151,815	193,322
Internal consumption	362,692	389,849	497,530	581,351
Commercial home market shipments	510,173	523,535	712,298	802,697
Home market shipments	872,865	913,384	1,209,828	1,384,048
Exports to the United States	193,636	166,069	211,071	230,628
Exports to all other markets	755,640	749,193	926,171	980,827
Export shipments	949,276	915,262	1,137,242	1,211,455
Total shipments	1,822,141	1,828,646	2,347,070	2,595,503
Resales exported to the United States	1,829	219	219	78
Total exports to the United States	195,465	166,288	211,290	230,706

Table continued.

Table 7.14 (Continued) Epoxy resins: Data on subject foreign industries, by period

Shares and ratios in percent; interim period is January through September

Item	2021	2022	2023	Interim 2023	Interim 2024	Projection 2024	Projection 2025
Capacity utilization ratio	80.8	73.8	72.8	72.0	67.9	65.8	73.1
Inventory ratio to production	7.1	8.9	7.5	7.1	7.2	6.6	7.4
Inventory ratio to total shipments	7.3	9.0	7.4	7.0	7.2	6.5	7.4
Internal consumption share	18.5	18.9	20.1	19.9	21.3	21.2	22.4
Commercial home market shipments share	28.5	29.5	28.3	28.0	28.6	30.3	30.9
Home market shipments share	47.1	48.4	48.4	47.9	49.9	51.5	53.3
Exports to the United States share	7.9	9.3	9.7	10.6	9.1	9.0	8.9
Exports to all other markets share	45.0	42.3	41.9	41.5	41.0	39.5	37.8
Export shipments share	52.9	51.6	51.6	52.1	50.1	48.5	46.7
Total shipments share	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Share of total exports to the United States by producers	100.0	99.9	99.1	99.1	99.9	99.9	100.0
Share of total exports to the United States by resellers	0.0	0.1	0.9	0.9	0.1	0.1	0.0
Adjusted share of total shipments exported to the United States	7.9	9.3	9.8	10.7	9.1	9.0	8.9

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "—".

Table 7.15 Epoxy resins: Data on subject foreign industries less China and India, by item and period

Quantity in 1,000 pounds; interim period is January through September

Item	2021	2022	2023
Capacity	***	***	***
Production	***	***	***
End-of-period inventories	***	***	***
Internal consumption	***	***	***
Commercial home market shipments	***	***	***
Home market shipments	***	***	***
Exports to the United States	***	***	***
Exports to all other markets	***	***	***
Export shipments	***	***	***
Total shipments	***	***	***
Resales exported to the United States	***	***	***
Total exports to the United States	***	***	***

Table continued.

Table 7.15 (Continued) Epoxy resins: Data on subject foreign industries less China and India, by item and period

Quantity in 1,000 pounds; interim period is January through September

Item	Interim 2023	Interim 2024	Projection 2024	Projection 2025
Capacity	***	***	***	***
Production	***	***	***	***
End-of-period inventories	***	***	***	***
Internal consumption	***	***	***	***
Commercial home market shipments	***	***	***	***
Home market shipments	***	***	***	***
Exports to the United States	***	***	***	***
Exports to all other markets	***	***	***	***
Export shipments	***	***	***	***
Total shipments	***	***	***	***
Resales exported to the United States	***	***	***	***
Total exports to the United States	***	***	***	***

Table continued.

Table 7.15 (Continued) Epoxy resins: Data on subject foreign industries less China and India, by period

Shares and ratios in percent; interim period is January through September

Item	2021	2022	2023	Interim 2023	Interim 2024	Projection 2024	Projection 2025
Capacity utilization ratio	***	***	***	***	***	***	***
Inventory ratio to production	***	***	***	***	***	***	***
Inventory ratio to total shipments	***	***	***	***	***	***	***
Internal consumption share	***	***	***	***	***	***	***
Commercial home market shipments share	***	***	***	***	***	***	***
Home market shipments share	***	***	***	***	***	***	***
Exports to the United States share	***	***	***	***	***	***	***
Exports to all other markets share	***	***	***	***	***	***	***
Export shipments share	***	***	***	***	***	***	***
Total shipments share	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Share of total exports to the United States by producers	***	***	***	***	***	***	***
Share of total exports to the United States by resellers	***	***	***	***	***	***	***
Adjusted share of total shipments exported to the United States	***	***	***	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "—".

Practical epoxy resins capacity and production by subject foreign industry

Table 7.16 presents information on subject foreign producers' production, capacity, and capacity utilization by subject country. Trends in practical capacity from each subject country were mixed. During 2021 through 2023, China's, India's, and South Korea's capacity increased, Taiwan's capacity decreased, while Thailand's capacity stayed consistent in each annual period. Production trends were also mixed. During 2021 through 2023, India's and Thailand's production increased, while China's, South Korea's, and Taiwan's decreased. Each subject country's capacity and production, except for Taiwan, were projected to be higher in 2025 as compared with 2023.

South Korea accounted for the largest share of production, although decreasing over time, during 2021 through 2023 and in projected 2024 and 2025.

Table 7.16 Epoxy resins: Subject foreign industries' output, by source and period

Practical capacity

Capacity in 1,000 pounds; interim period is January through September

Subject foreign industry	2021	2022	2023	Interim 2023	Interim 2024	Projection 2024	Projection 2025
China	***	***	***	***	***	***	***
India	***	***	***	***	***	***	***
South Korea	***	***	***	***	***	***	***
Taiwan	***	***	***	***	***	***	***
Thailand	***	***	***	***	***	***	***
All subject foreign industries	3,067,231	3,116,621	3,250,325	2,481,863	2,689,298	3,524,023	3,558,968
All subject foreign industries less China and India	***	***	***	***	***	***	***

Table continued.

Table 7.16 (Continued) Epoxy resins: Subject foreign industries' output, by source and period

Production

Production in 1,000 pounds; interim period is January through September

Subject foreign industry	2021	2022	2023	Interim 2023	Interim 2024	Projection 2024	Projection 2025
China	***	***	***	***	***	***	***
India	***	***	***	***	***	***	***
South Korea	***	***	***	***	***	***	***
Taiwan	***	***	***	***	***	***	***
Thailand	***	***	***	***	***	***	***
All subject foreign industries	2,477,803	2,299,505	2,365,303	1,787,853	1,827,098	2,317,397	2,602,604
All subject foreign industries less China and India	***	***	***	***	***	***	***

Table continued.

Table 7.16 (Continued) Epoxy resins: Subject foreign industries' output, by source and period

Capacity utilization

Ratio in percent; interim period is January through September

Subject foreign industry	2021	2022	2023	Interim 2023	Interim 2024	Projection 2024	Projection 2025
China	***	***	***	***	***	***	***
India	***	***	***	***	***	***	***
South Korea	***	***	***	***	***	***	***
Taiwan	***	***	***	***	***	***	***
Thailand	***	***	***	***	***	***	***
All subject foreign industries	80.8	73.8	72.8	72.0	67.9	65.8	73.1
All subject foreign industries less China and India	***	***	***	***	***	***	***

Note: Capacity utilization ratio represents the ratio of the subject producer's production to its production capacity.

Table continued.

Table 7.16 (Continued) Epoxy resins: Subject foreign industries' output, by source and period

Share of production

Share in percent; interim period is January through September

Subject foreign industry	2021	2022	2023	Interim 2023	Interim 2024	Projection 2024	Projection 2025
China	***	***	***	***	***	***	***
India	***	***	***	***	***	***	***
South Korea	***	***	***	***	***	***	***
Taiwan	***	***	***	***	***	***	***
Thailand	***	***	***	***	***	***	***
All subject foreign industries	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Table continued.

Table 7.16 (Continued) Epoxy resins: Subject foreign industries' output, by source and period

Share of production less China and India

Share in percent; interim period is January through September

Subject foreign industry	2021	2022	2023	Interim 2023	Interim 2024	Projection 2024	Projection 2025
South Korea	***	***	***	***	***	***	***
Taiwan	***	***	***	***	***	***	***
Thailand	***	***	***	***	***	***	***
All subject foreign industries less China and India	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "—".

Epoxy resins exports by subject industry

Table 7.17 presents information on subject foreign industries' total exports and exports to the United States of epoxy resins. Most subject foreign industries, with the exception of China and India, are export oriented. All subject foreign industries exports to the United States combined, however, were less than less than 11.0 percent in each period examined. During 2021 through 2023, subject foreign industries' exports to the United States increased by 21.8 percent. However, these exports were lower by 14.2 percent in interim 2024 compared with interim 2023 and they are also projected to be lower in 2024 and 2025 compared with 2023.

Table 7.17 Epoxy resins: Subject foreign producers' exports, by subject foreign industry and period

Exports to the United States

Quantity in 1,000 pounds; interim period is January through September

Subject foreign industry	2021	2022	2023	Interim 2023	Interim 2024	Projection 2024	Projection 2025
China	***	***	***	***	***	***	***
India	***	***	***	***	***	***	***
South Korea	***	***	***	***	***	***	***
Taiwan	***	***	***	***	***	***	***
Thailand	***	***	***	***	***	***	***
All subject foreign industries	190,877	210,708	232,415	193,636	166,069	211,071	230,628
All subject foreign industries less China and India	***	***	***	***	***	***	***

Table continued.

Table 7.17 (Continued) Epoxy resins: Subject foreign producers' exports, by subject foreign industry and period

Share of total shipments exported to the United States

Share in percent; interim period is January through September

Subject foreign industry	2021	2022	2023	Interim 2023	Interim 2024	Projection 2024	Projection 2025
China	***	***	***	***	***	***	***
India	***	***	***	***	***	***	***
South Korea	***	***	***	***	***	***	***
Taiwan	***	***	***	***	***	***	***
Thailand	***	***	***	***	***	***	***
All subject foreign industries	7.9	9.3	9.7	10.6	9.1	9.0	8.9
All subject foreign industries less China and India	***	***	***	***	***	***	***

Table continued.

Table 7.17 (Continued) Epoxy resins: Subject foreign producers' exports, by subject foreign industry and period

Total exports

Quantity in 1,000 pounds; interim period is January through September

Subject foreign industry	2021	2022	2023	Interim 2023	Interim 2024	Projection 2024	Projection 2025
China	***	***	***	***	***	***	***
India	***	***	***	***	***	***	***
South Korea	***	***	***	***	***	***	***
Taiwan	***	***	***	***	***	***	***
Thailand	***	***	***	***	***	***	***
All subject foreign industries	1,277,529	1,170,944	1,235,369	949,276	915,262	1,137,242	1,211,455
All subject foreign industries less China and India	***	***	***	***	***	***	***

Table continued.

Table 7.17 (Continued) Epoxy resins: Subject foreign producers' exports, by subject foreign industry and period

Share of total shipments exported

Share in percent; interim period is January through September

Subject foreign industry	2021	2022	2023	Interim 2023	Interim 2024	Projection 2024	Projection 2025
China	***	***	***	***	***	***	***
India	***	***	***	***	***	***	***
South Korea	***	***	***	***	***	***	***
Taiwan	***	***	***	***	***	***	***
Thailand	***	***	***	***	***	***	***
All subject foreign industries	52.9	51.6	51.6	52.1	50.1	48.5	46.7
All subject foreign industries less China and India	***	***	***	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "—".

Note: Data does not account for resellers' quantity because it accounted for less than 1.5 percent of total combined share.

Epoxy resin inventories by subject foreign industry

Table 7.18 presents information on ending inventory of the responding producers by subject foreign industry. The ratio of inventories to total shipments for all subject foreign industries combined was less than 10.0 percent in each period examined. Inventories increased irregularly by 0.9 percent during 2021 through 2023, they were higher in interim 2024 compared with interim 2023, and they were higher in 2025 compared with 2024 and 2023.

Table 7.18 Epoxy resins: Subject foreign industries' inventories, by subject foreign industry and period

End of period inventories

Quantity in 1,000 pounds; interim period is January through September

Subject foreign industry	2021	2022	2023	Interim 2023	Interim 2024	Projection 2024	Projection 2025
China	***	***	***	***	***	***	***
India	***	***	***	***	***	***	***
South Korea	***	***	***	***	***	***	***
Taiwan	***	***	***	***	***	***	***
Thailand	***	***	***	***	***	***	***
All subject foreign industries	176,054	204,240	177,594	169,949	176,552	151,815	193,322
All subject foreign industries less China and India	***	***	***	***	***	***	***

Table continued.

Table 7.18 (Continued) Epoxy resins: Subject foreign industries' inventories, by subject foreign industry and period

Ratio of inventories to total shipments

Ratio in percent; Interim period is January through September

Subject foreign industry	2021	2022	2023	Interim 2023	Interim 2024	Projection 2024	Projection 2025
China	***	***	***	***	***	***	***
India	***	***	***	***	***	***	***
South Korea	***	***	***	***	***	***	***
Taiwan	***	***	***	***	***	***	***
Thailand	***	***	***	***	***	***	***
All subject foreign industries	7.3	9.0	7.4	7.0	7.2	6.5	7.4
All subject foreign industries less China and India	***	***	***	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "—". Data does not account for resellers' quantity because it accounted for less than 1.5 percent of total combined share.

Alternative products

Table 7.19 presents foreign producers' production of other products on the same equipment and machinery used to produce epoxy resins and table 7.20 presents the data less China and India. Six responding foreign producers, *** reported production of out-of-scope merchandise on the same equipment. Subject foreign producers reported producing other products including ***. The share of out-of-scope production to total production on the same equipment was less than 3.0 percent in each period examined. During 2021 through 2023, out-of-scope production increased by 35.5 percent and it was higher by 21.9 percent in interim 2024 compared with interim 2023.

Table 7.19 Epoxy resins: Producers' in subject foreign industries overall production on the same equipment as subject production, by product type and period

Quantities in 1,000 pounds; shares and ratios in percent; interim period is January through September

Product type	Measure	2021	2022	2023	Interim 2023	Interim 2024
Epoxy resins	Quantity	2,477,803	2,299,505	2,365,303	1,787,853	1,827,098
Other products	Quantity	41,116	44,110	55,697	41,335	50,375
All products	Quantity	2,518,919	2,343,615	2,421,000	1,829,188	1,877,473
Epoxy resins	Share	98.4	98.1	97.7	97.7	97.3
Other products	Share	1.6	1.9	2.3	2.3	2.7
All products	Share	100.0	100.0	100.0	100.0	100.0

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "—".

Table 7.20 Epoxy resins: Producers' in subject foreign industries overall production on the same equipment as subject production less China and India, by product type and period

Quantities in 1,000 pounds; shares and ratios in percent; interim period is January through September

Product type	Measure	2021	2022	2023	Interim 2023	Interim 2024
Epoxy resins	Quantity	***	***	***	***	***
Other products	Quantity	***	***	***	***	***
All products	Quantity	***	***	***	***	***
Epoxy resins	Share	***	***	***	***	***
Other products	Share	***	***	***	***	***
All products	Share	100.0	100.0	100.0	100.0	100.0

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "—".

Exports

Table 7.21 presents Global Trade Atlas (“GTA”) data for exports of epoxy resins from subject countries to the United States and to all destination markets. According to GTA, during 2021 through 2023 subject exporters, except for South Korea, primarily exported epoxy resins to markets outside of the United States.

Table 7.21 Epoxy resins: Global exports from subject exporters: Exports to the United States and the world, by exporter, destination, and period

Quantity in 1,000 pounds; shares in percent

Exporter	Measure	Destination Market	2021	2022	2023
China	Quantity	United States	8,424	6,324	4,084
India	Quantity	United States	1,989	4,481	4,720
South Korea	Quantity	United States	149,812	184,032	124,679
Taiwan	Quantity	United States	16,525	32,455	39,989
Thailand	Quantity	United States	12,355	10,481	12,718
Subject exporters	Quantity	United States	189,106	237,772	186,191
Subject exporters less China and India	Quantity	United States	178,693	226,967	177,387
China	Quantity	All destination markets	695,893	487,540	352,247
India	Quantity	All destination markets	132,096	149,968	158,933
South Korea	Quantity	All destination markets	52,317	42,786	48,857
Taiwan	Quantity	All destination markets	33,419	25,050	28,948
Thailand	Quantity	All destination markets	74,939	65,981	64,979
Subject exporters	Quantity	All destination markets	988,664	771,326	653,963
Subject exporters less China and India	Quantity	All destination markets	160,675	133,818	142,784
China	Share of quantity	United States	3.6	3.3	2.5
India	Share of quantity	United States	0.9	2.3	2.8
South Korea	Share of quantity	United States	64.5	95.0	75.1
Taiwan	Share of quantity	United States	7.1	16.8	24.1
Thailand	Share of quantity	United States	5.3	5.4	7.7
Subject exporters	Share of quantity	United States	81.4	122.8	112.1
Subject exporters less China and India	Share of quantity	United States	78.0	118.8	109.2

Source: Official exports statistics and official global imports statistics from Global Trade Atlas under HS subheadings 3907.30 as reported by various national statistical authorities in the Global Trade Atlas Suite database, accessed December 30, 2024.

Note: Shares represent the shares of value exported to the United States out of all destination markets. Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "---". World reporting quantity has unknown units from certain countries and is not shown here.

U.S. inventories of imported merchandise

Table 7.22 presents data on U.S. importers' reported inventories of epoxy resins. During 2021 through 2023, importers' inventories from each subject country increased. Inventories from China increased by *** percent, while inventories from India, South Korea, Taiwan, and Thailand increased *** percent. In total, importers' held inventories from subject countries increased by 222.3 percent from 6.7 million pounds in 2021 to 21.6 million pounds in 2023 and were higher by 32.9 percent in interim 2024 compared with interim 2023. The held inventories of epoxy resins from nonsubject source, by comparison, decreased by 0.3 percent from 8.31 million pounds in 2021 to 8.29 million pounds in 2023 and were lower by 14.9 percent in interim 2024 compared with interim 2023.

Table 7.22 Epoxy resins: U.S. importers' inventories and their ratio to select items, by source and period

Quantity in 1,000 pounds; ratio in percent; interim period is January through September

Measure	Source	2021	2022	2023	Interim 2023	Interim 2024
Inventories quantity	China	***	***	***	***	***
Ratio to imports	China	***	***	***	***	***
Ratio to U.S. shipments of imports	China	***	***	***	***	***
Ratio to total Shipments of imports	China	***	***	***	***	***
Inventories quantity	India	***	***	***	***	***
Ratio to imports	India	***	***	***	***	***
Ratio to U.S. shipments of imports	India	***	***	***	***	***
Ratio to total Shipments of imports	India	***	***	***	***	***
Inventories quantity	South Korea	***	***	***	***	***
Ratio to imports	South Korea	***	***	***	***	***
Ratio to U.S. shipments of imports	South Korea	***	***	***	***	***
Ratio to total Shipments of imports	South Korea	***	***	***	***	***
Inventories quantity	Taiwan	***	***	***	***	***
Ratio to imports	Taiwan	***	***	***	***	***
Ratio to U.S. shipments of imports	Taiwan	***	***	***	***	***
Ratio to total Shipments of imports	Taiwan	***	***	***	***	***
Inventories quantity	Thailand	***	***	***	***	***
Ratio to imports	Thailand	***	***	***	***	***
Ratio to U.S. shipments of imports	Thailand	***	***	***	***	***
Ratio to total Shipments of imports	Thailand	***	***	***	***	***

Table continued.

Table 7.22 (Continued) Epoxy resins: U.S. importers' inventories and their ratio to select items, by source and period

Quantity in 1,000 pounds; ratio in percent; interim period is January through September

Measure	Source	2021	2022	2023	Interim 2023	Interim 2024
Inventories quantity	Subject	6,691	15,028	21,565	27,474	36,511
Ratio to imports	Subject	***	***	***	***	***
Ratio to U.S. shipments of imports	Subject	***	***	***	***	***
Ratio to total Shipments of imports	Subject	***	***	***	***	***
Inventories quantity	Subject less China and India	6,349	13,874	20,165	26,192	34,799
Ratio to imports	Subject less China and India	***	***	***	***	***
Ratio to U.S. shipments of imports	Subject less China and India	***	***	***	***	***
Ratio to total Shipments of imports	Subject less China and India	***	***	***	***	***
Inventories quantity	Nonsubject	8,311	10,277	8,288	11,487	9,778
Ratio to imports	Nonsubject	***	***	***	***	***
Ratio to U.S. shipments of imports	Nonsubject	***	***	***	***	***
Ratio to total Shipments of imports	Nonsubject	***	***	***	***	***
Inventories quantity	Nonsubject plus China and India	8,653	11,431	9,688	12,769	11,490
Ratio to imports	Nonsubject plus China and India	***	***	***	***	***
Ratio to U.S. shipments of imports	Nonsubject plus China and India	***	***	***	***	***
Ratio to total Shipments of imports	Nonsubject plus China and India	***	***	***	***	***
Inventories quantity	All imports	15,002	25,305	29,853	38,961	46,289
Ratio to imports	All imports	***	***	***	***	***
Ratio to U.S. shipments of imports	All imports	***	***	***	***	***
Ratio to total Shipments of imports	All imports	***	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "—".

U.S. importers' outstanding orders

The Commission requested importers to indicate whether they imported or arranged for the importation of epoxy resins subject and nonsubject sources after September 30, 2024. Their reported data are presented in table 7.23. In total, 56.5 million pounds of epoxy resins have been arranged to be imported during October 2024 through September 2025. Imports from South Korea account for the largest share of arranged imports at *** percent.

