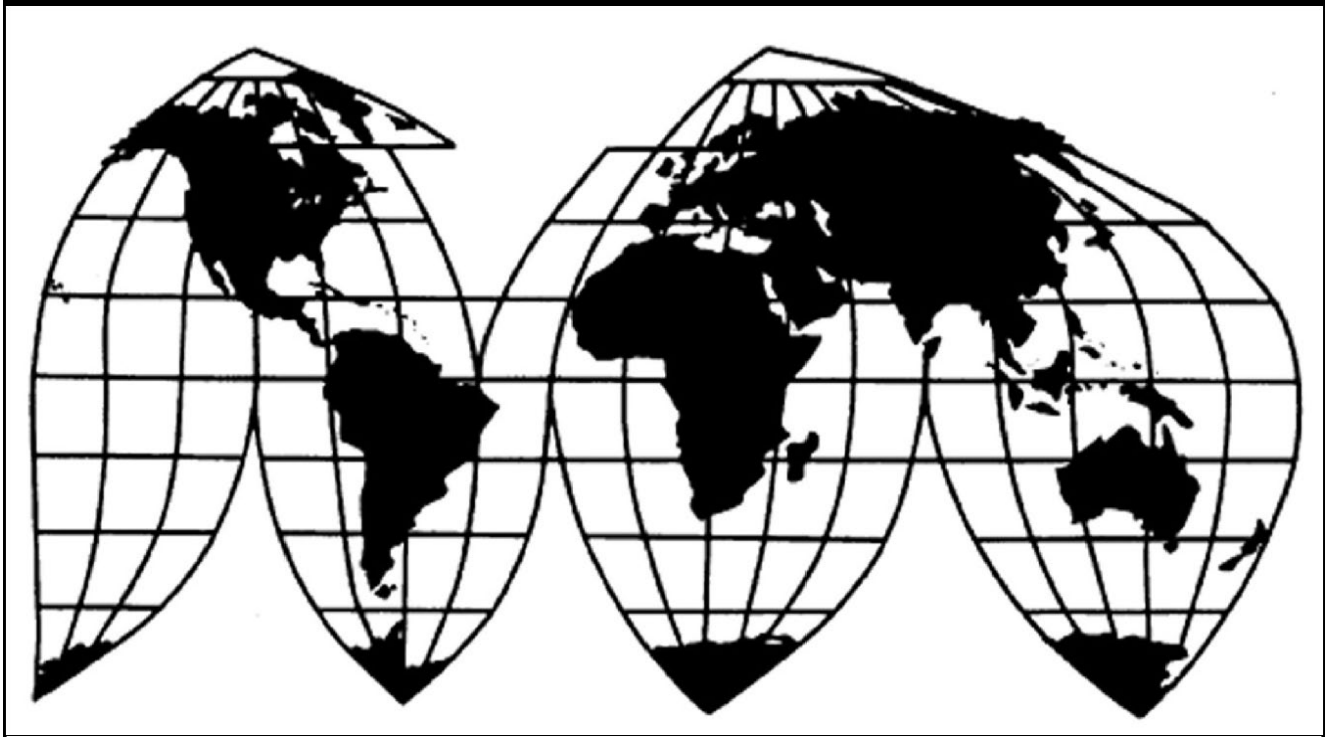
Methylene Diphenyl Diisocyanate (MDI Products) from China

Investigation No. 731-TA-1733 (Preliminary)

Publication 5606 **April 2025**

U.S. International Trade Commission



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U.S. International Trade Commission

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Note.—Information that would reveal confidential operations of individual concerns may not be published. Such information is identified by brackets in confidential reports and is deleted and replaced with asterisks (***) in public reports.

UNITED STATES INTERNATIONAL TRADE COMMISSION

Investigation No. 731-TA-1733 (Preliminary)

Methylene Diphenyl Diisocyanate (MDI Products) from China

DETERMINATION

On the basis of the record[1] developed in the subject investigation, the United States International Trade Commission ("Commission") determines, pursuant to the Tariff Act of 1930 ("the Act"), that there is a reasonable indication that an industry in the United States is materially injured by reason of imports of methylene diphenyl diisocyanate (MDI products) from China, provided for in statistical reporting numbers 2929.10.8010 and 3909.31.0000 of the Harmonized Tariff Schedule of the United States, that are alleged to be sold in the United States at less than fair value ("LTFV").[2]

COMMENCEMENT OF FINAL PHASE INVESTIGATION

Pursuant to section 207.18 of the Commission's rules, the Commission also gives notice of the commencement of the final phase of its investigation. The Commission will issue a final phase notice of scheduling, which will be published in the *Federal Register* as provided in section 207.21 of the Commission's rules, upon notice from the U.S. Department of Commerce ("Commerce") of an affirmative preliminary determination in the investigation under § 733(b) of the Act, or, if the preliminary determination is negative, upon notice of an affirmative final determination in that investigation under § 735(a) of the Act. Parties that filed entries of appearance in the preliminary phase of the investigation need not enter a separate appearance for the final phase of the investigation. Any other party may file an entry of appearance for the final phase of the investigation after publication of the final phase notice of scheduling. Industrial users, and, if the merchandise under investigation is sold at the retail level, representative consumer organizations have the right to appear as parties in Commission

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

[2] *Methylene Diphenyl Diisocyanate from the People's Republic of China: Initiation of less than fair value investigation;* 90 FR 11710 (March 11, 2025).

antidumping investigation. The Secretary will prepare a public service list containing the names and addresses of all persons, or their representatives, who are parties to the investigation. As provided in section 207.20 of the Commission's rules, the Director of the Office of Investigations will circulate draft questionnaires for the final phase of the investigation to parties to the investigation, placing copies on the Commission's Electronic Document Information System (EDIS, https://edis.usitc.gov), for comment.

BACKGROUND

On February 12, 2025, the MDI Fair Trade Coalition, consisting of BASF Corporation, Florham Park, New Jersey and The Dow Chemical Company, Midland, Michigan, filed a petition with the Commission and Commerce, alleging that an industry in the United States is materially injured or threatened with material injury by reason of LTFV imports of MDI products from China. Accordingly, effective February 12, 2025, the Commission instituted antidumping duty investigation No. 731-TA-1733 (Preliminary).

Notice of the institution of the Commission's investigation and of a public conference 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, DC, and by publishing the notice in the *Federal Register* of February 19, 2025 (90 FR 9913). The Commission conducted its conference on March 5, 2025. All persons who requested the opportunity were permitted to participate.

VIEWS OF THE COMMISSION

Based on the record in the preliminary phase of the investigation, we determine that there is a reasonable indication that an industry in the United States is materially injured by reason of imports of methylene diphenyl diisocyanate ("MDI") from China, that are alleged to be sold in the United States at less than fair value ("LTFV").

I. The Legal Standard for Preliminary Determinations

The legal standard for preliminary antidumping and countervailing duty determinations requires the Commission to determine, based upon the information available at the time of the preliminary determinations, whether there is a reasonable indication that a domestic industry is materially injured or threatened with material injury, or that the establishment of an industry is materially retarded, by reason of the allegedly unfairly traded imports.[1] In applying this standard, the Commission weighs the evidence before it and determines whether "(1) the record as a whole contains clear and convincing evidence that there is no material injury or threat of such injury; and (2) no likelihood exists that contrary evidence will arise in a final investigation."[2]

II. Background

The petition in this investigation was filed on February 12, 2025, by the *Ad Hoc* MDI Fair Trade Coalition ("Petitioner"), consisting of BASF Corporation ("BASF") and the Dow Chemical Company ("Dow"), both domestic producers of MDI. Petitioner appeared at the staff conference accompanied by counsel and filed a postconference brief.[3]

One respondent entity participated in the investigation. Wanhua Chemical America ("WCA"), a U.S. importer of subject merchandise from China, appeared at the staff conference accompanied by counsel and filed a postconference brief.[4]

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[1] 19 U.S.C. §§ 1671b(a), 1673b(a) (2000); *see also American Lamb Co. v. United States*, 785 F.2d 994, 1001-04 (Fed. Cir. 1986); *Aristech Chem. Corp. v. United States, 2*0 CIT 353, 354-55 (1996). No party argues that the establishment of an industry in the United States is materially retarded by the allegedly unfairly traded imports.

[2] *American Lamb Co*., 785 F.2d at 1001; *see also Texas Crushed Stone Co. v. United States*, 35 F.3d 1535, 1543 (Fed. Cir. 1994).

[3] Petitioner's Postconference Brief, EDIS Doc. 845443 (Mar. 10, 2024) ("Petitioner's Postconference Brief").

[4] WCA's Postconference Brief, EDIS Doc. 845428 (Mar. 10, 2025) ("WCA's Postconference Brief").

U.S. industry data are based on the questionnaire responses of four firms, which accounted for all U.S. production of MDI in 2024.[5] U.S. import data are based on the questionnaire responses of six importers, which accounted for *** percent of subject imports from China and *** percent of nonsubject imports in 2024.[6] The Commission received responses to its questionnaire from eight producers of merchandise in China.[7] They estimated that they accounted for *** percent of MDI production in China, and their exports accounted for *** percent of subject imports in 2024.[8]

III. Domestic Like Product

In determining whether there is a reasonable indication that an industry in the United States is materially injured or threatened with material injury by reason of imports of the subject merchandise, the Commission first defines the "domestic like product" and the "industry."[9] 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."[10] 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."[11]

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.[12] Therefore, Commerce's determination as to the scope of the imported merchandise that is

[5] *See* Confidential Staff Report, INV-XX-031 (Mar. 24, 2025), as revised by INV-XX-034 (Mar. 27, 2025) ("CR") at 3.1; *Methylene Diphenyl Diisocyanate (MDI Products) from China*, Inv. No. 731-TA-1733 (Preliminary), USITC Pub. 5606 (Apr. 2025) ("PR").

[6] CR/PR at 4.1. Questionnaire coverage was determined based on U.S. importers' reported imports under the primary HTS statistical reporting numbers 2929.10.8010 and 3909.31.0000. CR/PR at 4.1 n.2. Responding firms also reported that less than *** percent of their imports of MDI enter under nine additional HTS statistical reporting numbers. CR/PR at 4.1 n.2.

[7] CR/PR at 7.3.

[8] CR/PR at Table 7.1. Exports as a share of U.S. imports was calculated by dividing reported exports in 2024 by the volume of subject imports entering under the two primary HTS numbers in 2024. *Id.*

[9] 19 U.S.C. § 1677(4)(A).

[10] 19 U.S.C. § 1677(4)(A).

[11] 19 U.S.C. § 1677(10).

[12] 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).

subsidized and/or sold at less than fair value is "necessarily the starting point of the Commission's like product analysis."[13] The Commission then defines the domestic like product in light of the imported articles Commerce has identified.[14] 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.[15] No single factor is dispositive, and the Commission may consider other factors it deems relevant based on the facts of a particular investigation.[16] The Commission looks for clear dividing lines among possible like products and disregards minor variations.[17] It may, where appropriate, include domestic articles in the domestic like product in addition to those described in the scope.[18]

In its notice of initiation, Commerce defined the imported merchandise within the scope of the investigation as:

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[13] *Cleo Inc. v. United States*, 501 F.3d 1291, 1298 (Fed. Cir. 2007); *see also Hitachi Metals, Ltd. v. United States*, Case No. 19-1289, slip op. at 8-9 (Fed. Cir. Feb. 7, 2020) (the statute requires the Commission to start with Commerce's subject merchandise in reaching its own like product determination).

[14] *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).

[15] *See*, *e.g.*, *Cleo Inc. v. United States*, 501 F.3d 1291, 1299 (Fed. Cir. 2007); *NEC Corp. v. Dep't 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).

[16] *See*, *e.g.*, S. Rep. No. 96-249 at 90-91 (1979).

[17] *See*, *e.g.*, *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.").

[18] *See*, *e.g.*, *Pure Magnesium from China and Israel*, Inv. Nos. 701-TA-403 and 731-TA-895-96 (Final), USITC Pub. 3467 (Nov. 2001) at 8 n.34; *Torrington,* 747 F. Supp. at 748-49 (holding that the Commission is not legally required to limit the domestic like product to the product advocated by the petitioner, co-extensive with the scope).

{M}ethylene diphenyl diisocyanate (MDI), which is an aromatic polyisocyanate material whose composition includes two or more isocyanate groups (*i.e.,* functional group containing a nitrogen atom, a carbon atom, and an oxygen atom bonded together (-NCO)) attached to one or more benzene rings (*i.e.,* flat, symmetrical molecule made up of six carbon atoms arranged in a hexagonal ring and has the chemical formula $C_6 H_6$) that are joined by methylene bridges (*i.e.,* a carbon atom bound to two hydrogen atoms (-CH_2 -) and connected by single bonds to two other distinct atoms in the rest of the molecule). MDI is commonly called Polymeric, Monomeric, or Modified MDI and may also be referred to under other names, including Methylene bisphenyl isocyanate, 4,4'-Diphenylmethane diisocyanate, Methylene di-p-phenylene ester of isocyanic acid, Methylene bis(4-phenyl isocyanate), and polymethylene polyphenylene isocyanate. MDI is normally associated with Chemical Abstracts Service (CAS) registry numbers 9016-87-9, 101-68-8, 5873-54-1, 2536-05-2, 168957689-3, 25686-28-6, 26447-40-5, and 39310-05-9, but several others are also used.

MDI ranges in physical form from low viscosity liquids to solids. MDI is covered by the scope of this investigation irrespective of whether it has gone through a distillation process and regardless of acid content, reactivity, functionality, freeze stability, physical form, viscosity, grade, purity, molecular weight, or packaging.

MDI may contain additives, such as catalysts, solvents, plasticizers, antioxidants, fire retardants, colorants, pigments, diluents, thickeners, fillers, softeners, toughening agents. The scope does not include mixtures of MDI with other materials, when the combined MDI component comprises less than 40 percent of the total weight of the mixture.

MDI may be partially reacted with itself, polyol, or polyamines, and retain MDI component that has not fully chemically reacted so as to convert it into a different product no longer containing isocyanate groups. These products are known as homopolymer, uretonimine MDI, carbodiimide MDI, or prepolymers. The scope does not include partially reacted MDI when its NCO content is less than 10 weight percentage.

For MDI that enter as part of a system with separately packaged resin consisting mostly of a chemical compound that has an OH reactive group, including polyol, only the MDI portion of the system is included in the scope. The scope does not include any separately packaged polyol that would not fall within the scope if entered on its own.

> The scope includes merchandise matching the above description that has been processed in a third country, including by commingling, diluting, introducing or removing additives, or performing any other processing that would not otherwise remove the merchandise from the scope of the investigation if performed in the subject country.
>
> The scope also includes MDI that is commingled or blended with MDI from sources not subject to this investigation. Only the subject component of such commingled products is covered by the scope of this investigation.
>
> This merchandise is currently classifiable under Harmonized Tariff Schedule of the United States (HTSUS) subheadings 2929.10.8010 and 3909.31.0000. Subject merchandise may also be entered under subheadings 3824.99.2600, 3909.50.1000, 3909.50.2000, 3909.50.5000, 3824.99.2900, 3506.91.5000, 3911.90.4500, 3921.13.5000, and 3920.99.5000. The HTSUS subheadings are provided for convenience and customs purposes only; the written description of the scope is dispositive.[19]

MDI belongs to a class of chemical compounds known as aromatic isocyanates.[20] The basic MDI molecule, or monomeric MDI, contains two benzene rings separated by a methylene bridge, each with an isocyanate (-N=C=O) group.[21] MDI molecules can also be larger oligomers, or polymeric MDI, which contain up to seven benzene rings, each connected to an isocyanate group.[22]

The domestic industry produces MDI from aniline, benzene, formaldehyde, carbon monoxide, hydrochloric acid, and phosgene.[23] The process yields a mixture of monomeric and polymeric MDI molecules.[24] This mixture, known as crude polymeric MDI, is then separated by distillation into different MDI monomers and polymers.[25] The final MDI product takes three general forms: monomeric MDI ("MMDI"), polymeric MDI ("PMDI"), and modified MDI.[26]

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[19] *Methylene Diphenyl Diisocyanate From the People's Republic of China: Initiation of Less-Than-Fair-Value Investigation*, 90 Fed. Reg. 11710, 11715 (Dep't Commerce Mar. 11, 2025).

[20] CR/PR at 1.6.

[21] CR/PR at 1.6. The monomeric form of MDI can consist of three isomers: 2',2 MDI, 2,4' MDI and 4,4' MDI. Conf. Tr. at 24 (Martin).

[22] Petition at 5 n.2.

[23] *See* CR/PR at 1.8, 5.1, 6.13 n.6.

[24] CR/PR at 1.8.

[25] CR/PR at 1.9.

[26] CR/PR at 1.7.

Modified MDI has additives or has been partially reacted with itself, with polyols, or polyamines, to stabilize the product or produce a diverse range of polymers.[27]

MDI is used to produce a wide range of polyurethane products.[28] The majority of PMDI is used to produce flexible, rigid, and packaging foams.[29] MMDI is used in various thermoplastic and cast elastomer applications, as well as coatings, adhesives, sealants, and elastomers.[30] MDI is also used as a binder for producing wood products from chips and flakes, and it is used to produce polyurethane fibers for clothing.[31]

A. Parties' Arguments

Petitioner's Arguments. Petitioner argues that the Commission should define a single domestic like product, coextensive with the scope.[32] Petitioner contends that all forms of MDI share the same basic chemistry and are used to produce various polyurethane products.[33] It observes that all MDI is produced through the same production process, by the same employees, and at the same facilities.[34] It argues that although different grades and formulations of MDI are designed for specific end uses, the various formulations of MDI form a continuum of products.[35] It contends that all MDI is perceived as a single product category by producers and consumers, and it is primarily sold through the same channels of distribution to end users.[36] Finally, Petitioner contends that prices for all types of MDI tend to be influenced by the same factors and, therefore, all forms are sold within the same general price range.[37]

Respondent's Arguments. WCA indicates that it is not contesting domestic like product for purposes of the preliminary phase of the investigation, but it reserves the right to revisit the definition in any final phase of the investigation.[38]

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[27] CR/PR at 1.7.

[28] Petition at 11-12.

[29] CR/PR at 1.7 and Table 3.9. Rigid foam is generally used in various types of insulation for buildings, while flexible foam is used for products such as cushions, automobile seats, pillows, and mattresses. Petition at 11.

[30] CR/PR at 1.7.

[31] Petition at 12.

[32] Petitioner's Postconference Brief at 9-12.

[33] Petitioner's Postconference Brief at 9.

[34] Petitioner's Postconference Brief at 10.

[35] Petitioner's Postconference Brief at 11, n.53.

[36] Petitioner's Postconference Brief at 12.

[37] Petitioner's Postconference Brief at 12.

[38] WCA's Postconference Brief at 5.

B. Analysis

Based on the current record, we define a single domestic like product consisting of all MDI, coextensive with the scope in the investigation.

Physical Characteristics and Uses. The record indicates that the physical characteristics of different types of MDI may differ in certain respects.[39] For example, PMDI is a liquid at room temperature, while MMDI is a crystalline solid.[40] However, all forms share the same basic chemical formula, with two or more isocyanate functional groups, consisting of one nitrogen atom, one carbon atom, and one oxygen atom, that are connected to a benzene ring.[41] Thus, although the number of benzene rings and location of the isocyanate groups may differ, polymeric MDI and monomeric MDI share the same basic chemical structure.[42] All MDI products also have the same general end use in that they are used to make polyurethane products that are in turn used as an input for insulating foams, coatings, adhesives, sealants, elastomers, and binders.[43]

Manufacturing Facilities, Production Processes and Employees. All MDI is produced in the same facilities using similar manufacturing methods, on the same equipment, and by the same employees.[44] Production of all MDI begins with a condensation reaction between aniline and formaldehyde to produce diphenylmethane diamine ("MDA").[45] MDA is reacted with phosgene, a reaction called phosgenation that converts the amine groups to isocyanate groups to yield MDI.[46]

Channels of Distribution. Domestically produced MDI is sold primarily to end users with smaller portions sold to processors and distributors.[47] There is no information on the record suggesting that different MDI products travel through different channels of distribution.

Interchangeability. Although the MDI product chosen by a customer often depends on the downstream product in which it will be used, MDI forms a continuum of products.[48] In such instances, the Commission does not view the lack of interchangeability among different products as inconsistent with defining a single domestic like product.[49]

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[39] CR/PR at 1.6- 1.7.

[40] CR/PR at 1.7.

[41] CR/PR at 1.6.

[42] CR/PR at 1.6- 1.7.

[43] CR/PR at 2.7; Petitioner Postconference Brief at 9.

[44] CR/PR at 1.8 to 1.9; Petitioner's Postconference Brief at 9.

[45] CR/PR at 1.8.

[46] CR/PR at 1.8.

[47] CR/PR at Table 2.1; Petitioner's Postconference Brief at 12.

[48] Petitioner's Postconference Brief at 11, 11 n.53.

[49] Petitioner's Postconference Brief at 11 n.53 (citing *Carbon and Certain Alloy Steel Wire Rod from China, Germany, and Turkey*, Inv. Nos. 731-TA-1099-1101 (Preliminary), USITC Pub. 3832 at 10 (Jan. (Continued…)

Producer and Customer Perceptions. Information on the record, including domestic producers' marketing materials and industry publications addressing disposal of MDI, indicate that purchasers and the broader chemical industry consider different forms of MDI together as a distinct product category.[50]

Price. Petitioner indicates that prices of all forms of MDI tend to move together.[51] Pricing data on PMDI collected by the Commission suggest that different types of MDI are priced similarly.[52]

Conclusion. All MDI has the same basic chemical structure and is used to produce polyurethane for a variety of downstream applications. In addition, all domestically produced MDI is produced using the same manufacturing facilities, processes, and employees; sold primarily to end users; and perceived by producers and customers as falling within a single product category. The pricing data suggest that prices for different MDI products moved within a similar range during the POI. For these reasons, and in the absence of any contrary argument, we define a single domestic like product consisting of all MDI, coextensive with the scope in the investigation.[53] [54]

2006) ("lack of interchangeability among products comprising a continuum is not unexpected and not inconsistent with finding a single like product").

[50] Petitioner's Postconference Brief at 10.

[51] Petitioner's Postconference Brief at 12.

[52] Pricing products 1 and 3, different MDI products sold in bulk, both varied between $*** and $*** per short ton during the POI. *See* CR/PR at Table 5.7.

[53] We remind parties to identify in their comments on the draft questionnaires for any final phase of the investigation any arguments that would implicate data collection, such as requests to define the domestic like product(s) in a different manner. *See, e.g.,* 19 C.F.R. § 207.20(b). Parties should clearly identify such products and explain the basis for any proposed separate domestic like product.

[54] The Commission collected information from domestic producers and importers concerning the comparability of MDI and out-of-scope toluene diisocyanate ("TDI") with respect to the six domestic like product factors. *See* CR Table 1.2 and Appendix D. Questionnaire responses that addressed the similarities and differences between MDI and TDI reported that they differ with respect to five of the six domestic like product factors. The responses indicate that the physical characteristics and uses of MDI and TDI are never comparable and the two products are generally not interchangeable. Responses also indicate that production of TDI requires a different raw material (toluene), and a different production process, and occurs in different production facilities and is performed by different employees. Questionnaire responses further indicate that producers and customers perceive MDI and TDI not to be comparable products or priced comparably. Only with respect to channels of distribution did domestic producers and importers report that MDI and TDI are generally comparable. *See* CR Table 1.2 and Appendix D. Thus, on balance, the record indicates that a clear dividing line exists between MDI and TDI, and we find it is not appropriate to include TDI in the definition of the domestic like product.

IV. Domestic Industry and Related Parties

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."[55] 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.

In this investigation, 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.[56] Exclusion of such a producer is within the Commission's discretion based upon the facts presented in each investigation.[57]

Three U.S. producers, ***, are subject to possible exclusion under the related parties provision because they imported subject merchandise during the January 2022 to December 2024 period of investigation ("POI") and had relationships with exporters of the subject merchandise.[58]

A. Parties' Arguments

Petitioner's Arguments. Petitioner argues the Commission should find that appropriate circumstances do not exist to warrant exclusion of *** from the domestic industry as related

[55] 19 U.S.C. § 1677(4)(A).