Table 7.23 Epoxy resins: Arranged imports, by source and by period

Quantity in 1,000 pounds, share and ratio in percent

Source	Measure	Q4 2024	Q1 2025	Q2 2025	Q3 2025	Total
China	Quantity	***	***	***	***	***
India	Quantity	***	***	***	***	***
South Korea	Quantity	***	***	***	***	***
Taiwan	Quantity	***	***	***	***	***
Thailand	Quantity	***	***	***	***	***
Subject sources	Quantity	32,742	8,497	2,089	860	44,188
Subject sources less China and India	Quantity	31,216	7,162	1,951	860	41,189
Nonsubject sources	Quantity	5,784	3,150	1,703	1,680	12,317
Nonsubject sources plus China and India	Quantity	7,310	4,485	1,841	1,680	15,316
All import sources	Quantity	38,526	11,647	3,792	2,540	56,505
China	Share	***	***	***	***	***
India	Share	***	***	***	***	***
South Korea	Share	***	***	***	***	***
Taiwan	Share	***	***	***	***	***
Thailand	Share	***	***	***	***	***
Subject sources	Share	85.0	73.0	55.1	33.9	78.2
Subject sources less China and India	Share	81.0	61.5	51.5	33.9	72.9
Nonsubject sources	Share	15.0	27.0	44.9	66.1	21.8
Nonsubject sources plus China and India	Share	19.0	38.5	48.5	66.1	27.1
All import sources	Share	100.0	100.0	100.0	100.0	100.0
China	Ratio	***	***	***	***	***
India	Ratio	***	***	***	***	***
South Korea	Ratio	***	***	***	***	***
Taiwan	Ratio	***	***	***	***	***
Thailand	Ratio	***	***	***	***	***
Subject sources	Ratio	***	***	***	***	***
Subject sources less China and India	Ratio	***	***	***	***	***
Nonsubject sources	Ratio	***	***	***	***	***
Nonsubject sources plus China and India	Ratio	***	***	***	***	***
All import sources	Ratio	***	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "—". Ratio represents relative size of arranged imports in the specified units relative to overall apparent consumption to 2023.

Third-country trade actions

In June 2024, India initiated an antidumping investigation on imports of liquid epoxy resins from China, South Korea, Saudi Arabia, Taiwan, and Thailand.⁵ In July 2024, the European Union launched an antidumping investigation into imports of epoxy resins from China, South Korea, Taiwan, and Thailand.⁶ On February 27, 2025, the European Commission officially announced its preliminary ruling with imposition of temporary anti-dumping duties on China, Taiwan, and Thailand, but not South Korea.⁷

Information on nonsubject countries

Global capacity, production, net exports, and consumption of epoxy resins are shown in tables 7.24 and 7.25. The largest nonsubject producers were Western Europe and Japan, and they had the greatest consumption in 2023.

The largest global exporters of epoxy resins were South Korea, Taiwan, and Germany in 2023, shown in table 7.26.⁸ For the three largest nonsubject countries, Germany had a 12.2 percent share of quantity (404.9 million pounds), followed by the Netherlands with a 6.0 percent share (198.3 million pounds), followed by the Czech Republic with a 3.1 percent share (103.2 million pounds).

Canada's largest global imports were from the United States (70.5 percent share of quantity), followed by China (12.9 percent share of quantity), followed by South Korea (5.7 percent share of quantity), as shown in table 7.27.

⁵ Government of India, Department of Commerce, "Anti-dumping investigation concerning imports of 'Liquid Epoxy Resins' originating in or exported from China PR, Korea RP, Saudi Arabia, Taiwan and Thailand," June 24, 2024, <https://www.dgtr.gov.in/anti-dumping-cases/anti-dumping-investigation-concerning-imports-%E2%80%9Cliquid-epoxy-resins%E2%80%9D-originating>.

⁶ Official Journal of the European Union, "Commission Implementing Regulation (EU) 2025/393," February 26, 2025, http://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=OJ:L_202500393.

⁷ The provisional anti-dumping duty rates were 32.1 percent for Thailand, ranged from 10.8 to 11 percent for Taiwan, and ranged from 24.2 to 40.8 percent for China. EU, "Commission Implementing Regulation (EU) 2025/393 of 26 February 2025 imposing a provisional anti-dumping duty on imports of epoxy resins originating in the People's Republic of China, Taiwan, and Thailand," February 26, 2025, <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32025R0393&qid=1742264236877>; Chemical Weekly, "EU proposes anti-dumping duties on epoxy resin imports from China and other countries," February 21, 2025, <https://www.chemicalweekly.com/news/sharednews/article/1212?isLatestNews=true>.

⁸ At the 6-digit level, the HS term is "epoxide" resins, and the term is epoxy resins for industry terminology. In this case, the HTS 10-digit level (statistical reporting number 3907.30.0000) is the same products as the HS 6-digit level (HS 3907.30). The term epoxy is used for both levels.

Canada's largest global exports were to the United States (87.0 percent share of quantity),⁹ followed by China (0.8 percent share of quantity), followed by the South Korea (0.2 percent share of quantity), as shown in table 7.28.

Table 7.24. Epoxy resins: Global capacity, production, and net exports, 2023

Quantity in thousands of metric tons

Source	Annual capacity	Production	Net exports
United States	***	***	***
Canada	***	***	***
Mexico	***	***	***
Central and South America	***	***	***
Total Americas	***	***	***
Western Europe	***	***	***
Central and Eastern Europe	***	***	***
Eurasia	***	***	***
Middle East	***	***	***
Africa	***	***	***
Total Europe, Middle East, and Africa	***	***	***
Mainland China	***	***	***
Indian Subcontinent	***	***	***
Other Southern Asia	***	***	***
Japan	***	***	***
South Korea	***	***	***
Taiwan	***	***	***
Thailand	***	***	***
Other South East Asia	***	***	***
Oceania	***	***	***
Total Asia Pacific	***	***	***
All sources	***	***	***

Source: Chemical Economics Handbook, October 2024, p. 8.

⁹ Firms responding to the Commission's U.S. importer questionnaire were asked to report their U.S. imports of epoxy resins from Canada that were of Chinese origin. Of the 37 responding U.S. importers, ***. U.S. importers' questionnaire, section 2.11.

Table 7.25. Epoxy resins: Actual and forecasted global consumption, 2023 to 2029, by source

Quantity in thousands of metric tons; average annual growth in percent

Source	Consumption 2023	Consumption 2024	Consumption 2029 (forecast)	Average annual forecasted growth rate 2024 to 2029
United States	***	***	***	***
Canada	***	***	***	***
Mexico	***	***	***	***
Central and South America	***	***	***	***
Total Americas	***	***	***	***
Western Europe	***	***	***	***
Central and Eastern Europe	***	***	***	***
Eurasia	***	***	***	***
Middle East	***	***	***	***
Africa	***	***	***	***
Total Europe, Middle East, and Africa	***	***	***	***
Mainland China	***	***	***	***
India	***	***	***	***
Other Southern Asia	***	***	***	***
Japan	***	***	***	***
South Korea	***	***	***	***
Taiwan	***	***	***	***
Thailand	***	***	***	***
Other Southeast Asia	***	***	***	***
Oceania	***	***	***	***
Total Asia Pacific	***	***	***	***
All sources	***	***	***	***

Source: Chemical Economics Handbook, October 2024, p. 8.

Table 7.26. Epoxy resins: Global exports by exporter and period

Quantity in 1,000 pounds; shares in percent

Exporting country	Measure	2021	2022	2023
United States	Quantity	328,081	289,532	279,981
China	Quantity	223,305	276,493	381,035
India	Quantity	57,158	66,304	54,246
South Korea	Quantity	822,673	684,955	685,200
Taiwan	Quantity	567,675	510,882	452,266
Thailand	Quantity	139,928	111,404	139,928
Subject exporters	Quantity	2,138,820	1,939,570	1,992,656
Subject exporters less China and India	Quantity	1,858,357	1,596,773	1,557,375
Germany	Quantity	638,402	460,986	404,856
Netherlands	Quantity	239,561	197,403	198,256
Czech Republic	Quantity	128,458	119,793	103,217
Japan	Quantity	110,216	104,307	84,796
Switzerland	Quantity	114,158	98,268	80,991
Italy	Quantity	91,982	93,394	72,898
All other exporters	Quantity	562,644	504,563	389,305
Nonsubject exporters	Quantity	1,885,421	1,578,713	1,334,320
Nonsubject exporters plus China and India	Quantity	2,165,884	1,921,510	1,769,601
All reporting exporters	Quantity	4,024,241	3,518,283	3,326,975
United States	Share of quantity	8.2	8.2	8.4
China	Share of quantity	5.5	7.9	11.5
India	Share of quantity	1.4	1.9	1.6
South Korea	Share of quantity	20.4	19.5	20.6
Taiwan	Share of quantity	14.1	14.5	13.6
Thailand	Share of quantity	3.5	3.2	4.2
Subject exporters	Share of quantity	53.1	55.1	59.9
Subject exporters less China and India	Share of quantity	46.2	45.4	46.8
Germany	Share of quantity	15.9	13.1	12.2
Netherlands	Share of quantity	6.0	5.6	6.0
Czech Republic	Share of quantity	3.2	3.4	3.1
Japan	Share of quantity	2.7	3.0	2.5
Switzerland	Share of quantity	2.8	2.8	2.4
Italy	Share of quantity	2.3	2.7	2.2
All other exporters	Share of quantity	14.0	14.3	11.7
Nonsubject exporters	Share of quantity	46.9	44.9	40.1
Nonsubject exporters plus China and India	Share of quantity	53.8	54.6	53.2
All reporting exporters	Share of quantity	100.0	100.0	100.0

Source: Official exports statistics and official global imports statistics from Global Trade Atlas under HS subheadings 3907.30 as reported by various national statistical authorities in the Global Trade Atlas Suite database, accessed December 30, 2024.

Note: The United States is shown at the top followed by the countries under investigation, all remaining top exporting countries in descending order of 2023 data.

Table 7.27. Epoxy resins: Canada imports by source and period

Quantity in 1,000 pounds; shares in percent

Source	Measure	2021	2022	2023
United States	Quantity	50,107	45,863	44,373
China	Quantity	3,987	5,942	8,134
India	Quantity	607	1,147	761
South Korea	Quantity	7,695	6,475	3,570
Taiwan	Quantity	4,450	3,269	3,086
Thailand	Quantity	1,239	380	351
South Africa	Quantity	9	304	691
Saudi Arabia	Quantity	6	462	595
Switzerland	Quantity	58	274	320
Germany	Quantity	562	286	251
All other sources	Quantity	1,183	1,471	778
All sources	Quantity	69,902	65,873	62,910
United States	Share of quantity	71.7	69.6	70.5
China	Share of quantity	5.7	9.0	12.9
India	Share of quantity	0.9	1.7	1.2
South Korea	Share of quantity	11.0	9.8	5.7
Taiwan	Share of quantity	6.4	5.0	4.9
Thailand	Share of quantity	1.8	0.6	0.6
South Africa	Share of quantity	0.0	0.5	1.1
Saudi Arabia	Share of quantity	0.0	0.7	0.9
Switzerland	Share of quantity	0.1	0.4	0.5
Germany	Share of quantity	0.8	0.4	0.4
All other sources	Share of quantity	1.7	2.2	1.2
All sources	Share of quantity	100.0	100.0	100.0

Source: Official imports statistics from Global Trade Atlas under HS subheadings 3907.30 as reported by Statistics Canada in the Global Trade Atlas Suite database, accessed February 12, 2025.

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. United States is shown at the top followed by the countries under investigation, all remaining top exporting countries in descending order of 2023 data.

Table 7.28. Epoxy resins: Canada exports by destination market and period

Quantity in 1,000 pounds; shares in percent

Export destination	Measure	2021	2022	2023
United States	Quantity	14,060	12,819	11,631
China	Quantity	70	110	110
South Korea	Quantity	15	12	26
Taiwan	Quantity	2	—	2
India	Quantity	44	59	14
South Africa	Quantity	0	0	3
Saudi Arabia	Quantity	51	85	41
Thailand	Quantity	1	3	11
Switzerland	Quantity	—	—	4
Germany	Quantity	76	9	15
All other sources	Quantity	1,481	1,752	1,512
All sources	Quantity	15,799	14,850	13,369
United States	Share of quantity	89.0	86.3	87.0
China	Share of quantity	0.4	0.7	0.8
South Korea	Share of quantity	0.1	0.1	0.2
Taiwan	Share of quantity	0.0	—	0.0
India	Share of quantity	0.3	0.4	0.1
South Africa	Share of quantity	0.0	0.0	0.0
Saudi Arabia	Share of quantity	0.3	0.6	0.3
Thailand	Share of quantity	0.0	0.0	0.1
Switzerland	Share of quantity	—	—	0.0
Germany	Share of quantity	0.5	0.1	0.1
All other sources	Share of quantity	9.4	11.8	11.3
All sources	Share of quantity	100.0	100.0	100.0

Source: Official imports statistics from Global Trade Atlas under HS subheadings 3907.30 as reported by Statistics Canada in the Global Trade Atlas Suite database, accessed February 12, 2025.

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "---". United States is shown at the top followed by the countries under investigation, all remaining top exporting countries in descending order of 2023 data.

APPENDIX A

FEDERAL REGISTER NOTICES

The Commission makes available notices relevant to its investigations and reviews on its website, www.usitc.gov. In addition, the following tabulation presents, in chronological order, Federal Register notices issued by the Commission and Commerce during the current proceeding.

Citation	Title	Link
89 FR 24860, April 9, 2024	<i>Epoxy Resins From China, India, South Korea, Taiwan, and Thailand; Institution of Antidumping and Countervailing Duty Investigations and Scheduling of Preliminary Phase Investigations</i>	https://www.govinfo.gov/content/pkg/FR-2024-04-09/pdf/2024-07458.pdf
89 FR 33319, April 29, 2024	<i>Certain Epoxy Resins From the People's Republic of China, India, the Republic of Korea, and Taiwan: Initiation of Countervailing Duty Investigations</i>	https://www.govinfo.gov/content/pkg/FR-2024-04-29/pdf/2024-09159.pdf
89 FR 33324, April 29, 2024	<i>Certain Epoxy Resins From the People's Republic of China, India, the Republic of Korea, Taiwan, and Thailand: Initiation of Less-Than-Fair-Value Investigations</i>	https://www.govinfo.gov/content/pkg/FR-2024-04-29/pdf/2024-09161.pdf
89 FR 45925, May 24, 2024	<i>Epoxy Resins From China, India, South Korea, Taiwan, and Thailand; Determinations</i>	https://www.govinfo.gov/content/pkg/FR-2024-05-24/pdf/2024-11401.pdf

Citation	Title	Link
89 FR 46061, May 28, 2024	<i>Certain Epoxy Resins From the People's Republic of China, India, the Republic of Korea, and Taiwan: Postponement of Preliminary Determinations in the Countervailing Duty Investigations</i>	https://www.govinfo.gov/content/pkg/FR-2024-05-28/pdf/2024-11600.pdf
89 FR 65583, August 12, 2024	<i>Certain Epoxy Resins From the People's Republic of China, India, the Republic of Korea, Taiwan, and Thailand: Postponement of Preliminary Determinations in the Less-Than-Fair-Value Investigations</i>	https://www.govinfo.gov/content/pkg/FR-2024-08-12/pdf/2024-17857.pdf
89 FR 74889, September 13, 2024	<i>Certain Epoxy Resins From India: Preliminary Affirmative Countervailing Duty Determination and Alignment of Final Determination With Final Antidumping Duty Determination</i>	https://www.govinfo.gov/content/pkg/FR-2024-09-13/pdf/2024-20887.pdf

Citation	Title	Link
89 FR 74891, September 13, 2024	<i>Certain Epoxy Resins From the People's Republic of China: Preliminary Affirmative Countervailing Duty Determination, Preliminary Affirmative Determination of Critical Circumstances, and Alignment of Final Determination With Final Antidumping Duty Determination</i>	https://www.govinfo.gov/content/pkg/FR-2024-09-13/pdf/2024-20888.pdf
89 FR 74896, September 13, 2024	<i>Certain Epoxy Resins From Taiwan: Preliminary Affirmative Countervailing Duty Determination, and Alignment of Final Determination With Final Antidumping Duty Determination</i>	https://www.govinfo.gov/content/pkg/FR-2024-09-13/pdf/2024-20885.pdf
89 FR 74912, September 13, 2024	<i>Certain Epoxy Resins From the Republic of Korea: Preliminary Negative Countervailing Duty Determination, Preliminary Negative Critical Circumstances Determination and Alignment of Final Determination With Final Antidumping Duty Determination</i>	https://www.govinfo.gov/content/pkg/FR-2024-09-13/pdf/2024-20886.pdf

Citation	Title	Link
89 FR 89591, November 13, 2024	<i>Certain Epoxy Resins From Taiwan: Preliminary Affirmative Determination of Sales at Less Than Fair Value, Postponement of Final Determination, and Extension of Provisional Measures</i>	https://www.govinfo.gov/content/pkg/FR-2024-11-13/pdf/2024-26258.pdf
89 FR 89594, November 13, 2024	<i>Certain Epoxy Resins From the People's Republic of China: Preliminary Affirmative Determination of Sales at Less Than Fair Value and Preliminary Affirmative Determination of Critical Circumstances</i>	https://www.govinfo.gov/content/pkg/FR-2024-11-13/pdf/2024-26255.pdf
89 FR 89605, November 13, 2024	<i>Certain Epoxy Resins From the Republic of Korea: Preliminary Affirmative Determination of Sales at Less Than Fair Value, Preliminary Negative Critical Circumstances Determination, Postponement of Final Determination, and Extension of Provisional Measures</i>	https://www.govinfo.gov/content/pkg/FR-2024-11-13/pdf/2024-26257.pdf

Citation	Title	Link
89 FR 89608, November 13, 2024	<i>Certain Epoxy Resins From Thailand: Preliminary Affirmative Determination of Sales at Less Than Fair Value, Preliminary Negative Determination of Critical Circumstances, Postponement of Final Determination, and Extension of Provisional Measures</i>	https://www.govinfo.gov/content/pkg/FR-2024-11-13/pdf/2024-26259.pdf
89 FR 89612, November 13, 2024	<i>Certain Epoxy Resins From India: Preliminary Affirmative Determination of Sales at Less Than Fair Value, Postponement of Final Determination, and Extension of Provisional Measures</i>	https://www.govinfo.gov/content/pkg/FR-2024-11-13/pdf/2024-26256.pdf
89 FR 92719, November 22, 2024	<i>Epoxy Resins From China, India, South Korea, Taiwan, and Thailand; Scheduling of the Final Phase of Countervailing Duty and Antidumping Duty Investigations</i>	https://www.govinfo.gov/content/pkg/FR-2024-11-22/pdf/2024-27361.pdf
89 FR 94709, November 29, 2024	<i>Certain Epoxy Resins From the People's Republic of China: Postponement of Final Determination in the Less Than Fair Value Investigation</i>	https://www.govinfo.gov/content/pkg/FR-2024-11-29/pdf/2024-28021.pdf
89 FR 99904, December 11, 2024	<i>Epoxy Resins From China, India, South Korea, Taiwan, and Thailand; Revised Schedule for the Subject Investigations</i>	https://www.govinfo.gov/content/pkg/FR-2024-12-11/pdf/2024-29106.pdf

Citation	Title	Link
89 FR 100972, December 13, 2024	<i>Certain Epoxy Resins From the Republic of Korea: Amended Preliminary Determination of Less-Than-Fair-Value Investigation</i>	https://www.govinfo.gov/content/pkg/FR-2024-12-13/pdf/2024-29430.pdf
90 FR 14605, April 3, 2025	<i>Certain Epoxy Resins From the Republic of Korea: Final Affirmative Countervailing Duty Determination and Final Negative Critical Circumstances Determination</i>	https://www.govinfo.gov/content/pkg/FR-2025-04-03/pdf/2025-05751.pdf
90 FR 14611, April 3, 2025	<i>Certain Epoxy Resins From Taiwan: Final Affirmative Determination of Sales at Less Than Fair Value</i>	https://www.govinfo.gov/content/pkg/FR-2025-04-03/pdf/2025-05753.pdf
90 FR 14613, April 3, 2025	<i>Certain Epoxy Resins From India: Final Affirmative Determination of Sales at Less Than Fair Value</i>	https://www.govinfo.gov/content/pkg/FR-2025-04-03/pdf/2025-05756.pdf
90 FR 14616, April 3, 20224	<i>Certain Epoxy Resins From the People's Republic of China: Final Affirmative Determination of Sales at Less Than Fair Value and Final Affirmative Determination of Critical Circumstances</i>	https://www.govinfo.gov/content/pkg/FR-2025-04-03/pdf/2025-05755.pdf
90 FR 14618, April 3, 2025	<i>Certain Epoxy Resins From Taiwan: Final Affirmative Countervailing Duty Determination</i>	https://www.govinfo.gov/content/pkg/FR-2025-04-03/pdf/2025-05752.pdf

Citation	Title	Link
90 FR 14621, April 3, 2025	<i>Certain Epoxy Resins From Thailand: Final Affirmative Determination of Sales at Less-Than-Fair Value and Final Negative Determination of Critical Circumstances</i>	https://www.govinfo.gov/content/pkg/FR-2025-04-03/pdf/2025-05754.pdf
90 FR 14623, April 3, 2025	<i>Certain Epoxy Resins From South Korea: Final Affirmative Determination of Sales at Less Than Fair Value and Final Negative Determination of Critical Circumstances</i>	https://www.govinfo.gov/content/pkg/FR-2025-04-03/pdf/2025-05757.pdf
90 FR 14628, April 3, 2025	<i>Certain Epoxy Resins From the People's Republic of China: Final Affirmative Countervailing Duty Determination and Final Affirmative Determination of Critical Circumstances</i>	https://www.govinfo.gov/content/pkg/FR-2025-04-03/pdf/2025-05750.pdf
90 FR 14636, April 3, 2025	<i>Certain Epoxy Resins From India: Final Affirmative Countervailing Duty Determination</i>	https://www.govinfo.gov/content/pkg/FR-2025-04-03/pdf/2025-05749.pdf

APPENDIX B

LIST OF HEARING WITNESSES

CALENDAR OF PUBLIC HEARING

Those listed below appeared in the United States International Trade Commission's hearing:

Subject: Epoxy Resins from China, India, South Korea, Taiwan, and Thailand

Inv. Nos.: 701-TA-716–719 and 731-TA-1683–1687 (Final)

Date and Time: April 3, 2025 - 9:30 a.m.

Sessions were held in connection with these investigations in the Main Hearing Room (Room 101), 500 E Street, SW., Washington, DC.