[56] *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).

[57] 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.

[58] CR/PR at Tables 3.2, 3.12, 3.13, and 3.14.

parties because each of them ***.[59] Petitioner considers that ***, on the other hand, could be reasonably included in or excluded from the definition of the domestic industry. It acknowledges that *** imports of subject merchandise were very small relative to its substantial domestic production, but it also observes that *** and reported *** over the POI. Petitioner claims that *** data could skew the aggregate data for the domestic industry.[60]

Respondent's Arguments. WCA does not dispute Petitioner's position with respect to related parties for purposes of the preliminary phase of the investigation.[61]

We discuss below whether appropriate circumstances exist to exclude any of the three related parties.

****.* ***, accounted for *** percent of U.S. production of MDI in 2024, and was the *** of the four reporting U.S. producers that year in terms of U.S. production volume.[62] Both because it imported subject merchandise and its parent controls a subject exporter,[63] *** is subject to possible exclusion under the related party provision.[64] *** imported *** short tons of subject merchandise during 2022 from ***.[65] The ratio of its subject imports to its domestic production was *** percent in 2022.[66] *** indicates that it imported "***."[67]

Given that *** with a ratio of subject imports to domestic production that was very low during the one year it imported subject merchandise, its primary interest appears to be in domestic production. Further, there is no information on the record that *** was shielded from subject import competition by virtue of its parent company's control of a subject producer or that its domestic production operations benefitted from its imports of subject merchandise to such an extent that its inclusion in the domestic industry would skew industry data or mask injury. In the absence of any contrary argument, we find that appropriate circumstances do not exist to exclude *** from the domestic industry.

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[59] Petitioner's Postconference Brief, Exhibit 1 at 10.

[60] Petitioner's Postconference Brief, Exhibit 1 at 16 n.61.

[61] WCA's Postconference Brief at 5.

[62] CR/PR at Table 3.1.

[63] A firm is subject to exclusion when "a third party directly or indirectly controls the producer and the exporter or importer." 19 U.S.C. § 1677(4)(B)(ii)(III). *** is 70 percent owned by ***. CR at Table 3.2.

[64] CR/PR at Table 3.12; *** Foreign Producer Questionnaire at II-9. *** is 70 percent owned by ***. CR/PR at Table 3.2.

[65] CR/PR at Table 3.12; *** Foreign Producer Questionnaire at II-9.

[66] CR/PR at Table 3.12

[67] CR/PR at Table 3.15. *** also reported purchasing small volumes (relative to its production) of subject imports from ***. CR/PR at Table 3.16. Its purchases were *** short tons in 2022, *** short tons in 2023, and *** short tons in 2024. *Id.* It indicated that it purchased subject imports ***. CR/PR at Table 3.17.

. *** is the second largest U.S. producer and accounted for *** percent of U.S. production of MDI in 2024 based on production volume.[68] ***.[69] Both because it imported subject merchandise and because its parent controls subject companies in China, *** is subject to possible exclusion under the related party provision.[70] *** imported *** short tons of subject merchandise during 2022, *** short tons in 2023, and *** short tons in 2024.[71] The ratio of its subject imports to its domestic production was *** percent in 2022 and *** percent in 2023 and 2024.[72] *** indicates that it imported because "."[73]

Given that ***'s ratio of subject imports to domestic production was *** during the years that it imported subject merchandise, its primary interest appears to be in domestic production. *** performed *** during the POI.[74] However, the record contains no information suggesting that *** was shielded from subject import competition by virtue of *** or that its domestic production operations benefitted from its imports of subject merchandise such that its inclusion in the domestic industry would skew industry data or mask injury.[75] In light of this, and in the absence of argument urging the Commission to exclude *** from the definition of the domestic industry, we find that appropriate circumstances do not exist to exclude *** from the domestic industry for purposes of the preliminary phase of the investigation.

. *** U.S. producer, accounting for *** percent of U.S. production of MDI in 2024.[76] Because it both imported subject merchandise and controls a subject exporter, it is subject to exclusion as a related party.[77] *** imported *** short tons of subject merchandise during 2022.[78] The ratio of its subject imports to its domestic production was *** percent in 2022.[79] *** indicates that it imported for "."[80]

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[68] CR/PR at Table 3.1.

[69] CR/PR at Table 3.1.

[70] *** is wholly owned by ***. *** also owns *** a producer of subject merchandise during the POI, and Covestro (Shanghai) Investment Co Ltd, an exporter of subject merchandise during the POI. CR/PR at Table 3.2. A firm is subject to exclusion when "a third party directly or indirectly controls the producer and the exporter or importer." 19 U.S.C. § 1677(4)(B)(ii)(III).

[71] CR/PR at Table 3.13.

[72] CR/PR at Table 3.13.

[73] CR/PR at Table 3.15.

[74] *See* CR/PR at Table 6.3.

[75] As Petitioner notes, *** finances appear to have ***. *See* CR/PR at Table 6.3. It also ***. *See* CR/PR at Table 3.7. However, as is true for other domestic producers, ***, ***. *See* CR/PR at Table 6.3. In any final phase investigation, we will seek information from the firm to better understand its ***.

[76] CR/PR at Table 3.1.

[77] A firm is subject to exclusion when "the producer directly or indirectly controls the exporter or importer." 19 U.S.C. § 1677(4)(B)(ii)(I). *** owns *** percent of ***, a Chinese producer and exporter of subject merchandise. CR/PR at Table 3.2.

[78] CR/PR at Table 3.14.

[79] CR/PR at Table 3.14.

[80] CR/PR at Table 3.15.

Given that *** and reported a ratio of subject imports to domestic production that was very low during the one year that it imported subject merchandise, its primary interest appears to be in domestic production. The record contains no evidence suggesting that *** was shielded from subject import competition by virtue of *** or that its domestic production operations benefitted from its imports of subject merchandise such that its inclusion in the domestic industry would 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.

Accordingly, consistent with our definition of the domestic like product, we define the domestic industry to include all domestic producers of MDI.[81]

V. Negligible Imports

Pursuant to Section 771(24) of the Tariff Act, imports from a subject country of merchandise corresponding to a domestic like product that account for less than 3 percent of all such merchandise imported into the United States during the most recent 12 months for which data are available preceding the filing of the petition shall be deemed negligible.[82] In the case of countervailing duty investigations involving a developing country (as designated by the United States Trade Representative), the statute indicates that the negligibility limit is 4 percent rather than 3 percent.[83]

During the 12-month period preceding the filing of the petition (February 2024 through January 2025), imports of MDI from China accounted for *** percent of total imports.[84] As subject imports are clearly above negligible levels, we find that imports of MDI from China subject to the antidumping duty investigation are not negligible.

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[81] Three domestic firms that produce MDI from upstream chemical inputs responded to the Commission's U.S. producer questionnaire and also reported procuring MDI from other sources and processing it into other forms of MDI that are within the domestic like product. *See* CR/PR at Appendix E. The parties indicate that the Commission need not include the processing data collected from the domestic producers in the domestic industry's financial data. Petitioner's Postconference Brief at 5, n.24, 25 n.110; WCA's Postconference Brief at 5-6. Because the reported processing activity does not materially affect the domestic industry's financial data on this record, *compare* Table C.1 *with* Table C.2, and the record includes no information from independent processors, we have not considered the data in the preliminary phase of the investigation. In any final phase of the investigation, we will seek information from any independent processors of MDI and consider whether their activity should be considered domestic production of MDI.

[82] 19 U.S.C. §§ 1671b(a), 1673b(a), 1677(24)(A)(i), 1677(24)(B).

[83] 19 U.S.C. § 1677(24)(B). China is not designated by USTR as a developing country for purposes of the 4 percent negligibility limit. *See Designations of Developing Countries and Least Developed Countries Under the Countervailing Duty Law,* 85 Fed. Reg. 7613, 7615 (USTR Feb. 10, 2020).

[84] CR/PR at 4.10 and Table 4.10.

VI. Reasonable Indication of Material Injury by Reason of Subject Imports

A. Legal Standard

In the preliminary phase of antidumping and countervailing duty investigations, the Commission determines whether there is a reasonable indication that an industry in the United States is materially injured or threatened with material injury by reason of the imports under investigation.[85] 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.[86] The statute defines "material injury" as "harm which is not inconsequential, immaterial, or unimportant."[87] In assessing whether there is a reasonable indication that 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.[88] 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."[89]

Although the statute requires the Commission to determine whether there is a reasonable indication that the domestic industry is "materially injured or threatened with material injury by reason of" unfairly traded imports,[90] 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.[91] 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.[92]

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[85] 19 U.S.C. §§ 1671b(a), 1673b(a).

[86] 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).

[87] 19 U.S.C. § 1677(7)(A).

[88] 19 U.S.C. § 1677(7)(C)(iii).

[89] 19 U.S.C. § 1677(7)(C)(iii).

[90] 19 U.S.C. §§ 1671b(a), 1673b(a).

[91] *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).

[92] 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 (Continued…)

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.[93] In performing its examination, however, the Commission need not isolate the injury caused by other factors from injury caused by unfairly traded imports.[94] 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,

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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).

[93] 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.

[94] 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.").

such as nonsubject imports, which may be contributing to overall injury to an industry.[95] It is clear that the existence of injury caused by other factors does not compel a negative determination.[96]

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."[97] 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." [98] The Federal Circuit has examined and affirmed various Commission methodologies and has disavowed "rigid adherence to a specific formula."[99]

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.[100] Congress has delegated this factual finding to the Commission because of the agency's institutional expertise in resolving injury issues.[101]

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[95] S. Rep. 96-249 at 74-75; H.R. Rep. 96-317 at 47.

[96] *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.").

[97] *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*.

[98] *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.

[99] *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.").

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

[101] *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.").

B. Conditions of Competition and the Business Cycle

The following conditions of competition inform our analysis of whether there is a reasonable indication of material injury by reason of subject imports.

1. Demand Conditions

U.S. demand for MDI depends on demand for the downstream products in which it is used. MDI is primarily used to produce polyurethane for rigid foams, flexible slabstock, binders, coatings, and flexible molded products.[102] Other end uses include elastomers, adhesives, and sealants.[103] Producers and importers reported mixed views on the overall trend in demand in the United States since 2022.[104]

Apparent U.S. consumption by quantity fluctuated between 2022 and 2024, decreasing by *** percent from 2022 to 2023, and then increasing by *** percent from 2023 to 2024, returning to its 2022 level.[105] Apparent U.S. consumption decreased from *** short tons in 2022 to *** short tons in 2023, before increasing to *** short tons in 2024.[106]

2. Supply Conditions

The domestic industry was the largest supplier of MDI to the U.S. market during the POI. The industry's share of apparent U.S. consumption increased irregularly by *** percentage points between 2022 and 2024, increasing from *** percent in 2022 to *** percent in 2023, and then declining to *** percent in 2024.[107]

Subject imports from China were the second largest source of supply to the U.S. market during the POI. Subject imports from China gained *** percentage points of total market share from 2022 to 2024, increasing from *** percent in 2022 to *** percent in 2023, before decreasing to *** percent in 2024.[108]

Nonsubject imports declined overall and were the smallest source of supply to the U.S. market during the POI. Their share of apparent U.S. consumption declined from *** percent in 2022 to *** percent in 2023, before increasing to *** percent in 2024.[109] Domestic producers

[102] CR/PR at 2.7.
[103] CR/PR at 2.7.
[104] CR/PR at Table 2.7.
[105] CR/PR at Table C.1.
[106] CR/PR at Tables 4.11 and C.1.
[107] CR/PR at Tables 4.11 and C.1.
[108] CR/PR at Tables 4.11 and C.1.
[109] CR/PR at Tables 3.5 and C.1.

accounted for the majority of these imports.[110] The largest source of nonsubject imports was Belgium, with smaller quantities entering from Spain and Germany.[111]

The production process for MDI is a technically sophisticated, capital-intensive process with high fixed costs. As a result, domestic producers seek to operate at capacity utilization rates that are as high as possible to spread their costs over as much output as possible and maintain operating efficiencies.[112] The domestic industry's practical capacity decreased by 2.0 percent from 2022 to 2024, and its capacity utilization rate decreased from 74.5 percent in 2022 to 70.9 percent in 2023, before increasing to 77.3 percent in 2024.[113]

Three of four domestic producers reported supply constraints during the POI due to severe weather, raw material shortages, loss of utilities, and production problems.[114] Dow declared *force majeure* in February 2022 due to freezing weather, and again from June to August of that year due to limited supplies of formaldehyde.[115] From May to September 2024, Dow declared *force majeure* due to limited supplies of carbon monoxide, Hurricane Beryl, and plant turnaround.[116] BASF declared *force majeure* from March to July 2022 due to technical issues with one of its MDI units and again from April to May 2024 because it lost utilities due to a lightning strike.[117] It also reported shutting down for several days after Hurricane Francine in September 2024.[118] Covestro indicated that in August 2022, it had a six-day disruption due to a power loss, and later, in November 2022, a freeze disrupted its operations.[119] Covestro also reported that, in 2024, plugged systems and a limited supply of carbon dioxide disrupted its production.[120] Finally, ***.[121]

3. Substitutability and Other Conditions

Based on the record in the preliminary phase of the investigation, we find that there is at least a moderate-to-high degree of substitutability between the same types of domestically produced MDI and MDI imported from China.[122] All U.S. producers reported that U.S. produced

[110] See CR/PR at Tables 4.2 and 4.5. Domestic producers' share of nonsubject imports during the POI ranged from *** percent in 2023 to *** precent in 2024. *Id.*

[111] CR/PR at 2.5.

[112] CR/PR at 2.1; Petitioner's Postconference Brief at 17; Conf. Tr. at 30-31 (Mohr).

[113] CR/PR at Tables 3.5 and C.1.

[114] *See* CR/PR at 2.5.

[115] *See* CR/PR at 2.6.

[116] *See* CR/PR at 2.6 and Table 3.3.

[117] *See* CR/PR at 2.6.

[118] CR/PR at Table 3.4.

[119] *See* CR/PR at 2.6.

[120] *See* CR/PR at 2.6.

[121] CR/PR at 2.6.

[122] *See* CR/PR at 2.9.

MDI and subject imports were always or frequently interchangeable, and the responding importer *** indicated that the two are sometimes interchangeable.[123] The record indicates that the domestic like product and subject imports are to a large extent used in different applications. The *** majority of shipments of subject imports is used in rigid foam applications, but just over half of the shipments of the domestic like product is used for that application.[124] Despite this apparent limited overlap in uses, domestic producers and importers shipped the same types of MDI during the POI – only two chemical forms of MDI accounted for more than three quarters of both U.S. shipments of the domestic product and U.S. shipments of subject imports.[125] Moreover, substantial volumes of domestic product and subject imports were reported for each of the three pricing products, which together accounted for *** percent of subject import volume.[126]

We also find that price is an important factor in purchasing decisions. Purchasers identified price among the top three factors more than any other factor.[127] All four domestic producers reported that differences other than price between subject imports and the domestic product were sometimes or never significant while the responding importer *** reported that there were always significant differences other than price between the domestic like product and subject imports.[128]

The *** majority of MDI sold by the U.S. producers and importers of subject imports is to end users, with the remainder to processors and distributors.[129] The majority of shipments by domestic producers and importers are from inventory, with lead times averaging

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[123] CR/PR at Table 2.9. Petitioner and WCA disagree concerning the extent to which different types of MDI can be substituted for each other. Petitioner indicates that different types of MDI can be used interchangeably if the different chemistries of MDI products are taken into consideration, while WCA contends that different MDI products cannot be used in the same applications. *See* CR/PR at 5.7. In any final phase of the investigation, we will further examine the extent to which different MDI products can be substituted for each other in a given application.

[124] *See* CR/PR at Tables 3.9 and 4.6. WCA claims that it does not compete in many end use portions of the U.S. market, including coatings, adhesives, sealants, elastomers and automotive and binders. CR/PR at 2.11.

[125] *See* CR/PR at 5.7 and 5.8. Shipment data provided by domestic producers and importers, by contrast, indicate that the majority of domestic producers' shipments of the domestic like product are crude polymeric, while no shipments of subject imports are this type of MDI. *Compare* CR/PR at Table 3.10 *with* Table 4.7. In any final phase of the investigation, we will evaluate whether collecting data on different product categories would provide better understanding of the different types of MDI in the U.S. market. We invite parties to comment on the use of alternative product categories in any final phase investigation.

[126] CR/PR at 5.1, Tables 5.4-5.6.

[127] CR/PR at Table 2.8. Purchasers most frequently cited availability/supply as the first-most important purchasing factor, followed by quality. *Id*.

[128] CR/PR at Table 2.10.

[129] CR/PR at Table 2.1.

approximately *** days.[130] Domestic producers and importers also reported that they make the majority of their sales pursuant to long-term and annual contracts.[131] Domestic producers and WCA reported that contracts are subject to renegotiation, contain meet or release clauses, or contain terms that adjust for changes in raw material prices.[132]

Individual domestic producers utilize different raw materials (which include benzene, chlorine, aniline, and carbon monoxide) to manufacture MDI because they rely on different energy sources or start MDI production at different stages.[133] All domestic producers, however, produce their own aniline, which accounts for the majority of raw material costs.[134] Raw material costs represented the largest component of the domestic industry's COGS during the POI, but they decreased as a share of COGS from *** percent in 2022 to *** percent in 2023 and *** percent in 2024.[135]

Subject imports from China have been subject to additional 25 percent *ad valorem* duties pursuant to Section 301 of the Trade Act of 1974, as amended ("Section 301").[136]

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."[137]

Subject imports decreased from *** short tons in 2022 to *** short tons in 2023, and then increased to *** short tons in 2024, for an overall increase of *** percent over the POI.[138] U.S. shipments of subject imports as a share of apparent U.S. consumption increased from *** percent of apparent U.S. consumption in 2022 to *** percent in 2023, before decreasing to *** percent in 2024, for an overall increase of *** percentage points.[139]

Based on the record in the preliminary phase of the investigation, we find that the volume of subject imports during the POI was significant in absolute terms and relative to

[130] CR/PR at 2.10.
[131] CR/PR at Table 5.3.
[132] CR/PR at 5.5 and 5.8.
[133] CR/PR at 5.1, 6.13 n.6, and Table 6.5.
[134] CR/PR at 6.13 n.6 and Table 6.5.
[135] CR/PR at Table 6.1.
[136] CR/PR at 1.6.
[137] 19 U.S.C. § 1677(7)(C)(i).
[138] CR/PR at Table 4.2. DL Trading reported importing *** short tons of MDI during 2024 from ***. DL Trading acted as a trading company to maximize duty drawback, and it reported reselling the imports to the exporter or its affiliate. Because it appears the imports were already included in ***, these imports were not included in import data. *See* CR/PR at 4.2 n.4.
[139] CR/PR Tables 4.11 and C.1. U.S shipments of subject imports increased from *** short tons in 2022 to *** short tons in 2023, and then fell to *** short tons in 2024, for an overall increase of *** percent over the POI. *Id.*

consumption in the United States, and that the increase in the volume of subject imports was significant in absolute terms.

D. Price Effects of the Subject Imports

Section 771(7)(C)(ii) of the Tariff Act provides that, in evaluating the price effects of 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.[140]

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

The Commission collected quarterly quantity and f.o.b. value pricing data on sales of MDI shipped to unrelated U.S. customers during the POI.[141] Four U.S. producers and two importers provided usable pricing data for sales of the three pricing products, although not all firms reported pricing for all products for all quarters.[142] The pricing data reported by these

[140] 19 U.S.C. § 1677(7)(C)(ii).

[141] CR/PR at 5.7. The three pricing products are:

Product 1 – Polymeric MDI, 150-250 centipoise viscosity at 25o C, 30.2-32.5 Isocyanate content in weight percentage, basic commodity grade (e.g., PM200, PM-200S, Papi 27, Isobind 1088, Lupranate M20, Rubinate 1840, Rubinate M), sold in bulk (e.g., trucks, rail car, ISO tanks, isotainer).

Product 2 – Polymeric MDI, 150-250 centipoise viscosity at 25o C, 30.2-32.5 Isocyanate content in weight percentage, basic commodity grade (e.g., PM200, PM-200S, Papi 27, Isobind 1088, Lupranate M20, Rubinate 1840, Rubinate M), sold in packages (e.g., totes, drums).

Product 3 – Polymeric MDI, 585-900 centipoise viscosity at 25o C, 30.3-32.0 Isocyanate content in weight percentage, basic commodity grade (e.g., PM700, Papi 580N, Lupranate M70, Rubinate 1850), sold in bulk (e.g., trucks, rail car, ISO tanks, isotainer).

[142] CR/PR at 5.8. Product 1, according to WCA, typically is used as a binder in the production of composite wood products such as oriented strandboard ("OSB"). WCA explains that Product 2 is chemically the same as Product 1, but it is almost exclusively used for production of spray foam. CR/PR at 5.7. Product 3, according to WCA, is completely different than Products 1 and 2 and typically is used in producing boardstock or insulation panels. CR/PR at 5.8.

firms accounted for *** percent of U.S. producers' U.S. commercial shipments of domestically produced MDI and *** percent of U.S. shipments of subject imports from China.[143]

Subject imports undersold the domestic like product in 24 of 36 (or 66.7 percent of) quarterly comparisons, with underselling margins ranging between *** and *** percent, and averaging *** percent.[144] Subject imports oversold the domestic like product in the remaining 12 (or 33.3 percent of) quarterly comparisons, with overselling margins ranging between *** percent and *** percent and averaging *** percent.[145] The volume of subject import sales in quarters with underselling was *** short tons, representing *** percent of the total volume of subject imports reported for the pricing products, compared to *** short tons in the quarters with overselling, representing *** percent of the total.[146] The majority of reported subject imports by volume undersold the domestic product in each of the three years of the POI.[147] Thus, the quarterly price comparison data show that subject imports predominantly undersold the domestic like product throughout the POI in terms of the number of quarterly comparisons and in terms of volume.

We have also considered purchasers' responses to the Commission's lost sales/lost revenue survey. Of the ten responding purchasers, eight reported that from January 2022 to December 2024, they purchased subject imports instead of the domestic like product, and four of them reported that subject imports were lower priced than the domestic like product.[148] Three of those purchasers also reported that price was a primary reason for their decision to purchase MDI imported from China rather than the domestic like product.[149] The volume of subject imports covered by these purchases was *** short tons.[150] This volume was equivalent to *** percent of responding purchasers' total reported purchases and imports of MDI during the POI.[151]

Based on the at least moderate-to-high degree of substitutability between subject imports and the domestic like product, the importance of price in purchasing decisions, and the

[143] CR/PR at 5.8. As the largest importer of subject imports, WCA provided the *** majority of import pricing data. CR/PR at 5.8 n.13.

[144] CR/PR Table 5.8.

[145] CR/PR Table 5.8.

[146] Calculated from CR/PR Table 5.8.

[147] CR/PR Table 5.9.

[148] CR/PR Table 5.12.

[149] CR/PR Table 5.12.

[150] CR/PR Table 5.12.

[151] *Calculated from* CR/PR Tables 5.10 and 5.12. All four domestic producers indicated that they lowered prices to compete with subject imports, and three producers reported rolling back price increases. CR/PR at 5.17. Eight of ten responding purchasers indicated that they did not know whether domestic producers lowered their prices to compete with subject imports; two purchasers indicated that domestic producers did not lower their prices. CR/PR at 5.20.

predominant underselling throughout the POI, we find that subject imports significantly undersold the domestic like product.