CONGRESSIONAL APPEARANCE:

John Moolenaar (remote), U.S. Representative, 2nd District, Michigan

OPENING REMARKS:

In Support of Imposition (**Stephen J. Orava**, King & Spalding LLP)
In Opposition to Imposition (**Jared R. Wessel**, Hogan Lovells US LLP)

In Support of the Imposition of the Antidumping and Countervailing Duty Orders:

King & Spalding LLP
Washington, DC
on behalf of

U.S. Epoxy Resin Producers Ad Hoc Coalition

Florian Kohl, President, Epoxy Division, Olin Corporation

Pedro Dias Jorge, Global Business Director – Allylics, Aromatics & Resins,
Olin Corporation

J. Matthew Martin, Vice President and General Counsel – Strategic Partnerships
and Initiatives, Olin Corporation

Kyle Kaufman, Global Account Manager, Westlake Epoxy Inc.

Daniel Weimann, Market Development Manager, Westlake Epoxy Inc.

In Support of the Imposition of the
Antidumping and Countervailing Duty Orders (continued):

James Bellinger, Business Director Epoxy Americas, Westlake Epoxy Inc.

Jeffrey Soth, Legislative and Political Director, International Union of
Operating Engineers

Kathryn Wallace, Legislative Representative, United Steelworkers

Andrew Szamosszegi, Principal, Capital Trade, Inc.

Travis Pope, Principal, Capital Trade, Inc.

Stephen J. Orava)	
Stephen P. Vaughn)	
Neal J. Reynolds)	– OF COUNSEL
Barbara Medrado)	
Lucas A. Pires)	

In Opposition to the Imposition of the
Antidumping and Countervailing Duty Orders:

Grunfeld, Desiderio, Lebowitz, Silverman and Klestadt LLP
Washington, DC
on behalf of

The Sherwin-Williams Company

Jeffrey J. Haywood, Assistant General Counsel,
The Sherwin-Williams Company

Brooke E. Sunde, Senior Director Global Procurement,
The Sherwin-Williams Company

Ned H. Marshak)	
)	– OF COUNSEL
Jordan C. Kahn)	

**In Opposition to the Imposition of the
Antidumping and Countervailing Duty Orders (continued):**

Hogan Lovells US LLP
Washington, DC
on behalf of

PPG Industries, Inc. ("PPG")

William Pierce II, Global Director, Raw Materials, PPG

Christina Marlier, Director of Raw Materials Procurement, Americas Region, PPG

Vincent J. Paola, Global Category Manager, Procurement Raw Materials, PPG

Dr. Tom Prusa, Economist, Rutgers University

Jared R. Wessel)
Michael G. Jacobson) – OF COUNSEL
Lyric Galvin)

Fox Rothschild LLP
Washington, DC
on behalf of

Aditya Birla Chemical (Thailand) Limited ("Aditya Thai")
Grasim India Limited ("Grasim")
Aditya Birla Chemicals (USA), Inc. ("Aditya USA")

Sachin Mittal (remote), Chief Financial Officer Grasim Industries Limited

Scott Bastian (remote), Vice President, Aditya USA

Brittney R. Powell)
) – OF COUNSEL
Alexander D. Keyser)

Thompson Hine LLP
Washington, DC
on behalf of

International Paint LLC, a subsidiary of Akzo Nobel Coatings Inc.

Richard K. Sammel, Category Manager, Global Resins Procurement,
Akzo Nobel Coatings Inc.

David M. Schwartz) – OF COUNSEL

**In Opposition to the Imposition of the
Antidumping and Countervailing Duty Orders (continued):**

Appleton Luff PTE LTD
Washington, DC
on behalf of

Atul Ltd
Atul USA, Inc.

Rejoy Kuriyan, Manager, Business Development, Atul U.S.A.

Kelly A. Slater)
) – OF COUNSEL
Edmund W. Sim)

TPM Consultants (**remote witnesses**)
New Delhi, India
on behalf of

Champion Advanced Materials Private Limited (Champion)

Namrita Raghuwanshi) – OF COUNSEL
----------------------------	----------------

REBUTTAL/CLOSING REMARKS:

In Support of Imposition (**Stephen P. Vaughn**, King & Spalding LLP)

In Opposition to Imposition (**Michael G. Jacobson**, Hogan Lovells US LLP *and*
Ned H. Marshak, Grunfeld, Desiderio, Lebowitz, Silverman and Klestadt LLP)

APPENDIX C

SUMMARY DATA

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U.S. producer and processor total market

Table C.1

Epoxy resins: Summary data concerning the U.S. total market, U.S. producers and processors, by item and period

Quantity=1,000 pounds; Value=1,000 dollars; Unit values, unit labor costs, and unit expenses=dollars per pound; Productivity=pounds per hour; Period changes=percent--exceptions noted; Interim period is January through September

Item	Reported data					Period change comparisons			
	2021	Calendar year 2022	2023	Interim 2023	2024	2021-23	Calendar year 2021-22	2022-23	Interim 2023-24
U.S. total market consumption quantity:									
Amount.....	***	***	***	***	***	▼***	▼***	▼***	▲***
Producers' share (fn1).....	***	***	***	***	***	▼***	▼***	▲***	▲***
Importers' share (fn1):									
China (CN).....	***	***	***	***	***	▼***	▼***	▼***	▼***
India (IN).....	***	***	***	***	***	▲***	▲***	▲***	▼***
South Korea (KR).....	***	***	***	***	***	▲***	▲***	▼***	▼***
Taiwan (TW).....	***	***	***	***	***	▲***	▲***	▲***	▼***
Thailand (TH).....	***	***	***	***	***	▲***	▼***	▲***	▲***
Subject sources.....	***	***	***	***	***	▲***	▲***	▼***	▼***
Subject sources less CN and IN.....	***	***	***	***	***	▲***	▲***	▼***	▼***
Nonsubject sources.....	***	***	***	***	***	▲***	▲***	▲***	▲***
Nonsubject sources plus CN and IN	***	***	***	***	***	▲***	▲***	▼***	▲***
All import sources.....	***	***	***	***	***	▲***	▲***	▼***	▼***
U.S. total market consumption value:									
Amount.....	***	***	***	***	***	▼***	▲***	▼***	▼***
Producers' share (fn1)									
Fully domestic value.....	***	***	***	***	***	▼***	▼***	▼***	▼***
Incremental value added to imports.....	***	***	***	***	***	▲***	▼***	▲***	▲***
Total value.....	***	***	***	***	***	▼***	▼***	▲***	▼***
Importers' share (fn1):									
China (CN).....	***	***	***	***	***	▼***	▼***	▼***	▼***
India (IN).....	***	***	***	***	***	▲***	▲***	▼***	▲***
South Korea (KR).....	***	***	***	***	***	▼***	▲***	▼***	▼***
Taiwan (TW).....	***	***	***	***	***	▲***	▲***	▲***	▼***
Thailand (TH).....	***	***	***	***	***	▲***	▼***	▲***	▲***
Subject sources.....	***	***	***	***	***	▼***	▲***	▼***	▼***
Subject sources less CN and IN.....	***	***	***	***	***	▼***	▲***	▼***	▼***
Nonsubject sources.....	***	***	***	***	***	▲***	▲***	▲***	▲***
Nonsubject sources plus CN and IN	***	***	***	***	***	▲***	▲***	▲***	▲***
All import sources.....	***	***	***	***	***	▲***	▲***	▼***	▲***
U.S. imports from:									
China:									
Quantity.....	***	***	***	***	***	▼***	▼***	▼***	▼***
Value.....	***	***	***	***	***	▼***	▼***	▼***	▼***
Unit value.....	***	***	***	***	***	▼***	▼***	▼***	▼***
Ending inventory quantity.....	***	***	***	***	***	▲***	▲***	▼***	▲***
India:									
Quantity.....	***	***	***	***	***	▲***	▲***	▼***	▲***
Value.....	***	***	***	***	***	▲***	▲***	▼***	▼***
Unit value.....	***	***	***	***	***	▼***	▲***	▼***	▼***
Ending inventory quantity.....	***	***	***	***	***	▲***	▲***	▲***	▲***
South Korea:									
Quantity.....	***	***	***	***	***	▼***	▲***	▼***	▲***
Value.....	***	***	***	***	***	▼***	▲***	▼***	▼***
Unit value.....	***	***	***	***	***	▼***	▲***	▼***	▼***
Ending inventory quantity.....	***	***	***	***	***	▲***	▲***	▲***	▲***
Taiwan:									
Quantity.....	***	***	***	***	***	▲***	▲***	▲***	▼***
Value.....	***	***	***	***	***	▲***	▲***	▼***	▼***
Unit value.....	***	***	***	***	***	▼***	▼***	▼***	▼***
Ending inventory quantity.....	***	***	***	***	***	▲***	▲***	▲***	▼***
Thailand:									
Quantity.....	***	***	***	***	***	▲***	▼***	▲***	▲***
Value.....	***	***	***	***	***	▼***	▲***	▼***	▲***
Unit value.....	***	***	***	***	***	▼***	▲***	▼***	▼***
Ending inventory quantity.....	***	***	***	***	***	▲***	▲***	▲***	▲***
Subject sources:									
Quantity.....	191,146	235,393	186,859	150,539	142,438	▼(2.2)	▲23.1	▼(20.6)	▼(5.4)
Value.....	451,705	634,939	311,979	261,283	213,794	▼(30.9)	▲40.6	▼(50.9)	▼(18.2)
Unit value.....	\$2.36	\$2.70	\$1.67	\$1.74	\$1.50	▼(29.3)	▲14.1	▼(38.1)	▼(13.5)
Ending inventory quantity.....	6,691	15,028	21,565	27,474	36,511	▲222.3	▲124.6	▲43.5	▲32.9
Subject sources less China and India:									
Quantity.....	179,850	222,429	176,821	141,886	135,253	▼(1.7)	▲23.7	▼(20.5)	▼(4.7)
Value.....	421,496	600,537	292,117	245,099	201,387	▼(30.7)	▲42.5	▼(51.4)	▼(17.8)
Unit value.....	\$2.34	\$2.70	\$1.65	\$1.73	\$1.49	▼(29.5)	▲15.2	▼(38.8)	▼(13.8)
Ending inventory quantity.....	6,349	13,874	20,165	26,192	34,799	▲217.6	▲118.5	▲45.3	▲32.9

Table continued.

Table C.1 Continued

Epoxy resins: Summary data concerning the U.S. total market, U.S. producers and processors, by item and period

Quantity=1,000 pounds; Value=1,000 dollars; Unit values, unit labor costs, and unit expenses=dollars per pound; Productivity=pounds per hour; Period changes=percent--exceptions noted; Interim period is January through September

Item	Reported data					Period change comparisons			
	2021	Calendar year 2022	2023	Interim 2023	2024	2021-23	Calendar year 2021-22	2022-23	Interim 2023-24
U.S. imports:--Continued									
Nonsubject sources									
Quantity.....	90,962	96,688	79,407	59,517	70,976	▼(12.7)	▲6.3	▼(17.9)	▲19.3
Value.....	271,434	357,428	303,463	233,038	242,337	▲11.8	▲31.7	▼(15.1)	▲4.0
Unit value.....	\$2.98	\$3.70	\$3.82	\$3.92	\$3.41	▲28.1	▲23.9	▲3.4	▼(12.8)
Ending inventory quantity.....	8,311	10,277	8,288	11,487	9,778	▼(0.3)	▲23.7	▼(19.4)	▼(14.9)
Nonsubject sources plus China and India:									
Quantity.....	102,257	109,651	89,446	68,169	78,160	▼(12.5)	▲7.2	▼(18.4)	▲14.7
Value.....	301,643	391,830	323,325	249,223	254,744	▲7.2	▲29.9	▼(17.5)	▲2.2
Unit value.....	\$2.95	\$3.57	\$3.61	\$3.66	\$3.26	▲22.5	▲21.1	▲1.2	▼(10.9)
Ending inventory quantity.....	8,653	11,431	9,688	12,769	11,490	▲12.0	▲32.1	▼(15.2)	▼(10.0)
All import sources:									
Quantity.....	282,107	332,081	266,266	210,056	213,414	▼(5.6)	▲17.7	▼(19.8)	▲1.6
Value.....	723,139	992,367	615,442	494,321	456,132	▼(14.9)	▲37.2	▼(38.0)	▼(7.7)
Unit value.....	\$2.56	\$2.99	\$2.31	\$2.35	\$2.14	▼(9.8)	▲16.6	▼(22.7)	▼(9.2)
Ending inventory quantity.....	15,002	25,305	29,853	38,961	46,289	▲99.0	▲68.7	▲18.0	▲18.8
U.S. producers' and U.S. processors':									
Producers: Practical capacity quantity.....	***	***	***	***	***	▼***	▲***	▼***	▼***
Producers: Production quantity.....	***	***	***	***	***	▼***	▼***	▼***	▼***
Producers: Capacity utilization (fn1).....	***	***	***	***	***	▼***	▼***	▲***	▼***
Processors: Practical capacity quantity....	***	***	***	***	***	▼***	▲***	▼***	▼***
Processors: Production quantity.....	***	***	***	***	***	▲***	▲***	▲***	▼***
Processors: Capacity utilization (fn1).....	***	***	***	***	***	▲***	▲***	▲***	▲***
U.S. shipments (fn2):									
Quantity.....	***	***	***	***	***	▼***	▼***	▼***	▲***
Value:									
Fully domestic value.....	***	***	***	***	***	▼***	▲***	▼***	▼***
Incremental value added to imports	***	***	***	***	***	▲***	▲***	▲***	▼***
Total value.....	***	***	***	***	***	▼***	▲***	▼***	▼***
Unit value.....	***	***	***	***	***	▲***	▲***	▼***	▼***
Export shipments:									
Quantity.....	***	***	***	***	***	▼***	▼***	▲***	▼***
Value.....	***	***	***	***	***	▼***	▼***	▼***	▼***
Unit value.....	***	***	***	***	***	▼***	▲***	▼***	▼***
Producers: Ending inventory quantity.....	***	***	***	***	***	▼***	▼***	▼***	▼***
Producers: Inv./total shipments (fn1).....	***	***	***	***	***	▲***	▲***	▲***	▼***
Processors: Ending inventory quantity.....	***	***	***	***	***	▲***	▲***	▲***	▼***
Processors: Inv./total shipments (fn1).....	***	***	***	***	***	▲***	▲***	▲***	▼***
Production workers.....	***	***	***	***	***	▼***	▲***	▼***	▼***
Hours worked (1,000s).....	***	***	***	***	***	▲***	▲***	▼***	▼***
Wages paid (\$1,000).....	***	***	***	***	***	▲***	▲***	▲***	▲***
Hourly wages (dollars per hour).....	***	***	***	***	***	▲***	▲***	▲***	▲***
Producers: Productivity (pounds per hour)	***	***	***	***	***	▼***	▼***	▼***	▼***
Producers: Unit labor costs (dollars per ur	***	***	***	***	***	▲***	▲***	▼***	▲***
Processors: Productivity.....	***	***	***	***	***	▲***	▼***	▲***	▲***
Processors: Unit labor costs.....	***	***	***	***	***	▲***	▲***	▲***	▲***
U.S. producers':									
Net sales:									
Quantity.....	***	***	***	***	***	▼***	▼***	▼***	▼***
Value.....	***	***	***	***	***	▼***	▲***	▼***	▼***
Unit value.....	***	***	***	***	***	▼***	▲***	▼***	▼***
Cost of goods sold (COGS).....	***	***	***	***	***	▼***	▼***	▼***	▼***
Gross profit or (loss) (fn3).....	***	***	***	***	***	▼***	▲***	▼***	▼***
SG&A expenses.....	***	***	***	***	***	▼***	▼***	▼***	▲***
Operating income or (loss) (fn3).....	***	***	***	***	***	▼***	▲***	▼***	▼***
Net income or (loss) (fn3).....	***	***	***	***	***	▼***	▲***	▼***	▼***
Unit COGS.....	***	***	***	***	***	▲***	▲***	▼***	▼***
Unit SG&A expenses.....	***	***	***	***	***	▼***	▲***	▼***	▲***
Unit operating income or (loss) (fn3)...	***	***	***	***	***	▼***	▲***	▼***	▼***
Unit net income or (loss) (fn3).....	***	***	***	***	***	▼***	▲***	▼***	▼***
COGS/sales (fn1).....	***	***	***	***	***	▲***	▼***	▲***	▲***
Operating income or (loss)/sales (fn1)	***	***	***	***	***	▼***	▲***	▼***	▼***
Net income or (loss)/sales (fn1).....	***	***	***	***	***	▼***	▲***	▼***	▼***
Capital expenditures.....	***	***	***	***	***	▼***	▲***	▼***	▼***
Research and development expenses.	***	***	***	***	***	▼***	▼***	▼***	▲***
Total assets.....	***	***	***	***	***	▼***	▼***	▼***	***

Table continued.

Table C.1 Continued

Epoxy resins: Summary data concerning the U.S. total market, U.S. producers and processors, by item and period

Quantity=1,000 pounds; Value=1,000 dollars; Unit values, unit labor costs, and unit expenses=dollars per pound; Productivity=pounds per hour; Period changes=percent--exceptions noted; Interim period is January through September

Item	Reported data					Period change comparisons			
	Calendar year		2023	Interim		2021–23	Calendar year		Interim 2023–24
	2021	2022		2024	2021–22		2022–23		
U.S. processors ¹ :									
Net sales:									
Quantity.....	***	***	***	***	***	▲***	▲***	▲***	▼***
Value.....	***	***	***	***	***	▲***	▲***	▲***	▼***
Unit value.....	***	***	***	***	***	▲***	▲***	▲***	▼***
Cost of goods sold (COGS).....	***	***	***	***	***	▲***	▲***	▼***	▼***
Gross profit or (loss) (fn3).....	***	***	***	***	***	▲***	▲***	▲***	▼***
SG&A expenses.....	***	***	***	***	***	▲***	▲***	▲***	▼***
Operating income or (loss) (fn3).....	***	***	***	***	***	▲***	▼***	▲***	▼***
Net income or (loss) (fn3).....	***	***	***	***	***	▲***	▼***	▲***	▼***
Unit COGS.....	***	***	***	***	***	▲***	▲***	▼***	▼***
Unit SG&A expenses.....	***	***	***	***	***	▲***	▲***	▲***	▼***
Unit operating income or (loss) (fn3)...	***	***	***	***	***	▲***	▼***	▲***	▼***
Unit net income or (loss) (fn3).....	***	***	***	***	***	▲***	▼***	▲***	▼***
COGS/sales (fn1).....	***	***	***	***	***	▼***	▲***	▼***	▼***
Operating income or (loss)/sales (fn1)	***	***	***	***	***	▲***	▼***	▲***	▼***
Net income or (loss)/sales (fn1).....	***	***	***	***	***	▲***	▼***	▲***	▲***
Capital expenditures.....	***	***	***	***	***	▼***	▼***	▲***	▼***
Research and development expenses.	***	***	***	***	***	▲***	▲***	▲***	▼***
Total assets.....	***	***	***	***	***	▲***	▲***	▲***	***
U.S. producers ¹ and U.S. processors ¹ :									
Net sales:									
Quantity.....	832,641	712,335	698,247	532,996	518,097	▼(16.1)	▼(14.4)	▼(2.0)	▼(2.8)
Value.....	2,214,114	2,364,388	1,816,363	1,436,094	1,185,007	▼(18.0)	▲6.8	▼(23.2)	▼(17.5)
Unit value.....	\$2.66	\$3.32	\$2.60	\$2.69	\$2.29	▼(2.2)	▲24.8	▼(21.6)	▼(15.1)
Cost of goods sold (COGS).....	1,434,109	1,531,298	1,265,346	987,660	885,304	▼(11.8)	▲6.8	▼(17.4)	▼(10.4)
Gross profit or (loss) (fn3).....	780,005	833,090	551,017	448,434	299,703	▼(29.4)	▲6.8	▼(33.9)	▼(33.2)
SG&A expenses.....	254,434	260,178	284,059	208,501	200,095	▲11.6	▲2.3	▲9.2	▼(4.0)
Operating income or (loss) (fn3).....	525,571	572,912	266,958	239,933	99,608	▼(49.2)	▲9.0	▼(53.4)	▼(58.5)
Net income or (loss) (fn3).....	***	***	***	***	***	▼***	▲***	▼***	▼***
Unit COGS.....	\$1.72	\$2.15	\$1.81	\$1.85	\$1.71	▲5.2	▲24.8	▼(15.7)	▼(7.8)
Unit SG&A expenses.....	\$0.31	\$0.37	\$0.41	\$0.39	\$0.39	▲33.1	▲19.5	▲11.4	▼(1.3)
Unit operating income or (loss) (fn3)...	\$0.63	\$0.80	\$0.38	\$0.45	\$0.19	▼(39.4)	▲27.4	▼(52.5)	▼(57.3)
Unit net income or (loss) (fn3).....	***	***	***	***	***	▼***	▲***	▼***	▼***
COGS/sales (fn1).....	64.8	64.8	69.7	68.8	74.7	▲4.9	▼(0.0)	▲4.9	▲5.9
Operating income or (loss)/sales (fn1)	23.7	24.2	14.7	16.7	8.4	▼(9.0)	▲0.5	▼(9.5)	▼(8.3)
Net income or (loss)/sales (fn1).....	***	***	***	***	***	▼***	▲***	▼***	▼***
Capital expenditures.....	77,008	51,212	51,235	36,231	32,306	▼(33.5)	▼(33.5)	▲0.0	▼(10.8)
Research and development expenses.	37,941	37,574	38,032	31,633	29,743	▲0.2	▼(1.0)	▲1.2	▼(6.0)
Total assets.....	2,008,803	2,099,846	2,159,260	NA	NA	▲7.5	▲4.5	▲2.8	NA

Source: Compiled from data submitted in response to Commission questionnaires and adjusted official U.S. imports statistics of the U.S. Department of Commerce Census Bureau using HTS statistical reporting number 3907.30.0000, accessed December 30, 2024. Official U.S. imports statistics were adjusted to add in epoxy resins imported under other HTS statistical reporting numbers as reported in responses to Commission questionnaires, as well as to remove out-of-scope products imported under the primary HTS number for epoxy resins as reported in responses to Commission questionnaires. Imports are based on the imports for consumption data series. Import value data reflect landed duty-paid values. 508-compliant tables containing these data are contained in parts 3, 4, 6, and 7 of this report.

Note.--Shares and ratios shown as "0.0" percent represent non-zero values less than "0.05" percent (if positive) and greater than "(0.05)" percent (if negative). Zeroes, null values, and undefined calculations are suppressed and shown as "—". Period changes preceded by a "▲" represent an increase, while period changes preceded by a "▼" represent a decrease.

fn1.--Reported data are in percent and period changes are in percentage points.

fn2.--Quantity for U.S. shipments reflects only producers' U.S. shipment quantities. Value for U.S. shipments reflects epoxy resin sold in the United States from domestically manufactured epoxy resin (including the value added by U.S. processors to domestic epoxy resin), as well as the incremental value added by U.S. processors to imported epoxy resin. In measuring consumption and market share this methodology avoids reclassifying and/or double counting merchandise already reported as an import. Unit value reflects the fully domestic value.

fn3.--Percent changes only calculated when both comparison values represent profits; The directional change in profitability provided when one or both comparison values represent a loss.

U.S. producer and processor merchant market

Table C.2

Epoxy resins: Summary data concerning the U.S. merchant market, U.S. producers and processors, by item and period

Quantity=1,000 pounds; Value=1,000 dollars; Unit values, unit labor costs, and unit expenses=dollars per pound; Productivity=pounds per hour; Period changes=percent--exceptions noted; Interim period is January through September

Item	Reported data					Period change comparisons			
	2021	Calendar year 2022	2023	Interim 2023	Interim 2024	2021-23	Calendar year 2021-22	2022-23	Interim 2023-24
U.S. merchant market consumption quantity:									
Amount.....	***	***	***	***	***	▼***	▼***	▼***	▲***
Producers' share (fn1).....	***	***	***	***	***	▼***	▼***	▲***	▲***
Importers' share (fn1):									
China (CN).....	***	***	***	***	***	▼***	▼***	▼***	▼***
India (IN).....	***	***	***	***	***	▲***	▲***	▲***	▼***
South Korea (KR).....	***	***	***	***	***	▲***	▲***	▼***	▼***
Taiwan (TW).....	***	***	***	***	***	▲***	▲***	▲***	▼***
Thailand (TH).....	***	***	***	***	***	▲***	▼***	▲***	▲***
Subject sources.....	***	***	***	***	***	▲***	▲***	▼***	▼***
Subject sources less CN and IN.....	***	***	***	***	***	▲***	▲***	▼***	▼***
Nonsubject sources.....	***	***	***	***	***	▲***	▲***	▼***	▲***
Nonsubject sources plus CN and IN	***	***	***	***	***	▲***	▲***	▼***	▲***
All import sources.....	***	***	***	***	***	▲***	▲***	▼***	▼***
U.S. merchant market consumption value:									
Amount.....	***	***	***	***	***	▼***	▲***	▼***	▼***
Producers' share (fn1)									
Fully domestic value.....	***	***	***	***	***	▼***	▼***	▼***	▲***
Incremental value added to imports.....	***	***	***	***	***	▲***	▲***	▲***	▼***
Total value.....	***	***	***	***	***	▼***	▼***	▲***	▲***
Importers' share (fn1):									
China (CN).....	***	***	***	***	***	▼***	▼***	▼***	▼***
India (IN).....	***	***	***	***	***	▲***	▲***	▼***	▲***
South Korea (KR).....	***	***	***	***	***	▼***	▲***	▼***	▼***
Taiwan (TW).....	***	***	***	***	***	▲***	▲***	▲***	▼***
Thailand (TH).....	***	***	***	***	***	▲***	▼***	▲***	▲***
Subject sources.....	***	***	***	***	***	▼***	▲***	▼***	▼***
Subject sources less CN and IN.....	***	***	***	***	***	▼***	▲***	▼***	▼***
Nonsubject sources.....	***	***	***	***	***	▲***	▲***	▲***	▲***
Nonsubject sources plus CN and IN	***	***	***	***	***	▲***	▲***	▲***	▲***
All import sources.....	***	***	***	***	***	▲***	▲***	▼***	▼***
U.S. imports from:									
China:									
Quantity.....	***	***	***	***	***	▼***	▼***	▼***	▼***
Value.....	***	***	***	***	***	▼***	▼***	▼***	▼***
Unit value.....	***	***	***	***	***	▼***	▼***	▼***	▼***
Ending inventory quantity.....	***	***	***	***	***	▲***	▲***	▼***	▲***
India:									
Quantity.....	***	***	***	***	***	▲***	▲***	▼***	▲***
Value.....	***	***	***	***	***	▲***	▲***	▼***	▼***
Unit value.....	***	***	***	***	***	▼***	▲***	▼***	▼***
Ending inventory quantity.....	***	***	***	***	***	▲***	▲***	▲***	▲***
South Korea:									
Quantity.....	***	***	***	***	***	▼***	▲***	▼***	▲***
Value.....	***	***	***	***	***	▼***	▲***	▼***	▼***
Unit value.....	***	***	***	***	***	▼***	▲***	▼***	▼***
Ending inventory quantity.....	***	***	***	***	***	▲***	▲***	▲***	▲***
Taiwan:									
Quantity.....	***	***	***	***	***	▲***	▲***	▲***	▼***
Value.....	***	***	***	***	***	▲***	▲***	▼***	▼***
Unit value.....	***	***	***	***	***	▼***	▼***	▲***	▼***
Ending inventory quantity.....	***	***	***	***	***	▲***	▲***	▲***	▼***
Thailand:									
Quantity.....	***	***	***	***	***	▲***	▼***	▲***	▲***
Value.....	***	***	***	***	***	▼***	▲***	▼***	▲***
Unit value.....	***	***	***	***	***	▼***	▲***	▼***	▼***
Ending inventory quantity.....	***	***	***	***	***	▲***	▲***	▲***	▲***
Subject sources:									
Quantity.....	191,146	235,393	186,859	150,539	142,438	▼(2.2)	▲23.1	▼(20.6)	▼(5.4)
Value.....	451,705	634,939	311,979	261,283	213,794	▼(30.9)	▲40.6	▼(50.9)	▼(18.2)
Unit value.....	\$2.36	\$2.70	\$1.67	\$1.74	\$1.50	▼(29.3)	▲14.1	▼(38.1)	▼(13.5)
Ending inventory quantity.....	6,691	15,028	21,565	27,474	36,511	▲222.3	▲124.6	▲43.5	▲32.9
Subject sources less China and India:									
Quantity.....	179,850	222,429	176,821	141,886	135,253	▼(1.7)	▲23.7	▼(20.5)	▼(4.7)
Value.....	421,496	600,537	292,117	245,099	201,387	▼(30.7)	▲42.5	▼(51.4)	▼(17.8)
Unit value.....	\$2.34	\$2.70	\$1.65	\$1.73	\$1.49	▼(29.5)	▲15.2	▼(38.8)	▼(13.8)
Ending inventory quantity.....	6,349	13,874	20,165	26,192	34,799	▲217.6	▲118.5	▲45.3	▲32.9

Table continued.

Table C.2 Continued

Epoxy resins: Summary data concerning the U.S. merchant market, U.S. producers and processors, by item and period

Quantity=1,000 pounds; Value=1,000 dollars; Unit values, unit labor costs, and unit expenses=dollars per pound; Productivity=pounds per hour; Period changes=percent--exceptions noted; Interim period is January through September

Item	Reported data					Period change comparisons			
	Calendar year		2023	Interim		Calendar year		2022-23	Interim 2023-24
	2021	2022		2023	2024	2021-23	2021-22		
U.S. imports:--Continued									
Nonsubject sources									
Quantity.....	90,962	96,688	79,407	59,517	70,976	▼(12.7)	▲6.3	▼(17.9)	▲19.3
Value.....	271,434	357,428	303,463	233,038	242,337	▲11.8	▲31.7	▼(15.1)	▲4.0
Unit value.....	\$2.98	\$3.70	\$3.82	\$3.92	\$3.41	▲28.1	▲23.9	▲3.4	▼(12.8)
Ending inventory quantity.....	8,311	10,277	8,288	11,487	9,778	▼(0.3)	▲23.7	▼(19.4)	▼(14.9)
Nonsubject sources plus China and India:									
Quantity.....	102,257	109,651	89,446	68,169	78,160	▼(12.5)	▲7.2	▼(18.4)	▲14.7
Value.....	301,643	391,830	323,325	249,223	254,744	▲7.2	▲29.9	▼(17.5)	▲2.2
Unit value.....	\$2.95	\$3.57	\$3.61	\$3.66	\$3.26	▲22.5	▲21.1	▲1.2	▼(10.9)
Ending inventory quantity.....	8,653	11,431	9,688	12,769	11,490	▲12.0	▲32.1	▼(15.2)	▼(10.0)
All import sources:									
Quantity.....	282,107	332,081	266,266	210,056	213,414	▼(5.6)	▲17.7	▼(19.8)	▲1.6
Value.....	723,139	992,367	615,442	494,321	456,132	▼(14.9)	▲37.2	▼(38.0)	▼(7.7)
Unit value.....	\$2.56	\$2.99	\$2.31	\$2.35	\$2.14	▼(9.8)	▲16.6	▼(22.7)	▼(9.2)
Ending inventory quantity.....	15,002	25,305	29,853	38,961	46,289	▲99.0	▲68.7	▲18.0	▲18.8
U.S. producers' and U.S. processors':									
Commercial U.S. shipments (fn2):									
Quantity.....	***	***	***	***	***	▼***	▼***	▼***	▲***
Value:									
Fully domestic value.....	***	***	***	***	***	▼***	▲***	▼***	▼***
Incremental value added to imports	***	***	***	***	***	▲***	▲***	▲***	▼***
Total value.....	***	***	***	***	***	▼***	▲***	▼***	▼***
Unit value.....	***	***	***	***	***	▼***	▲***	▼***	▼***
U.S. producers':									
Commercial sales:									
Quantity.....	***	***	***	***	***	▼***	▼***	▼***	▼***
Value.....	***	***	***	***	***	▼***	▲***	▼***	▼***
Unit value.....	***	***	***	***	***	▼***	▲***	▼***	▼***
Cost of goods sold (COGS).....	***	***	***	***	***	▼***	▼***	▼***	▼***
Gross profit or (loss) (fn3).....	***	***	***	***	***	▼***	▲***	▼***	▼***
SG&A expenses.....	***	***	***	***	***	▼***	▼***	▼***	▲***
Operating income or (loss) (fn3).....	***	***	***	***	***	▼***	▲***	▼***	▼***
Net income or (loss) (fn3).....	***	***	***	***	***	▼***	▲***	▼***	▼***
Unit COGS.....	***	***	***	***	***	▲***	▲***	▼***	▼***
Unit SG&A expenses.....	***	***	***	***	***	▼***	▲***	▼***	▲***
Unit operating income or (loss) (fn3)...	***	***	***	***	***	▼***	▲***	▼***	▼***
Unit net income or (loss) (fn3).....	***	***	***	***	***	▼***	▲***	▼***	▼***
COGS/sales (fn1).....	***	***	***	***	***	▲***	▼***	▲***	▲***
Operating income or (loss)/sales (fn1)	***	***	***	***	***	▼***	▲***	▼***	▼***
Net income or (loss)/sales (fn1).....	***	***	***	***	***	▼***	▲***	▼***	▼***

Table continued.

Table C.2 Continued

Epoxy resins: Summary data concerning the U.S. merchant market, U.S. producers and processors, by item and period

Quantity=1,000 pounds; Value=1,000 dollars; Unit values, unit labor costs, and unit expenses=dollars per pound; Productivity=pounds per hour; Period changes=percent--exceptions noted; Interim period is January through September

Item	Reported data					Period change comparisons			
	Calendar year		2023	Interim		2021-23	Calendar year		Interim 2023-24
	2021	2022		2023	2024		2021-22	2022-23	
U.S. processors':									
Commercial sales:									
Quantity.....	***	***	***	***	***	▲***	▲***	▲***	▲***
Value.....	***	***	***	***	***	▲***	▲***	▲***	▼***
Unit value.....	***	***	***	***	***	▲***	▲***	▼***	▼***
Cost of goods sold (COGS).....	***	***	***	***	***	▲***	▲***	▲***	▼***
Gross profit or (loss) (fn3).....	***	***	***	***	***	▲***	▲***	▲***	▼***
SG&A expenses.....	***	***	***	***	***	▲***	▲***	▲***	▼***
Operating income or (loss) (fn3).....	***	***	***	***	***	▲***	▼***	▲***	▼***
Net income or (loss) (fn3).....	***	***	***	***	***	▲***	▼***	▲***	▼***
Unit COGS.....	***	***	***	***	***	▼***	▲***	▼***	▼***
Unit SG&A expenses.....	***	***	***	***	***	▲***	▲***	▼***	▼***
Unit operating income or (loss) (fn3)...	***	***	***	***	***	▲***	▼***	▲***	▼***
Unit net income or (loss) (fn3).....	***	***	***	***	***	▲***	▼***	▲***	▼***
COGS/sales (fn1).....	***	***	***	***	***	▼***	▲***	▼***	▼***
Operating income or (loss)/sales (fn1)	***	***	***	***	***	▲***	▼***	▲***	▼***
Net income or (loss)/sales (fn1).....	***	***	***	***	***	▲***	▼***	▲***	▼***
U.S. producers' and U.S. processors':									
Commercial sales:									
Quantity.....	***	***	***	***	***	▼***	▼***	▼***	▼***
Value.....	***	***	***	***	***	▼***	▲***	▼***	▼***
Unit value.....	***	***	***	***	***	▼***	▲***	▼***	▼***
Cost of goods sold (COGS).....	***	***	***	***	***	▼***	▲***	▼***	▼***
Gross profit or (loss) (fn3).....	***	***	***	***	***	▼***	▲***	▼***	▼***
SG&A expenses.....	***	***	***	***	***	▲***	▼***	▲***	▲***
Operating income or (loss) (fn3).....	***	***	***	***	***	▼***	▲***	▼***	▼***
Net income or (loss) (fn3).....	***	***	***	***	***	▼***	▲***	▼***	▼***
Unit COGS.....	***	***	***	***	***	▲***	▲***	▼***	▼***
Unit SG&A expenses.....	***	***	***	***	***	▲***	▲***	▲***	▲***
Unit operating income or (loss) (fn3)...	***	***	***	***	***	▼***	▲***	▼***	▼***
Unit net income or (loss) (fn3).....	***	***	***	***	***	▼***	▲***	▼***	▼***
COGS/sales (fn1).....	***	***	***	***	***	▲***	▼***	▲***	▼***
Operating income or (loss)/sales (fn1)	***	***	***	***	***	▼***	▲***	▼***	▼***
Net income or (loss)/sales (fn1).....	***	***	***	***	***	▼***	▲***	▼***	▼***

Source: Compiled from data submitted in response to Commission questionnaires and adjusted official U.S. imports statistics of the U.S. Department of Commerce Census Bureau using HTS statistical reporting number 3907.30.0000, accessed December 30, 2024. Official U.S. imports statistics were adjusted to add in epoxy resins imported under other HTS statistical reporting numbers as reported in responses to Commission questionnaires, as well as to remove out-of-scope products imported under the primary HTS number for epoxy resins as reported in responses to Commission questionnaires. Imports are based on the imports for consumption data series. Import value data reflect landed duty-paid values. 508-compliant tables containing these data are contained in parts G and H of this report.

Note.--Shares and ratios shown as "0.0" percent represent non-zero values less than "0.05" percent (if positive) and greater than "(0.05)" percent (if negative). Zeroes, null values, and undefined calculations are suppressed and shown as "—". Period changes preceded by a "▲" represent an increase, while period changes preceded by a "▼" represent a decrease.

fn1.--Reported data are in percent and period changes are in percentage points.

fn2.--Quantity for merchant market shipments reflects only producers' U.S. commercial shipment quantities. Value for U.S. commercial shipments reflects epoxy resin sold in the open market in the United States from domestically manufactured epoxy resin (including the value added by U.S. processors to domestic epoxy resin), as well as the incremental value added by U.S. processors to imported epoxy resin. In measuring consumption and market share this methodology avoids reclassifying and/or double counting merchandise already reported as an import. Unit value reflects the fully domestic value.

fn3.--Percent changes only calculated when both comparison values represent profits; The directional change in profitability provided when one or both comparison values represent a loss.

U.S. producer total market

Table C.3

Epoxy resins: Summary data concerning the U.S. total market, U.S. producers, by item and period

Quantity=1,000 pounds; Value=1,000 dollars; Unit values, unit labor costs, and unit expenses=dollars per pound; Productivity=pounds per hour; Period changes=percent--exceptions noted; Interim period is January through September

Item	Reported data					Period change comparisons			
	2021	Calendar year 2022	2023	2023 Interim	2024	2021-23	Calendar year 2021-22	2022-23	Interim 2023-24
U.S. total market consumption quantity:									
Amount.....	***	***	***	***	***	▼***	▼***	▼***	▲***
Producers' share (fn1).....	***	***	***	***	***	▼***	▼***	▲***	▲***
Importers' share (fn1):									
China (CN).....	***	***	***	***	***	▼***	▼***	▼***	▼***
India (IN).....	***	***	***	***	***	▲***	▲***	▲***	▼***
South Korea (KR).....	***	***	***	***	***	▲***	▲***	▼***	▼***
Taiwan (TW).....	***	***	***	***	***	▲***	▲***	▲***	▼***
Thailand (TH).....	***	***	***	***	***	▲***	▼***	▲***	▲***
Subject sources.....	***	***	***	***	***	▲***	▲***	▼***	▼***
Subject sources less CN and IN.....	***	***	***	***	***	▲***	▲***	▼***	▼***
Nonsubject sources.....	***	***	***	***	***	▲***	▲***	▲***	▲***
Nonsubject sources plus CN and IN	***	***	***	***	***	▲***	▲***	▼***	▲***
All import sources.....	***	***	***	***	***	▲***	▲***	▼***	▼***
U.S. total market consumption value:									
Amount.....	***	***	***	***	***	▼***	▲***	▼***	▼***
Producers' share (fn1)	***	***	***	***	***	▼***	▼***	▼***	▼***
Importers' share (fn1):									
China (CN).....	***	***	***	***	***	▼***	▼***	▼***	▼***
India (IN).....	***	***	***	***	***	▲***	▲***	▲***	▲***
South Korea (KR).....	***	***	***	***	***	▼***	▲***	▼***	▲***
Taiwan (TW).....	***	***	***	***	***	▲***	▲***	▲***	▼***
Thailand (TH).....	***	***	***	***	***	▲***	▼***	▲***	▲***
Subject sources.....	***	***	***	***	***	▲***	▲***	▼***	▼***
Subject sources less CN and IN.....	***	***	***	***	***	▲***	▲***	▼***	▼***
Nonsubject sources.....	***	***	***	***	***	▲***	▲***	▲***	▲***
Nonsubject sources plus CN and IN	***	***	***	***	***	▲***	▲***	▲***	▲***
All import sources.....	***	***	***	***	***	▲***	▲***	▲***	▲***
U.S. imports from:									
China:									
Quantity.....	***	***	***	***	***	▼***	▼***	▼***	▼***
Value.....	***	***	***	***	***	▼***	▼***	▼***	▼***
Unit value.....	***	***	***	***	***	▼***	▼***	▼***	▼***
Ending inventory quantity.....	***	***	***	***	***	▲***	▲***	▼***	▲***
India:									
Quantity.....	***	***	***	***	***	▲***	▲***	▼***	▲***
Value.....	***	***	***	***	***	▲***	▲***	▼***	▼***
Unit value.....	***	***	***	***	***	▼***	▲***	▼***	▼***
Ending inventory quantity.....	***	***	***	***	***	▲***	▲***	▲***	▲***
South Korea:									
Quantity.....	***	***	***	***	***	▼***	▲***	▼***	▲***
Value.....	***	***	***	***	***	▼***	▲***	▼***	▼***
Unit value.....	***	***	***	***	***	▼***	▲***	▼***	▼***
Ending inventory quantity.....	***	***	***	***	***	▲***	▲***	▲***	▲***
Taiwan:									
Quantity.....	***	***	***	***	***	▲***	▲***	▲***	▼***
Value.....	***	***	***	***	***	▲***	▲***	▼***	▼***
Unit value.....	***	***	***	***	***	▼***	▼***	▼***	▼***
Ending inventory quantity.....	***	***	***	***	***	▲***	▲***	▲***	▼***
Thailand:									
Quantity.....	***	***	***	***	***	▲***	▼***	▲***	▲***
Value.....	***	***	***	***	***	▼***	▲***	▼***	▲***
Unit value.....	***	***	***	***	***	▼***	▲***	▼***	▼***
Ending inventory quantity.....	***	***	***	***	***	▲***	▲***	▲***	▲***
Subject sources:									
Quantity.....	191,146	235,393	186,859	150,539	142,438	▼(2.2)	▲23.1	▼(20.6)	▼(5.4)
Value.....	451,705	634,939	311,979	261,283	213,794	▼(30.9)	▲40.6	▼(50.9)	▼(18.2)
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Ending inventory quantity.....	6,691	15,028	21,565	27,474	36,511	▲222.3	▲124.6	▲43.5	▲32.9
Subject sources less China and India:									
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Value.....	421,496	600,537	292,117	245,099	201,387	▼(30.7)	▲42.5	▼(51.4)	▼(17.8)
Unit value.....	\$2.34	\$2.70	\$1.65	\$1.73	\$1.49	▼(29.5)	▲15.2	▼(38.8)	▼(13.8)
Ending inventory quantity.....	6,349	13,874	20,165	26,192	34,799	▲217.6	▲118.5	▲45.3	▲32.9

Table continued.