We have also examined price trends during the POI. Prices for all three domestically produced pricing products increased until the third quarter of 2022, then decreased until the first or second quarter of 2024, at which point they increased slightly until the fourth quarter of 2024.[152] Prices for all domestically produced pricing products were lower at the end of the POI than at the beginning.[153] Specifically, reported prices declined over the POI for domestically produced product 1 by *** percent, product 2 by *** percent, and product 3 by *** percent.[154] Prices for all three pricing products imported from China followed the same general trend as prices for the domestic product, declining overall during the POI.[155] Prices for product 1 imported from China declined by *** percent, product 2 by *** percent, and product 3 by *** percent.[156] A chemical industry publication confirms that MDI prices declined from January 2022 to December 2024.[157]

These price trends also are consistent with Petitioner's assertion that the domestic industry competed aggressively on price to maintain its sales volume and capacity utilization to spread the high fixed costs of its MDI production over more output.[158] An industry representative explained that his firm could not avoid lowering prices because it "could not afford to lose sales and be forced to decrease our production volumes. Lowering our capacity utilization any further would have caused even more harm than the falling prices did."[159]

In addition, reflecting the declining market prices for MDI, the domestic industry's net sales values declined over the POI. While the domestic industry's costs also declined over the POI, its declining costs do not explain the substantially larger declines in the domestic industry's prices and net sales values. Domestic producers' net sales values decreased *** percent from 2022 to 2024;[160] over that same period, its cost of goods sold ("COGS") per short ton declined overall by 9.9 percent.[161] The domestic industry's net sales values fell by $722 per short ton over the POI, while total COGS only declined by only $222 per short ton.[162] Thus, the decline in

[152] *See* CR/PR Figs. 5.2, 5.3, and 5.4.

[153] *See* CR/PR at Table 5.7 and Figs. 5.2, 5.3, and 5.4.

[154] CR/PR Table 5.7.

[155] CR/PR Table 5.7.

[156] CR/PR Table 5.7.

[157] According to MDI pricing data from ***, from January 2022 to December 2024, prices for *** while prices for ***. CR/PR at 5.16, 5.17.

[158] Conf. Tr. at 17-18 (Nespatti).

[159] Conf. Tr. at 32 (Mohr).

[160] The domestic industry's net sales values fell from $2,957 per short ton in 2022 to $2,444 per short ton in 2023 and $2,234 per short ton in 2024. CR/PR at Tables 6.1 and C.1

[161] The domestic industry's COGS fell from $2,248 per short ton in 2022 to $1,984 per short ton in 2023, and then increased to $2,026 per short ton in 2024. CR/PR at Tables 6.1 and C.1.

[162] CR/PR at Table 6.2.

the domestic industry's unit COGS was substantially less than the decline in its unit net sales values.[163] As a result, the domestic industry's COGS-to-net-sales ratio increased from 76.0 percent in 2022 to 81.2 percent in 2023 and 90.7 percent in 2024.[164] We also note that the decline in net sales value was larger than the decline in the industry's raw material costs, such that the ratio of raw material costs to net sales increased from 56.6 percent in 2022 to 59.3 percent in 2023 and 64.2 percent in 2024.[165] The increase in costs relative to sales values resulted in the downturn in profitability we discuss in section VI.E below.

Weak demand also does not explain the industry's falling prices and net sales values on this record. While apparent U.S. consumption fluctuated, it ended the POI at approximately the same level as the beginning of the POI.[166] Moreover, the declines in the domestic industry's net sales values occurred both when apparent U.S. consumption was decreasing in 2023 and when it was increasing in 2024.[167] Trends in apparent U.S. consumption therefore do not explain the declines in prices and net sales values for domestically produced MDI.[168]

Given the declines in prices and net sales values for the domestic like product, we find that subject imports depressed prices for the domestic like product to a significant degree. Based on the record of the preliminary phase of the investigation, we therefore find that subject imports significantly undersold the domestic like product and depressed domestic prices to a significant degree. Accordingly, we conclude that subject imports had significant adverse price effects.

[163] *See* CR/PR at Table 6.2.

[164] CR/PR at Tables 6.3 and C.1.

[165] CR/PR at Table 6.1. The domestic industry's raw material costs fell 14.2 percent from 2022 to 2024, declining from $1,673 per short ton in 2022 to $1,448 per short ton in 2023 and $1,435 per short ton in 2024. *Id.*

[166] *See* CR/PR at Tables 4.11 and C.1.

[167] *See* CR/PR at Tables 4.11 and C.1.

[168] WCA argues that the domestic industry's constrained supply of MDI in 2024 resulted in increasing prices for MDI. *See* CR/PR at 5.17 (citing Conf. Tr. at 119-122 (Sturgeon)). Although the record includes some reports of domestic industry supply constraints in 2024, *see*, *supra*, section VI.B.2., the record indicates that the domestic industry's production, shipments, sales volume, and end-of-period inventories were all higher in 2024 than in 2023, while the domestic industry's net sales values were lower in 2024 than in 2023 and its COGS-to-net-sales-ratio higher. *See* CR/PR at Table C.1. Thus, the record does not support WCA's contention that domestic supply constraints in 2024 boosted domestic prices later that year.

E. Impact of the Subject Imports[169]

Section 771(7)(C)(iii) of the Tariff Act provides that the Commission, in examining the impact of the subject imports on the domestic industry, "shall evaluate all relevant economic factors which have a bearing on the state of the industry." 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 debt, research and development ("R&D"), 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."[170]

The record in the preliminary phase of this investigation supports that the domestic industry, when faced with increasing volumes of low-priced subject imports, reduced its prices to maintain its output and rate of capacity utilization. The industry's output indicators, including production, U.S. shipments, and sales volumes, increased relative to apparent U.S. consumption over the POI, but virtually all of the industry's employment and financial indicators deteriorated, the latter due to declines in domestic prices for MDI.

The domestic industry's practical capacity fluctuated, but declined overall by 1.9 percent during the POI, from 1.7 million short tons in 2022 and 2023 to 1.6 million short tons in 2024.[171] The domestic industry's production increased from 1.2 million short tons in 2022 and 2023 to 1.3 million short tons in 2024, for an overall increase of 1.7 percent.[172] Its capacity utilization fluctuated but increased overall, decreasing from 74.5 percent in 2022 to 70.9 percent in 2023 and increasing to 77.3 percent in 2024.[173]

The volume of the domestic industry's U.S. shipments increased by 2.3 percent from 2022 to 2024, from 985,894 short tons in 2022 to 978,344 short tons in 2023 and 1.0 million short tons in 2024.[174] The domestic industry's share of apparent U.S. consumption increased from *** percent in 2022 to *** percent in 2023, before declining to *** percent in 2024, for an overall increase of *** percentage points from 2022 to 2024.[175]

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[169] In its notice initiating its antidumping duty investigation, Commerce estimated dumping margins of 305.81 to 511.75 percent for imports of MDI from China. *Methylene Diphenyl Diisocyanate From the People's Republic of China: Initiation of Less-Than-Fair-Value Investigation*, 90 Fed. Reg. 11710, 11713 (Dep't Commerce Mar. 11, 2025); CR/PR at 1.4.

[170] 19 U.S.C. § 1677(7)(C)(iii). This provision was amended by the Trade Preferences Extension Act ("TPEA") of 2015, Pub. L. 114-27.

[171] CR/PR at Tables 3.5 and C.1.

[172] CR/PR at Tables 3.5 and C.1.

[173] CR/PR at Tables 3.5 and C.1.

[174] CR/PR at Tables 3.8 and C.1.

[175] CR/PR at Tables 4.11 and C.1.

The domestic industry's end-of-period inventories increased by 9.7 percent from 2022 to 2024, decreasing from 127,641 short tons in 2022 to 117,299 short tons in 2023 and then increasing to 139,959 short tons in 2024.[176] As a ratio to total shipments, the domestic industry's end-of-period inventories decreased from 10.4 percent in 2022 to 9.6 percent in 2023, and then increased to 11.2 percent in 2024.[177]

Virtually all of the domestic industry's employment indicators declined overall during the POI. The domestic industry's number of production-related workers ("PRWs") declined by 17.3 percent from 2022 to 2024, falling from 944 PRWs in 2022 to 785 PRWs in 2023 and 781 PRWs in 2024.[178] The industry's total hours worked, wages paid, and hourly wages all fluctuated, but declined overall during the POI. Total hours worked declined by 24.1 percent from 2022 and 2024, decreasing from 2.6 million hours in 2022 to 1.9 million hours in 2023, before increasing to 2.0 million hours in 2024.[179] Wages paid decreased by 24.7 percent between 2022 and 2024, declining from $176.3 million in 2022 to $128.3 million in 2023, then increasing to $132.8 million in 2024.[180] Hourly wages fell 0.7 percent overall, decreasing from $68.32 per hour in 2022 to $66.64 per hour in 2023, before increasing to $67.84 per hour in 2024.[181] Productivity (in short tons per 1,000 hours) improved by 34.1 percent from 2022 to 2024, increasing from 484.2 in 2022 to 631.6 in 2023 and 649.4 in 2024.[182]

The domestic industry's financial performance deteriorated from 2022 to 2024, with total net sales value (sales revenues), gross profits, operating income, net income, operating income margin, net income margin, and return on assets all suffering steep declines.[183] Specifically, its sales revenues decreased from $3.6 billion in 2022 to $3.0 billion in 2023 and $2.8 billion in 2024, for an overall decrease of 23.2 percent from 2022 to 2024.[184] The domestic industry's gross profits decreased from $869.9 million in 2022 to $563.7 million in 2023 and $260.2 million in 2024, for an overall decrease of 70.1 percent from 2022 to 2024.[185] Its operating income decreased from $668.5 million in 2022 to $356.3 million in 2023 and $53.1 million in 2024, for an overall decrease of 92.1 percent from 2022 to 2024.[186] Its net income decreased from $*** in 2022 to $*** in 2023 and $*** in 2024, for an overall decrease of *** percent from 2022 to 2024.[187] Its operating income margin increased from 18.4 percent in

[176] CR/PR at Tables 3.11 and C.1.
[177] CR/PR at Tables 3.11 and C.1.
[178] CR/PR at Tables 3.18 and C.1.
[179] CR/PR at Tables 3.18 and C.1.
[180] CR/PR at Tables 3.18 and C.1.
[181] CR/PR at Tables 3.18 and C.1.
[182] CR/PR at Tables 3.18 and C.1.
[183] *See* CR/PR at Table C.1.
[184] CR/PR at Tables 6.1 and C.1.
[185] CR/PR at Tables 6.1 and C.1.
[186] CR/PR at Tables 6.1 and C.1.
[187] CR/PR at Tables 6.1 and C.1.

2022 to 11.9 percent in 2023 and 1.9 percent in 2024, for an overall decrease of 16.5 percentage points from 2022 to 2024.[188] Its net income margin decreased from *** percent in 2021 to *** percent in 2023 and *** percent in 2024, for an overall decrease of *** percentage points from 2022 to 2024.[189] The industry's total assets decreased from $2.8 billion in 2022 to $2.6 billion in 2023, and then increased to $2.7 billion in 2024, for an overall decrease of 2.6 percent from 2022 to 2024.[190] The domestic industry's return on assets decreased from 24.0 percent in 2022 to 13.7 percent in 2023 and 2.0 percent in 2024, for an overall decrease of 22.0 percentage points from 2022 to 2024.[191]

The domestic industry's capital expenditures declined from $314.8 million in 2022 to $263.9 million in 2023, and then increased to $387.2 million in 2024, for an overall increase of 23.0 percent.[192] The domestic industry's R&D expenses were $*** in 2022, $*** in 2023, and $*** in 2024, for an overall decrease of *** percent.[193] All four domestic producers reported negative effects on their investment from subject imports and two producers reported operating and net losses during 2023 and 2024.[194]

We have found that the volume of subject imports was significant in absolute terms and relative to apparent U.S. consumption during the POI and that the increase in the volume of subject imports was significant in absolute terms. We have also found that subject imports significantly undersold the domestic like product and depressed the domestic industry's sales prices to a significant degree, resulting in declining net sales values. As a consequence, the domestic industry's revenues, gross profit, operating income, net income, operating and net income ratios, and return on assets all deteriorated over the POI. Accordingly, we conclude that subject imports had a significant adverse impact on the domestic industry.

We have considered WCA's argument that the domestic industry was enjoying unusually high prices and profits at the beginning of the POI, and that the industry's declining prices and profits during the POI reflect a return to more normal conditions.[195] However, this argument is unconvincing on this record, as the domestic industry's continuing profitability in the beginning of the POI is not probative of whether low-priced subject imports had a material adverse impact on the condition of the industry during the course of the POI.[196] Here, the record

[188] CR/PR at Tables 6.1 and C.1.
[189] CR/PR at Tables 6.1 and C.1.
[190] CR/PR at Tables 6.11 and C.1.
[191] CR/PR at Table 6.12.
[192] CR/PR at Tables 6.7 and C.1.
[193] CR/PR at Tables 6.9 and C.1.
[194] *See* CR/PR at Tables 6.1 and 6.14.
[195] WCA's Postconference Brief at 26-28.
[196] The statute provides that "{t}he 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." 19 U.S.C. § 1677(7)(J).

indicates that during the POI subject imports significantly undersold the domestic product and depressed domestic prices to a significant degree, resulting in steep declines in the industry's financial indicators over this time. As a result, *** domestic producers reported operating and net losses during the majority of the POI, which is not sustainable.[197]

WCA also argues that industry's history of supply problems led 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 subject imports entered the U.S. market in increasing volumes.[198] However, although domestic producers reported intermittent supply constraints at during the POI, the record does not broadly support this argument. The domestic industry reported substantial unused practical capacity, and individual domestic producers operated at low rates of capacity utilization during the POI, which would not normally be the case if there were significant supply constraints.[199] This argument also overlooks that the domestic industry increased its production and shipments over the POI,[200] and that individual domestic producers appear to have compensated for other producers' production shortfalls.[201] Moreover, the domestic industry's end-of-period inventories, from which most of its sales are made, increased 9.7 percent over the POI, indicating the domestic industry's supply was not insufficient to meet demand.[202] The predominant underselling by subject imports in each year of the POI is also inconsistent with the claim that subject imports were drawn into the market because of inadequate domestic supply at certain times during the POI.

WCA also argues that the continued decline in the domestic industry's profitability in 2024, when subject imports' market share decreased, demonstrates that imports were not responsible for the domestic industry's poor performance.[203] Although their market share declined somewhat in 2024, it remained significant at *** percent (above the level at the beginning of the POI), and subject imports increased in volume and continued to undersell the domestic like product at similar average rates and in comparable volumes.[204] Therefore, declining subject import market share in 2024 did not bring about a lessening of the adverse effects of the subject imports. In fact, the average unit values of the domestic industry's net sales declined 8.6 percent in 2024, notwithstanding a 6.9 percent increase in apparent U.S. consumption and a *** percent increase in the industry's unit COGS, suggesting that U.S.

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[197] *See* CR/PR at Table 6.3 (***).

[198] WCA's Postconference Brief at 13-14.

[199] CR/PR at Table 3.7.

[200] CR/PR at Tables 3.3 and C.1.

[201] The largest of the four domestic producers accounted for one third of production volume in 2024. *See* CR/PR at Fig. 6.1. Thus, there is not one dominant domestic producer in this market, and other producers can adjust for a single producer's production shortfall.

[202] *See* CR/PR at Table C.1.

[203] WCA's Postconference Brief at 29-30.

[204] CR/PR at Tables 4.2 and 5.9.

producers still faced downward pricing pressure from subject imports.[205] These developments support our conclusion that subject imports were negatively affecting the domestic industry.

We have also considered whether there are other factors that may have had an impact on the domestic industry to ensure that we are not attributing injury from other factors to subject imports. The majority of nonsubject imports were imported by domestic producers to supplement their domestic production.[206] Between 2022 and 2024, nonsubject imports' share of apparent U.S. consumption declined from *** percent in 2022 to *** percent in 2023 and then increased to *** percent in 2023.[207] Thus, nonsubject imports declined and held a smaller market share than subject imports throughout the POI.[208] Moreover, U.S. shipments of nonsubject imports declined by 64.3 percent from 2022 to 2023, yet the domestic industry's prices declined and its financial indicators weakened in 2023.[209] Consequently, nonsubject imports do not explain the injury we have attributed to subject imports.

Trends in demand also do not explain the injury we have attributed to subject imports. Apparent U.S. consumption fluctuated over the POI, first decreasing by 6.6 percent in 2023 relative to 2022, but then increasing by 6.9 percent in 2024.[210] The largest declines in the domestic industry's financial indicators occurred in 2024, the year when apparent U.S. consumption recovered.[211] Thus, weakening demand does not explain the declining condition of the domestic industry during the POI.

In sum, based on the record of the preliminary phase of the investigation, we find that subject imports had a significant impact on the domestic industry. Consequently, we determine that there is a reasonable indication that an industry in the United States is materially injured by reason of subject imports.

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[205] *See* CR/PR at Table C.1 at C.4. The decrease in the domestic industry's average unit values of net sales and the increase in its unit COGS resulted in an increase in its COGS to net sales ratio from 81.2 percent in 2023 to 90.7 percent in 2024. *Id.*

[206] *See* CR/PR at Tables 3.15 and 4.5.

[207] CR/PR at Table 4.11.

[208] *See* CR/PR at Table 4.11.

[209] During 2024, when shipments of nonsubject imports more than doubled, nonsubject imports' average unit values were above those of subject imports. *Id.* Given that three quarters of the volume of nonsubject imports were imported by domestic producers in 2024 and that the decline in the industry's condition began prior to this increase in nonsubject imports, the record does not indicate that nonsubject imports account for the industry's condition continuing to worsen in 2024. CR/PR at Table 4.5.

[210] *See* CR/PR at Table C.1.

[211] *See* CR/PR at Table C.1.

VII. Conclusion

For the reasons stated above, we determine that there is a reasonable indication that an industry in the United States is materially injured by reason of imports of MDI from China that are allegedly sold in the United States at LTFV.

Part 1: Introduction

Background

This investigation results from a petition filed with the U.S. Department of Commerce ("Commerce") and the U.S. International Trade Commission ("USITC" or "Commission") by the Ad Hoc MDI Fair Trade Coalition consisting of BASF Corporation ("BASF"), Florham Park, New Jersey; and The Dow Chemical Company ("Dow"), Midland, Michigan, on February 12, 2025, alleging that an industry in the United States is materially injured and threatened with material injury by reason of less-than-fair-value ("LTFV") imports of methylene diphenyl diisocyanate ("MDI products")[1] from China. Table 1.1 presents information relating to the background of this investigation.[2] [3]

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

Effective date	Action
February 12, 2025	Petition filed with Commerce and the Commission; institution of the Commission investigations (90 FR 9913, February 19, 2025)
March 5, 2025	Commission's conference
March 4, 2025	Commerce's notice of initiation (90 FR 11710, March 11, 2025)
March 28, 2025	Commission's vote
March 31, 2025	Commission's determination
April 7, 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. . .*

[1] See the section entitled "The subject merchandise" in Part 1 of this report for a complete description of the merchandise subject in this proceeding.

[2] Pertinent Federal Register notices are referenced in appendix A and may be found at the Commission's website (www.usitc.gov).

[3] A list of witnesses appearing at the conference is presented in appendix B of this report.

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--[4]

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, 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—[5]

(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.

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

Organization of report

Part 1 of this report presents information on the subject merchandise, alleged 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.

Market summary

MDI products are a diverse class of isocyanates derived from aniline. MDI is typically reacted with the hydroxyl groups of polyols to form polyurethane products. The four U.S. producers of MDI products are BASF, Dow, Covestro, LLC ("Covestro"), and Huntsman International, LLC, ("Huntsman"). Leading producers of MDI products outside the United States include Wanhua Chemical (Ningbo) Co., Ltd., ("Wanhua Nigbo") and Wanhua Chemical Group Co.,Ltd., ("Wanhua Shandong"). The leading U.S. importer of MDI products from China is Wanhua Chemical (America) Co., Ltd. ("Wanhua America"), while the leading importers of MDI products from nonsubject sources are ***. U.S. purchasers of MDI products are firms that build in the construction industries; leading purchasers in 2024 include ***.

Apparent U.S. consumption of MDI products totaled approximately *** short tons in quantity and *** in value in 2024. U.S. producers' U.S. shipments of MDI products totaled 1.0 million short tons based on quantity and ($2.3 billion) in 2024, and accounted for *** percent of apparent U.S. consumption by quantity and *** percent by value. U.S. imports from China totaled *** short tons (***) in 2024 and accounted for *** percent of apparent U.S. consumption by quantity and *** percent by value. U.S. imports from nonsubject sources totaled *** short tons (***) in 2024 and accounted for *** percent of apparent U.S. consumption by quantity and *** percent by value.

Summary data and data sources

A summary of data collected in this investigation is presented in appendix C, tables C.1 (U.S. producers) and C.2 (U.S. producers and U.S. processors). The Commission's questionnaires collected data for the years 2022 to 2024. Except as noted, U.S. industry data are based on questionnaire responses of four firms that accounted for *** U.S. production of MDI products during 2024. U.S. imports are based on data compiled in response to Commission questionnaires, along with official import statistics from Commerce, which includes two primary HTS statistical reporting numbers.[6] Foreign industry data and related information are based on the questionnaire responses of eight Chinese producers and exporters of MDI products.

Previous and related investigations

MDI products has not been the subject of any prior countervailing or antidumping duty investigations in the United States.

Nature and extent of alleged sales at LTFV

Alleged sales at LTFV

On March 11, 2025, Commerce published a notice in the Federal Register of the initiation of its antidumping duty investigation on MDI products from China.[7] Commerce has initiated an antidumping duty investigation based on estimated dumping margins of 305.81 to 511.75 percent for MDI products from China.

The subject merchandise

Commerce's scope

In the current proceeding, Commerce has defined the scope as follows:[8]

> *The merchandise subject to this investigation is methylene diphenyl diisocyanate (MDI), which is an aromatic polyisocyanate material whose*

[6] There were nine additional HTS statistical reporting numbers identified in the petition that MDI products may be imported into the United States.

[7] 90 FR 11710, March 10, 2025.

[8] 90 FR 11710, March 10, 2025.

composition includes two or more isocyanate groups (i.e., functional group containing a nitrogen atom, a carbon atom, and an oxygen atom bonded together (-NCO)) attached to one or more benzene rings (i.e., flat, symmetrical molecule made up of six carbon atoms arranged in a hexagonal ring and has the chemical formula $C_6 H_6$) that are joined by methylene bridges (i.e., a carbon atom bound to two hydrogen atoms (-CH_2 -) and connected by single bonds to two other distinct atoms in the rest of the molecule). MDI is commonly called Polymeric, Monomeric, or Modified MDI and may also be referred to under other names, including Methylene bisphenyl isocyanate, 4,4'-Diphenylmethane diisocyanate, Methylene di-p-phenylene ester of isocyanic acid, Methylene bis(4-phenyl isocyanate), and polymethylene polyphenylene isocyanate. MDI is normally associated with Chemical Abstracts Service (CAS) registry numbers 9016-87-9, 101-68-8, 5873-54-1, 2536-05-2, 168957689-3, 25686-28-6, 26447-40-5, and 39310-05-9, but several others are also used.

MDI ranges in physical form from low viscosity liquids to solids. MDI is covered by the scope of this investigation irrespective of whether it has gone through a distillation process and regardless of acid content, reactivity, functionality, freeze stability, physical form, viscosity, grade, purity, molecular weight, or packaging.

MDI may contain additives, such as catalysts, solvents, plasticizers, antioxidants, fire retardants, colorants, pigments, diluents, thickeners, fillers, softeners, toughening agents. The scope does not include mixtures of MDI with other materials, when the combined MDI component comprises less than 40 percent of the total weight of the mixture.

MDI may be partially reacted with itself, polyol, or polyamines, and retain MDI component that has not fully chemically reacted so as to convert it into a different product no longer containing isocyanate groups. These products are known as homopolymer, uretonimine MDI, carbodiimide MDI, or prepolymers. The scope does not include partially reacted MDI when its NCO content is less than 10 weight percentage.

For MDI that enter as part of a system with separately packaged resin consisting mostly of a chemical compound that has an OH reactive group, including polyol, only the MDI portion of the system is included in the scope. The scope does not include any separately packaged polyol that would not fall within the scope if entered on its own.