Table C.3 Continued

Epoxy resins: Summary data concerning the U.S. total market, U.S. producers, by item and period

Quantity=1,000 pounds; Value=1,000 dollars; Unit values, unit labor costs, and unit expenses=dollars per pound; Productivity=pounds per hour; Period changes=percent--exceptions noted; Interim period is January through September

Item	Reported data					Period change comparisons			
	2021	Calendar year 2022	2023	Interim 2023	2024	2021–23	Calendar year 2021–22	2022–23	Interim 2023–24
U.S. imports:--Continued									
Nonsubject sources									
Quantity.....	90,962	96,688	79,407	59,517	70,976	▼(12.7)	▲6.3	▼(17.9)	▲19.3
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Unit value.....	\$2.98	\$3.70	\$3.82	\$3.92	\$3.41	▲28.1	▲23.9	▲3.4	▼(12.8)
Ending inventory quantity.....	8,311	10,277	8,288	11,487	9,778	▼(0.3)	▲23.7	▼(19.4)	▼(14.9)
Nonsubject sources plus China and India:									
Quantity.....	102,257	109,651	89,446	68,169	78,160	▼(12.5)	▲7.2	▼(18.4)	▲14.7
Value.....	301,643	391,830	323,325	249,223	254,744	▲7.2	▲29.9	▼(17.5)	▲2.2
Unit value.....	\$2.95	\$3.57	\$3.61	\$3.66	\$3.26	▲22.5	▲21.1	▲1.2	▼(10.9)
Ending inventory quantity.....	8,653	11,431	9,688	12,769	11,490	▲12.0	▲32.1	▼(15.2)	▼(10.0)
All import sources:									
Quantity.....	282,107	332,081	266,266	210,056	213,414	▼(5.6)	▲17.7	▼(19.8)	▲1.6
Value.....	723,139	992,367	615,442	494,321	456,132	▼(14.9)	▲37.2	▼(38.0)	▼(7.7)
Unit value.....	\$2.56	\$2.99	\$2.31	\$2.35	\$2.14	▼(9.8)	▲16.6	▼(22.7)	▼(9.2)
Ending inventory quantity.....	15,002	25,305	29,853	38,961	46,289	▲99.0	▲68.7	▲18.0	▲18.8
U.S. producers':									
Practical capacity quantity.....	***	***	***	***	***	▼***	▲***	▼***	▼***
Production quantity.....	***	***	***	***	***	▼***	▼***	▼***	▼***
Capacity utilization (fn1).....	***	***	***	***	***	▼***	▼***	▲***	▼***
U.S. shipments:									
Quantity.....	***	***	***	***	***	▼***	▼***	▼***	▲***
Value:	***	***	***	***	***	▼***	▲***	▼***	▼***
Unit value.....	***	***	***	***	***	▼***	▲***	▼***	▼***
Export shipments:									
Quantity.....	***	***	***	***	***	▼***	▼***	▲***	▼***
Value.....	***	***	***	***	***	▼***	▼***	▼***	▼***
Unit value.....	***	***	***	***	***	▼***	▲***	▼***	▼***
Ending inventory quantity.....	***	***	***	***	***	▼***	▼***	▼***	▼***
Inv./total shipments (fn1).....	***	***	***	***	***	▲***	▲***	▲***	▼***
Production workers.....	***	***	***	***	***	▼***	▼***	▼***	▼***
Hours worked (1,000s).....	***	***	***	***	***	▼***	▲***	▼***	▼***
Wages paid (\$1,000).....	***	***	***	***	***	▼***	▲***	▼***	▲***
Hourly wages (dollars per hour).....	***	***	***	***	***	▼***	▲***	▼***	▲***
Productivity (pounds per hour).....	***	***	***	***	***	▼***	▼***	▼***	▼***
Unit labor costs (dollars per pound).....	***	***	***	***	***	▲***	▲***	▼***	▲***
U.S. producers':									
Net sales:									
Quantity.....	***	***	***	***	***	▼***	▼***	▼***	▼***
Value.....	***	***	***	***	***	▼***	▲***	▼***	▼***
Unit value.....	***	***	***	***	***	▼***	▲***	▼***	▼***
Cost of goods sold (COGS).....	***	***	***	***	***	▼***	▼***	▼***	▼***
Gross profit or (loss) (fn2).....	***	***	***	***	***	▼***	▲***	▼***	▼***
SG&A expenses.....	***	***	***	***	***	▼***	▼***	▼***	▲***
Operating income or (loss) (fn2).....	***	***	***	***	***	▼***	▲***	▼***	▼***
Net income or (loss) (fn2).....	***	***	***	***	***	▼***	▲***	▼***	▼***
Unit COGS.....	***	***	***	***	***	▲***	▲***	▼***	▼***
Unit SG&A expenses.....	***	***	***	***	***	▼***	▲***	▼***	▲***
Unit operating income or (loss) (fn2)...	***	***	***	***	***	▼***	▲***	▼***	▼***
Unit net income or (loss) (fn2).....	***	***	***	***	***	▼***	▲***	▼***	▼***
COGS/sales (fn1).....	***	***	***	***	***	▲***	▼***	▲***	▲***
Operating income or (loss)/sales (fn1)...	***	***	***	***	***	▼***	▲***	▼***	▼***
Net income or (loss)/sales (fn1).....	***	***	***	***	***	▼***	▲***	▼***	▼***
Capital expenditures.....	***	***	***	***	***	▼***	▲***	▼***	▼***
Research and development expenses.	***	***	***	***	***	▼***	▼***	▼***	▲***
Total assets.....	***	***	***	***	***	▼***	▼***	▼***	***

Source: Compiled from data submitted in response to Commission questionnaires and adjusted official U.S. imports statistics of the U.S. Department of Commerce Census Bureau using HTS statistical reporting number 3907.30.0000, accessed December 30, 2024. Official U.S. imports statistics were adjusted to add in epoxy resins imported under other HTS statistical reporting numbers as reported in responses to Commission questionnaires, as well as to remove out-of-scope products imported under the primary HTS number for epoxy resins as reported in responses to Commission questionnaires. Imports are based on the imports for consumption data series. Import value data reflect landed duty-paid values. Most of the data in this table have 508-compliant tables containing these data in parts 3, 4, and 6 of this report, and any tables not available in a 508-compliant format can be requested..

Note.--Shares and ratios shown as "0.0" percent represent non-zero values less than "0.05" percent (if positive) and greater than "(0.05)" percent (if negative). Zeroes, null values, and undefined calculations are suppressed and shown as "—". Period changes preceded by a "▲" represent an increase, while period changes preceded by a "▼" represent a decrease.

fn1.--Reported data are in percent and period changes are in percentage points.

fn2.--Percent changes only calculated when both comparison values represent profits; The directional change in profitability provided when one or both comparison values represent a loss.

U.S. producer merchant market

Table C.4

Epoxy resins: Summary data concerning the U.S. merchant market, U.S. producers, by item and period

Quantity=1,000 pounds; Value=1,000 dollars; Unit values, unit labor costs, and unit expenses=dollars per pound; Productivity=pounds per hour; Period changes=percent--exceptions noted; Interim period is January through September

Item	Reported data					Period change comparisons			
	Calendar year			Interim		Calendar year			Interim
	2021	2022	2023	2023	2024	2021-23	2021-22	2022-23	2023-24
U.S. merchant market consumption quantity:									
Amount.....	***	***	***	***	***	▼***	▼***	▼***	▲***
Producers' share (fn1).....	***	***	***	***	***	▼***	▼***	▲***	▲***
Importers' share (fn1):									
China (CN).....	***	***	***	***	***	▼***	▼***	▼***	▼***
India (IN).....	***	***	***	***	***	▲***	▲***	▲***	▼***
South Korea (KR).....	***	***	***	***	***	▲***	▲***	▼***	▼***
Taiwan (TW).....	***	***	***	***	***	▲***	▲***	▲***	▼***
Thailand (TH).....	***	***	***	***	***	▲***	▼***	▲***	▲***
Subject sources.....	***	***	***	***	***	▲***	▲***	▼***	▼***
Subject sources less CN and IN.....	***	***	***	***	***	▲***	▲***	▼***	▼***
Nonsubject sources.....	***	***	***	***	***	▲***	▲***	▼***	▲***
Nonsubject sources plus CN and IN	***	***	***	***	***	▲***	▲***	▼***	▲***
All import sources.....	***	***	***	***	***	▲***	▲***	▼***	▼***
U.S. merchant market consumption value:									
Amount.....	***	***	***	***	***	▼***	▲***	▼***	▼***
Producers' share (fn1)	***	***	***	***	***	▼***	▼***	▼***	▲***
Importers' share (fn1):									
China (CN).....	***	***	***	***	***	▼***	▼***	▼***	▼***
India (IN).....	***	***	***	***	***	▲***	▲***	▲***	▲***
South Korea (KR).....	***	***	***	***	***	▼***	▲***	▼***	▼***
Taiwan (TW).....	***	***	***	***	***	▲***	▲***	▲***	▼***
Thailand (TH).....	***	***	***	***	***	▲***	▼***	▲***	▲***
Subject sources.....	***	***	***	***	***	▲***	▲***	▼***	▼***
Subject sources less CN and IN.....	***	***	***	***	***	▲***	▲***	▼***	▼***
Nonsubject sources.....	***	***	***	***	***	▲***	▲***	▲***	▲***
Nonsubject sources plus CN and IN	***	***	***	***	***	▲***	▲***	▲***	▲***
All import sources.....	***	***	***	***	***	▲***	▲***	▲***	▼***
U.S. imports from:									
China:									
Quantity.....	***	***	***	***	***	▼***	▼***	▼***	▼***
Value.....	***	***	***	***	***	▼***	▼***	▼***	▼***
Unit value.....	***	***	***	***	***	▼(29.3)	▼***	▼***	▼***
Ending inventory quantity.....	***	***	***	***	***	▲***	▲***	▼***	▲***
India:									
Quantity.....	***	***	***	***	***	▲***	▲***	▼***	▲***
Value.....	***	***	***	***	***	▲***	▲***	▼***	▼***
Unit value.....	***	***	***	***	***	▼***	▲***	▼***	▼***
Ending inventory quantity.....	***	***	***	***	***	▲***	▲***	▲***	▲***
South Korea:									
Quantity.....	***	***	***	***	***	▼***	▲***	▼***	▲***
Value.....	***	***	***	***	***	▼***	▲***	▼***	▼***
Unit value.....	***	***	***	***	***	▼***	▲***	▼***	▼***
Ending inventory quantity.....	***	***	***	***	***	▲***	▲***	▲***	▲***
Taiwan:									
Quantity.....	***	***	***	***	***	▲***	▲***	▲***	▼***
Value.....	***	***	***	***	***	▲***	▲***	▼***	▼***
Unit value.....	***	***	***	***	***	▼***	▼***	▼***	▼***
Ending inventory quantity.....	***	***	***	***	***	▲***	▲***	▲***	▼***
Thailand:									
Quantity.....	***	***	***	***	***	▲***	▼***	▲***	▲***
Value.....	***	***	***	***	***	▼***	▲***	▼***	▲***
Unit value.....	***	***	***	***	***	▼***	▲***	▼***	▼***
Ending inventory quantity.....	***	***	***	***	***	▲***	▲***	▲***	▲***
Subject sources:									
Quantity.....	191,146	235,393	186,859	150,539	142,438	▼(2.2)	▲23.1	▼(20.6)	▼(5.4)
Value.....	451,705	634,939	311,979	261,283	213,794	▼(30.9)	▲40.6	▼(50.9)	▼(18.2)
Unit value.....	\$2.36	\$2.70	\$1.67	\$1.74	\$1.50	▼(29.3)	▲14.1	▼(38.1)	▼(13.5)
Ending inventory quantity.....	6,691	15,028	21,565	27,474	36,511	▲222.3	▲124.6	▲43.5	▲32.9
Subject sources less China and India:									
Quantity.....	179,850	222,429	176,821	141,886	135,253	▼(1.7)	▲23.7	▼(20.5)	▼(4.7)
Value.....	421,496	600,537	292,117	245,099	201,387	▼(30.7)	▲42.5	▼(51.4)	▼(17.8)
Unit value.....	\$2.34	\$2.70	\$1.65	\$1.73	\$1.49	▼(29.5)	▲15.2	▼(38.8)	▼(13.8)
Ending inventory quantity.....	6,349	13,874	20,165	26,192	34,799	▲217.6	▲118.5	▲45.3	▲32.9

Table continued.

Table C.4 Continued

Epoxy resins: Summary data concerning the U.S. merchant market, U.S. producers, by item and period

Quantity=1,000 pounds; Value=1,000 dollars; Unit values, unit labor costs, and unit expenses=dollars per pound; Productivity=pounds per hour; Period changes=percent--exceptions noted; Interim period is January through September

Item	Reported data					Period change comparisons			
	2021	2022	2023	2023	2024	2021–23	2021–22	2022–23	Interim 2023–24
U.S. imports:--Continued									
Nonsubject sources									
Quantity.....	90,962	96,688	79,407	59,517	70,976	▼(12.7)	▲6.3	▼(17.9)	▲19.3
Value.....	271,434	357,428	303,463	233,038	242,337	▲11.8	▲31.7	▼(15.1)	▲4.0
Unit value.....	\$2.98	\$3.70	\$3.82	\$3.92	\$3.41	▲28.1	▲23.9	▲3.4	▼(12.8)
Ending inventory quantity.....	8,311	10,277	8,288	11,487	9,778	▼(0.3)	▲23.7	▼(19.4)	▼(14.9)
Nonsubject sources plus China and India:									
Quantity.....	102,257	109,651	89,446	68,169	78,160	▼(12.5)	▲7.2	▼(18.4)	▲14.7
Value.....	301,643	391,830	323,325	249,223	254,744	▲7.2	▲29.9	▼(17.5)	▲2.2
Unit value.....	\$2.95	\$3.57	\$3.61	\$3.66	\$3.26	▲22.5	▲21.1	▲1.2	▼(10.9)
Ending inventory quantity.....	8,653	11,431	9,688	12,769	11,490	▲12.0	▲32.1	▼(15.2)	▼(10.0)
All import sources:									
Quantity.....	282,107	332,081	266,266	210,056	213,414	▼(5.6)	▲17.7	▼(19.8)	▲1.6
Value.....	723,139	992,367	615,442	494,321	456,132	▼(14.9)	▲37.2	▼(38.0)	▼(7.7)
Unit value.....	\$2.56	\$2.99	\$2.31	\$2.35	\$2.14	▼(9.8)	▲16.6	▼(22.7)	▼(9.2)
Ending inventory quantity.....	15,002	25,305	29,853	38,961	46,289	▲99.0	▲68.7	▲18.0	▲18.8
U.S. producers:									
Commercial U.S. shipments (fn2):									
Quantity.....	***	***	***	***	***	▼***	▼***	▼***	▲***
Value.....	***	***	***	***	***	▼***	▲***	▼***	▼***
Unit value.....	***	***	***	***	***	▼***	▲***	▼***	▼***
U.S. producers:									
Commercial sales:									
Quantity.....	***	***	***	***	***	▼***	▼***	▼***	▼***
Value.....	***	***	***	***	***	▼***	▲***	▼***	▼***
Unit value.....	***	***	***	***	***	▼***	▲***	▼***	▼***
Cost of goods sold (COGS).....	***	***	***	***	***	▼***	▼***	▼***	▼***
Gross profit or (loss) (fn3).....	***	***	***	***	***	▼***	▲***	▼***	▼***
SG&A expenses.....	***	***	***	***	***	▼***	▼***	▼***	▲***
Operating income or (loss) (fn3).....	***	***	***	***	***	▼***	▲***	▼***	▼***
Net income or (loss) (fn3).....	***	***	***	***	***	▼***	▲***	▼***	▼***
Unit COGS.....	***	***	***	***	***	▲***	▲***	▼***	▼***
Unit SG&A expenses.....	***	***	***	***	***	▼***	▲***	▼***	▲***
Unit operating income or (loss) (fn3)...	***	***	***	***	***	▼***	▲***	▼***	▼***
Unit net income or (loss) (fn3).....	***	***	***	***	***	▼***	▲***	▼***	▼***
COGS/sales (fn1).....	***	***	***	***	***	▲***	▼***	▲***	▲***
Operating income or (loss)/sales (fn1)	***	***	***	***	***	▼***	▲***	▼***	▼***
Net income or (loss)/sales (fn1).....	***	***	***	***	***	▼***	▲***	▼***	▼***

Source: Compiled from data submitted in response to Commission questionnaires and adjusted official U.S. imports statistics of the U.S. Department of Commerce Census Bureau using HTS statistical reporting number 3907.30.0000, accessed December 30, 2024. Official U.S. imports statistics were adjusted to add in epoxy resins imported under other HTS statistical reporting numbers as reported in responses to Commission questionnaires, as well as to remove out-of-scope products imported under the primary HTS number for epoxy resins as reported in responses to Commission questionnaires. Imports are based on the imports for consumption data series. Import value data reflect landed duty-paid values. 508-compliant tables for the data in this table are available upon request.

Note.--Shares and ratios shown as "0.0" percent represent non-zero values less than "0.05" percent (if positive) and greater than "(0.05)" percent (if negative). Zeroes, null values, and undefined calculations are suppressed and shown as "—". Period changes preceded by a "▲" represent an increase, while period changes preceded by a "▼" represent a decrease.

fn1.--Reported data are in percent and period changes are in percentage points.

fn2.--Quantity for merchant market shipments reflects only producers' U.S. commercial shipment quantities. Value for U.S. commercial shipments reflects epoxy resin sold in the open market in the United States from domestically manufactured epoxy resin. Unit value reflects the fully domestic value.

fn3.--Percent changes only calculated when both comparison values represent profits; The directional change in profitability provided when one or both comparison values represent a loss.

APPENDIX D

PURCHASE FACTOR COMPARISONS:

SUBJECT V. SUBJECT AND SUBJECT V. NONSUBJECT

Table D.1 Epoxy resins: Count of purchasers' responses comparing U.S.-produced and imported product, by factor and country pair

Factor	Country pair	Superior	Comparable	Inferior
Availability	China v. India	1	8	2
Delivery terms	China v. India	2	8	1
Delivery time	China v. India	2	8	1
Discounts offered	China v. India	1	8	2
Minimum quantity requirements	China v. India	0	11	0
Packaging	China v. India	0	11	0
Payment terms	China v. India	0	11	0
Price	China v. India	1	7	3
Product consistency	China v. India	1	9	1
Product range	China v. India	0	10	1
Quality meets industry standards	China v. India	0	11	0
Quality exceeds industry standards	China v. India	0	10	1
Reliability of supply	China v. India	1	8	2
Technical support/service	China v. India	2	9	0
U.S. transportation costs	China v. India	0	11	0

Table continued.

Table D.1 (Continued) Epoxy resins: Count of purchasers' responses comparing U.S.-produced and imported product, by factor and country pair

Factor	Country pair	Superior	Comparable	Inferior
Availability	China v. South Korea	0	8	5
Delivery terms	China v. South Korea	0	8	5
Delivery time	China v. South Korea	0	8	5
Discounts offered	China v. South Korea	1	10	2
Minimum quantity requirements	China v. South Korea	0	10	3
Packaging	China v. South Korea	0	12	1
Payment terms	China v. South Korea	0	9	4
Price ¹	China v. South Korea	2	10	1
Product consistency	China v. South Korea	0	10	3
Product range	China v. South Korea	0	10	3
Quality meets industry standards	China v. South Korea	0	11	2
Quality exceeds industry standards	China v. South Korea	0	10	3
Reliability of supply	China v. South Korea	0	7	6
Technical support/service	China v. South Korea	0	8	5
U.S. transportation costs	China v. South Korea	0	9	4

Table continued.

Table D.1 (Continued) Epoxy resins: Count of purchasers' responses comparing U.S.-produced and imported product, by factor and country pair

Factor	Country pair	Superior	Comparable	Inferior
Availability	China v. Taiwan	0	8	3
Delivery terms	China v. Taiwan	0	8	3
Delivery time	China v. Taiwan	0	8	3
Discounts offered	China v. Taiwan	1	9	1
Minimum quantity requirements	China v. Taiwan	0	9	2
Packaging	China v. Taiwan	0	11	0
Payment terms	China v. Taiwan	0	9	2
Price	China v. Taiwan	1	9	1
Product consistency	China v. Taiwan	0	10	1
Product range	China v. Taiwan	0	10	1
Quality meets industry standards	China v. Taiwan	0	10	1
Quality exceeds industry standards	China v. Taiwan	0	10	1
Reliability of supply	China v. Taiwan	0	8	3
Technical support/service	China v. Taiwan	0	9	2
U.S. transportation costs	China v. Taiwan	0	9	2

Table continued.

Table D.1 (Continued) Epoxy resins: Count of purchasers' responses comparing U.S.-produced and imported product, by factor and country pair

Factor	Country pair	Superior	Comparable	Inferior
Availability	China v. Thailand	1	7	2
Delivery terms	China v. Thailand	0	8	2
Delivery time	China v. Thailand	0	8	2
Discounts offered	China v. Thailand	1	9	0
Minimum quantity requirements	China v. Thailand	0	9	1
Packaging	China v. Thailand	0	10	0
Payment terms	China v. Thailand	1	8	1
Price	China v. Thailand	2	7	1
Product consistency	China v. Thailand	0	9	1
Product range	China v. Thailand	0	9	1
Quality meets industry standards	China v. Thailand	0	10	0
Quality exceeds industry standards	China v. Thailand	0	9	1
Reliability of supply	China v. Thailand	1	7	2
Technical support/service	China v. Thailand	0	8	2
U.S. transportation costs	China v. Thailand	0	9	1

Table continued.

Table D.1 (Continued) Epoxy resins: Count of purchasers' responses comparing U.S.-produced and imported product, by factor and country pair

Factor	Country pair	Superior	Comparable	Inferior
Availability	India v. South Korea	0	12	4
Delivery terms	India v. South Korea	0	11	4
Delivery time	India v. South Korea	0	11	4
Discounts offered	India v. South Korea	0	13	2
Minimum quantity requirements	India v. South Korea	0	15	1
Packaging	India v. South Korea	0	16	0
Payment terms	India v. South Korea	0	12	3
Price	India v. South Korea	2	10	4
Product consistency	India v. South Korea	0	15	1
Product range	India v. South Korea	0	13	3
Quality meets industry standards	India v. South Korea	0	15	1
Quality exceeds industry standards	India v. South Korea	0	13	3
Reliability of supply	India v. South Korea	0	12	4
Technical support/service	India v. South Korea	0	11	5
U.S. transportation costs	India v. South Korea	0	14	2

Table continued.

Table D.1 (Continued) Epoxy resins: Count of purchasers' responses comparing U.S.-produced and imported product, by factor and country pair

Factor	Country pair	Superior	Comparable	Inferior
Availability	India v. Taiwan	0	11	0
Delivery terms	India v. Taiwan	0	9	1
Delivery time	India v. Taiwan	0	9	1
Discounts offered	India v. Taiwan	0	10	0
Minimum quantity requirements	India v. Taiwan	0	11	0
Packaging	India v. Taiwan	0	11	0
Payment terms	India v. Taiwan	0	9	1
Price	India v. Taiwan	1	8	2
Product consistency	India v. Taiwan	0	11	0
Product range	India v. Taiwan	1	9	1
Quality meets industry standards	India v. Taiwan	0	11	0
Quality exceeds industry standards	India v. Taiwan	0	10	1
Reliability of supply	India v. Taiwan	0	11	0
Technical support/service	India v. Taiwan	0	9	2
U.S. transportation costs	India v. Taiwan	0	11	0

Table continued.

Table D.1 (Continued) Epoxy resins: Count of purchasers' responses comparing U.S.-produced and imported product, by factor and country pair

Factor	Country pair	Superior	Comparable	Inferior
Availability	India v. Thailand	0	11	0
Delivery terms	India v. Thailand	0	11	0
Delivery time	India v. Thailand	0	11	0
Discounts offered	India v. Thailand	1	10	0
Minimum quantity requirements	India v. Thailand	0	11	0
Packaging	India v. Thailand	0	11	0
Payment terms	India v. Thailand	0	10	1
Price	India v. Thailand	1	9	1
Product consistency	India v. Thailand	0	11	0
Product range	India v. Thailand	0	10	1
Quality meets industry standards	India v. Thailand	0	11	0
Quality exceeds industry standards	India v. Thailand	0	10	1
Reliability of supply	India v. Thailand	0	11	0
Technical support/service	India v. Thailand	0	10	1
U.S. transportation costs	India v. Thailand	0	11	0

Table continued.

Table D.1 (Continued) Epoxy resins: Count of purchasers' responses comparing U.S.-produced and imported product, by factor and country pair

Factor	Country pair	Superior	Comparable	Inferior
Availability	South Korea v. Taiwan	9	19	0
Delivery terms	South Korea v. Taiwan	7	19	0
Delivery time	South Korea v. Taiwan	8	18	0
Discounts offered	South Korea v. Taiwan	3	21	1
Minimum quantity requirements	South Korea v. Taiwan	2	24	0
Packaging	South Korea v. Taiwan	1	26	0
Payment terms	South Korea v. Taiwan	3	22	1
Price	South Korea v. Taiwan	7	17	4
Product consistency	South Korea v. Taiwan	2	26	0
Product range	South Korea v. Taiwan	6	21	1
Quality meets industry standards	South Korea v. Taiwan	1	27	0
Quality exceeds industry standards	South Korea v. Taiwan	4	22	1
Reliability of supply	South Korea v. Taiwan	7	20	1
Technical support/service	South Korea v. Taiwan	8	18	1
U.S. transportation costs	South Korea v. Taiwan	2	24	1

Table continued.

Table D.1 (Continued) Epoxy resins: Count of purchasers' responses comparing U.S.-produced and imported product, by factor and country pair

Factor	Country pair	Superior	Comparable	Inferior
Availability	South Korea v. Thailand	6	13	0
Delivery terms	South Korea v. Thailand	5	14	0
Delivery time	South Korea v. Thailand	6	13	0
Discounts offered	South Korea v. Thailand	4	15	0
Minimum quantity requirements	South Korea v. Thailand	2	17	0
Packaging	South Korea v. Thailand	1	18	0
Payment terms	South Korea v. Thailand	4	14	1
Price	South Korea v. Thailand	7	10	2
Product consistency	South Korea v. Thailand	2	17	0
Product range	South Korea v. Thailand	2	17	0
Quality meets industry standards	South Korea v. Thailand	1	18	0
Quality exceeds industry standards	South Korea v. Thailand	3	16	0
Reliability of supply	South Korea v. Thailand	5	14	0
Technical support/service	South Korea v. Thailand	5	14	0
U.S. transportation costs	South Korea v. Thailand	3	16	0

Table continued.

Table D.1 (Continued) Epoxy resins: Count of purchasers' responses comparing U.S.-produced and imported product, by factor and country pair

Factor	Country pair	Superior	Comparable	Inferior
Availability	Taiwan v. Thailand	4	14	0
Delivery terms	Taiwan v. Thailand	2	15	1
Delivery time	Taiwan v. Thailand	3	15	0
Discounts offered	Taiwan v. Thailand	3	15	0
Minimum quantity requirements	Taiwan v. Thailand	1	17	0
Packaging	Taiwan v. Thailand	0	18	0
Payment terms	Taiwan v. Thailand	2	16	0
Price	Taiwan v. Thailand	4	13	1
Product consistency	Taiwan v. Thailand	0	17	1
Product range	Taiwan v. Thailand	1	16	1
Quality meets industry standards	Taiwan v. Thailand	0	17	0
Quality exceeds industry standards	Taiwan v. Thailand	0	17	1
Reliability of supply	Taiwan v. Thailand	2	16	0
Technical support/service	Taiwan v. Thailand	1	17	0
U.S. transportation costs	Taiwan v. Thailand	0	18	0

Table continued.

Table D.1 (Continued) Epoxy resins: Count of purchasers' responses comparing U.S.-produced and imported product, by factor and country pair

Factor	Country pair	Superior	Comparable	Inferior
Availability	China v. Nonsubject	0	4	0
Delivery terms	China v. Nonsubject	0	4	0
Delivery time	China v. Nonsubject	0	3	1
Discounts offered	China v. Nonsubject	0	4	0
Minimum quantity requirements	China v. Nonsubject	0	4	0
Packaging	China v. Nonsubject	0	4	0
Payment terms	China v. Nonsubject	0	4	0
Price	China v. Nonsubject	0	4	0
Product consistency	China v. Nonsubject	0	4	0
Product range	China v. Nonsubject	0	4	0
Quality meets industry standards	China v. Nonsubject	0	4	0
Quality exceeds industry standards	China v. Nonsubject	0	4	0
Reliability of supply	China v. Nonsubject	0	3	0
Technical support/service	China v. Nonsubject	0	4	0
U.S. transportation costs	China v. Nonsubject	0	4	0

Table continued.

Table D.1 (Continued) Epoxy resins: Count of purchasers' responses comparing U.S.-produced and imported product, by factor and country pair

Factor	Country pair	Superior	Comparable	Inferior
Availability	India v. Nonsubject	0	7	0
Delivery terms	India v. Nonsubject	0	6	0
Delivery time	India v. Nonsubject	0	5	1
Discounts offered	India v. Nonsubject	0	6	0
Minimum quantity requirements	India v. Nonsubject	0	6	0
Packaging	India v. Nonsubject	0	7	0
Payment terms	India v. Nonsubject	0	6	0
Price	India v. Nonsubject	0	6	0
Product consistency	India v. Nonsubject	0	7	0
Product range	India v. Nonsubject	1	5	0
Quality meets industry standards	India v. Nonsubject	0	7	0
Quality exceeds industry standards	India v. Nonsubject	1	5	0
Reliability of supply	India v. Nonsubject	0	7	0
Technical support/service	India v. Nonsubject	0	6	1
U.S. transportation costs	India v. Nonsubject	0	7	0

Table continued.

Table D.1 (Continued) Epoxy resins: Count of purchasers' responses comparing U.S.-produced and imported product, by factor and country pair

Factor	Country pair	Superior	Comparable	Inferior
Availability	South Korea v. Nonsubject	0	9	1
Delivery terms	South Korea v. Nonsubject	0	8	1
Delivery time	South Korea v. Nonsubject	0	7	2
Discounts offered	South Korea v. Nonsubject	1	7	1
Minimum quantity requirements	South Korea v. Nonsubject	0	8	1
Packaging	South Korea v. Nonsubject	0	9	1
Payment terms	South Korea v. Nonsubject	0	8	1
Price	South Korea v. Nonsubject	1	8	1
Product consistency	South Korea v. Nonsubject	0	9	1
Product range	South Korea v. Nonsubject	1	7	2
Quality meets industry standards	South Korea v. Nonsubject	0	9	1
Quality exceeds industry standards	South Korea v. Nonsubject	1	7	2
Reliability of supply	South Korea v. Nonsubject	0	9	1
Technical support/service	South Korea v. Nonsubject	1	7	2
U.S. transportation costs	South Korea v. Nonsubject	1	8	1

Table continued.

Table D.1 (Continued) Epoxy resins: Count of purchasers' responses comparing U.S.-produced and imported product, by factor and country pair

Factor	Country pair	Superior	Comparable	Inferior
Availability	Taiwan v. Nonsubject	0	7	1
Delivery terms	Taiwan v. Nonsubject	0	6	1
Delivery time	Taiwan v. Nonsubject	0	5	2
Discounts offered	Taiwan v. Nonsubject	1	5	1
Minimum quantity requirements	Taiwan v. Nonsubject	0	6	1
Packaging	Taiwan v. Nonsubject	0	6	1
Payment terms	Taiwan v. Nonsubject	0	6	1
Price	Taiwan v. Nonsubject	1	6	1
Product consistency	Taiwan v. Nonsubject	0	7	1
Product range	Taiwan v. Nonsubject	0	7	1
Quality meets industry standards	Taiwan v. Nonsubject	0	7	1
Quality exceeds industry standards	Taiwan v. Nonsubject	0	6	2
Reliability of supply	Taiwan v. Nonsubject	0	7	1
Technical support/service	Taiwan v. Nonsubject	0	5	2
U.S. transportation costs	Taiwan v. Nonsubject	0	7	1

Table continued.

Table D.1 (Continued) Epoxy resins: Count of purchasers' responses comparing U.S.-produced and imported product, by factor and country pair

Factor	Country pair	Superior	Comparable	Inferior
Availability	Thailand v. Nonsubject	0	5	1
Delivery terms	Thailand v. Nonsubject	0	6	0
Delivery time	Thailand v. Nonsubject	0	4	2
Discounts offered	Thailand v. Nonsubject	0	5	1
Minimum quantity requirements	Thailand v. Nonsubject	0	6	0
Packaging	Thailand v. Nonsubject	0	6	0
Payment terms	Thailand v. Nonsubject	0	6	0
Price	Thailand v. Nonsubject	0	5	1
Product consistency	Thailand v. Nonsubject	0	6	0
Product range	Thailand v. Nonsubject	0	4	1
Quality meets industry standards	Thailand v. Nonsubject	0	6	0
Quality exceeds industry standards	Thailand v. Nonsubject	0	6	0
Reliability of supply	Thailand v. Nonsubject	0	6	0
Technical support/service	Thailand v. Nonsubject	0	6	0
U.S. transportation costs	Thailand v. Nonsubject	0	6	0

Source: Compiled from data submitted in response to Commission questionnaires.

Note: With respect to cost/price factors, a rating of superior means that the cost/price for the first source in the country pair is generally lower. For example, if a firm reported "U.S. superior," it meant that the U.S. product was generally priced lower than the imported product.

APPENDIX E

U.S. PROCESSORS' PROCESSING, IMPORTING, AND PURCHASING OPERATIONS

Table E.1 Epoxy resins: *'s U.S. processing of epoxy resins, by source of epoxy resins input into processing and period**

Quantity in 1,000 pounds; raw material (RM) value in 1,000 dollars; shares in percent; interim period is January to September

Epoxy resin input source	Measure	2021	2022	2023	Interim 2023	Interim 2024
Domestic	Quantity	***	***	***	***	***
Subject sources	Quantity	***	***	***	***	***
Nonsubject sources	Quantity	***	***	***	***	***
All import sources	Quantity	***	***	***	***	***
All sources	Quantity	***	***	***	***	***
Domestic	Share	***	***	***	***	***
Subject sources	Share	***	***	***	***	***
Nonsubject sources	Share	***	***	***	***	***
All import sources	Share	***	***	***	***	***
All sources	Share	100.0	100.0	100.0	100.0	100.0
Domestic	RM Value	***	***	***	***	***
Subject sources	RM Value	***	***	***	***	***
Nonsubject sources	RM Value	***	***	***	***	***
All import sources	RM Value	***	***	***	***	***
All sources	RM Value	***	***	***	***	***
Domestic	Share	***	***	***	***	***
Subject sources	Share	***	***	***	***	***
Nonsubject sources	Share	***	***	***	***	***
All import sources	Share	***	***	***	***	***
All sources	Share	100.0	100.0	100.0	100.0	100.0

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "—".

Table E.2 Epoxy resins: *'s U.S. processing of epoxy resins, by source of epoxy resins input into processing and period**

Quantity in 1,000 pounds; raw material (RM) value in 1,000 dollars; shares in percent; interim period is January to September

Epoxy resin input source	Measure	2021	2022	2023	Interim 2023	Interim 2024
Domestic	Quantity	***	***	***	***	***
Subject sources	Quantity	***	***	***	***	***
Nonsubject sources	Quantity	***	***	***	***	***
All import sources	Quantity	***	***	***	***	***
All sources	Quantity	***	***	***	***	***
Domestic	Share	***	***	***	***	***
Subject sources	Share	***	***	***	***	***
Nonsubject sources	Share	***	***	***	***	***
All import sources	Share	***	***	***	***	***
All sources	Share	100.0	100.0	100.0	100.0	100.0
Domestic	RM Value	***	***	***	***	***
Subject sources	RM Value	***	***	***	***	***
Nonsubject sources	RM Value	***	***	***	***	***
All import sources	RM Value	***	***	***	***	***
All sources	RM Value	***	***	***	***	***
Domestic	Share	***	***	***	***	***
Subject sources	Share	***	***	***	***	***
Nonsubject sources	Share	***	***	***	***	***
All import sources	Share	***	***	***	***	***
All sources	Share	100.0	100.0	100.0	100.0	100.0

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "—".

Table E.3 Epoxy resins: *'s U.S. processing, U.S. imports from subject sources, and ratio of subject imports to processing, by period**

Quantity in 1,000 pounds; ratio in percent; interim period is January to September

Item	Measure	2021	2022	2023	Interim 2023	Interim 2024
U.S. processing ***	Quantity	***	***	***	***	***
Imports from ***	Quantity	***	***	***	***	***
Imports from *** to U.S. processing	Ratio	***	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "—".

Table E.4 Epoxy resins: *'s U.S. processing, U.S. purchases from subject sources, and ratio of U.S. purchases to processing**

Quantity in 1,000 pounds; ratio in percent; interim period is January to September

Item	Measure	2021	2022	2023	Interim 2023	Interim 2024
U.S. processing ***	Quantity	***	***	***	***	***
Purchases from ***	Quantity	***	***	***	***	***
Purchases from domestic sources	Quantity	***	***	***	***	***
Purchases from nonsubject sources	Quantity	***	***	***	***	***
Purchases from all sources	Quantity	***	***	***	***	***
Purchases from *** to U.S. processing	Ratio	***	***	***	***	***
Purchases from domestic sources to U.S. processing	Ratio	***	***	***	***	***
Purchases from nonsubject sources to U.S. processing	Ratio	***	***	***	***	***
Purchases from all sources to U.S. processing	Ratio	***	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "—".

Note: Purchase data is compiled from firm's U.S. purchaser questionnaire response. The U.S. purchaser questionnaire did not ask firms to report interim 2023 data.

Table E.5 Epoxy resins: *'s U.S. processing of epoxy resins, by source of epoxy resins input into processing and period**

Quantity in 1,000 pounds; raw material (RM) value in 1,000 dollars; shares in percent; interim period is January to September

Epoxy resin input source	Measure	2021	2022	2023	Interim 2023	Interim 2024
Domestic	Quantity	***	***	***	***	***
Subject sources	Quantity	***	***	***	***	***
Nonsubject sources	Quantity	***	***	***	***	***
All import sources	Quantity	***	***	***	***	***
All sources	Quantity	***	***	***	***	***
Domestic	Share	***	***	***	***	***
Subject sources	Share	***	***	***	***	***
Nonsubject sources	Share	***	***	***	***	***
All import sources	Share	***	***	***	***	***
All sources	Share	100.0	100.0	100.0	100.0	100.0
Domestic	RM Value	***	***	***	***	***
Subject sources	RM Value	***	***	***	***	***
Nonsubject sources	RM Value	***	***	***	***	***
All import sources	RM Value	***	***	***	***	***
All sources	RM Value	***	***	***	***	***
Domestic	Share	***	***	***	***	***
Subject sources	Share	***	***	***	***	***
Nonsubject sources	Share	***	***	***	***	***
All import sources	Share	***	***	***	***	***
All sources	Share	100.0	100.0	100.0	100.0	100.0

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "—".

Table E.6 Epoxy resins: *'s U.S. processing, U.S. imports from subject sources, and ratio of subject imports to processing, by period**

Quantity in 1,000 pounds; ratio in percent; interim period is January to September

Item	Measure	2021	2022	2023	Interim 2023	Interim 2024
U.S. processing	Quantity	***	***	***	***	***
Imports from ***	Quantity	***	***	***	***	***
Imports from ***	Quantity	***	***	***	***	***
Imports from ***	Quantity	***	***	***	***	***
Imports from ***	Quantity	***	***	***	***	***
Imports from all subject sources	Quantity	***	***	***	***	***
Imports from *** to U.S. processing	Ratio	***	***	***	***	***
Imports from *** to U.S. processing	Ratio	***	***	***	***	***
Imports from *** to U.S. processing	Ratio	***	***	***	***	***
Imports from *** to U.S. processing	Ratio	***	***	***	***	***
Imports from all subject sources to U.S. processing	Ratio	***	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "—".

Table E.7 Epoxy resins: *'s U.S. processing, U.S. purchases from subject sources, and ratio of U.S. purchases to processing, by period**

Quantity in 1,000 pounds; ratio in percent; interim period is January to September

Item	Measure	2021	2022	2023	Interim 2023	Interim 2024
U.S. processing	Quantity	***	***	***	***	***
Purchases from ***	Quantity	***	***	***	***	***
Purchases from domestic sources	Quantity	***	***	***	***	***
Purchases from nonsubject sources	Quantity	***	***	***	***	***
Purchases from all sources	Quantity	***	***	***	***	***
Purchases from *** to U.S. processing	Ratio	***	***	***	***	***
Purchases from domestic sources to U.S. processing	Ratio	***	***	***	***	***
Purchases from nonsubject sources to U.S. processing	Ratio	***	***	***	***	***
Purchases from all sources to U.S. processing	Ratio	***	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "—".

Table E.8 Epoxy resins: *'s U.S. processing of epoxy resins, by source of epoxy resins input into processing and period**

Quantity in 1,000 pounds; raw material (RM) value in 1,000 dollars; shares in percent; interim period is January to September

Epoxy resin input source	Measure	2021	2022	2023	Interim 2023	Interim 2024
Domestic	Quantity	***	***	***	***	***
Subject sources	Quantity	***	***	***	***	***
Nonsubject sources	Quantity	***	***	***	***	***
All import sources	Quantity	***	***	***	***	***
All sources	Quantity	***	***	***	***	***
Domestic	Share	***	***	***	***	***
Subject sources	Share	***	***	***	***	***
Nonsubject sources	Share	***	***	***	***	***
All import sources	Share	***	***	***	***	***
All sources	Share	100.0	100.0	100.0	100.0	100.0
Domestic	RM Value	***	***	***	***	***
Subject sources	RM Value	***	***	***	***	***
Nonsubject sources	RM Value	***	***	***	***	***
All import sources	RM Value	***	***	***	***	***
All sources	RM Value	***	***	***	***	***
Domestic	Share	***	***	***	***	***
Subject sources	Share	***	***	***	***	***
Nonsubject sources	Share	***	***	***	***	***
All import sources	Share	***	***	***	***	***
All sources	Share	100.0	100.0	100.0	100.0	100.0

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "—".

Table E.9 Epoxy resins: *'s U.S. processing, U.S. imports from subject sources, and ratio of subject imports to processing, by period**

Quantity in 1,000 pounds; ratio in percent; interim period is January to September

Item	Measure	2021	2022	2023	Interim 2023	Interim 2024
U.S. processing	Quantity	***	***	***	***	***
Imports from all subject sources	Quantity	***	***	***	***	***
Imports from all subject sources to U.S. processing	Ratio	***	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "—".

Note: *** importer of epoxy resins.

Table E.10 Epoxy resins: *'s U.S. processing, U.S. purchases from subject sources, and ratio of U.S. purchases to processing**

Quantity in 1,000 pounds; ratio in percent; interim period is January to September

Item	Measure	2021	2022	2023	Interim 2023	Interim 2024
U.S. processing	Quantity	***	***	***	***	***
Purchases from ***	Quantity	***	***	***	***	***
Purchases from ***	Quantity	***	***	***	***	***
Purchases from ***	Quantity	***	***	***	***	***
Purchases from ***	Quantity	***	***	***	***	***
Purchases from domestic sources	Quantity	***	***	***	***	***
Purchases from subject sources	Quantity	***	***	***	***	***
Purchases from nonsubject sources	Quantity	***	***	***	***	***
Purchases from all sources	Quantity	***	***	***	***	***
Purchases from *** to U.S. processing	Ratio	***	***	***	***	***
Purchases from *** to U.S. processing	Ratio	***	***	***	***	***
Purchases from *** to U.S. processing	Ratio	***	***	***	***	***
Purchases from *** to U.S. processing	Ratio	***	***	***	***	***
Purchases from domestic sources to U.S. processing	Ratio	***	***	***	***	***
Purchases from subject sources to U.S. processing	Ratio	***	***	***	***	***
Purchases from nonsubject sources to U.S. processing	Ratio	***	***	***	***	***
Purchases from all sources to U.S. processing	Ratio	***	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "—".

Note: Purchase data is compiled from firm's U.S. purchaser questionnaire response. The U.S. purchaser questionnaire did not ask firms to report interim 2023 data.