The scope includes merchandise matching the above description that has been processed in a third country, including by commingling, diluting, introducing or removing additives, or performing any other processing

that would not otherwise remove the merchandise from the scope of the investigation if performed in the subject country.

The scope also includes MDI that is commingled or blended with MDI from sources not subject to this investigation. Only the subject component of such commingled products is covered by the scope of this investigation.

This merchandise is currently classifiable under Harmonized Tariff Schedule of the United States (HTSUS) subheadings 2929.10.8010 and 3909.31.0000. Subject merchandise may also be entered under subheadings 3824.99.2600, 3909.50.1000, 3909.50.2000, 3909.50.5000, 3824.99.2900, 3506.91.5000, 3911.90.4500, 3921.13.5000, and 3920.99.5000. The HTSUS subheadings are provided for convenience and customs purposes only; the written description of the scope is dispositive.

Tariff treatment

Based upon the scope set forth by Commerce, information available to the Commission indicates that the merchandise subject to this investigation is provided for in Harmonized Tariff Schedule of the United States (HTS) subheadings 2929.10.80 and 3909.31.00.[9] The 2025 general rate of duty for each of these subheadings is 6.5 percent *ad valorem.* Products of China under HTS subheading 3909.31.00 are subject to an additional 25 percent ad valorem duty as provided by general note 9903.88.03.[10] Decisions on the tariff classification and treatment of imported goods are within the authority of U.S. Customs and Border Protection.

Effective September 24, 2018, the additional duty rate was 10 percent ad valorem and on January 1, 2019, the rate was increased to 25 percent ad valorem.[11]

The product

Description and applications

Methylene diphenyl diisocyanate (MDI) belongs to a class of chemical compounds known as aromatic isocyanates.[12] MDI and its various forms are associated with the following

[9] Subject merchandise may also be entered under the following subheadings: 3506.91.50, 3815.90.50, 3824.99.29, 3824.99.93, 3909.50.50, 3911.90.45, 3920.99.50, and 3921.13.50.

[10] 84 FR 26930, June 10, 2019.

[11] 83 FR 47974, September 21, 2018. See also HTS heading 9903.88.03 and U.S. notes 20(e) and 20(f) to subchapter III of chapter 99 and related tariff provisions for this duty treatment. USITC, HTSUS (2024) Revision 1, USITC Pub. 5491, January 2024, pp. 99-III-27 – 99-III-51.

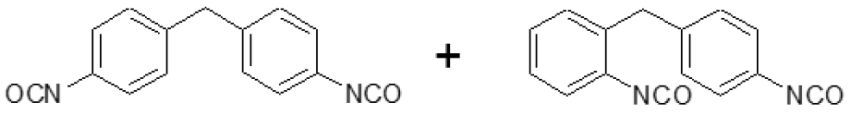
[12] Petition, p. 11.

Chemical Abstract Service (CAS) numbers: 9016-87-9, 101-68-8, 5873-54-1, 2536-05-2, 1689576-89-3, 25686-28-6, 26447-40-5, and 39310-05-9.[13] MDI contains two benzene rings separated by a methylene bridge, each bearing an isocyanate (-N=C=O) group. It is usually commercially available as a monomer used as a starting material to produce a variety of isocyanate polymers.[14] MDI may be reacted with itself, polyols, or polyamines to form a diverse range of polymers. Products containing MDI may be marketed in various forms depending on the desired performance characteristics in the final application. Accordingly, MDI is available in three forms – monomeric MDI (MMDI), polymeric MDI (whose structure is shown in figure 1.2; PMDI), and modified MDI.[15] The most common applications of the various forms of MDI are listed below:

PMDI: a liquid used in the manufacture of flexible, rigid, and packaging polyurethane foams, as well as in several non-foam applications such as carpet backing, adhesives, composite wood binder, plywood patching compounds, and foundry core binders.

MMDI: Pure 4,4'-MDI (CAS no. 9016-87-9) is a crystalline solid at room temperature and is often sold in molten form. MMDI is used in various thermoplastic and cast elastomer applications. It is also used in coatings, adhesives, sealants and elastomers, commonly referred to as "CASE" applications. The monomeric form is produced upon further purification of PMDI by distillation, and it may contain 4,4′ and 2,4′ isomers (CAS no. 5873-54-1), shown below in figure 1.1.

Figure 1.1: Structures of 4,4´ and 2,4´ MDI isomers



Note: A third isomer, 2,2´-MDI (not shown), is formed in very small quantities.
Source: BASF MDI Handbook - North America, pp. 5-7. https://polyurethanes.basf.us/files/pdf/2019-MDI-Handbook_EL.pdf accessed on February 21, 2025.

[13] Petition, p. 16.

[14] A polymer is a large molecule formed by interlinking smaller units called monomers in a repeating fashion. "Polymer," Encyclopedia Britannica, https://www.britannica.com/science/polymer; accessed on February 26, 2025.

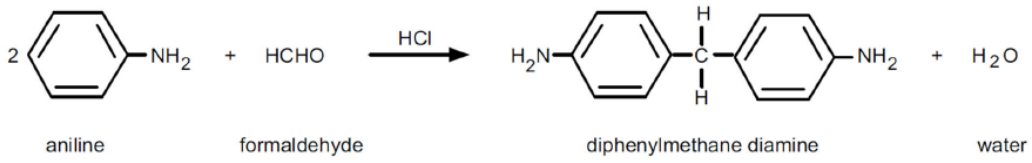
[15] BASF MDI Handbook - North America, pp. 5-7. https://polyurethanes.basf.us/files/pdf/2019-MDI-Handbook_EL.pdf accessed on February 21, 2025.

Partially reacted MDI is also called homopolymer, uretonimine MDI, carbodiimide MDI, or prepolymers.[16] For example, Carbodiimide-Modified MDI: Carbodiimide chemistry is used to modify and stabilize MMDI to avoid handling and storage difficulties associated with pure MMDI. The modification process yields liquids that are stable and clear at room temperature. Thus, a portion of MMDI is reacted to produce a carbodiimide-modified isocyanate with a free-NCO weight between 29.2 percent and 29.5 percent. Carbodiimide-modified MDI is used in the manufacture of flexible and semi-rigid foams, reaction injection molded polyurethane automotive body parts, microcellular elastomers, adhesives, coatings, sealants and two-component cast elastomers.[13]

Manufacturing processes

The synthesis of MDI begins with a condensation reaction[17] between aniline and formaldehyde. The reaction uses hydrochloric acid as a catalyst and yields diphenylmethane diamine ($C_{13}H_{14}N_2$, containing two benzene rings), also known as MDA. The resultant MDA mixture contains two-ring isomers as well as oligomers.[18] Figure 1.2 below depicts the aforementioned reaction that produces MDA.

Figure 1.2: Treatment of aniline with formaldehyde to produce MDA



Source: Petition, p. 13.

MDA is then treated with phosgene ($COCl_2$) in a process known as phosgenation, which converts the amino ($-NH_2$) groups to isocyanate (-NCO) groups to yield MDI. Only the $-NH_2$ groups are modified during this reaction, leaving the rest of the molecule intact. The resulting

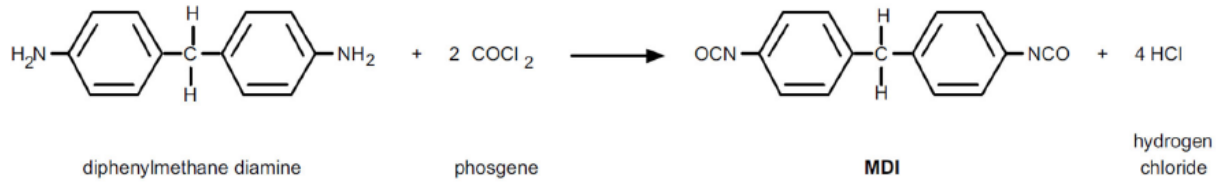
[16] Two of the CAS numbers presented in the scope are associated with the homopolymers of MDI. For more information on prepolymers, see Exhibit 7, Petitioner's Post-Conference Brief.

[17] A condensation reaction is a reaction in which two molecules combine to form a single molecule, usually with the loss of a small molecule like water. https://chem.libretexts.org/Bookshelves/Introductory_Chemistry/Introductory_Chemistry_(CK-12)/25%3A_Organic_Chemistry/25.18%3A_Condensation_Reactions, accessed on February 26, 2025.

[18] An oligomer is a polymer or polymer intermediate containing relatively few structural units. https://www.merriam-webster.com/dictionary/oligomer, accessed on March 10, 2025; Petition, p. 13.

product is therefore a mixture of MDI molecules consisting of two-ring isomers and higher-ring oligomers. This process is shown below in figure 1.3.

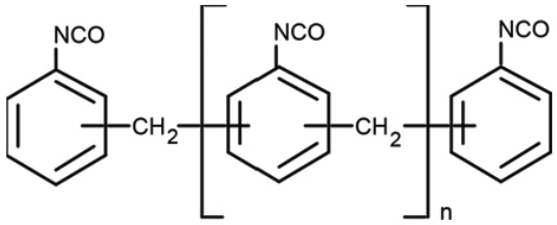
Figure 1.3: Treatment of MDA with phosgene to produce MDI



Source: Petition, p. 14.

The positions of the isocyanate groups remain identical to those as the amino groups in the starting MDA. The higher ring oligomers, commonly referred to as polymeric MDI, may be represented as follows in figure 1.4:

Figure 1.4: Polymeric MDI



Source: Petition, p. 14.

The crude polymeric MDI mixture is then separated under a distillation column under vacuum into a top light fraction containing two-ring MDI molecules and a bottom-heavy fraction containing a mixture of two-ring MDI and longer-chain MDI molecules. A second distillation step of the light fraction is carried out to further separate the so-called monomeric MDI (two-ring isomer mixture) into a pure 4,4′- MDI fraction and a second fraction composed of 50 percent 4,4′- MDI and 5 percent of a mixture of 2,2′- MDI and 2,4′- MDI isomers.[19]

Domestic like product issues

No issues with respect to domestic like product have been raised in this investigation. The petitioner proposes one like product to include all MDI products, coextensive with the

[19] Petition, p. 14.

scope. Respondents did not contest the petitioners' proposed definition of the domestic like product. Table I-2 presents U.S. producers' and U.S. importers' responses to the six factors regarding the domestic like product, comparing MDI product to TDI products. Presented in Appendix D, U.S. producers and U.S. importers provided narrative responses to the six domestic like product factors.[20] Four U.S. producers and five U.S. importers provided responses to the six like product factors.

The Commission's decision regarding the appropriate domestic product(s) that are "like" the subject imported product is based on a number of factors including: (1) physical characteristics and uses; (2) interchangeability; (3) channels of distribution; (4) common manufacturing facilities, production processes, and production employees; (5) customer and producer perceptions; and (6) price. Information regarding these factors is discussed below.

Table 1.2 MDI products: Count of firm's responses regarding the domestic like product factors comparing MDI products and TDI products

Firm type	Factor	Fully	Mostly	Somewhat	Never
U.S. producers	Physical characteristics	0	0	0	4
U.S. producers	Interchangeability	0	0	0	4
U.S. producers	Channels	0	0	3	0
U.S. producers	Manufacturing	0	0	0	4
U.S. producers	Perceptions	0	0	2	2
U.S. producers	Price	0	0	1	3
U.S. importers	Physical characteristics	0	0	0	5
U.S. importers	Interchangeability	0	0	1	4
U.S. importers	Channels	0	0	4	0
U.S. importers	Manufacturing	0	0	0	5
U.S. importers	Perceptions	0	0	2	3
U.S. importers	Price	0	0	1	4

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

[20] The firms that provided responses to the six like product factors include the four U.S. producers who also imported MDI products. These firms accounted for four of the five U.S. importer responses to the six like product factor questions. There was only one responding importer *** that provided a response who is not a U.S. producer that responded to these questions on like product factors.

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

U.S. market characteristics

MDI is a diverse class of isocyanates derived from aniline. MDI is typically reacted with the hydroxyl groups of polyols to form polyurethane products. All isocyanate chemicals are highly reactive; therefore, they are potentially hazardous to humans. To facilitate handling requirements and/or to achieve a variety of desired performance characteristics in the final application, MDI producers can include additives to the MDI, create different mixtures of MDI, or partially react the MDI with itself, polyol, or polyamines. The leading applications for MDI include: rigid foam, flexible foam, coating, adhesive, sealants, and elastomers (used in thermoplastic polyurethanes, microcellular products, primarily reaction injection-molding processed polyurethanes, polyurethane fibers). MDI is also used in binders and fillers, for example, binding wood chips and flakes into wood products, such as oriented strandboard, composite panels, and composite rubber.[1]

All four U.S. producer/importers and two importers indicated that the market for MDI products was subject to distinctive conditions of competition.[2] Specifically, *** reported that MDI production is capital intensive and requires a large initial investment and ongoing maintenance costs, and has high fixed costs, such as the cost of machinery and equipment. It added that MDI production needs a high utilization rate to make a reasonable return on investment. *** identified global supply/demand balances, production outages, force majeures, and other production disruptions as distinctive conditions of competition. *** identified imports from China ahead of the Chinese New Year as sometimes adding an unplanned amount of additional volume ahead of the construction season. *** described the U.S. industry and some of its raw material suppliers as entirely on the Gulf Coast and thus subject to hurricanes and other weather events that can cause supply disruptions. It continued that such disruptions lead to purchaser interest in Chinese product.

Apparent U.S. consumption of MDI products decreased almost 7 percent from 2022 to 2023, and then increased back to nearly 2022 levels in 2024. Overall, apparent U.S. consumption in 2024 was slightly lower than in 2022.

[1] Petition, pp. 11-12.

[2] All four U.S. producers also submitted importers' questionnaires and are referred to in this chapter as "U.S. producer/importers" unless otherwise indicated. Two additional firms, Wanhua and Polycoat USA, submitted only importers' questionnaires.

Impact of section 301 tariffs

U.S. producers and importers were asked to report the impact of section 301 tariffs in the market. Two U.S. producer/importers reported that these tariffs had had an impact, one reported that they had not, and one reported that it did not know. *** reported that the tariffs had had an impact, and *** reported that it did not know. U.S. importer *** reported that the implementation of section 301 tariffs led to a reduction of imported Chinese MDI in 2019, but that import volumes recovered in 2021. It attributed this recovery to U.S. MDI producers' production disruptions. It added that there was no significant change in the effect of section 301 tariffs between 2022 and 2024, but the additional 10 percent tariffs implemented in February 2025 are currently resulting in increased prices for MDI in the United States this year. U.S. producers/importers generally reported that even with the tariffs on imported Chinese MDI products, Chinese product is still available at low prices in the U.S. market.

Channels of distribution

U.S. producers and importers of both subject and nonsubject MDI sold mainly to end users, as shown in table 2.1.

Table 2.1 MDI products: Share of U.S. shipments by source, channel of distribution, and period

Shares in percent

Source	Channel	2022	2023	2024
United States	Distributors	***	***	***
United States	Processors	***	***	***
United States	End users	***	***	***
China	Distributors	***	***	***
China	Processors	***	***	***
China	End users	***	***	***
Nonsubject sources	Distributors	***	***	***
Nonsubject sources	Processors	***	***	***
Nonsubject sources	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 reported selling MDI products to all regions in the contiguous United States (table 2.2). 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 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. [3]

Table 2.2 MDI products: Count of U.S. producers' and U.S. importers' geographic markets

Region	U.S. producers	China
Northeast	4	3
Midwest	4	3
Southeast	4	3
Central Southwest	4	3
Mountain	4	2
Pacific Coast	4	2
Other	0	0
All regions (except Other)	4	2
Reporting firms	4	3

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 2.3 provides a summary of the supply factors regarding MDI products from U.S. producers and from China. U.S. capacity fell from 2022 to 2024 while Chinese capacity rose over the same period. Both U.S. and Chinese capacity utilization rose from 2022 to 2024.

[3] ***.

Table 2.3 MDI products: Supply factors that affect the ability to increase shipments to the U.S. market, by country

Quantity in short tons; ratio and share in percent

Factor	Measure	United States	China
Capacity 2022	Quantity	1,677,247	***
Capacity 2024	Quantity	1,644,550	***
Capacity utilization 2022	Ratio	74.5	***
Capacity utilization 2024	Ratio	77.3	***
Inventories to total shipments 2022	Ratio	10.4	***
Inventories to total shipments 2024	Ratio	11.2	***
Home market shipments 2024	Share	80.8	***
Non-US export market shipments 2024	Share	19.2	***
Ability to shift production (firms reporting “yes”)	Count	***	***

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

Note: Responding U.S. producers accounted for more than 75 percent of U.S. production of MDI products in 2024. Responding foreign producer/exporter firms accounted for more than half of U.S. imports of MDI products from China during 2024. For additional data on the number of responding firms and their share of U.S. production and of U.S. imports from each subject country, please refer to Part 1, “Summary Data and Data Sources.”

Domestic production

Based on available information, U.S. producers of MDI products have the ability to respond to changes in demand with moderate to large changes in the quantity of shipments of U.S.-produced MDI products to the U.S. market. The main contributing factors to this degree of responsiveness of supply are the availability of unused capacity, some export market shipments, and some inventories. Factors mitigating responsiveness of supply include an inability to shift production to or from alternate products. U.S. practical capacity decreased by 1.9 percent between 2022 and 2024 while production increased by 1.7, leading to a 2.8 percentage point increase in practical capacity utilization. U.S. producers identified Argentina, Brazil, Canada, and Mexico as major export markets. U.S. producers did not report any other products that could be produced on the same machinery used for MDI products.

Subject imports from China

Based on available information, producers of MDI products from China have the ability to respond to changes in demand with moderate to large changes in the quantity of shipments of MDI products to the U.S. market. The main contributing factors to this degree of responsiveness of supply are the increase in capacity between 2022 and 2024, some available inventories, and some ability to shift shipments from alternate markets. Factors mitigating

responsiveness of supply include limited availability of unused capacity and limited ability to shift production to or from alternate products.

Chinese practical capacity was more than triple U.S. capacity, and it increased *** percent between 2022 and 2024. It is projected to increase by an additional *** percent in 2025. An estimated *** percent of foreign producers' reported 2024 total country exports are to the United States. Firms identified Argentina, Australia, Brazil, Canada, Hungary, India, Japan, Malaysia, Myanmar, Pakistan, Singapore, South Korea, Taiwan, Thailand, Turkey, United Arab Emirates, Vietnam, ASEAN countries, Europe, and the Southeast Asian market as principal other export markets than the United States. *** reported that its dedicated MDI line cannot switch production to other products, but that ***. It added that it mainly switches production for downstream products based on market demand. *** identified time, cost, technology, worker experience, and knowledge as factors impacting the ability to switch.

Imports from nonsubject sources

Nonsubject imports accounted for *** percent of total U.S. imports in 2024. The largest source of nonsubject imports during January 2022 to December 2024 was Belgium, with smaller quantities from Spain and Germany. Combined, these countries accounted for *** percent of nonsubject imports in 2024.

Supply constraints

As shown in table 2.4, three U.S. producer/importers (***) each reported that they had experienced supply constraints in 2022 and 2024. Two U.S. importers reported that they had experienced supply constraints in 2022 through 2024, although, as described below, one *** of those was generally describing constraints at other firms. One U.S. producer (***) and two importers (***) indicated that they did not experience any supply constraints.

Table 2.4 MDI products: Count of firms indicating "yes" to the existence of supply constraints during the specified periods, by firm type and source

Count in number of firms reporting

Firm type	Source	2022	2023	2024
U.S. producers	Domestic	3	0	3
Importers	Imported	4	2	4

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

Specifically, in 2022, U.S. producer BASF declared force majeure in March due to technical issues with one of its MDI units. The force majeure was lifted in July 2022. U.S. producer Covestro indicated that in August it had a six-day disruption due to a power loss from Calpine power, and then, in November/December, it had a further disruption due to a freeze event. U.S. producer Dow Chemical indicated that in February 2022 it declared force majeure due to a U.S. Gulf Coast freeze event, and then declared force majeure again in June-August due to supply constraints on formaldehyde. ***.

In 2023, ***.

In 2024, Dow Chemical reported that it declared force majeure due to constrained supply of carbon monoxide, Hurricane Beryl, and plant turnaround. BASF indicated that it declared force majeure in April due to loss of utilities after its supplier was hit by a lightning strike. It continued that the force majeure was lifted in May. U.S. producer Covestro described two instances of production reductions or shutdowns due to plugged systems and added that there were additional production restrictions due to carbon dioxide curtailments. ***.

U.S. demand

Based on available information, the overall demand for MDI products is likely to experience moderate changes in response to changes in price. The main contributing factors are the varying cost share for MDI products' downstream uses and the somewhat limited range of substitute products.

End uses and cost share

U.S. demand for MDI products depends on the demand for U.S.-produced downstream products. Broadly speaking, MDI is used primarily in the construction industry, but also in transportation, bedding, appliances, and more.[4] More specifically, using polyurethanes as a proxy for MDI, the main end uses are rigid foams (38 percent of North American production), flexible slabstock (18 percent), binders (10 percent), coating (9 percent), and flexible molded products (8 percent) of the total of polyurethane products produced in North America. Other products, including elastomers, adhesives, and sealants, accounted for 16 percent.[5]

According to questionnaire respondents, MDI products account for a varying share of the cost of the end-use products in which they are used. Reported end uses and the share that MDI products represent include:

- adhesives/binders (5 percent),
- boardstock (50 percent),
- coatings (50 percent),
- domestic appliances (e.g., fridges, water heaters) (10 percent),
- poly iso roofing panels (one firm reported 60 percent, and another 80 percent)
- rigid foam (20 percent),
- rigid foam insulation (50 percent),
- rigid polyurethane insulation (40 percent),
- spray foam insulation (50 percent), and
- wood binder (oriented strand board, medium density fiberboard, particleboard) (5-10 percent).

Business cycles

All four U.S. producer/importers and all six responding U.S. importers indicated that the market was subject to business cycles, usually describing demand as higher during warmer summer months when construction (the largest end use segment for MDI) is busiest. Specifically, *** cited seasonality in the construction sector, with *** reporting that heavier demand occurs from March to

[4] Postconference brief of Wanhua, exhibit 2, ***.

[5] Petitioners' postconference brief, exhibit 1, p. 17, and exhibit 7, summarizing the research of the American Chemistry Council.

October. Additionally, *** also described some of MDI's end use segments (especially boardstock) as seasonal and based around the construction industry's calendar.

Demand trends

Firms' responses on U.S. demand for MDI products since January 1, 2022 were mixed (table 2.7). *** described high interest rates as contributing to a decline in the MDI market in 2023. However, it added that MDI demand subsequently rebounded in 2024 as commercial construction returned. *** described demand as high in 2022 due to a surge in durable goods demand from increased residential construction during the COVID-19 pandemic and a boom in construction activity due to low-interest rates. However, it indicated that U.S. demand had been steadily decreasing since then. *** reported that the flood of imports and inflation were factors which caused U.S. demand to fluctuate down. ***, which reported that demand had fluctuated down, reported that typically MDI demand grows roughly 2.5 times the GDP growth rate, but that the COVID-19 impact on 2022 created even higher demand for building products and resulted in downstream overstock by early 2023 when the COVID-19 pandemic eased. It added that 2024 represented a return to normal annual growth in the MDI market.

Table 2.7 MDI products: 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	1	1	1
Domestic demand	Importers	1	1	2	2	1
Foreign demand	U.S. producers	2	0	0	1	1
Foreign demand	Importers	3	1	0	1	1

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

Substitute products

Substitutes for MDI products are limited. Half of responding U.S. producers and most importers reported that there were no substitutes. *** identified expanded polystyrene and fiberglass, cellulose, and mineral wool as substitutes in rigid foam insulation and formaldehyde-based resins as substitutes in adhesives/binders; however, it added that changes in the prices of these substitutes had not affected the price for MDI products. In discussing the pricing products (see Part 5), Wanhua described some

applications for MDI (specifically, those using products 2 and 3) as having substitutes that consumers can switch to if the price of MDI rises too much, but that product 1 is "eating {the} … lunch" of its substitutes.[6] See Part 5.