Table E.11 Epoxy resins: *'s U.S. processing of epoxy resins, by source of epoxy resins input into processing and period**

Quantity in 1,000 pounds; raw material (RM) value in 1,000 dollars; shares in percent; interim period is January to September

Epoxy resin input source	Measure	2021	2022	2023	Interim 2023	Interim 2024
Domestic	Quantity	***	***	***	***	***
Subject sources	Quantity	***	***	***	***	***
Nonsubject sources	Quantity	***	***	***	***	***
All import sources	Quantity	***	***	***	***	***
All sources	Quantity	***	***	***	***	***
Domestic	Share	***	***	***	***	***
Subject sources	Share	***	***	***	***	***
Nonsubject sources	Share	***	***	***	***	***
All import sources	Share	***	***	***	***	***
All sources	Share	100.0	100.0	100.0	100.0	100.0
Domestic	RM Value	***	***	***	***	***
Subject sources	RM Value	***	***	***	***	***
Nonsubject sources	RM Value	***	***	***	***	***
All import sources	RM Value	***	***	***	***	***
All sources	RM Value	***	***	***	***	***
Domestic	Share	***	***	***	***	***
Subject sources	Share	***	***	***	***	***
Nonsubject sources	Share	***	***	***	***	***
All import sources	Share	***	***	***	***	***
All sources	Share	100.0	100.0	100.0	100.0	100.0

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "—".

Table E.12 Epoxy resins: *'s U.S. processing, U.S. imports from subject sources, and ratio of subject imports to processing, by period**

Quantity in 1,000 pounds; ratio in percent; interim period is January to September

Item	Measure	2021	2022	2023	Interim 2023	Interim 2024
U.S. processing	Quantity	***	***	***	***	***
Imports from China	Quantity	***	***	***	***	***
Imports from ***	Quantity	***	***	***	***	***
Imports from ***	Quantity	***	***	***	***	***
Imports from ***	Quantity	***	***	***	***	***
Imports from ***	Quantity	***	***	***	***	***
Imports from all subject sources	Quantity	***	***	***	***	***
Imports from *** to U.S. processing	Ratio	***	***	***	***	***
Imports from *** to U.S. processing	Ratio	***	***	***	***	***
Imports from *** to U.S. processing	Ratio	***	***	***	***	***
Imports from *** to U.S. processing	Ratio	***	***	***	***	***
Imports from *** to U.S. processing	Ratio	***	***	***	***	***
Imports from all subject sources to U.S. processing	Ratio	***	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "—".

Table E.13 Epoxy resins: *'s U.S. processing, U.S. purchases from subject sources, and ratio of U.S. purchases to processing**

Quantity in 1,000 pounds; ratio in percent; interim period is January to September

Item	Measure	2021	2022	2023	Interim 2023	Interim 2024
U.S. processing	Quantity	***	***	***	***	***
Purchases from ***	Quantity	***	***	***	***	***
Purchases from ***	Quantity	***	***	***	***	***
Purchases from ***	Quantity	***	***	***	***	***
Purchases from ***	Quantity	***	***	***	***	***
Purchases from ***	Quantity	***	***	***	***	***
Purchases from domestic sources	Quantity	***	***	***	***	***
Purchases from subject sources	Quantity	***	***	***	***	***
Purchases from nonsubject sources	Quantity	***	***	***	***	***
Purchases from all sources	Quantity	***	***	***	***	***
Purchases from *** to U.S. processing	Ratio	***	***	***	***	***
Purchases from *** to U.S. processing	Ratio	***	***	***	***	***
Purchases from *** to U.S. processing	Ratio	***	***	***	***	***
Purchases from *** to U.S. processing	Ratio	***	***	***	***	***
Purchases from *** to U.S. processing	Ratio	***	***	***	***	***
Purchases from domestic sources to U.S. processing	Ratio	***	***	***	***	***
Purchases from subject sources to U.S. processing	Ratio	***	***	***	***	***
Purchases from nonsubject sources to U.S. processing	Ratio	***	***	***	***	***
Purchases from all sources to U.S. processing	Ratio	***	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "—".

Note: Purchase data is compiled from firm's U.S. purchaser questionnaire response. The U.S. purchaser questionnaire did not ask firms to report interim 2023 data.

Table E.14 Epoxy resins: U.S. processors' cumulative U.S. processing of epoxy resins, by source of epoxy resins input into processing and period

Quantity in 1,000 pounds; raw material (RM) value in 1,000 dollars; shares in percent; interim period is January to September

Epoxy resin input source	Measure	2021	2022	2023	Interim 2023	Interim 2024
Domestic	Quantity	***	***	***	***	***
Subject sources	Quantity	***	***	***	***	***
Nonsubject sources	Quantity	***	***	***	***	***
All import sources	Quantity	***	***	***	***	***
All sources	Quantity	***	***	***	***	***
Domestic	Share	***	***	***	***	***
Subject sources	Share	***	***	***	***	***
Nonsubject sources	Share	***	***	***	***	***
All import sources	Share	***	***	***	***	***
All sources	Share	100.0	100.0	100.0	100.0	100.0
Domestic	RM Value	***	***	***	***	***
Subject sources	RM Value	***	***	***	***	***
Nonsubject sources	RM Value	***	***	***	***	***
All import sources	RM Value	***	***	***	***	***
All sources	RM Value	***	***	***	***	***
Domestic	Share	***	***	***	***	***
Subject sources	Share	***	***	***	***	***
Nonsubject sources	Share	***	***	***	***	***
All import sources	Share	***	***	***	***	***
All sources	Share	100.0	100.0	100.0	100.0	100.0

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "—".

Table E.15 Epoxy resins: U.S. processors' cumulative U.S. processing, U.S. imports from subject sources, and ratio of subject imports to processing, by period

Quantity in 1,000 pounds; ratio in percent; interim period is January to September

Item	Measure	2021	2022	2023	Interim 2023	Interim 2024
U.S. processing	Quantity	***	***	***	***	***
Imports from ***	Quantity	***	***	***	***	***
Imports from ***	Quantity	***	***	***	***	***
Imports from ***	Quantity	***	***	***	***	***
Imports from ***	Quantity	***	***	***	***	***
Imports from ***	Quantity	***	***	***	***	***
Imports from all subject sources	Quantity	***	***	***	***	***
Imports from *** to U.S. processing	Ratio	***	***	***	***	***
Imports from *** to U.S. processing	Ratio	***	***	***	***	***
Imports from *** to U.S. processing	Ratio	***	***	***	***	***
Imports from *** to U.S. processing	Ratio	***	***	***	***	***
Imports from *** to U.S. processing	Ratio	***	***	***	***	***
Imports from all subject sources to U.S. processing	Ratio	***	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "—".

Table E.16 Epoxy resins: U.S. processors' cumulative U.S. processing, U.S. purchases from subject sources, and ratio of U.S. purchases to processing

Quantity in 1,000 pounds; ratio in percent; interim period is January to September

Item	Measure	2021	2022	2023	Interim 2023	Interim 2024
U.S. processing	Quantity	***	***	***	***	***
Purchases from ***	Quantity	***	***	***	***	***
Purchases from ***	Quantity	***	***	***	***	***
Purchases from ***	Quantity	***	***	***	***	***
Purchases from ***	Quantity	***	***	***	***	***
Purchases from ***	Quantity	***	***	***	***	***
Purchases from domestic sources	Quantity	***	***	***	***	***
Purchases from subject sources	Quantity	***	***	***	***	***
Purchases from nonsubject sources	Quantity	***	***	***	***	***
Purchases from all sources	Quantity	***	***	***	***	***
Purchases from *** to U.S. processing	Ratio	***	***	***	***	***
Purchases from *** to U.S. processing	Ratio	***	***	***	***	***
Purchases from *** to U.S. processing	Ratio	***	***	***	***	***
Purchases from *** to U.S. processing	Ratio	***	***	***	***	***
Purchases from *** to U.S. processing	Ratio	***	***	***	***	***
Purchases from domestic sources to U.S. processing	Ratio	***	***	***	***	***
Purchases from subject sources to U.S. processing	Ratio	***	***	***	***	***
Purchases from nonsubject sources to U.S. processing	Ratio	***	***	***	***	***
Purchases from all sources to U.S. processing	Ratio	***	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "—".

Note: Interim 2023 data represents ***.

APPENDIX F

U.S. PRODUCERS', PROCESSORS', AND IMPORTERS'

U.S. SHIPMENTS BY PRODUCT TYPES

Table F.1 Epoxy resins: U.S. producers' U.S. shipments in 2023, by product group and form

Quantity in 1,000 pounds; value in 1,000 dollars; unit values in dollars per pound; shares of quantity in percent

Product group	Measure	Liquid / solution	Solid / semi-solid	All forms
Group 1: BADGE-type	Quantity	***	***	***
Group 2: Brominated, etc.	Quantity	***	***	***
Group 3: Multifunctional, etc.	Quantity	***	***	***
All product groups	Quantity	***	***	***
Group 1: BADGE-type	Value	***	***	***
Group 2: Brominated, etc.	Value	***	***	***
Group 3: Multifunctional, etc.	Value	***	***	***
All product groups	Value	***	***	***
Group 1: BADGE-type	Unit value	***	***	***
Group 2: Brominated, etc.	Unit value	***	***	***
Group 3: Multifunctional, etc.	Unit value	***	***	***
All product groups	Unit value	***	***	***
Group 1: BADGE-type	Share down	***	***	***
Group 2: Brominated, etc.	Share down	***	***	***
Group 3: Multifunctional, etc.	Share down	***	***	***
All product groups	Share down	100.0	100.0	100.0
Group 1: BADGE-type	Share across	***	***	***
Group 2: Brominated, etc.	Share across	***	***	***
Group 3: Multifunctional, etc.	Share across	***	***	***
All product groups	Share across	***	***	100.0
Group 1: BADGE-type	Share across and down	***	***	***
Group 2: Brominated, etc.	Share across and down	***	***	***
Group 3: Multifunctional, etc.	Share across and down	***	***	***
All product groups	Share across and down	***	***	100.0

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "—". Group 1 includes BADGE-type epoxy resins, group 2 includes brominated, novolac, cycloaliphatic and waterborne epoxy resins, and group 3 includes multifunctional, aliphatic, glycidyl amine, and all other epoxy resins.

Table F.2 Epoxy resins: U.S. processors' U.S. shipments in 2023, by product group and form

Quantity in 1,000 pounds; value in 1,000 dollars; unit values in dollars per pound; shares of quantity in percent

Product group	Measure	Liquid / solution	Solid / semi-solid	All forms
Group 1: BADGE-type	Quantity	***	***	***
Group 2: Brominated, etc.	Quantity	***	***	***
Group 3: Multifunctional, etc.	Quantity	***	***	***
All product groups	Quantity	***	***	***
Group 1: BADGE-type	Value	***	***	***
Group 2: Brominated, etc.	Value	***	***	***
Group 3: Multifunctional, etc.	Value	***	***	***
All product groups	Value	***	***	***
Group 1: BADGE-type	Unit value	***	***	***
Group 2: Brominated, etc.	Unit value	***	***	***
Group 3: Multifunctional, etc.	Unit value	***	***	***
All product groups	Unit value	***	***	***
Group 1: BADGE-type	Share down	***	***	***
Group 2: Brominated, etc.	Share down	***	***	***
Group 3: Multifunctional, etc.	Share down	***	***	***
All product groups	Share down	100.0	100.0	100.0
Group 1: BADGE-type	Share across	***	***	***
Group 2: Brominated, etc.	Share across	***	***	***
Group 3: Multifunctional, etc.	Share across	***	***	***
All product groups	Share across	***	***	100.0
Group 1: BADGE-type	Share across and down	***	***	***
Group 2: Brominated, etc.	Share across and down	***	***	***
Group 3: Multifunctional, etc.	Share across and down	***	***	***
All product groups	Share across and down	***	***	100.0

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "—". Group 1 includes BADGE-type epoxy resins, group 2 includes brominated, novolac, cycloaliphatic and waterborne epoxy resins, and group 3 includes multifunctional, aliphatic, glycidyl amine, and all other epoxy resins.

Table F.3 Epoxy resins: U.S. importers' U.S. shipments of imports from China in 2023, by product group and form

Quantity in 1,000 pounds; value in 1,000 dollars; unit values in dollars per pound; shares of quantity in percent

Product group	Measure	Liquid / solution	Solid / semi-solid	All forms
Group 1: BADGE-type	Quantity	***	***	***
Group 2: Brominated, etc.	Quantity	***	***	***
Group 3: Multifunctional, etc.	Quantity	***	***	***
All product groups	Quantity	***	***	***
Group 1: BADGE-type	Value	***	***	***
Group 2: Brominated, etc.	Value	***	***	***
Group 3: Multifunctional, etc.	Value	***	***	***
All product groups	Value	***	***	***
Group 1: BADGE-type	Unit value	***	***	***
Group 2: Brominated, etc.	Unit value	***	***	***
Group 3: Multifunctional, etc.	Unit value	***	***	***
All product groups	Unit value	***	***	***
Group 1: BADGE-type	Share down	***	***	***
Group 2: Brominated, etc.	Share down	***	***	***
Group 3: Multifunctional, etc.	Share down	***	***	***
All product groups	Share down	100.0	100.0	100.0
Group 1: BADGE-type	Share across	***	***	***
Group 2: Brominated, etc.	Share across	***	***	***
Group 3: Multifunctional, etc.	Share across	***	***	***
All product groups	Share across	***	***	100.0
Group 1: BADGE-type	Share across and down	***	***	***
Group 2: Brominated, etc.	Share across and down	***	***	***
Group 3: Multifunctional, etc.	Share across and down	***	***	***
All product groups	Share across and down	***	***	100.0

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "—". Group 1 includes BADGE-type epoxy resins, group 2 includes brominated, novolac, cycloaliphatic and waterborne epoxy resins, and group 3 includes multifunctional, aliphatic, glycidyl amine, and all other epoxy resins.

Table F.4 Epoxy resins: U.S. importers' U.S. shipments of imports from India in 2023, by product group and form

Quantity in 1,000 pounds; value in 1,000 dollars; unit values in dollars per pound; shares of quantity in percent

Product group	Measure	Liquid / solution	Solid / semi-solid	All forms
Group 1: BADGE-type	Quantity	***	***	***
Group 2: Brominated, etc.	Quantity	***	***	***
Group 3: Multifunctional, etc.	Quantity	***	***	***
All product groups	Quantity	***	***	***
Group 1: BADGE-type	Value	***	***	***
Group 2: Brominated, etc.	Value	***	***	***
Group 3: Multifunctional, etc.	Value	***	***	***
All product groups	Value	***	***	***
Group 1: BADGE-type	Unit value	***	***	***
Group 2: Brominated, etc.	Unit value	***	***	***
Group 3: Multifunctional, etc.	Unit value	***	***	***
All product groups	Unit value	***	***	***
Group 1: BADGE-type	Share down	***	***	***
Group 2: Brominated, etc.	Share down	***	***	***
Group 3: Multifunctional, etc.	Share down	***	***	***
All product groups	Share down	100.0	—	100.0
Group 1: BADGE-type	Share across	***	***	***
Group 2: Brominated, etc.	Share across	***	***	***
Group 3: Multifunctional, etc.	Share across	***	***	***
All product groups	Share across	***	***	100.0
Group 1: BADGE-type	Share across and down	***	***	***
Group 2: Brominated, etc.	Share across and down	***	***	***
Group 3: Multifunctional, etc.	Share across and down	***	***	***
All product groups	Share across and down	***	***	100.0

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "—". Group 1 includes BADGE-type epoxy resins, group 2 includes brominated, novolac, cycloaliphatic and waterborne epoxy resins, and group 3 includes multifunctional, aliphatic, glycidyl amine, and all other epoxy resins.

Table F.5 Epoxy resins: U.S. importers' U.S. shipments of imports from South Korea in 2023, by product group and form

Quantity in 1,000 pounds; value in 1,000 dollars; unit values in dollars per pound; shares of quantity in percent

Product group	Measure	Liquid / solution	Solid / semi-solid	All forms
Group 1: BADGE-type	Quantity	***	***	***
Group 2: Brominated, etc.	Quantity	***	***	***
Group 3: Multifunctional, etc.	Quantity	***	***	***
All product groups	Quantity	***	***	***
Group 1: BADGE-type	Value	***	***	***
Group 2: Brominated, etc.	Value	***	***	***
Group 3: Multifunctional, etc.	Value	***	***	***
All product groups	Value	***	***	***
Group 1: BADGE-type	Unit value	***	***	***
Group 2: Brominated, etc.	Unit value	***	***	***
Group 3: Multifunctional, etc.	Unit value	***	***	***
All product groups	Unit value	***	***	***
Group 1: BADGE-type	Share down	***	***	***
Group 2: Brominated, etc.	Share down	***	***	***
Group 3: Multifunctional, etc.	Share down	***	***	***
All product groups	Share down	100.0	100.0	100.0
Group 1: BADGE-type	Share across	***	***	***
Group 2: Brominated, etc.	Share across	***	***	***
Group 3: Multifunctional, etc.	Share across	***	***	***
All product groups	Share across	***	***	100.0
Group 1: BADGE-type	Share across and down	***	***	***
Group 2: Brominated, etc.	Share across and down	***	***	***
Group 3: Multifunctional, etc.	Share across and down	***	***	***
All product groups	Share across and down	***	***	100.0

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "—". Group 1 includes BADGE-type epoxy resins, group 2 includes brominated, novolac, cycloaliphatic and waterborne epoxy resins, and group 3 includes multifunctional, aliphatic, glycidyl amine, and all other epoxy resins.

Table F.6 Epoxy resins: U.S. importers' U.S. shipments of imports from Taiwan in 2023, by product group and form

Quantity in 1,000 pounds; value in 1,000 dollars; unit values in dollars per pound; shares of quantity in percent

Product group	Measure	Liquid / solution	Solid / semi-solid	All forms
Group 1: BADGE-type	Quantity	***	***	***
Group 2: Brominated, etc.	Quantity	***	***	***
Group 3: Multifunctional, etc.	Quantity	***	***	***
All product groups	Quantity	***	***	***
Group 1: BADGE-type	Value	***	***	***
Group 2: Brominated, etc.	Value	***	***	***
Group 3: Multifunctional, etc.	Value	***	***	***
All product groups	Value	***	***	***
Group 1: BADGE-type	Unit value	***	***	***
Group 2: Brominated, etc.	Unit value	***	***	***
Group 3: Multifunctional, etc.	Unit value	***	***	***
All product groups	Unit value	***	***	***
Group 1: BADGE-type	Share down	***	***	***
Group 2: Brominated, etc.	Share down	***	***	***
Group 3: Multifunctional, etc.	Share down	***	***	***
All product groups	Share down	100.0	100.0	100.0
Group 1: BADGE-type	Share across	***	***	***
Group 2: Brominated, etc.	Share across	***	***	***
Group 3: Multifunctional, etc.	Share across	***	***	***
All product groups	Share across	***	***	100.0
Group 1: BADGE-type	Share across and down	***	***	***
Group 2: Brominated, etc.	Share across and down	***	***	***
Group 3: Multifunctional, etc.	Share across and down	***	***	***
All product groups	Share across and down	***	***	100.0

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "—". Group 1 includes BADGE-type epoxy resins, group 2 includes brominated, novolac, cycloaliphatic and waterborne epoxy resins, and group 3 includes multifunctional, aliphatic, glycidyl amine, and all other epoxy resins.

Table F.7 Epoxy resins: U.S. importers' U.S. shipments of imports from Thailand in 2023, by product group and form

Quantity in 1,000 pounds; value in 1,000 dollars; unit values in dollars per pound; shares of quantity in percent

Product group	Measure	Liquid / solution	Solid / semi-solid	All forms
Group 1: BADGE-type	Quantity	***	***	***
Group 2: Brominated, etc.	Quantity	***	***	***
Group 3: Multifunctional, etc.	Quantity	***	***	***
All product groups	Quantity	***	***	***
Group 1: BADGE-type	Value	***	***	***
Group 2: Brominated, etc.	Value	***	***	***
Group 3: Multifunctional, etc.	Value	***	***	***
All product groups	Value	***	***	***
Group 1: BADGE-type	Unit value	***	***	***
Group 2: Brominated, etc.	Unit value	***	***	***
Group 3: Multifunctional, etc.	Unit value	***	***	***
All product groups	Unit value	***	***	***
Group 1: BADGE-type	Share down	***	***	***
Group 2: Brominated, etc.	Share down	***	***	***
Group 3: Multifunctional, etc.	Share down	***	***	***
All product groups	Share down	100.0	100.0	100.0
Group 1: BADGE-type	Share across	***	***	***
Group 2: Brominated, etc.	Share across	***	***	***
Group 3: Multifunctional, etc.	Share across	***	***	***
All product groups	Share across	***	***	100.0
Group 1: BADGE-type	Share across and down	***	***	***
Group 2: Brominated, etc.	Share across and down	***	***	***
Group 3: Multifunctional, etc.	Share across and down	***	***	***
All product groups	Share across and down	***	***	100.0

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "—". Group 1 includes BADGE-type epoxy resins, group 2 includes brominated, novolac, cycloaliphatic and waterborne epoxy resins, and group 3 includes multifunctional, aliphatic, glycidyl amine, and all other epoxy resins.

Table F.8 Epoxy resins: U.S. importers' U.S. shipments of imports from subject sources in 2023, by product group and form

Quantity in 1,000 pounds; value in 1,000 dollars; unit values in dollars per pound; shares of quantity in percent

Product group	Measure	Liquid / solution	Solid / semi-solid	All forms
Group 1: BADGE-type	Quantity	***	***	135,712
Group 2: Brominated, etc.	Quantity	***	***	2,250
Group 3: Multifunctional, etc.	Quantity	***	***	12,574
All product groups	Quantity	***	***	150,536
Group 1: BADGE-type	Value	***	***	191,235
Group 2: Brominated, etc.	Value	***	***	5,818
Group 3: Multifunctional, etc.	Value	***	***	24,757
All product groups	Value	***	***	221,810
Group 1: BADGE-type	Unit value	***	***	1.41
Group 2: Brominated, etc.	Unit value	***	***	2.59
Group 3: Multifunctional, etc.	Unit value	***	***	1.97
All product groups	Unit value	***	***	1.47
Group 1: BADGE-type	Share down	***	***	***
Group 2: Brominated, etc.	Share down	***	***	***
Group 3: Multifunctional, etc.	Share down	***	***	***
All product groups	Share down	100.0	100.0	100.0
Group 1: BADGE-type	Share across	***	***	100.0
Group 2: Brominated, etc.	Share across	***	***	100.0
Group 3: Multifunctional, etc.	Share across	***	***	100.0
All product groups	Share across	***	***	100.0
Group 1: BADGE-type	Share across and down	***	***	***
Group 2: Brominated, etc.	Share across and down	***	***	***
Group 3: Multifunctional, etc.	Share across and down	***	***	***
All product groups	Share across and down	***	***	100.0

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "—". Group 1 includes BADGE-type epoxy resins, group 2 includes brominated, novolac, cycloaliphatic and waterborne epoxy resins, and group 3 includes multifunctional, aliphatic, glycidyl amine, and all other epoxy resins.