Substitutability issues

This section assesses the degree to which U.S.-produced MDI products and imports of MDI products from China can be substituted for one another by examining the importance of certain purchasing factors and the comparability of MDI products 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 the same types of domestically produced MDI products and MDI products imported from China.[7] Factors contributing to this level of substitutability include similar lead times for MDI products from U.S. inventories, interchangeability between domestic and subject sources, and limited significant factors other than price. Factors reducing substitutability include reported differences between MDI types and differing lead times for MDI produced to order and MDI from foreign inventories.

Factors affecting purchasing decisions

Most important purchase factors

Purchasers responding to lost sales lost revenue allegations[8] were asked to identify the main purchasing factors their firm considered in their purchasing decisions for MDI products.

The most often cited top three factors firms consider in their purchasing decisions for MDI products were price/cost (10 firms), availability/supply (9 firms), and quality (6 firms), as shown in table 2.8. Availability/supply was the most frequently cited first-most important factor (cited by 5 firms), followed by quality (3 firms); quality was the most frequently reported second-most important factor (3 firms each); and price/cost was the most frequently reported third-most important factor (6 firms). *** stated that some MDI customers

[6] Conference transcript, pp. 136-138 (Sturgeon).

[7] The degree of substitution between domestic and imported MDI products depends upon the extent of product differentiation between the domestic and imported products and reflects how easily purchasers can switch from domestically produced MDI products to the MDI products imported from subject countries (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.).

[8] This information is compiled from responses by purchasers identified by Petitioners or other U.S. producers to the lost sales lost revenue allegations. See Part 5 for additional information.

do not like having an MDI supplier that is also a competitor, identifying *** as an example, due to its affiliated downstream spray foam operations. *** stated that these operations compete directly with potential customers for MDI designed for spray foam applications.[9]

Table 2.8 MDI products: Count of ranking of factors used in purchasing decisions as reported by purchasers, by factor

Factor	First	Second	Third	Total
Price / Cost	2	2	6	10
Availability / Supply	5	2	2	9
Quality	3	3	0	6
Supplier relationships	0	2	0	2

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

Note: Other factors include service, delivery, technical expertise, ability to supply in emergencies, and proximity of bulk terminals.

Lead times

MDI products are primarily sold from inventory. U.S. producers reported that *** percent of their commercial shipments in 2024 came from U.S. inventories, with lead times averaging *** days. The remaining *** percent of their commercial shipments were produced to order, with lead times averaging *** days. U.S. importers reported that *** percent of their commercial shipments in 2024 came from U.S. inventories, with lead times averaging *** days. The remaining *** percent of their commercial shipments came from foreign inventories, with lead times averaging *** days.

Comparison of U.S.-produced and imported MDI products

In order to determine whether U.S.-produced MDI products can generally be used in the same applications as imports from China, U.S. producers and importers were asked whether the products can always, frequently, sometimes, or never be used interchangeably. As shown in table 2.9, all U.S. producers and all but one responding U.S. importer reported that they can always or frequently be used interchangeably.[10] U.S. producer/importer *** reported that MDI is a commodity product and that all MDI products are globally interchangeable with minor shelf life/quality exceptions. U.S. importer *** reported that different grades of MDI that cannot be used interchangeably, and that they have different

[9] U.S. importer *** postconference brief, p. 11.
[10] ***.

physical characteristics, reaction profiles, and create products with vastly different final properties.[11]

Table 2.9 MDI products: Count of U.S. producers and importers reporting the interchangeability between product produced in the United States and in other countries, by country pair

Country pair	Firm type	Always	Frequently	Sometimes	Never
U.S. vs. China	U.S. producers	3	1	0	0
U.S. vs. other	U.S. producers	3	1	0	0
China vs. other	U.S. producers	3	1	0	0
U.S. vs. China	Importers	3	1	1	0
U.S. vs. other	Importers	3	2	1	0
China vs. other	Importers	3	1	1	0

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

Note: ***.

In addition, U.S. producers and importers were asked to assess how often differences other than price were significant in sales of MDI products from the United States, China, or nonsubject countries. As seen in table 2.10, all U.S. producers and all but one responding U.S. importer reported that they sometimes or never were.[12] *** reported that MDI is a commodity product and that price is the driving factor in sales. *** reported that U.S. customers might prefer U.S. product because of the shorter lead times or easier transportation for temperature-sensitive types of MDI products, but that when the price difference between U.S. product and imported product is too high, customers buy imported product. In comparing U.S. and nonsubject product, *** reported that supply from Korea is always available whereas supply from the U.S. is not. At the conference, Wanhua stated that it does not compete in many end use segments of the U.S. market, including coatings, adhesives, sealants, elastomers and automotive and binders.[13]

[11] U.S. importer *** postconference brief, p. 10.

[12] ***.

[13] Conference transcript, p. 141 (Sturgeon).

Table 2.10 MDI products: 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	Firm type	Always	Frequently	Sometimes	Never
U.S. vs. China	U.S. producers	0	0	2	2
U.S. vs. other	U.S. producers	0	0	2	2
China vs. other	U.S. producers	0	0	2	2
U.S. vs. China	Importers	0	0	3	2
U.S. vs. other	Importers	1	0	3	2
China vs. other	Importers	0	0	3	2

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

Note: ***.

Part 3: U.S. producers' 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 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 of four firms that accounted for all or nearly all of U.S. production of MDI products during 2024.

U.S. producers

The Commission issued a U.S. producer questionnaire to 4 firms based on information contained in the petition, and through staff research. Four firms (BASF, Covestro, Dow, and Huntsman) provided usable data on their operations.[1] Table 3.1 lists U.S. producers of MDI products, their production locations, positions on the petition, and shares of total production.

[1] There were no firms that were identified as processors, solely. *** produced and processed MDI products.

Table 3.1 MDI products: U.S. producers, their positions on the petition, production locations, and shares of reported production, 2024

Shares in percent

Firm	Position on petition	Production location(s)	Share of production
BASF	Petitioner	Geismar, LA	***
Covestro	***	Baytown, TX	***
Dow Chemical	Petitioner	Freeport, TX La Porte, TX	***
Huntsman	***	Geismar, LA	***
All firms	Various	Various	100.0

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

Table 3.2 presents information on U.S. producers' ownership, related and/or affiliated firms. As indicated in table 3.2, three U.S. producers (***) are related to Chinese foreign producers of the subject merchandise *** and three U.S. producers (***) are related to U.S. importers of the subject merchandise (and individually import both subject and nonsubject merchandise). In addition, as discussed in greater detail below, all of the U.S. producers directly import the subject merchandise and one (***) of the U.S. producers purchases the subject merchandise from U.S. importers.[2]

[2] ***. Despite these three companies being importers of record, *** imported small quantities of MDI products from China during 2022. During 2022 to 2024, *** U.S. producers imported MDI products from nonsubject sources.

Table 3.2 MDI products: U.S. producers' ownership, related and/or affiliated firms

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

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

Table 3.3 presents events in the U.S. industry since January 1, 2022.

Table 3.3 MDI Products: Important industry events since 2022

Item	Firm	Event
Force Majeure	BASF	BASF imposed Force Majeure in March 2022 on all Lupranat® MDI products and products containing MDI ingredients due to unexpected equipment failure at their Geismar, LA plant.
Expansion	Huntsman	Huntsman announced in July 2022 the start-up of a new MDI splitting facility at its Geismar site in Louisiana.
Shutdown	Covestro	Covestro placed its isocyanate and polycarbonate (PC) operations on standby in Baytown, Texas as of December 2022.
Expansion	BASF	BASF broke ground on the third and final phase of the methylene diphenyl diisocyanate (MDI) expansion project at its Verbund site in Geismar, LA in January 2023.
Expansion	Dow	Dow announced the start-up of a new MDI distillation and prepolymers facility at its manufacturing site in Freeport, TX.
Closure	Dow	Dow shut down its polyurethane assets at the La Porte, TX site.
Force Majeure	Dow	Between May and September 2024, Dow's North American MDI plant underwent force majeure due to hurricanes and supply disruptions.
Force Majeure	BASF	BASF declared force majeure on MDI products in April 2024.

Source: Echemi, "BASF Declares Product Force Majeure! Malfunction of The MDI Unit," March 25, 2022, https://www.echemi.com/cms/547000.html; Huntsman, "Huntsman Starts Commercial Operation of New Splitter at its Geismar, Louisiana Polyurethanes Plant," July 14, 2022, https://www.huntsman.com/news/media-releases/detail/532/huntsman-starts-commercial-operation-of-new-splitter-at-its; Independent Commodity Intelligence Services, "More Texas chem plants shut down amid cold weather," December 23, 2022, https://www.icis.com/explore/resources/news/2022/12/23/10839145/more-texas-chem-plants-shut-down-amid-cold-weather/; BASF, "BASF breaks ground on MDI capacity expansion project at Geismar site," January 11, 2023, https://www.basf.com/us/en/media/news-releases/2023/01/basf-breaks-ground-on-mdi-capacity-expansion-project-at-geismar-; Dow, "Dow MDI distillation and prepolymers facility starts commercial operation in Freeport, Texas," September 19, 2023, https://corporate.dow.com/en-us/news/press-releases/dow-mdi-distillation-and-prepolymers-facility.html; Polyurethanes Daily, "Global Transformation in the Polyurethane Industry in 2024," November 26, 2024, https://www.pudaily.com/Home/NewsDetails/52362; WCA's Submission of Witness Presentation for Staff Conference, EDIS Doc. No. 844958, submitted on March 4, 2025, p. 36.

Producers in the United States were asked to report any change in the character of their operations or organization relating to the production of MDI products since 2022. All of the U.S. producers indicated in their questionnaires that they had experienced such changes. Table 3.4 presents the changes identified by these producers.

Table 3.4 MDI products: U.S. producers' reported changes in operations, since January 1, 2022

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

Table continued

Table 3.4 MDI products (continued): U.S. producers' reported changes in operations, since January 1, 2022

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

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

U.S. production, capacity, and capacity utilization

Table 3.5 presents U.S. producers' installed and practical capacity and production on the same equipment. During 2022 to 2024 installed overall capacity fluctuated but ultimately decreased slightly by less than one percent, practical overall capacity fluctuated, but slightly decreased by 1.9 percent, and reported practical MDI products production capacity fluctuated, but slightly decreased by 1.9 percent. During 2022 to 2024, overall production on the same

equipment as MDI products production increased 1.7 percent during 2022 to 2024.[3] During 2022 to 2024, installed overall capacity utilization increased by *** percentage points, practical overall capacity utilization fluctuated but increased by *** percentage points, and reported practical MDI products capacity fluctuated but increased by *** percentage points.

At the Commission's staff conference, Petitioners indicated that they had unused capacity, and unsustainably low rates of capacity utilization.[4]

Table 3.5 MDI products: U.S. producers' installed and practical capacity and production on the same equipment as in-scope production, by period

Capacity and production in short tons; utilization in percent;

Item	Measure	2022	2023	2024
Installed overall	Capacity	1,986,524	2,002,093	1,986,186
Installed overall	Production	1,249,123	1,215,781	1,270,780
Installed overall	Utilization	62.9	60.7	64.0
Practical overall	Capacity	1,677,247	1,715,186	1,644,550
Practical overall	Production	1,249,123	1,215,781	1,270,780
Practical overall	Utilization	74.5	70.9	77.3
Practical MDI products	Capacity	1,677,247	1,715,186	1,644,550
Practical MDI products	Production	1,249,123	1,215,781	1,270,780
Practical MDI products	Utilization	74.5	70.9	77.3

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

[3] From 2022 to 2024, ***, while *** installed overall, practical overall capacity, and MDI products capacity all decreased. Additionally, *** installed overall, practical overall capacity, and MDI products capacity all increased during 2022 to 2024. Three U.S. producers, ***, all reported increased production of MDI products from 2022 to 2024, while *** indicated that its MDI products production was lower than during 2022. *** U.S. producer questionnaire responses, section 3.3a.

[4] Conference transcript, p. 34 (Medrado).

Table 3.6 presents U.S. producers' reported narratives regarding practical capacity constraints.

Table 3.6 MDI products: U.S. producers' reported capacity constraints since January 1, 2022

Item	Firm name and narrative response on constraints to practical overall capacity
Production bottlenecks	***
Production bottlenecks	***
Production bottlenecks	***
Production bottlenecks	***
Supply of material inputs	***
Supply of material inputs	***
Supply of material inputs	***
Fuel or energy	***
Storage capacity	***
Other constraints	***
Other constraints	***
Other constraints	***

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

Table 3.7 and figure 3.1 present U.S. producers' production, capacity, and capacity utilization. Practical capacity decreased by 1.9 percent from 2022 to 2024. MDI products production increased by 1.7 percent from 2022 to 2024. Capacity utilization increased by 2.8 percentage points from 2022 to 2024. From 2022 to 2024, *** capacity utilization decreased by *** percentage points, while *** capacity utilization decreased by *** percentage points from 2022 to 2024. From 2022 to 2024, *** increased its share of U.S.

MDI products production by *** percentage points, while *** share of U.S. MDI products production decreased by *** percentage points. *** production of MDI products decreased by *** percent during 2022 to 2024, while *** increased modestly during the same period. *** production of MDI products increased by *** percent during 2022 to 2024.

Table 3.7 MDI products: U.S. producers' output, by firm and period

Practical capacity

Capacity in short tons

Firm	2022	2023	2024
BASF	***	***	***
Covestro	***	***	***
Dow Chemical	***	***	***
Huntsman	***	***	***
All firms	1,677,247	1,715,186	1,644,550

Table continued.

Table 3.7 (Continued) : U.S. producers' output, by firm and period **Production**

Production in short tons

Firm	2022	2023	2024
BASF	***	***	***
Covestro	***	***	***
Dow Chemical	***	***	***
Huntsman	***	***	***
All firms	1,249,123	1,215,781	1,270,780

Table continued.

Table 3.7 (Continued) MDI products: U.S. producers' output, by firm and period

Capacity utilization

Capacity utilization in percent

Firm	2022	2023	2024
BASF	***	***	***
Covestro	***	***	***
Dow Chemical	***	***	***
Huntsman	***	***	***
All firms	74.5	70.9	77.3

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

Table continued.

Table 3.7 (Continued) MDI products: U.S. producers' output, by firm and period

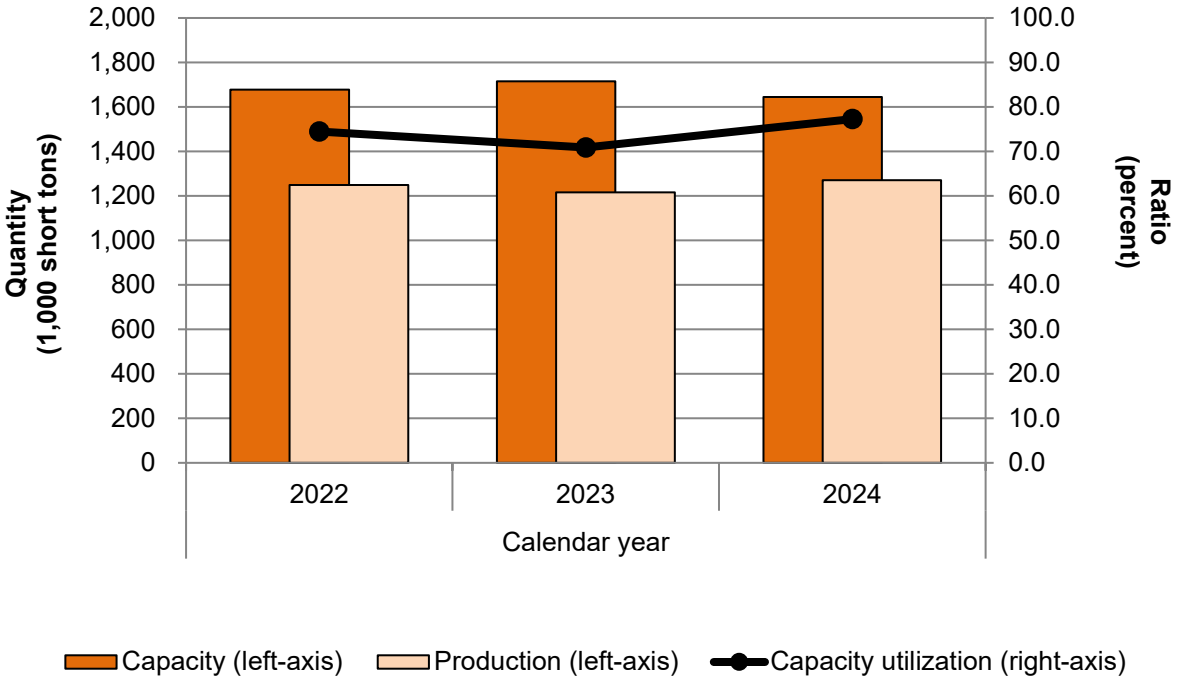
Share of production

Share in percent;

Firm	2022	2023	2024
BASF	***	***	***
Covestro	***	***	***
Dow Chemical	***	***	***
Huntsman	***	***	***
All firms	100.0	100.0	100.0

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

Figure 3.1 MDI products: U.S. producers' output, by period



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

Alternative products

*** reported production of any other products on the equipment used to produce MDI products.

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

Table 3.8 presents U.S. producers' U.S. shipments, export shipments, and total shipments. U.S. shipments[5] increased by 2.3 percent by quantity from 2022 to 2024. The unit value of U.S. shipments decreased by 27.1 percent from 2022 to 2024. Export shipments by quantity accounted for 20.2 percent in 2023 of total U.S. shipments.[6] U.S. shipments by quantity were at their highest levels in 2024, while they were at their highest levels by value in 2022.

Most of the total shipments were of U.S. shipments; in no period was the share of U.S. shipments accounted for by commercial shipments lower than *** percent.

Table 3.8 MDI products: U.S. producers' shipments, by destination and period

Quantity in short tons; value in 1,000 dollars; unit value in dollars per short ton; shares in percent.

Item	Measure	2022	2023	2024
U.S. shipments	Quantity	985,894	978,344	1,009,048
Export shipments	Quantity	242,093	247,778	239,072
Total shipments	Quantity	1,227,987	1,226,122	1,248,120
U.S. shipments	Value	3,025,403	2,430,946	2,256,738
Export shipments	Value	605,488	565,425	532,186
Total shipments	Value	3,630,891	2,996,371	2,788,924
U.S. shipments	Unit value	3,069	2,485	2,237
Export shipments	Unit value	2,501	2,282	2,226
Total shipments	Unit value	2,957	2,444	2,234
U.S. shipments	Share of quantity	80.3	79.8	80.8
Export shipments	Share of quantity	19.7	20.2	19.2
Total shipments	Share of quantity	100.0	100.0	100.0
U.S. shipments	Share of value	83.3	81.1	80.9
Export shipments	Share of value	16.7	18.9	19.1
Total shipments	Share of value	100.0	100.0	100.0

Quantity in short tons; value in 1,000 dollars; unit value in dollars per short ton; shares in percent.

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

Table 3.9 presents U.S. producers' U.S. shipments by product end use, including rigid foams, flexible foams, surface coating, adhesives/sealants, elastomers, other known uses, and

[5] *** U.S. shipments decreased by *** percent during 2022 to 2024, while *** U.S. shipments fluctuated from 2022 to 2024, but increased by *** percent from 2022 to 2024.

[6] All four firms reported export shipments (***, of which *** accounted for the largest shares of U.S. producers' exports during 2022 and 2023, while *** accounted for the largest share of export shipments to Canada during 2024.

unknown uses. Rigid foams accounted for the majority of U.S. shipments by type during 2024. *** accounted for the largest share of rigid foams shipments by type, during 2024.

Table 3.9 MDI products: U.S. producers' U.S. shipments, by product end use, 2024

Quantity in short tons; shares in percent

End Use	Quantity	Share
Rigid foams	550,091	54.5
Flexible foams	***	***
Surface coating	***	***
Adhesives/sealants	***	***
Elastomers	***	***
Other known uses	***	***
Unknown uses	***	***
For all end uses	1,009,048	100.0

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

Table 3.10 presents U.S. producers' U.S. shipments by product form (crude polymeric, monomeric, and all other product forms) during 2024. For U.S. producers during 2024, crude polymeric MDI products had the largest share of quantity and value. *** was the largest producer of shipments of crude polymeric during 2024.

Table 3.10 MDI products: U.S. producers' U.S. shipments in 2024, by product form

Quantity in short tons; value in 1,000 dollars; unit values in dollars per short ton; shares in percent

Product form	Quantity	Value	Unit value	Share of quantity	Share of value
Crude polymeric	692,078	1,582,308	2,286	68.6	70.1
Monomeric	***	***	***	***	***
All other product forms	***	***	***	***	***
All product forms	1,009,048	2,256,738	2,237	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' inventories

Table 3.11 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. U.S. producers' inventories increased by 9.7 percent from 2022 to 2024. Inventories as a ratio to U.S. production increased 0.8 percentage points from 2022 to 2024. Inventories as a ratio to U.S. shipments and total shipments both increased by approximately one percentage point from 2022 to 2024. ***'s end-of-period inventories were individually *** during 2024.

Table 3.11 MDI products: U.S. producers' inventories and their ratio to select items, by period

Quantity in short tons; ratio in percent

Item	2022	2023	2024
End-of-period inventory quantity	127,641	117,299	139,959
Inventory ratio to U.S. production	10.2	9.6	11.0
Inventory ratio to U.S. shipments	12.9	12.0	13.9
Inventory ratio to total shipments	10.4	9.6	11.2

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

U.S. producers' imports from subject sources

U.S. producers' imports of MDI products are presented in tables 3.12, 3.13, 3.14, and table 3.15 for the reason U.S. producers imported subject merchandise. Table 3.12 presents *** production and imports from China and the subject imports ratio to U.S. production. *** only imported from China during 2022. Table 3.13 presents *** production and imports from China and the subject imports ratio to U.S. production. ***. Table 3.14 presents *** production and imports of MDI products from China. *** only imported from China during 2022. Table 3.15 presents U.S. producers' reasons for importing.

Table 3.12 MDI products: * U.S. production, subject imports, and ratio of subject imports to production, by source and period**

Quantity in short tons; ratio in percent

Item	Measure	2022	2023	2024
U.S. production	Quantity	***	***	***
Imports from China	Quantity	***	***	***
Imports from China 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 3.13 MDI products: * U.S. production, subject imports, and ratio of subject imports to production, by source and period**

Quantity in short tons; ratio in percent

Item	Measure	2022	2023	2024
U.S. production	Quantity	***	***	***
Imports from China	Quantity	***	***	***
Imports from China 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 3.14 MDI products: * U.S. production, subject imports, and ratio of subject imports to production, by source and period**

Quantity in short tons; ratio in percent

Item	Measure	2022	2023	2024
U.S. production	Quantity	***	***	***
Imports from China	Quantity	***	***	***
Imports from China to U.S. production	Ratio	***	***	***

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

Table 3.15 MDI products: U.S. producers' reasons for importing

Item	Narrative response on reasons for importing
***'s reason 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. producers' purchases of imports from subject sources are presented in table 3.16. Table 3.16 presents *** purchases of imports of MDI products from China, while table 3.17 presents *** reasons for purchasing.

Table 3.16 MDI products: * purchases of imports from subject sources, by source, importer of record, and period**

Quantity in short tons; ratio in percent

Item	Measure	2022	2023	2024
***'s U.S. production	Quantity	***	***	***
***'s purchases of imports from China, imported by ***	Quantity	***	***	***
***'s U.S. imports from China	Quantity	***	***	***
Ratio 1: ***'s purchases of imports from China, imported by *** relative to ***'s imports from China	Ratio	***	***	***
Overall imports from China	Quantity	***	***	***
Ratio 2: ***'s imports from China relative to overall imports from China	Ratio	***	***	***
Ratio 3: ***'s U.S. imports from China relative to ***'s U.S. production	Ratio	***	***	***

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

Table 3.17 MDI products: * U.S. producers' reasons for purchasing**

Item	Narrative response on reasons for purchasing subject imports
***'s reason for purchasing subject imports	***

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

U.S. employment, wages, and productivity

Table 3.18 shows U.S. producers' employment-related data. While most metrics showed declines from 2022 to 2024, productivity increased and unit labor costs decreased at the same time hourly wages were fluctuating but decreasing. PRWs decreased by 17.3 percent from 2022 to 2024.[7] Total hours worked decreased by 24.1 percent from 2022 to 2024. Wages paid and hourly wages decreased by 24.1 percent and 0.7 percent, respectively from 2022 to 2024. However, productivity increased by 34.1 percent from 2022 to 2024. Unit labor costs decreased 26.0 percent from 2022 to 2024.

Table 3.18 MDI products: U.S. producers' employment related information, by period

Item	2022	2023	2024
Production and related workers (PRWs) (number)	944	785	781
Total hours worked (1,000 hours)	2,580	1,925	1,957
Hours worked per PRW (hours)	2,733	2,452	2,506
Wages paid ($1,000)	176,274	128,279	132,771
Hourly wages (dollars per hour)	$68.32	$66.64	$67.84
Productivity (short tons per 1,000 hours)	484.2	631.6	649.4
Unit labor costs (dollars per short ton)	$141.12	$105.51	$104.48

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

[7] ***.

Part 4: U.S. imports, apparent U.S. consumption, and market shares

U.S. importers

The Commission issued importer questionnaires to 10 firms believed to be importers of subject MDI products, as well as to all U.S. producers of MDI products.[1] Usable questionnaire responses were received from six companies, representing *** percent of U.S. imports from China and *** percent of imports from nonsubject countries in 2024.[2] Table 4.1 lists all responding U.S. importers of MDI products from China and other sources, their locations, and their shares of U.S. imports, in 2024.

Table 4.1 MDI products: U.S. importers, their headquarters, and share of imports within each source, 2024

Share in percent

Firm	Headquarters	China	Nonsubject sources	All import sources
BASF	Florham Park, NJ	***	***	***
Covestro	Pittsburgh, PA	***	***	***
Dow Chemical	Midland, MI	***	***	***
Huntsman	The Woodlands, TX	***	***	***
Polycoat USA	Santa Fe Springs, CA	***	***	***
Wanhua	Newtown Square, PA	***	***	***
All firms	Various	100.0	100.0	100.0

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

Note: Zeroes, null values, and undefined calculations are suppressed and shown as "—". ***

[1] The Commission issued questionnaires to those firms identified in the petition; staff research; and proprietary, Census-edited Customs' import records.

[2] Import coverage was calculated as a share of imports, as reported in questionnaire responses, divided by official import statistics of the U.S. Department of Commerce Census Bureau using HTS statistical reporting numbers 2929.10.8010 and 3909.31.0000 ("primary HTS statistical reporting numbers"). There are 9 additional HTS statistical reporting numbers that MDI products may be imported under including; 3909.50.5000, 3824.99.2900, 3506.91.5000, 3911.90.4500, 3921.13.5000, 3920.99.5000, 3824.99.2600, 3909.50.1000, and 3909.50.2000. Less than *** of the reported imports of MDI products entered under these 8 HTS statistical reporting numbers, and the *** entered under the primary HTS numbers during 2022 to 2024.

U.S. imports

Tables 4.2, 4.3, figures 4.1 and 4.2 present data for U.S. imports of MDI products from China and all other sources. U.S. imports from China by quantity fluctuated year to year, decreasing from 2022 to 2023 then increasing from 2023 to 2024, ending *** percent higher, compared to 2022 levels. U.S. imports from China by value fluctuated year to year, decreasing from 2022 to 2023 then increasing from 2023 to 2024, ending *** percent lower, compared to 2022 levels. The unit value of imports from China decreased in every year from 2022 to 2024, ending *** percent lower compared to 2022 levels.

U.S. imports from nonsubject sources by quantity fluctuated year to year, decreasing from 2022 to 2023 then increasing from 2023 to 2024, ending *** percent lower.[3] U.S. imports from nonsubject sources by value fluctuated year to year, decreasing from 2022 to 2023 then increasing from 2023 to 2024, ending *** percent lower than 2022 levels. The unit value of imports from nonsubject sources decreased in each year, ending *** percent lower in 2024 than in 2022.[4]

[3] ***.

[4] U.S. importer *** completed a U.S. importer questionnaire. In its questionnaire response, *** indicated that it had imported *** short tons of MDI products during 2024 from ***. These imports of MDI products were not included in the data set due ***. DL Trading further indicated that "***." Additionally, ***. *** U.S. importer questionnaire response, section 2.9.

Table 4.2 MDI products: U.S. imports by source and period

Quantity in short tons; value in 1,000 dollars; unit value in dollars per short ton; share and ratio in percent; ratio represents the ratio to U.S. production

Source	Measure	2022	2023	2024
China	Quantity	***	***	***
Nonsubject sources	Quantity	***	***	***
All import sources	Quantity	***	***	***
China	Value	***	***	***
Nonsubject sources	Value	***	***	***
All import sources	Value	***	***	***
China	Unit value	***	***	***
Nonsubject sources	Unit value	***	***	***
All import sources	Unit value	***	***	***
China	Share of quantity	***	***	***
Nonsubject sources	Share of quantity	***	***	***
All import sources	Share of quantity	100.0	100.0	100.0
China	Share of value	***	***	***
Nonsubject sources	Share of value	***	***	***
All import sources	Share of value	100.0	100.0	100.0
China	Ratio	***	***	***
Nonsubject sources	Ratio	***	***	***
All import sources	Ratio	***	***	***

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

Figure 4.1 MDI products: U.S. import quantities and average unit values, by source and period

* * * * * * *

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

Figure 4.2 MDI products: U.S. import quantities and average unit values, by period

* * * * * * *

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

Table 4.3 MDI products: Changes in U.S. imports, by source and period

Changes (Δ) in percent (%) or percentage point (ppt)

Source	Measure	2022 to 2024	2022 to 2023	2023 to 2024
China	%Δ Quantity	▲***	▼***	▲***
Nonsubject sources	%Δ Quantity	▼***	▼***	▲***
All import sources	%Δ Quantity	▼(1.2)	▼(36.5)	▲55.6
China	%Δ Value	▼***	▼***	▲***
Nonsubject sources	%Δ Value	▼***	▼***	▲***
All import sources	%Δ Value	▼(32.7)	▼(55.9)	▲52.7
China	%Δ Unit value	▼***	▼***	▼***
Nonsubject sources	%Δ Unit value	▼***	▼***	▼***
All import sources	%Δ Unit value	▼(31.9)	▼(30.6)	▼(1.9)
China	ppt Δ Quantity	▲***	▲***	▼***
Nonsubject sources	ppt Δ Quantity	▼***	▼***	▲***
All import sources	ppt Δ Quantity	—	—	—
China	ppt Δ Value	▲***	▲***	▼***
Nonsubject sources	ppt Δ Value	▼***	▼***	▲***
All import sources	ppt Δ Value	—	—	—
China	ppt Δ Ratio	▲***	▲***	▲***
Nonsubject sources	ppt Δ Ratio	▼***	▼***	▲***
All import sources	ppt Δ Ratio	▼(0.9)	▼(11.0)	▲10.1

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

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.

Table 4.4 presents data for U.S. imports of MDI products from nonsubject sources and all other sources.

Table 4.4 MDI products: U.S. nonsubject imports by source and period

Quantity in short tons; value in 1,000 dollars; unit value in dollars per short ton

Source	Measure	2022	2023	2024
Belgium	Quantity	***	***	***
Germany	Quantity	***	***	***
Spain	Quantity	***	***	***
South Korea	Quantity	***	***	***
All other sources	Quantity	***	***	***
All nonsubject sources	Quantity	***	***	***
Belgium	Value	***	***	***
Germany	Value	***	***	***
Spain	Value	***	***	***
South Korea	Value	***	***	***
All other sources	Value	***	***	***
All nonsubject sources	Value	***	***	***
Belgium	Unit value	***	***	***
Germany	Unit value	***	***	***
Spain	Unit value	***	***	***
South Korea	Unit value	***	***	***
All other sources	Unit value	***	***	***
All nonsubject sources	Unit value	***	***	***

Table continued.

Table 4.4 MDI products (continued): U.S. nonsubject imports by source and period

Share and ratio in percent; ratio represents the ratio to U.S. production

Source	Measure	2022	2023	2024
Belgium	Share of quantity	***	***	***
Germany	Share of quantity	***	***	***
Spain	Share of quantity	***	***	***
South Korea	Share of quantity	***	***	***
All other sources	Share of quantity	***	***	***
All nonsubject sources	Share of quantity	***	***	***
Belgium	Share of value	***	***	***
Germany	Share of value	***	***	***
Spain	Share of value	***	***	***
South Korea	Share of value	***	***	***
All other sources	Share of value	***	***	***
All nonsubject sources	Share of value	***	***	***

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

Note: Zeroes, null values, and undefined calculations are suppressed and shown as "—". Share of quantity and share of value are calculated based upon all import sources in Table 4.2.

Figure 4.3 MDI products: U.S. subject and nonsubject imports average unit values, by source and period

* * * * * * *

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

Table 4.5 presents data for U.S. producers' U.S. imports, by source and period.

Table 4.5 MDI products: U.S. producers' and their affiliates' U.S. imports, by source and period

Quantity in short tons; share and ratio in percent

Source	Measure	2022	2023	2024
China	Quantity	***	***	***
Nonsubject sources	Quantity	***	***	***
All import sources	Quantity	***	***	***
China	Share	***	***	***
Nonsubject sources	Share	***	***	***
All import sources	Share	100.0	100.0	100.0
China	Ratio	***	***	***
Nonsubject sources	Ratio	***	***	***
All import sources	Ratio	***	***	***

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

Note: Zeroes, null values, and undefined calculations are suppressed and shown as "—". Ratio is to imports by source as presented in Table 4.2.

Table 4.6 presents U.S. importers' U.S. shipments of imports by product end use from China. In 2024, rigid foams comprised *** percent, flexible foams comprised *** percent, other known uses comprised *** percent and unknown uses comprised *** percent of U.S. shipments from China, by quantity.

Table 4.6 MDI products: U.S. importers' U.S. shipments of imports from China in 2024, by product end use

Quantity in short tons; shares in percent

End Use	Quantity	Share
Rigid foams	***	***
Flexible foams	***	***
Surface coating	***	***
Adhesives/sealants	***	***
Elastomers	***	***
Other known uses	***	***
Unknown uses	***	***
For all end uses	***	100.0

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

Note: Zeroes, null values, and undefined calculations are suppressed and shown as "—".

Table 4.7 presents U.S. importers' U.S. imports from China by product form and source. In 2024, all other product forms comprised *** percent, and monomeric comprised *** percent of U.S. imports from China, by quantity. During the same year, all other product forms comprised *** percent, monomeric comprised *** percent of U.S. imports from China, by value. *** accounted for *** of the all-other product forms of MDI products, which includes ***.

Table 4.7 MDI products: U.S. importers' U.S. shipments from China in 2024, by product form

Quantity in short tons; value 1,000 dollars; unit values in dollars per short tons; shares in percent

Product form	Quantity	Value	Unit value	Share of quantity	Share of value
Crude polymeric	***	***	***	***	***
Monomeric	***	***	***	***	***
All other product forms	***	***	***	***	***
All product forms	***	***	***	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 4.8 presents U.S. importers' U.S. shipments by product end use from nonsubject sources. In 2024, rigid foams comprised *** percent, adhesives/sealants comprised ***

percent, other known uses comprised *** percent and unknown uses comprised *** percent of U.S. shipments from nonsubject sources, by quantity.

Table 4.8 MDI products: U.S. importers' U.S. shipments of imports from nonsubject sources in 2024, by product end use

Quantity in short tons; shares in percent

End Use	Quantity	Share
Rigid foams	***	***
Flexible foams	***	***
Surface coating	***	***
Adhesives/sealants	***	***
Elastomers	***	***
Other known uses	***	***
Unknown uses	***	***
For all end uses	***	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 4.9 presents U.S. importers' U.S. imports from nonsubject sources, by product form. In 2024, all other product forms comprised *** percent, monomeric comprised *** percent of U.S. shipments from China, by quantity. During the same year, all other product forms comprised *** percent, monomeric comprised *** percent of U.S. shipments from China, by value.

Table 4.9 MDI products: U.S. importers' imports from nonsubject sources in 2024, by product form

Quantity in short tons; value 1,000 dollars; unit values in dollars per short tons; shares in percent

Product form	Quantity	Value	Unit value	Share of quantity	Share of value
Crude polymeric	***	***	***	***	***
Monomeric	***	***	***	***	***
All other product forms	***	***	***	***	***
All product forms	***	***	***	100.0	100.0

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

Note: Zeroes, null values, and undefined calculations are suppressed and shown as "—".

Negligibility

The statute requires that an investigation be terminated without an injury determination if imports of the subject merchandise are found to be negligible.[5] 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.[6] Imports from China accounted for *** percent of total imports of MDI products by quantity from February 2024 through January 2025.

Table 4.10 MDI products: U.S. imports in the twelve-month period preceding the filing of the petition, February 2024 through January 2025

Quantity in short tons; share in percent

Source of imports	Quantity	Share of quantity
China	***	***
Nonsubject sources	***	***
All import sources	***	100.0

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

Note: Zeroes, null values, and undefined calculations are suppressed and shown as "—".

[5] 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)).

[6] Section 771 (24) of the Act (19 U.S.C § 1677(24)).

Apparent U.S. consumption and market shares

Quantity

Table 4.11 and figure 4.4 present data on apparent U.S. consumption and U.S. market shares by quantity for MDI products. Apparent U.S. consumption quantity fluctuated year to year, decreasing from 2022 to 2023 then increasing from 2023 to 2024, ending *** percent lower. The volume of shipments from U.S. producers rose by 2.3 percent from 2022 to 2024, while the volume of subject shipments from China rose by *** percent.

During 2022 to 2024, U.S. producers' market share increased by *** percentage points,while the market share of U.S. shipments of imports from China increased by *** percentage points from 2022 to 2024. The market share of U.S. shipments of imports from nonsubject sources decreased by *** percentage points from 2022 to 2024.

Table 4.11 MDI products: Apparent U.S. consumption and market shares based on quantity, by source and period

Quantity in short tons; shares in percent

Source	Measure	2022	2023	2024
U.S. producers	Quantity	985,894	978,344	1,009,048
China	Quantity	***	***	***
Nonsubject sources	Quantity	***	***	***
All import sources	Quantity	***	***	***
All sources	Quantity	***	***	***
U.S. producers	Share	***	***	***
China	Share	***	***	***
Nonsubject sources	Share	***	***	***
All import sources	Share	***	***	***
All sources	Share	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 4.4 MDI products: Apparent U.S. consumption based on quantity, by source and period

* * * * * * *

Source: Compiled from data submitted in response to Commission questionnaires

Value

Table 4.12 and figure 4.5 present data on apparent U.S. consumption and U.S. market shares by value for MDI products. Apparent U.S. consumption, by value, decreased year to year between 2022 and 2024, ending *** percent lower. The value of shipments by U.S. producers decreased by 25.4 percent, while the value of shipments from China decreased by *** percent.

During 2022 to 2024, U.S. producers' market share increased by *** percentage points. The market share of U.S. shipments of imports from China decreased by *** percentage points from 2022 to 2024. The market share of U.S. shipments of imports from nonsubject sources decreased by *** percentage points from 2022 to 2024.

Table 4.12 MDI products: Apparent U.S. consumption and market shares based on value, by source and period

Value in 1,000 dollars; shares in percent

Source	Measure	2022	2023	2024
U.S. producers	Value	3,025,403	2,430,946	2,256,738
China	Value	***	***	***
Nonsubject sources	Value	***	***	***
All import sources	Value	***	***	***
All sources	Value	***	***	***
U.S. producers	Share	***	***	***
China	Share	***	***	***
Nonsubject sources	Share	***	***	***
All import sources	Share	***	***	***
All sources	Share	100.0	100.0	100.0

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

Note: Zeroes, null values, and undefined calculations are suppressed and shown as "—".

Figure 4.5 MDI products: Apparent U.S. consumption based on value, by source and period

* * * * * * *

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

Part 5: Pricing data

Factors affecting prices

Raw material costs

The raw materials used to produce MDI can vary somewhat among producers because different producers may use different energy sources or perform different initial production stages. U.S. producers indicated that raw material costs are generally a large share of the cost of producing MDI. Raw materials as a share of costs of goods sold decreased from 72.0 percent in 2022 to 68.6 percent in 2024.

U.S. producers and importers were asked how the costs of raw materials used to produce MDI had changed since January 1, 2022. *** [1] described raw materials costs as fluctuating down. *** stated that the principal raw material for MDI production is benzene. It added that benzene costs averaged 395 cents-per-gallon ("cpg") in 2022, 349 cpg in 2023, and 362 cpg in 2024. Similarly, *** stated that the main feedstock for MDI production is benzene. It also described U.S. benzene prices as high in 2022 due to the COVID-19 pandemic and the Russia-Ukraine war. It added that such costs returned to historic levels in 2023 and 2024. *** indicated that benzene and aniline are the most important raw material costs. *** stated that raw material costs had steadily increased due to inflation and limited supply options.

In their postconference brief, petitioners described producing MDI from a variety of different chemicals (***), many of which (such as ***) have costs that follow trends in natural gas prices.[2] Similarly, *** described U.S. MDI producers as using natural gas in their production both as a raw material and as an energy source, and added that U.S. natural gas prices had been extremely high in 2022 due to the Russia-Ukraine war, before settling to “normal” levels in 2023 and 2024.

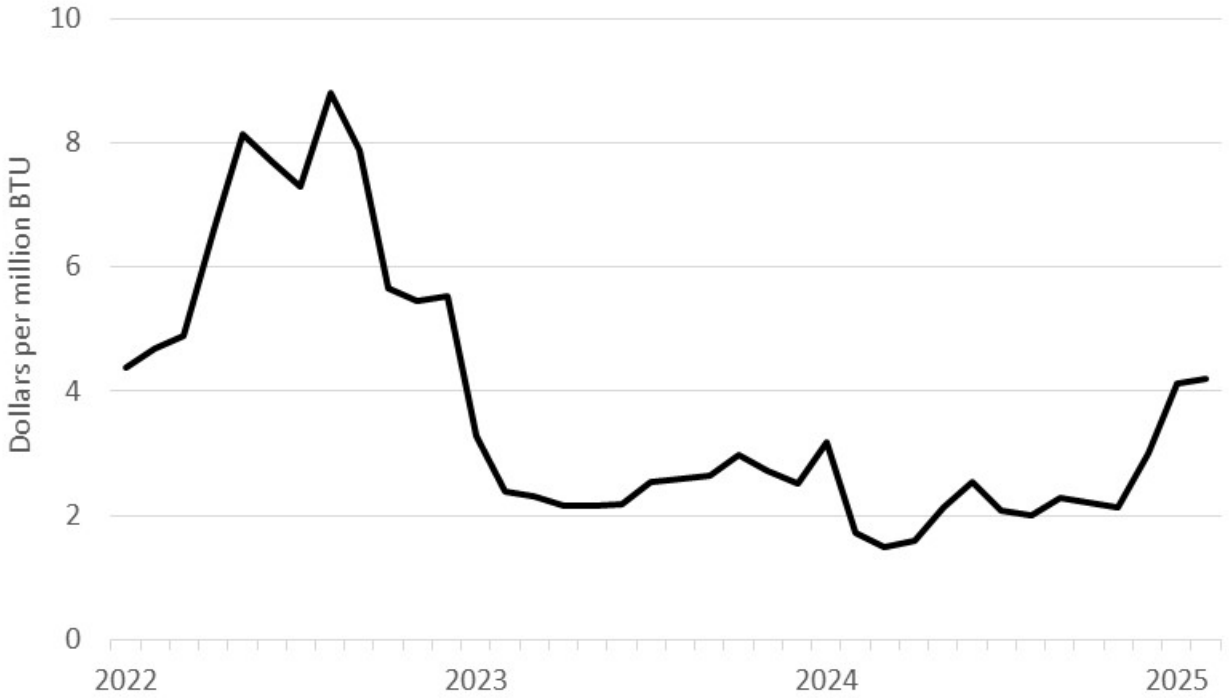
Because of the importance of natural gas to U.S. MDI production, U.S. MDI contracts are sometimes indexed to natural gas prices (discussed further below). As shown in table 5.1 and figure 5.1, natural gas prices increased by 101.1 percent between January 2022 and August

[1] All four U.S. producers also submitted importers’ questionnaires and are referred to in this chapter as “U.S. producer/importers” unless otherwise indicated. Two additional firms, Wanhua and Polycoat USA, submitted only importers’ questionnaires.

[2] Petitioners’ postconference brief, exh. 1, p. 29.

2022. After that point prices decreased 83.1 percent until March 2024, and then increased 102.0 percent by December 2024. Overall, natural gas prices decreased by 31.3 percent between January 2022 and December 2024.

Figure 5.1 Raw materials: Natural gas spot price, monthly, January 2022 to February 2025



Source: U.S. Energy Information Administration, Henry Hub Natural Gas Spot Price ***, retrieved from FRED, Federal Reserve Bank of St. Louis; https://fred.stlouisfed.org/series/MHHNGSP, March 12, 2025.

Table 5.1 Raw materials: Natural gas spot price, monthly, January 2022 to February 2025

Price in dollars per million BTU.

Year	Month	Price
2022	January	4.38
2022	February	4.69
2022	March	4.90
2022	April	6.60
2022	May	8.14
2022	June	7.70
2022	July	7.28
2022	August	8.81
2022	September	7.88
2022	October	5.66
2022	November	5.45
2022	December	5.53
2023	January	3.27
2023	February	2.38
2023	March	2.31
2023	April	2.16
2023	May	2.15
2023	June	2.18
2023	July	2.55
2023	August	2.58
2023	September	2.64
2023	October	2.98
2023	November	2.71
2023	December	2.52
2024	January	3.18
2024	February	1.72
2024	March	1.49
2024	April	1.60
2024	May	2.12
2024	June	2.54
2024	July	2.07
2024	August	1.99
2024	September	2.28
2024	October	2.20
2024	November	2.12
2024	December	3.01
2025	January	4.13
2025	February	4.19

Source: U.S. Energy Information Administration, Henry Hub Natural Gas Spot Price ***, retrieved from FRED, Federal Reserve Bank of St. Louis; https://fred.stlouisfed.org/series/MHHNGSP, March 12, 2025.

Transportation costs to the U.S. market

Transportation costs for MDI products shipped from China to the United States averaged 17.3 percent during 2024. These estimates were derived from official import data and represent the transportation and other charges on imports.[3]

U.S. inland transportation costs

*** responding U.S. producers/importers, *** reported that they typically arrange transportation to their customers. Importers *** indicated that they typically shipped from ***. U.S. producers BASF and Dow Chemical indicated that they have MDI storage locations in different parts of the United States to ensure that they can continue to supply MDI even if their Gulf Coast production facilities are unable to supply due to weather-related events.[4]

U.S. producers reported that their U.S. inland transportation costs ranged from 7.0 to 10.0 percent while importers reported such costs were 6.0 to 16.0 percent. ***.

Pricing practices

Pricing methods

U.S. producers and importers reported setting prices using multiple methods, including transaction-by-transaction negotiations, contracts, and price lists (table 5.2). *** also listed formula pricing based on raw material costs or price indices.

[3] The estimated transportation costs were obtained by subtracting the customs value from the c.i.f. value of the imports for 2024 and then dividing by the customs value based on the HTS statistical reporting numbers 2929.10.8010 and 3909.31.0000, accessed March 7, 2024

[4] Conference transcript, p. 45 (Todd and Nespatti).