Table F.9 Epoxy resins: U.S. importers' U.S. shipments of imports from subject sources less China and India in 2023, by product group and form

Quantity in 1,000 pounds; value in 1,000 dollars; unit values in dollars per pound; shares of quantity in percent

Product group	Measure	Liquid / solution	Solid / semi-solid	All forms
Group 1: BADGE-type	Quantity	***	***	133,472
Group 2: Brominated, etc.	Quantity	***	***	2,250
Group 3: Multifunctional, etc.	Quantity	***	***	11,245
All product groups	Quantity	***	***	146,967
Group 1: BADGE-type	Value	***	***	185,365
Group 2: Brominated, etc.	Value	***	***	5,818
Group 3: Multifunctional, etc.	Value	***	***	21,658
All product groups	Value	***	***	212,841
Group 1: BADGE-type	Unit value	***	***	1.39
Group 2: Brominated, etc.	Unit value	***	***	2.59
Group 3: Multifunctional, etc.	Unit value	***	***	1.93
All product groups	Unit value	***	***	1.45
Group 1: BADGE-type	Share down	***	***	***
Group 2: Brominated, etc.	Share down	***	***	***
Group 3: Multifunctional, etc.	Share down	***	***	***
All product groups	Share down	100.0	100.0	100.0
Group 1: BADGE-type	Share across	***	***	100.0
Group 2: Brominated, etc.	Share across	***	***	100.0
Group 3: Multifunctional, etc.	Share across	***	***	100.0
All product groups	Share across	***	***	100.0
Group 1: BADGE-type	Share across and down	***	***	***
Group 2: Brominated, etc.	Share across and down	***	***	***
Group 3: Multifunctional, etc.	Share across and down	***	***	***
All product groups	Share across and down	***	***	100.0

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "—". Group 1 includes BADGE-type epoxy resins, group 2 includes brominated, novolac, cycloaliphatic and waterborne epoxy resins, and group 3 includes multifunctional, aliphatic, glycidyl amine, and all other epoxy resins.

Table F.10 Epoxy resins: U.S. importers' U.S. shipments of imports from nonsubject sources in 2023, by product group and form

Quantity in 1,000 pounds; value in 1,000 dollars; unit values in dollars per pound; shares of quantity in percent

Product group	Measure	Liquid / solution	Solid / semi-solid	All forms
Group 1: BADGE-type	Quantity	***	***	19,990
Group 2: Brominated, etc.	Quantity	***	***	7,338
Group 3: Multifunctional, etc.	Quantity	***	***	19,910
All product groups	Quantity	***	***	47,238
Group 1: BADGE-type	Value	***	***	62,392
Group 2: Brominated, etc.	Value	***	***	27,751
Group 3: Multifunctional, etc.	Value	***	***	43,655
All product groups	Value	***	***	133,798
Group 1: BADGE-type	Unit value	***	***	3.12
Group 2: Brominated, etc.	Unit value	***	***	3.78
Group 3: Multifunctional, etc.	Unit value	***	***	2.19
All product groups	Unit value	***	***	2.83
Group 1: BADGE-type	Share down	***	***	***
Group 2: Brominated, etc.	Share down	***	***	***
Group 3: Multifunctional, etc.	Share down	***	***	***
All product groups	Share down	100.0	100.0	100.0
Group 1: BADGE-type	Share across	***	***	100.0
Group 2: Brominated, etc.	Share across	***	***	100.0
Group 3: Multifunctional, etc.	Share across	***	***	100.0
All product groups	Share across	***	***	100.0
Group 1: BADGE-type	Share across and down	***	***	***
Group 2: Brominated, etc.	Share across and down	***	***	***
Group 3: Multifunctional, etc.	Share across and down	***	***	***
All product groups	Share across and down	***	***	100.0

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "—". Group 1 includes BADGE-type epoxy resins, group 2 includes brominated, novolac, cycloaliphatic and waterborne epoxy resins, and group 3 includes multifunctional, aliphatic, glycidyl amine, and all other epoxy resins.

Table F.11 Epoxy resins: U.S. importers' U.S. shipments of imports from nonsubject sources plus China and India in 2023, by product group and form

Quantity in 1,000 pounds; value in 1,000 dollars; unit values in dollars per pound; shares of quantity in percent

Product group	Measure	Liquid / solution	Solid / semi-solid	All forms
Group 1: BADGE-type	Quantity	***	***	22,230
Group 2: Brominated, etc.	Quantity	***	***	7,338
Group 3: Multifunctional, etc.	Quantity	***	***	21,239
All product groups	Quantity	***	***	50,807
Group 1: BADGE-type	Value	***	***	68,262
Group 2: Brominated, etc.	Value	***	***	27,751
Group 3: Multifunctional, etc.	Value	***	***	46,754
All product groups	Value	***	***	142,767
Group 1: BADGE-type	Unit value	***	***	3.07
Group 2: Brominated, etc.	Unit value	***	***	3.78
Group 3: Multifunctional, etc.	Unit value	***	***	2.20
All product groups	Unit value	***	***	2.81
Group 1: BADGE-type	Share down	***	***	***
Group 2: Brominated, etc.	Share down	***	***	***
Group 3: Multifunctional, etc.	Share down	***	***	***
All product groups	Share down	100.0	100.0	100.0
Group 1: BADGE-type	Share across	***	***	100.0
Group 2: Brominated, etc.	Share across	***	***	100.0
Group 3: Multifunctional, etc.	Share across	***	***	100.0
All product groups	Share across	***	***	100.0
Group 1: BADGE-type	Share across and down	***	***	***
Group 2: Brominated, etc.	Share across and down	***	***	***
Group 3: Multifunctional, etc.	Share across and down	***	***	***
All product groups	Share across and down	***	***	100.0

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "—". Group 1 includes BADGE-type epoxy resins, group 2 includes brominated, novolac, cycloaliphatic and waterborne epoxy resins, and group 3 includes multifunctional, aliphatic, glycidyl amine, and all other epoxy resins.

Table F.12 Epoxy resins: U.S. importers' U.S. shipments of imports from all import sources in 2023, by product group and form

Quantity in 1,000 pounds; value in 1,000 dollars; unit values in dollars per pound; shares of quantity in percent

Product group	Measure	Liquid / solution	Solid / semi-solid	All forms
Group 1: BADGE-type	Quantity	***	***	155,702
Group 2: Brominated, etc.	Quantity	***	***	9,588
Group 3: Multifunctional, etc.	Quantity	***	***	32,484
All product groups	Quantity	***	***	197,774
Group 1: BADGE-type	Value	***	***	253,627
Group 2: Brominated, etc.	Value	***	***	33,569
Group 3: Multifunctional, etc.	Value	***	***	68,412
All product groups	Value	***	***	355,608
Group 1: BADGE-type	Unit value	***	***	1.63
Group 2: Brominated, etc.	Unit value	***	***	3.50
Group 3: Multifunctional, etc.	Unit value	***	***	2.11
All product groups	Unit value	***	***	1.80
Group 1: BADGE-type	Share down	***	***	***
Group 2: Brominated, etc.	Share down	***	***	***
Group 3: Multifunctional, etc.	Share down	***	***	***
All product groups	Share down	100.0	100.0	100.0
Group 1: BADGE-type	Share across	***	***	100.0
Group 2: Brominated, etc.	Share across	***	***	100.0
Group 3: Multifunctional, etc.	Share across	***	***	100.0
All product groups	Share across	***	***	100.0
Group 1: BADGE-type	Share across and down	***	***	***
Group 2: Brominated, etc.	Share across and down	***	***	***
Group 3: Multifunctional, etc.	Share across and down	***	***	***
All product groups	Share across and down	***	***	100.0

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "—". Group 1 includes BADGE-type epoxy resins, group 2 includes brominated, novolac, cycloaliphatic and waterborne epoxy resins, and group 3 includes multifunctional, aliphatic, glycidyl amine, and all other epoxy resins.

Figure F.1 Epoxy resins: Average unit value of U.S. importers' U.S. shipments of imports, by product group and form, 2023

* * * * *

Source: Compiled from data submitted in response to Commission questionnaires.

Figure F.2 Epoxy resins: Quantity of U.S. importers' U.S. shipments of imports, by product group and form, 2023

* * * * *

Source: Compiled from data submitted in response to Commission questionnaires.

APPENDIX G

U.S. PRODUCERS' AND PROCESSORS' MERCHANT MARKET DATA

Table G.1 Epoxy resins: U.S. processors' production used in downstream products, by type of consumption and period

Quantity in 1,000 pounds; shares in percent; interim period is January through September

Item	Measure	2021	2022	2023	Interim 2023	Interim 2024
Internal consumption: Sold as is	Quantity	***	***	***	***	***
Internal consumption: Processed into downstream products	Quantity	***	***	***	***	***
Internal consumption: Total	Quantity	***	***	***	***	***
Internal consumption: Sold as is	Share	***	***	***	***	***
Internal consumption: Processed into downstream products	Share	***	***	***	***	***
Internal consumption: Total	Share	100.0	100.0	100.0	100.0	100.0
Transfers: Sold as is	Quantity	***	***	***	***	***
Transfers: Processed into downstream products	Quantity	***	***	***	***	***
Transfers: Total	Quantity	***	***	***	***	***
Transfers: Sold as is	Share	***	***	***	***	***
Transfers: Processed into downstream products	Share	***	***	***	***	***
Transfers: Total	Share	100.0	100.0	100.0	100.0	100.0

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "—".

Table G.2 Epoxy resins: U.S. processors' epoxy resins contribution to downstream product, 2023

Shares in percent

Material input	Share of value	Share of quantity
Epoxy resins	***	***
All other material inputs	***	***
All material inputs	100.0	100.0

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "—".

Table G.3 Epoxy resins: Apparent U.S. merchant market consumption and market shares based on quantity data, by source and period

Quantity in 1,000 pounds; interim period is January through September

Source	Measure	2021	2022	2023	Interim 2023	Interim 2024
U.S. producers	Quantity	***	***	***	***	***
China	Quantity	***	***	***	***	***
India	Quantity	***	***	***	***	***
South Korea	Quantity	***	***	***	***	***
Taiwan	Quantity	***	***	***	***	***
Thailand	Quantity	***	***	***	***	***
Subject sources	Quantity	191,146	235,393	186,859	150,539	142,438
Subject sources less China and India	Quantity	179,850	222,429	176,821	141,886	135,253
Nonsubject sources	Quantity	90,962	96,688	79,407	59,517	70,976
Nonsubject sources plus China and India	Quantity	102,257	109,651	89,446	68,169	78,160
All import sources	Quantity	282,107	332,081	266,266	210,056	213,414
All sources	Quantity	***	***	***	***	***

Table continued.

Table G.3 (Continued) Epoxy resins: Apparent U.S. consumption and market shares for the merchant market based on quantity data, by source and period

Shares in percent; interim period is January through September

Source	Measure	2021	2022	2023	Interim 2023	Interim 2024
U.S. producers	Share	***	***	***	***	***
China	Share	***	***	***	***	***
India	Share	***	***	***	***	***
South Korea	Share	***	***	***	***	***
Taiwan	Share	***	***	***	***	***
Thailand	Share	***	***	***	***	***
Subject sources	Share	***	***	***	***	***
Subject sources less China and India	Share	***	***	***	***	***
Nonsubject sources	Share	***	***	***	***	***
Nonsubject sources plus China and India	Share	***	***	***	***	***
All import sources	Share	***	***	***	***	***
All sources	Share	100.0	100.0	100.0	100.0	100.0

Source: Compiled from data submitted in response to Commission questionnaires and adjusted official U.S. imports statistics of the U.S. Department of Commerce Census Bureau using HTS statistical reporting number 3907.30.0000, accessed December 30, 2024. Official U.S. imports statistics were adjusted to add in epoxy resins imported under other HTS statistical reporting numbers as reported in responses to commission questionnaires, as well as to remove out-of-scope products imported under the primary HTS number for epoxy resins as reported as responses to commission questionnaires. Import data are based on the imports for consumption data series, and import values are landed, duty-paid values.

Note: Quantity for merchant market shipments reflects only producers' U.S. commercial shipment quantities. Value for U.S. commercial shipments reflects epoxy resin sold in the open market in the United States from domestically manufactured epoxy resin (including the value added by U.S. processors to domestic epoxy resin), as well as the incremental value added by U.S. processors to imported epoxy resin. In measuring consumption and market share this methodology avoids reclassifying and/or double counting merchandise already reported as an import. Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "—".

Figure G.1 Epoxy resins: Apparent U.S. merchant market consumption based on quantity data, by source and period

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Source: Compiled from data submitted in response to Commission questionnaires and adjusted official U.S. imports statistics of the U.S. Department of Commerce Census Bureau using HTS statistical reporting number 3907.30.0000, accessed December 30, 2024. Official U.S. imports statistics were adjusted to add in epoxy resins imported under other HTS statistical reporting numbers as reported in responses to commission questionnaires, as well as to remove out-of-scope products imported under the primary HTS number for epoxy resins as reported as responses to commission questionnaires. Import data are based on the imports for consumption data series, and import values are landed, duty-paid values.

Table G.4 Epoxy resins: Apparent U.S. merchant market consumption and market shares based on value data, by source and period

Value in 1,000 dollars; interim period is January through September

Source	Measure	2021	2022	2023	Interim 2023	Interim 2024
U.S. producers	Value	***	***	***	***	***
U.S. processors: Value added to domestic	Value	***	***	***	***	***
U.S. producers and processors: Fully domestic	Value	***	***	***	***	***
U.S. processors: Valued added to imports	Value	***	***	***	***	***
U.S. producers and processors: Total	Value	***	***	***	***	***
China	Value	***	***	***	***	***
India	Value	***	***	***	***	***
South Korea	Value	***	***	***	***	***
Taiwan	Value	***	***	***	***	***
Thailand	Value	***	***	***	***	***
Subject sources	Value	451,705	634,939	311,979	261,283	213,794
Subject sources less China and India	Value	421,496	600,537	292,117	245,099	201,387
Nonsubject sources	Value	271,434	357,428	303,463	233,038	242,337
Nonsubject sources plus China and India	Value	301,643	391,830	323,325	249,223	254,744
All import sources	Value	723,139	992,367	615,442	494,321	456,132
All sources	Value	***	***	***	***	***

Table continued.

Table G.4 (Continued) Epoxy resins: Apparent U.S. merchant market consumption and market shares based on value data, by source and period

Shares in percent; interim period is January through September

Source	Measure	2021	2022	2023	Interim 2023	Interim 2024
U.S. producers	Share	***	***	***	***	***
U.S. processors: Value added to domestic	Share	***	***	***	***	***
U.S. producers and processors: Fully domestic	Share	***	***	***	***	***
U.S. processors: Valued added to imports	Share	***	***	***	***	***
U.S. producers and processors: Total	Share	***	***	***	***	***
China	Share	***	***	***	***	***
India	Share	***	***	***	***	***
South Korea	Share	***	***	***	***	***
Taiwan	Share	***	***	***	***	***
Thailand	Share	***	***	***	***	***
Subject sources	Share	***	***	***	***	***
Subject sources less China and India	Share	***	***	***	***	***
Nonsubject sources	Share	***	***	***	***	***
Nonsubject sources plus China and India	Share	***	***	***	***	***
All import sources	Share	***	***	***	***	***
All sources	Share	100.0	100.0	100.0	100.0	100.0

Source: Compiled from data submitted in response to Commission questionnaires and adjusted official U.S. imports statistics of the U.S. Department of Commerce Census Bureau using HTS statistical reporting number 3907.30.0000, accessed December 30, 2024. Official U.S. imports statistics were adjusted to add in epoxy resins imported under other HTS statistical reporting numbers as reported in responses to commission questionnaires, as well as to remove out-of-scope products imported under the primary HTS number for epoxy resins as reported as responses to commission questionnaires. Import data are based on the imports for consumption data series, and import values are landed, duty-paid values.

Note: Quantity for merchant market shipments reflects only producers' U.S. commercial shipment quantities. Value for U.S. commercial shipments reflects epoxy resin sold in the open market in the United States from domestically manufactured epoxy resin (including the value added by U.S. processors to domestic epoxy resin), as well as the incremental value added by U.S. processors to imported epoxy resin. In measuring consumption and market share this methodology avoids reclassifying and/or double counting merchandise already reported as an import. Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "—".

Figure G.2 Epoxy resins: Apparent U.S. merchant market consumption based on value data, by source and period

* * * * *

Source: Compiled from data submitted in response to Commission questionnaires and adjusted official U.S. imports statistics of the U.S. Department of Commerce Census Bureau using HTS statistical reporting number 3907.30.0000, accessed December 30, 2024. Official U.S. imports statistics were adjusted to add in epoxy resins imported under other HTS statistical reporting numbers as reported in responses to commission questionnaires, as well as to remove out-of-scope products imported under the primary HTS number for epoxy resins as reported as responses to commission questionnaires. Import data are based on the imports for consumption data series, and import values are landed, duty-paid values.

APPENDIX H

U.S. PRODUCERS' AND PROCESSORS' MERCHANT MARKET FINANCIAL RESULTS

Table H.1 Epoxy resins: U.S. producers' and U.S. processors' combined financial results for merchant market operations, by item and period

Quantity in 1,000 pounds; value in 1,000 dollars; ratios in percent; interim is January to September

Item	Measure	2021	2022	2023	Interim 2023	Interim 2024
Commercial sales	Quantity	***	***	***	***	***
Commercial sales	Value	***	***	***	***	***
COGS: Raw materials	Value	***	***	***	***	***
COGS: Direct labor	Value	***	***	***	***	***
COGS: Other factory	Value	***	***	***	***	***
COGS: Total	Value	***	***	***	***	***
Gross profit or (loss)	Value	***	***	***	***	***
SG&A expenses	Value	***	***	***	***	***
Operating income or (loss)	Value	***	***	***	***	***
Interest expense	Value	***	***	***	***	***
All other expenses	Value	***	***	***	***	***
All other income	Value	***	***	***	***	***
Net income or (loss)	Value	***	***	***	***	***
COGS: Raw materials	Ratio to CS	***	***	***	***	***
COGS: Direct labor	Ratio to CS	***	***	***	***	***
COGS: Other factory	Ratio to CS	***	***	***	***	***
COGS: Total	Ratio to CS	***	***	***	***	***
Gross profit	Ratio to CS	***	***	***	***	***
SG&A expense	Ratio to CS	***	***	***	***	***
Operating income or (loss)	Ratio to CS	***	***	***	***	***
Net income or (loss)	Ratio to CS	***	***	***	***	***

Table continued.

Table H.1 (Continued) Epoxy resins: U.S. producers' and U.S. processors' combined results of merchant market operations, by item and period

Shares in percent; unit values in dollars per pound; count in number of firms reporting; interim is January to September

Item	Measure	2021	2022	2023	Interim 2023	Interim 2024
COGS: Raw materials	Share of COGS	***	***	***	***	***
COGS: Direct labor	Share of COGS	***	***	***	***	***
COGS: Other factory	Share of COGS	***	***	***	***	***
COGS: Total	Share of COGS	***	***	***	***	***
Commercial sales	Unit value	***	***	***	***	***
COGS: Raw materials	Unit value	***	***	***	***	***
COGS: Direct labor	Unit value	***	***	***	***	***
COGS: Other factory	Unit value	***	***	***	***	***
COGS: Total	Unit value	***	***	***	***	***
Gross profit or (loss)	Unit value	***	***	***	***	***
SG&A expenses	Unit value	***	***	***	***	***
Operating income or (loss)	Unit value	***	***	***	***	***
Net income or (loss)	Unit value	***	***	***	***	***
Operating losses	Count	***	***	***	***	***
Net losses	Count	***	***	***	***	***
Data	Count	7	7	7	7	7

Source: Compiled from data submitted in response to Commission questionnaires.

Note: The merchant market results include all results associated with commercial sales as reported in questionnaire responses ***.

Table H.2 Epoxy resins: Changes in AUVs between comparison periods for U.S. producers' and U.S. processors' combined merchant market operations

Changes in percent; interim is January to September

Item	2021–23	2021–22	2022–23	Interim 2023–24
Commercial sales	▼ ***	▲ ***	▼ ***	▼ ***
COGS: Raw materials	▼ ***	▲ ***	▼ ***	▼ ***
COGS: Direct labor	▲ ***	▲ ***	▼ ***	▲ ***
COGS: Other factory	▲ ***	▲ ***	▼ ***	▼ ***
COGS: Total	▲ ***	▲ ***	▼ ***	▼ ***

Table continued.

Table H.2 (Continued) Epoxy resins: Changes in AUVs between comparison periods for U.S. producers' and U.S. processors' combined merchant market operations

Changes in dollars per pound; interim is January to September

Item	2021–23	2021–22	2022–23	Interim 2023–24
Commercial sales	▼ ***	▲ ***	▼ ***	▼ ***
COGS: Raw materials	▼ ***	▲ ***	▼ ***	▼ ***
COGS: Direct labor	▲ ***	▲ ***	▼ ***	▲ ***
COGS: Other factory	▲ ***	▲ ***	▼ ***	▼ ***
COGS: Total	▲ ***	▲ ***	▼ ***	▼ ***
Gross profit or (loss)	▼ ***	▲ ***	▼ ***	▼ ***
SG&A expense	▲ ***	▲ ***	▲ ***	▲ ***
Operating income or (loss)	▼ ***	▲ ***	▼ ***	▼ ***
Net income or (loss)	▼ ***	▲ ***	▼ ***	▼ ***

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Period changes preceded by a “▲” represent an increase, while period changes preceded by a “▼” represent a decrease.