Table 5.2 MDI products: Count of U.S. producers' and importers' reported price setting methods

Count in number of firms reporting

Method	U.S. producers	Importers
Transaction-by-transaction	3	5
Contract	4	6
Set price list	3	4
Other	2	3
Responding firms	4	6

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 *** their MDI products under long-term contracts, with most of the rest sold under annual contracts or spot sales. Importers reported selling their MDI products under short-term, annual, and long-term contracts, with the plurality sold *** (table 5.3). U.S. producers *** described typically setting prices through ***.[5] Wanhua described *** methods when discussing individual pricing products (below).

Table 5.3 MDI products: U.S. producers' and importers' shares of commercial U.S. shipments by type of sale, 2024

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.

The only firms offering short term contracts were ***. *** short-term contracts are for *** days, *** price renegotiation, fix ***, and *** indexed to raw material costs. *** short-term contracts are for *** days, *** price renegotiation, fix ***, and *** indexed to raw material costs.

, annual contracts allow price renegotiation, fix quantity (***) or price and quantity (

[5] ***.

***), and can be indexed to raw material costs (***) or not (***). *** annual contracts *** price renegotiation, fix ***, and *** indexed to raw material costs.

*** reported that their long-term contracts were for two (***) or three (***) years. *** indicated that these contracts *** price renegotiation and *** indexed to raw material costs. Additionally, these contracts fix price, quantity, or price and quantity. *** long-term contracts have a duration of ***, *** price renegotiation, fix ***, and *** indexed to raw material costs.

Wanhua elaborated that for its contracts that are linked to raw material costs, it negotiates a variety of index models, including indexing to raw materials such as benzene and natural gas, or ***. For contracts indexed to raw materials, Wanhua stated that a formula will typically consist of a coefficient multiplied by a natural gas index, plus a coefficient multiplied by a benzene index, plus a constant that is negotiated with the purchaser. Wanhua added that when it indexes contracts to natural gas, it is not doing so to reflect its own production processes in China, as it does not use natural gas to produce MDI.[6] *** described their contracts as indexed to a variety of raw material costs, including natural gas, benzene, and/or chlorine.

Sales terms and discounts

U.S. producers and importers typically quote prices on a delivered basis. ***. *** offered quantity discounts, *** of these firms offered annual total volume discounts, and three offered other discounts, such as bulk discounts or rebates based on payment terms. *** offered annual volume discounts and some early payment discounts. *** had no discount policy.

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 MDI products shipped to unrelated U.S. customers during January 2022 to December 2024.

[6] Postconference brief of Wanhua, attachment 1, pp. 15-16, and conference transcript, pp. 179, 196-200 (Sturgeon and Porter). Confidential portions are from ***.

Product 1.-- Polymeric MDI, 150-250 centipoise viscosity at 25o C, 30.2-32.5 Isocyanate content in weight percentage, basic commodity grade (e.g., PM-200, PM-200S, Papi 27, Isobind 1088, Lupranate M20, Rubinate 1840, Rubinate M), sold in bulk (e.g., trucks, rail car, ISO tanks, isotainer).

Product 2.-- Polymeric MDI, 150-250 centipoise viscosity at 25o C, 30.2-32.5 Isocyanate content in weight percentage, basic commodity grade (e.g., PM-200, PM-200S, Papi 27, Isobind 1088, Lupranate M20, Rubinate 1840, Rubinate M), sold in packages (e.g., totes, drums).

Product 3.-- Polymeric MDI, 585-900 centipoise viscosity at 25o C, 30.3-32.0 Isocyanate content in weight percentage, basic commodity grade (e.g., PM-700, Papi 580N, Lupranate M70, Rubinate 1850), sold in bulk (e.g., trucks, rail car, ISO tanks, isotainer).

Petitioner described recommending these products as differentiated based on "(1) viscosity, (2) isocyanate content, (3) absence of any characteristics that would prevent a specific product from being considered a basic commodity grade, and (4) packaging."[7] Products 1 and 2 differ only in their packaging, while product 3 has a different chemistry than the other two.

Petitioners and Wanhua disagreed over whether purchasers could switch among pricing products. Petitioners described purchasers as being able to switch among products as long as they took into account the somewhat different chemistry of product 3 compared to products 1 and 2.[8] Wanhua, however, described products 1 and 3 as "completely different."[9]

At the conference and in its postconference brief, Wanhua described product 1 as most typically used as a binder in the production of composite wood products such as oriented strandboard ("OSB"). It described OSB demand as non-seasonal and growing, elaborating that OSB was "eating plywood's lunch" as a "sustainable" way of producing panels for residential (including also small multi-level residential) construction. Wanhua continued that product 1 is typically sold in bulk, shipped by rail or bulk truck, and priced with feedstock (i.e., raw material) based formulas for contracts of one to three years.[10]

Regarding product 2, Wanhua described this product as chemically the same as product 1, but "almost exclusively" dedicated to the spray foam end-use segment. It stated that this product is sold in drums, shipped in regular dry vans, stored in different locations than product

[7] Petitioners' postconference brief, ex. 1, pp. 26-27.

[8] Petitioners' postconference brief, ex. 1, p. 26. Petitioners also described products 1 and 2 as different only in packaging, not in application. Conference transcript, p. 86 (Nespatti and Medrado).

[9] Conference transcript, pp. 135-136 (Sturgeon).

[10] Postconference brief of Wanhua, pp. 11-12, and conference transcript, pp. 133-34 (Sturgeon).

1, and typically priced using monthly contracts. It added that the end uses for this product are seasonal due to less construction in the north during winter, and that the spray foam produced from product 2 competes with fiberglass as a substitute.[11]

Regarding product 3, Wanhua stated that this product is typically used in producing boardstock or insulation panels, demand segments with seasonal increases in summer. It continued that application of boardstock competes with expanded polystyrene panels as a substitute. Wanhua also stated that pricing for product 3 is typically on annual or multi-year contracts, but with meet-or-release clauses that allow quarterly adjustments (as opposed to the raw-material-based formulas typical for product 1).[12]

Four U.S. producers and two[13] importers provided usable pricing data for sales of the requested products, although not all firms reported pricing for all products for all quarters.[14] Pricing data reported by these firms accounted for approximately *** percent of U.S. producers' U.S. shipments of MDI products, and *** percent of U.S. shipments of subject imports from China in 2024. Price data for products 1 to 3 are presented in tables 5.4 to 5.6 and figures 5.2 to 5.4.

[11] Postconference brief of Wanhua, p. 12, and conference transcript, pp. 136-38 (Sturgeon).

[12] Postconference brief of Wanhua, p. 12, and conference transcript, pp. 135-136 (Sturgeon).

[13] ***.

[14] 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.

Table 5.4 MDI products: 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 short tons, quantity in short tons, margin in percent.

Period	U.S. price	U.S. quantity	China price	China quantity	China margin
2022 Q1	***	***	***	***	***
2022 Q2	***	***	***	***	***
2022 Q3	***	***	***	***	***
2022 Q4	***	***	***	***	***
2023 Q1	***	***	***	***	***
2023 Q2	***	***	***	***	***
2023 Q3	***	***	***	***	***
2023 Q4	***	***	***	***	***
2024 Q1	***	***	***	***	***
2024 Q2	***	***	***	***	***
2024 Q3	***	***	***	***	***
2024 Q4	***	***	***	***	***

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

Note: Product 1: Polymeric MDI, 150-250 centipoise viscosity at 25o C, 30.2-32.5 Isocyanate content in weight percentage, basic commodity grade (e.g., PM-200, PM-200S, Papi 27, Isobind 1088, Lupranate M20, Rubinate 1840, Rubinate M), sold in bulk (e.g., trucks, rail car, ISO tanks, isotainer).

Figure 5.2 MDI products: 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: Polymeric MDI, 150-250 centipoise viscosity at 25o C, 30.2-32.5 Isocyanate content in weight percentage, basic commodity grade (e.g., PM-200, PM-200S, Papi 27, Isobind 1088, Lupranate M20, Rubinate 1840, Rubinate M), sold in bulk (e.g., trucks, rail car, ISO tanks, isotainer).

Table 5.5 MDI products: 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 short tons, quantity in short tons, margin in percent.

Period	U.S. price	U.S. quantity	China price	China quantity	China margin
2022 Q1	***	***	***	***	***
2022 Q2	***	***	***	***	***
2022 Q3	***	***	***	***	***
2022 Q4	***	***	***	***	***
2023 Q1	***	***	***	***	***
2023 Q2	***	***	***	***	***
2023 Q3	***	***	***	***	***
2023 Q4	***	***	***	***	***
2024 Q1	***	***	***	***	***
2024 Q2	***	***	***	***	***
2024 Q3	***	***	***	***	***
2024 Q4	***	***	***	***	***

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

Note: Product 2: Polymeric MDI, 150-250 centipoise viscosity at 25o C, 30.2-32.5 Isocyanate content in weight percentage, basic commodity grade (e.g., PM-200, PM-200S, Papi 27, Isobind 1088, Lupranate M20, Rubinate 1840, Rubinate M), sold in packages (e.g., totes, drums).

Figure 5.3 MDI products: 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: Polymeric MDI, 150-250 centipoise viscosity at 25o C, 30.2-32.5 Isocyanate content in weight percentage, basic commodity grade (e.g., PM-200, PM-200S, Papi 27, Isobind 1088, Lupranate M20, Rubinate 1840, Rubinate M), sold in packages (e.g., totes, drums).

Table 5.6 MDI products: 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 short tons, quantity in short tons, margin in percent.

Period	U.S. price	U.S. quantity	China price	China quantity	China margin
2022 Q1	***	***	***	***	***
2022 Q2	***	***	***	***	***
2022 Q3	***	***	***	***	***
2022 Q4	***	***	***	***	***
2023 Q1	***	***	***	***	***
2023 Q2	***	***	***	***	***
2023 Q3	***	***	***	***	***
2023 Q4	***	***	***	***	***
2024 Q1	***	***	***	***	***
2024 Q2	***	***	***	***	***
2024 Q3	***	***	***	***	***
2024 Q4	***	***	***	***	***

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

Note: Product 3: Polymeric MDI, 585-900 centipoise viscosity at 25o C, 30.3-32.0 Isocyanate content in weight percentage, basic commodity grade (e.g., PM-700, Papi 580N, Lupranate M70, Rubinate 1850), sold in bulk (e.g., trucks, rail car, ISO tanks, isotainer).

Figure 5.4 MDI products: 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: Polymeric MDI, 585-900 centipoise viscosity at 25o C, 30.3-32.0 Isocyanate content in weight percentage, basic commodity grade (e.g., PM-700, Papi 580N, Lupranate M70, Rubinate 1850), sold in bulk (e.g., trucks, rail car, ISO tanks, isotainer).

Price trends

In general, prices decreased during January 2022 to December 2024. Table 5.7 summarizes the price trends, by country and by product. As shown in the table, domestic price decreases ranged from *** to *** percent during January 2022 to December 2024 while import price decreases ranged from *** to *** percent.

Table 5.7 MDI products: Summary of price data, by product and source, January 2022 to December 2024

Quantity in short tons, price in dollars per short tons

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	12	***	***	***	***	***	***
Product 1	China	12	***	***	***	***	***	***
Product 2	United States	12	***	***	***	***	***	***
Product 2	China	12	***	***	***	***	***	***
Product 3	United States	12	***	***	***	***	***	***
Product 3	China	12	***	***	***	***	***	***

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

Note: Percent change column is percentage change from the first quarter 2022 to the last quarter in 2024.

Price comparisons

As shown in tables 5.8 and 5.9, prices for product imported from China were below those for U.S.-produced product in 24 of 36 instances (*** short tons); margins of underselling ranged from *** to *** percent. In the remaining 12 instances (*** short tons), prices for product from China were between *** and *** percent above prices for the domestic product.

Table 5.8 MDI products: Instances and quantities of underselling and overselling and the ranges and average of margins, by product

Quantity in short tons; margin in percent

Year	Type	Number of quarters	Quantity	Average margin	Min margin	Max margin
Product 1	Underselling	10	***	***	***	***
Product 2	Underselling	11	***	***	***	***
Product 3	Underselling	3	***	***	***	***
All products	Underselling	24	***	***	***	***
Product 1	Overselling	2	***	***	***	***
Product 2	Overselling	1	***	***	***	***
Product 3	Overselling	9	***	***	***	***
All products	Overselling	12	***	***	***	***

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 products.

Table 5.9 MDI products: Instances and quantities of underselling and overselling and the range and average of margins, by year

Quantity in short tons; margin in percent

Year	Type	Number of quarters	Quantity	Average margin	Min margin	Max margin
2022	Underselling	8	***	***	***	***
2023	Underselling	8	***	***	***	***
2024	Underselling	8	***	***	***	***
All years	Underselling	24	***	***	***	***
2022	Overselling	4	***	***	***	***
2023	Overselling	4	***	***	***	***
2024	Overselling	4	***	***	***	***
All years	Overselling	12	***	***	***	***

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 products.

Additional price information

In its postconference brief, Wanhua supplied MDI pricing data from ***. These data showed the prices for monomeric and polymeric MDI rising ***. Prices then decreased ***, before increasing ***. Overall, from January 2022

to December 2024, prices ***.

In its importers' questionnaire, ***.

At the conference, Wanhua described MDI prices as extremely high in early 2022 due to a combination of high demand for construction materials due to lockdowns associated with the COVID-19 pandemic and due to weather-related production outages at several domestic producers. Wanhua continued that MDI prices peaked in the third quarter of 2022 and then fell to lower levels in 2023. However, Wanhua stated that in 2024, more domestic production outages (for various reasons, see Parts 2 and 3) resulted in higher prices. It added that it raised prices three times in 2024 and tried (but failed) to do so a fourth time.[15]

Several purchasers offered additional information on pricing not included above nor in the "Lost sales" discussion below. *** stated that, in 2023 and 2024, the price of Chinese MDI was lower than domestic prices in only 3 of 24 months. *** stated that "Wanhua has already not been competitive over the last 12-18 months mainly due to transportation costs. {Its} offer prices to us have been higher than {those of} domestic producers."

Lost sales and lost revenue

Of the four responding U.S. producers, *** reported that they had to reduce prices, *** reported that they had to roll back announced price increases, and *** firms reported that they had lost sales. Additionally, in its postconference brief, Wanhua supplied *** instances in which it had lost sales to U.S. producers for sales in the U.S. market.[16]

The Commission requested that U.S. producers of MDI products report purchasers with which they experienced instances of lost sales or revenue due to competition from imports of MDI products from China during January 2022 to December 2024. Two U.S. producers (***) submitted lost sales and lost revenue allegations. These two responding U.S. producers identified 22 firms with which they lost sales or revenue (six consisting of lost sales

[15] Conference transcript, pp. 119-122 (Sturgeon).

[16] Postconference brief of Wanhua, exhibit 6.

allegations, nine consisting of lost revenue allegations, and seven consisting of both types of allegations).

Staff contacted 22 purchasers and received responses from 10 purchasers. Responding purchasers reported purchasing *** short tons of MDI products during January 2022 to December 2024 (table 5.10).[17] During 2024, responding purchasers obtained 76.5 percent of their purchases and imports from U.S. producers, 22.6 percent from China, and 0.9 percent from all other countries.

Table 5.10 MDI products: Purchasers' reported purchases and imports, by firm and source

Quantity in short tons, share in percent

Purchaser	Domestic quantity	Subject quantity	All other quantity	Change in domestic share	Change in subject country share
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
All firms	***	***	***	***	***

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

Note: All other includes all other sources and unknown sources. Change is the percentage point change in the share of the firm's total purchases of domestic and/or subject country imports between first and last years.

Note: ***.

Purchasers were asked about changes in their purchasing patterns from different sources since 2022. As shown in table 5.11, of the responding purchasers, eight reported increasing their share of purchases from domestic producers and two reported decreasing their

[17] As noted in the table, one purchaser, ***.

shares of such purchases.[18] Explanations for increasing purchases of domestic product included increased demand (***), change in product mix requiring increased MDI (***), increased supply/availability (***),[19] improved availability and price (***), and price (***). *** explained decreasing purchases of domestic product as due to *** indicating that a *** supplier was needed. *** stated that shortfalls in U.S. supply (due to hurricanes, raw material curtailments, and logistics disruptions) required it to diversify its supply base by moving purchase volume to Wanhua. It added that Wanhua's prices were higher than domestic prices. *** stated that it decreased purchases from domestic suppliers in 2022 due to supply chain disruptions in 2021 and 2022. However, it stated that as domestic MDI became more available in 2023, it shifted back toward purchasing domestic MDI.

Regarding purchases of MDI from China, seven purchasers reported decreasing their share of purchases from China, and three reported increasing it. Purchaser responses were roughly an inverse of their responses for the changes in trends from domestic sources, with most purchasers that reported an increase in their share of domestic purchases reporting a decrease in their share of purchases of Chinese product, and vice versa.[20] *** stated that, while it purchases *** percent of its MDI volume domestically, it needed to diversify its supply chains to mitigate risk of U.S. Gulf Coast production shortfalls. It continued that its ***, but added Wanhua as a reliable supplier, ***.[21] *** stated that *** pricing allowed Chinese product to earn a

[18] Of the ten responding purchasers, all indicated that they knew the source of all or nearly all the MDI products they purchased.

[19] In additional comments, ***.

[20] The only exception was ***.

[21] In additional comments from elsewhere in its lost sales lost revenue survey response, ***.

minority share of overall volume. *** indicated that they had reduced their shares of purchases of Chinese MDI due to rising prices. Other firms repeated their comments about rising domestic availability or changes in price. *** stated that during 2021 and 2022, its Chinese supplier was the only supplier able to meet *** demand. It stated that it bought MDI from China, but that such MDI was higher-priced than domestic product. It added that as domestic availability improved in 2023, it shifted some purchases back to domestic, and obtained cost savings as a result.

Two purchasers reported increasing their share of purchases from nonsubject countries, and one reported decreasing that share. *** reported increasing its share of such purchases due to increased availability, and NCFI reported doing so because of a new supplier. *** indicated that it reduced its share of purchases from nonsubject countries due to price and supply reasons.

Table 5.11 MDI products: Count of purchasers' responses regarding changes in purchase patterns

Count in number of firms reporting a change in share

Source of purchases	Steadily Increase	Fluctuate Up	No change	Fluctuate Down	Steadily Decrease	Did not purchase
United States	5	3	0	1	1	0
China	2	1	0	4	3	0
All other sources	1	1	1	0	1	4
Sources unknown	0	0	0	0	0	7

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

As shown in table 5.12, of the ten responding purchasers, eight reported that, since 2022, they had purchased imported MDI products from China instead of purchasing U.S.-produced MDI products. Four of those eight indicated that Chinese prices were lower than U.S.-produced product, and three of these purchasers reported that price was a primary reason for the decision to purchase imported product rather than U.S.-produced product. These three purchasers estimated the quantity of MDI products from China purchased instead of domestic product; quantities ranged from 100 short tons to 50,166 short tons (table 5.12). Purchasers identified supply consistency and domestic supply disruptions (for example, due to Gulf Coast hurricanes) as non-price reasons for purchasing imported rather than U.S.-produced product.

Of the ten responding purchasers, none reported that U.S. producers had reduced prices in order to compete with lower-priced imports from China; eight reported that they did

not know, and two reported that U.S. producers did not reduce prices to compete with lower-priced imports from China.

Table 5.12 MDI products: Purchasers' responses to purchasing subject imports instead of domestic product, by firm

Quantity in short tons

Purchaser	Purchased subject imports instead of domestic	Imports priced lower	Choice based on price	Quantity	Explanation
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***

Table continued on next page.

Table 5.12 MDI products: Purchasers' responses to purchasing subject imports instead of domestic product, by firm

Quantity in short tons

Purchaser	Purchased subject imports instead of domestic	Imports priced lower	Choice based on price	Quantity	Explanation
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
All firms	Yes--8; No--2	Yes--4; No--4	Yes--3; No--4	***	NA

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

Part 6: Financial experience of U.S. producers

Background[1]

Four U.S. producers (BASF, Covestro, Dow Chemical, and Huntsman) provided usable financial results on their MDI products operations. *** U.S. producers reported financial data on a calendar year basis. *** provided data on the basis of IFRS, while *** provided theirs on the basis of GAAP.[2]

Figure 6.1 presents each responding firm's share of the total reported net sales quantity in 2024. Net sales consisted primarily of commercial sales, *** U.S. producers reported internal consumption and *** reported transfers to related firms. Internal consumption and transfers to related firms accounted for 2.7 and 3.4 percent of total sales quantity, respectively, in 2024. Noncommercial sales are included in the financial data, but not shown separately in this section of the report.[3] [4]

[1] The following abbreviations are used in the tables and/or text of this section: generally accepted accounting principles ("GAAP"), international financial reporting standards ("IFRS"), fiscal year ("FY"), 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] *** reported processing activity showed in appendix F. Petitioner stated that all U.S. producers have some sort of processing capacities that are in place to provide the types of solutions, products and blends that customers require. Petitioner further explained that processing activity is limited to the purchasing of MDI products and doing further downstream processing with it, which is different than distilling crude MDI. Conference transcript, p. 40 (Nespatti) and p. 41 (Martin).

[3] ***. Internal consumption was reported at fair market value. Email from ***, March 5, 2025, and emails from ***, March 6, 2025.

[4] ***. Transfer sales were reported at fair market value. U.S. Producers questionnaire response, section 2.13, and email ***, March 6, 2025.

Figure 6.1 MDI products: U.S. producers' share of net sales quantity in 2024, by firm

* * * * * * *

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

Operations on MDI products

Table 6.1 presents aggregated data on U.S. producers' operations in relation to MDI products, while table 6.2 presents corresponding changes in AUVs. Table 6.3 presents selected company-specific financial data.

Table 6.1 MDI products: U.S. producers' results of operations, by item and period

Quantity in short tons; value in 1,000 dollars; ratios in percent

Item	Measure	2022	2023	2024
Total net sales	Quantity	1,227,987	1,226,122	1,248,120
Total net sales	Value	3,630,891	2,996,371	2,788,924
COGS: Raw materials	Value	2,053,968	1,775,870	1,790,749
COGS: Direct labor	Value	299,821	301,530	304,931
COGS: Other factory	Value	500,232	482,348	514,697
COGS: Less by-product revenue	Value	93,030	127,031	81,637
COGS: Total	Value	2,760,991	2,432,717	2,528,740
Gross profit or (loss)	Value	869,900	563,654	260,184
SG&A expenses	Value	201,373	207,319	207,066
Operating income or (loss)	Value	668,527	356,335	53,118
All other expense/(income), net	Value	***	***	***
Net income or (loss)	Value	***	***	***
Depreciation/amortization	Value	172,284	215,315	201,092
Cash flow	Value	***	***	***
COGS: Raw materials	Ratio to NS	56.6	59.3	64.2
COGS: Direct labor	Ratio to NS	8.3	10.1	10.9
COGS: Other factory	Ratio to NS	13.8	16.1	18.5
COGS: Less by-product revenue	Ratio to NS	2.6	4.2	2.9
COGS: Total	Ratio to NS	76.0	81.2	90.7
Gross profit	Ratio to NS	24.0	18.8	9.3
SG&A expense	Ratio to NS	5.5	6.9	7.4
Operating income or (loss)	Ratio to NS	18.4	11.9	1.9
Net income or (loss)	Ratio to NS	***	***	***

Table continued.

Table 6.1 (Continued) MDI products: U.S. producers' results of operations, by item and period

Shares in percent; unit values in dollars per short ton; count in number of firms reporting

Item	Measure	2022	2023	2024
COGS: Raw materials	Share	72.0	69.4	68.6
COGS: Direct labor	Share	10.5	11.8	11.7
COGS: Other factory	Share	17.5	18.8	19.7
COGS: Total	Share	100.0	100.0	100.0
Total net sales	Unit value	2,957	2,444	2,234
COGS: Raw materials	Unit value	1,673	1,448	1,435
COGS: Direct labor	Unit value	244	246	244
COGS: Other factory	Unit value	407	393	412
COGS: Less by-product revenue	Unit value	76	104	65
COGS: Total	Unit value	2,248	1,984	2,026
Gross profit or (loss)	Unit value	708	460	208
SG&A expenses	Unit value	164	169	166
Operating income or (loss)	Unit value	544	291	43
Net income or (loss)	Unit value	***	***	***
Operating losses	Count	0	2	2
Net losses	Count	0	2	2
Data	Count	4	4	4

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

Note: Zeroes, null values, and undefined calculations are suppressed and shown as "—". Shares represent share of COGS, and exclude the by-product revenue offset from their calculation.

Table 6.2 MDI products: Changes in AUVs between comparison periods

Changes in percent

Item	2022–24	2022–23	2023–24
Total net sales	▼(24.4)	▼(17.4)	▼(8.6)
COGS: Raw materials	▼(14.2)	▼(13.4)	▼(0.9)
COGS: Direct labor	▲0.1	▲0.7	▼(0.7)
COGS: Other factory	▲1.2	▼(3.4)	▲4.8
COGS: Less by-product revenue	▼(13.7)	▲36.8	▼(36.9)
COGS: Total	▼(9.9)	▼(11.8)	▲2.1

Table continued.

Table 6.2 (Continued) MDI products: Changes in AUVs between comparison periods

Changes in dollars per short ton

Item	2022–24	2022–23	2023–24
Total net sales	▼(722)	▼(513)	▼(209)
COGS: Raw materials	▼(238)	▼(224)	▼(14)
COGS: Direct labor	▲0	▲2	▼(2)
COGS: Other factory	▲5	▼(14)	▲19
COGS: Less by-product revenue	▼(10)	▲28	▼(38)
COGS: Total	▼(222)	▼(264)	▲42
Gross profit or (loss)	▼(500)	▼(249)	▼(251)
SG&A expense	▲2	▲5	▼(3)
Operating income or (loss)	▼(502)	▼(254)	▼(248)
Net income or (loss)	▼***	▼***	▼***

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

Note: Percentages and unit values shown as “0” represent values greater than zero, but less than “0.5” respectively. 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.

Table 6.3 MDI products: U.S. producers' sales, costs/expenses, and profitability, by firm and period

Net sales quantity

Quantity in short tons

Firm	2022	2023	2024
BASF	***	***	***
Covestro	***	***	***
Dow Chemical	***	***	***
Huntsman	***	***	***
All firms	1,227,987	1,226,122	1,248,120

Table continued.

Table 6.3 (Continued) MDI products: U.S. producers' sales, costs/expenses, and profitability, by firm and period

Net sales value

Value in 1,000 dollars

Firm	2022	2023	2024
BASF	***	***	***
Covestro	***	***	***
Dow Chemical	***	***	***
Huntsman	***	***	***
All firms	3,630,891	2,996,371	2,788,924

Table continued.

Table 6.3 (Continued) MDI products: U.S. producers' sales, costs/expenses, and profitability, by firm and period

COGS

Value in 1,000 dollars

Firm	2022	2023	2024
BASF	***	***	***
Covestro	***	***	***
Dow Chemical	***	***	***
Huntsman	***	***	***
All firms	2,760,991	2,432,717	2,528,740

Table continued.

Table 6.3 (Continued) MDI products: U.S. producers' sales, costs/expenses, and profitability, by firm and period

Gross profit or (loss)

Value in 1,000 dollars

Firm	2022	2023	2024
BASF	***	***	***
Covestro	***	***	***
Dow Chemical	***	***	***
Huntsman	***	***	***
All firms	869,900	563,654	260,184

Table continued.

Table 6.3 (Continued)MDI products: U.S. producers' sales, costs/expenses, and profitability, by firm and period

SG&A expenses

Value in 1,000 dollars

Firm	2022	2023	2024
BASF	***	***	***
Covestro	***	***	***
Dow Chemical	***	***	***
Huntsman	***	***	***
All firms	201,373	207,319	207,066

Table continued.

Table 6.3 (Continued) MDI products: U.S. producers' sales, costs/expenses, and profitability, by firm and period

Operating income or (loss)

Value in 1,000 dollars

Firm	2022	2023	2024
BASF	***	***	***
Covestro	***	***	***
Dow Chemical	***	***	***
Huntsman	***	***	***
All firms	668,527	356,335	53,118

Table continued.

Table 6.3 (Continued) MDI products: U.S. producers' sales, costs/expenses, and profitability, by firm and period

Net income or (loss)

Value in 1,000 dollars

Firm	2022	2023	2024
BASF	***	***	***
Covestro	***	***	***
Dow Chemical	***	***	***
Huntsman	***	***	***
All firms	***	***	***

Table continued.

Table 6.3 (Continued) MDI products: U.S. producers' sales, costs/expenses, and profitability, by firm and period

COGS to net sales ratio

Ratios in percent

Firm	2022	2023	2024
BASF	***	***	***
Covestro	***	***	***
Dow Chemical	***	***	***
Huntsman	***	***	***
All firms	76.0	81.2	90.7

Table continued.

Table 6.3 (Continued) MDI products: U.S. producers' sales, costs/expenses, and profitability, by firm and period

Gross profit or (loss) to net sales ratio

Ratios in percent

Firm	2022	2023	2024
BASF	***	***	***
Covestro	***	***	***
Dow Chemical	***	***	***
Huntsman	***	***	***
All firms	24.0	18.8	9.3

Table continued.

Table 6.3 (Continued) MDI products: U.S. producers' sales, costs/expenses, and profitability, by firm and period

SG&A expenses to net sales ratio

Ratios in percent

Firm	2022	2023	2024
BASF	***	***	***
Covestro	***	***	***
Dow Chemical	***	***	***
Huntsman	***	***	***
All firms	5.5	6.9	7.4

Table continued.

Table 6.3 (Continued) MDI products: U.S. producers' sales, costs/expenses, and profitability, by firm and period

Operating income or (loss) to net sales ratio

Ratios in percent

Firm	2022	2023	2024
BASF	***	***	***
Covestro	***	***	***
Dow Chemical	***	***	***
Huntsman	***	***	***
All firms	18.4	11.9	1.9

Table continued.

Table 6.3 (Continued) MDI products: U.S. producers' sales, costs/expenses, and profitability, by firm and period

Net income or (loss) to net sales ratio

Ratios in percent

Firm	2022	2023	2024
BASF	***	***	***
Covestro	***	***	***
Dow Chemical	***	***	***
Huntsman	***	***	***
All firms	***	***	***

Table continued.

Table 6.3 (Continued) MDI products: U.S. producers' sales, costs/expenses, and profitability, by firm and period

Unit net sales value

Unit values in dollars per short ton

Firm	2022	2023	2024
BASF	***	***	***
Covestro	***	***	***
Dow Chemical	***	***	***
Huntsman	***	***	***
All firms	2,957	2,444	2,234

Table continued.

Table 6.3 (Continued) MDI products: U.S. producers' sales, costs/expenses, and profitability, by firm and period

Unit raw material costs

Unit values in dollars per short ton

Firm	2022	2023	2024
BASF	***	***	***
Covestro	***	***	***
Dow Chemical	***	***	***
Huntsman	***	***	***
All firms	1,673	1,448	1,435

Table continued.

Table 6.3 (Continued) MDI products: U.S. producers' sales, costs/expenses, and profitability, by firm and period

Unit direct labor costs

Unit values in dollars per short ton

Firm	2022	2023	2024
BASF	***	***	***
Covestro	***	***	***
Dow Chemical	***	***	***
Huntsman	***	***	***
All firms	244	246	244

Table continued.

Table 6.3 (Continued) MDI products: U.S. producers' sales, costs/expenses, and profitability, by firm and period

Unit other factory costs

Unit values in dollars per short ton

Firm	2022	2023	2024
BASF	***	***	***
Covestro	***	***	***
Dow Chemical	***	***	***
Huntsman	***	***	***
All firms	407	393	412

Table continued.

Table 6.3 (Continued) MDI products: U.S. producers' sales, costs/expenses, and profitability, by firm and period

Unit COGS

Unit values in dollars per short ton

Firm	2022	2023	2024
BASF	***	***	***
Covestro	***	***	***
Dow Chemical	***	***	***
Huntsman	***	***	***
All firms	2,248	1,984	2,026

Table continued.

Table 6.3 (Continued) MDI products: U.S. producers' sales, costs/expenses, and profitability, by firm and period

Unit gross profit or (loss)

Unit values in dollars per short ton

Firm	2022	2023	2024
BASF	***	***	***
Covestro	***	***	***
Dow Chemical	***	***	***
Huntsman	***	***	***
All firms	708	460	208

Table continued.

Table 6.3 (Continued) MDI products: U.S. producers' sales, costs/expenses, and profitability, by firm and period

Unit SG&A expenses

Unit values in dollars per short ton

Firm	2022	2023	2024
BASF	***	***	***
Covestro	***	***	***
Dow Chemical	***	***	***
Huntsman	***	***	***
All firms	164	169	166

Table continued.

Table 6.3 (Continued) MDI products: U.S. producers' sales, costs/expenses, and profitability, by firm and period

Unit operating income or (loss)

Unit values in dollars per short ton

Firm	2022	2023	2024
BASF	***	***	***
Covestro	***	***	***
Dow Chemical	***	***	***
Huntsman	***	***	***
All firms	544	291	43

Table continued.

Table 6.3 (Continued) MDI products: U.S. producers' sales, costs/expenses, and profitability, by firm and period

Unit net income or (loss)

Unit values in dollars per short ton

Firm	2022	2023	2024
BASF	***	***	***
Covestro	***	***	***
Dow Chemical	***	***	***
Huntsman	***	***	***
All firms	***	***	***

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 "—".

Net sales

As shown in table 6.1, sales quantity increased irregularly by 1.6 percent from 2022 to 2024 (with all the increase occurring from 2023 to 2024 and driven primarily by ***), while sales value decreased consistently by 23.2 percent during the same period. As shown in table 6.3, *** U.S. producers except *** reported an increase in sales quantity from 2022 to 2023, followed by a decrease from 2023 to 2024. Overall, *** but one (***) reported an increase from 2022 to 2024.[5] For sales value, *** U.S. producers reported an overall decrease from 2022 to 2024, with the majority of the decrease occurring from 2022 to 2023. On a per short ton basis, sales value decreased by 24.4 percent from $2,957 in 2022 to $2,234 in 2024. *** U.S. producers showed an overall decrease in their per short ton sales values from 2022 to 2024 (see table 6.3).

Cost of goods sold and gross profit or loss

Raw material costs, direct labor costs and other factory costs accounted for 68.6, 11.7, and 19.7 percent of total COGS, respectively, in 2024.

Raw material costs, the largest component of COGS in all years in which data were collected, decreased from 2022 to 2023, then somewhat increased from 2023 to 2024. Raw material costs decreased overall by 12.8 percent from 2022 to 2024 (largely reflecting the cost of aniline).[6] On a per short ton basis, raw material costs decreased from $1,673 in 2022 to $1,435 in 2024. As shown in table 6.3, *** U.S. producers reported an overall decrease in their per short ton values from 2022 to 2024, with the majority of the decrease occurring from 2022 to 2023. As a ratio to net sales, raw material costs increased from 56.6 percent in 2022 to 64.2 percent in 2024.

Table 6.4 presents details on the prices of purchased and produced aniline and formaldehyde.

[5] ***. Email from ***, March 6, 2025.

[6] ***. U.S. producers' questionnaire response, section 3.9c and postconference brief p.29.

Table 6.4 MDI products: U.S. producers' purchase and production prices of aniline and formaldehyde in January 2022 and December 2024

Value in dollars per short ton; change in price in percent

Raw material	Firm	Price in Jan 2022	Price in Dec 2024	Change in price
Aniline	***	***	***	▼***
Aniline	***	***	***	▼***
Aniline	***	***	***	▼***
Aniline	***	***	***	▼***
Formaldehyde	***	***	***	▼***
Formaldehyde	***	***	***	▲***
Formaldehyde	***	***	***	▲***
Formaldehyde	***	***	***	▲***

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.

Table 6.5 presents details on specific raw material inputs as a share of raw material costs in 2024. The table shows that aniline is the primary raw material input for MDI products accounting for 58.2 percent, followed by other raw material inputs, and formaldehyde accounting for 35.1 and 6.7 percent, respectively.[7]

Table 6.5 MDI products: U.S. producers' raw material costs in 2024

Value in 1,000 dollars; share of value in percent

Item	Value	Share of value
Aniline	1,041,928	58.2
Other material inputs	628,648	35.1
Formaldehyde	120,173	6.7
All raw materials	1,790,749	100.0

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

Note: Other raw material inputs include ***.

Direct labor costs, the smallest component of COGS in all years in which data were collected, somewhat increased in absolute value, and fluctuated within a relatively narrow

[7] ***. Inputs were reported in a manner consistent with the companies' accounting books and records. U.S. Producers questionnaire response, sections 3.6, 3.7a, and 3.7b.

range on a per short ton basis, from 2022 to 2024. On a firm by firm basis, U.S. producers varied in directional trends between 2022 and 2024 (see table 6.3).[8]

Other factory costs, the second largest component of COGS in all years in which data were collected, increased irregularly in absolute value, and on a per short ton basis from 2022 to 2024. On a firm by firm basis, U.S. producers varied in directional trends between 2022 and 2024 (see table 6.3).[9] [10]

By-products, consisting of the sale of hydrochloric acid ("HCl") produced during the course of producing MDI products, ranged between 2.6 and 4.2 percent of total net sales between 2022 and 2024. As shown in table 6.1, by-product revenue decreased irregularly from 2022 to 2024.[11]

Total COGS net of by-product revenue decreased irregularly in absolute value by 8.4 percent from 2022 to 2024, and by 9.9 percent on a per short ton basis from $2,248 in 2022 to $2,026 in 2024, largely reflecting the trends of raw material costs. As shown in table 6.3, *** U.S. producers reported an overall decrease in their total COGS in absolute value, and *** reported an overall decrease on a per short ton value from 2022 to 2024.

[8] ***. Email from ***, March 6, 2025.
[9] ***. Email from ***, March 11, 2025.
[10] ***. Emails from ***, March 6 and March 13, 2025.
[11] ***. Email from ***, March 6, 2025.

As a ratio to net sales, total COGS net of by-product revenue increased from 76.0 percent in 2022 to 90.7 percent in 2024.[12]

As shown in table 6.1, total sales value declined at a greater rate than total COGS from 2022 to 2024, thus gross profit decreased from $869.9 million in 2022 to $563.7 million in 2023, and further decreased to $260.2 million in 2024. As a ratio to net sales, gross profit decreased from 24.0 percent in 2022 to 9.3 percent in 2024. On a firm by firm basis, *** U.S. producers except *** reported an overall decrease in their gross profits from 2022 to 2024. *** reported a gross loss in 2024. (see table 6.3).

SG&A expenses and operating income or loss

As shown in table 6.1, the aggregate SG&A expenses increased irregularly in absolute value, and consistently as a ratio to net sales (***) from 2022 to 2024. On a firm by firm basis, *** U.S. producers except *** reported a decrease in their SG&A expenses in absolute values from 2022 to 2024 (see table 6.3).[13] [14]

Operating income decreased from $668.5 million in 2022 to $356.3 million in 2023, and $53.1 million in 2024. As a ratio to net sales, operating income decreased from 18.4 percent in 2022 to 1.9 percent in 2024. As shown in table 6.3, *** U.S. producers except *** reported an overall decrease in their operating income from 2022 to 2024. ***.

[12] In response to Commission staff's inquiry about whether or not there were any different variations of MDI products that would notably impact costs and pricing, petitioner stated that ***. Petitioner's postconference brief, p.30.

[13] ***. Email from ***, March 6, 2025.

[14] ***. Email from ***, March 6, 2025 and U.S. producers questionnaire response, section 2.2a.

All other expenses and net income or loss

Classified below the operating income level are interest expense, other expense, and other income items. In table 6.1, these items are aggregated and only the net amount is shown as "other expense/(income), net." Total net other expense/income increased from 2022 to 2024. The majority of the increase was driven by interest expense.[15] [16] [17]

Net income decreased from $*** in 2022 to $*** in 2023, and $*** in 2024. As a ratio to net sales, net income decreased from *** percent in 2022 to *** percent in 2024. As shown in table 6.3, *** U.S. producers except *** reported a decrease in their net income from 2022 to 2024. ***.

Variance analysis

A variance analysis for the operations of U.S. producers of MDI products is presented in table 6.6.[18] The information for this variance analysis is derived from table 6.1. The data shows that operating income decreased from 2022 to 2024 primarily because the unfavorable price variance (unit sales value decreased) outweighed the favorable cost variance (unit COGS decreased), and favorable volume variance (sales volume increased).

[15] ***. U.S. producers questionnaire response, section 3.9a.

[16] ***. Email from ***, March 6, 2025.

[17] ***. Email from ***, March 6, 2025.

[18] The Commission's variance analysis is calculated in three parts: Net sales variance, COGS variance, and SG&A expense variance. Each part consists of a price variance (in the case of the net sales variance) or a cost or expense variance (in the case of the COGS and SG&A expense variance), and a volume variance. The sales or cost/expense variances are calculated as the change in unit price or per-unit cost/expense, respectively, times the new volume, while the volume variance is calculated as the change in volume times the old unit price or per-unit cost/expense. Summarized at the bottom of the table, the operating income price variance is from sales; the operating income cost/expense variance is the sum of the cost components in the COGS and SG&A expense variances, and the operating income volume variance is the sum of the volume components of the net sales, COGS, and SG&A expense variances.

Table 6.6 MDI products: Variance analysis on the operations of U.S. producers between comparison periods

Value in 1,000 dollars

Item	2022-24	2022-23	2023-24
Net sales price variance	(901,496)	(629,006)	(261,205)
Net sales volume variance	59,529	(5,514)	53,758
Net sales total variance	(841,967)	(634,520)	(207,447)
COGS cost variance	277,518	324,081	(52,377)
COGS volume variance	(45,267)	4,193	(43,646)
COGS total variance	232,251	328,274	(96,023)
Gross profit variance	(609,716)	(306,246)	(303,470)
SG&A cost variance	(2,391)	(6,252)	3,973
SG&A volume variance	(3,302)	306	(3,720)
SG&A total variance	(5,693)	(5,946)	253
Operating income price variance	(901,496)	(629,006)	(261,205)
Operating income cost variance	275,126	317,829	(48,405)
Operating income volume variance	10,961	(1,015)	6,393
Operating income total variance	(615,409)	(312,192)	(303,217)

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

Note: These data are derived from the data in table 6.1. Unfavorable variances (which are negative) are shown in parentheses, all others are favorable (positive).

Capital expenditures and research and development expenses

Table 6.7 presents capital expenditures, by firm, and table 6.9 presents R&D expenses, by firm. Tables 6.8 and 6.10 present the firms' narrative explanations of the nature, focus, and significance of their capital expenditures and R&D expenses, respectively. Capital expenditures increased irregularly from 2022 to 2024 mainly driven by *** data. R&D expenses decreased from 2022 to 2024.[19]

Table 6.7 MDI products: U.S. producers' capital expenditures, by firm and period

Value in 1,000 dollars

Firm	2022	2023	2024
BASF	***	***	***
Covestro	***	***	***
Dow Chemical	***	***	***
Huntsman	***	***	***
All firms	314,765	263,870	387,233

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

Table 6.8 MDI products: U.S. producers' narrative descriptions of their capital expenditures, by firm

Firm	Narrative on capital expenditures
BASF	***
Covestro	***
Dow Chemical	***
Huntsman	***

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

[19] ***. Email from ***, March 6, 2025.

Table 6.9 MDI products: U.S. producers' R&D expenses, by firm and period

Value in 1,000 dollars

Firm	2022	2023	2024
BASF	***	***	***
Covestro	***	***	***
Dow Chemical	***	***	***
Huntsman	***	***	***
All firms	32,027	30,586	30,296

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

Table 6.10 MDI products: U.S. producers' narrative descriptions of their R&D expenses, by firm

Firm	Narrative on R&D expenses
BASF	***
Covestro	***
Dow Chemical	***
Huntsman	***

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

Assets and return on assets

Table 6.11 presents data on the U.S. producers' total assets while table 6.12 presents their operating ROA.[20] Table 6.13 presents U.S. producers' narrative responses explaining their major asset categories and any significant changes in asset levels over time. Total assets decreased irregularly from 2022 to 2024, and ROA notably decreased from 24.0 percent in 2022 to 2.0 percent in 2024, reflecting the decline in operating profits.

[20] 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 6.11 MDI products: U.S. producers' total net assets, by firm and period

Value in 1,000 dollars

Firm	2021	2022	2023
BASF	***	***	***
Covestro	***	***	***
Dow Chemical	***	***	***
Huntsman	***	***	***
All firms	2,785,372	2,599,658	2,711,639

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

Table 6.12 MDI products: U.S. producers' ROA, by firm and period

Ratio in percent

Firm	2022	2023	2024
BASF	***	***	***
Covestro	***	***	***
Dow Chemical	***	***	***
Huntsman	***	***	***
All firms	24.0	13.7	2.0

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 6.13 MDI products: U.S. producers' narrative descriptions of their total net assets, by firm

Firm	Narrative on assets
BASF	***
Covestro	***
Dow Chemical	***
Huntsman	***

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

Capital and investment

The Commission requested U.S. producers of MDI products to describe any actual or potential negative effects of imports of MDI products from China on their firms' growth, investment, ability to raise capital, development and production efforts, or the scale of capital investments. Table 6.14 presents the number of firms reporting an impact in each category and table 6.15 provides the U.S. producers' narrative responses.

Table 6.14 MDI products: Count of firms indicating actual and anticipated negative effects of imports from subject sources on investment, growth, and development since January 1, 2022, by effect

Number of firms reporting

Effect	Category	Count
Cancellation, postponement, or rejection of expansion projects	Investment	1
Denial or rejection of investment proposal	Investment	0
Reduction in the size of capital investments	Investment	1
Return on specific investments negatively impacted	Investment	3
Other investment effects	Investment	2
Any negative effects on investment	Investment	4
Rejection of bank loans	Growth	0
Lowering of credit rating	Growth	0
Problem related to the issue of stocks or bonds	Growth	1
Ability to service debt	Growth	0
Other growth and development effects	Growth	3
Any negative effects on growth and development	Growth	3
Anticipated negative effects of imports	Future	4

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

Note: *** responded "no" on effects of imports on growth and development.

Table 6.15 MDI products: U.S. producers' narratives relating to actual and anticipated negative effects of imports on investment, growth, and development, since January 1, 2022, by firm and effect

Item	Firm name and narrative on impact of imports
Cancellation, postponement, or rejection of expansion projects	***
Reduction in the size of capital investments	***
Return on specific investments negatively impacted	***
Return on specific investments negatively impacted	***
Return on specific investments negatively impacted	***
Other negative effects on investments	***
Other negative effects on investments	***
Problem related to the issue of stocks or bonds	***
Other effects on growth and development	***
Other effects on growth and development	***

Item	Firm name and narrative on impact of imports
Other effects on growth and development	***
Anticipated effects of imports	***
Anticipated effects of imports	***
Anticipated effects of imports	***
Anticipated effects of imports	***

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

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 factors*[1]*--*
>
> *(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 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."

The industry in China

The Commission issued foreign producers' or exporters' questionnaires to 10 firms believed to produce and/or export MDI products from China.[3] Usable responses to the Commission's questionnaire were received from 8 firms in total; BASF Polyurethanes (Chongqing) Co., Ltd., ("BASF Chongqing"), Shanghai BASF Polyurethane Company Ltd., ("BASF Shanghai"), Huntsman Polyurethanes Shanghai Limited ("Huntsman Shanghai"), Covestro Polymers (China) Co., Ltd., ("Covestro China"), Wanhua Chemical (Fuijian) Isocyanate Co., Ltd., ("Wanhua Fuijian"), Wanhua Chemical (Guangdong) Co., Ltd., ("Wanhua Guangdong"), Wanhua Chemical (Ningbo) Co., Ltd., ("Wanhua Ningbo"), and Wanhua Chemical Group Co., Ltd. ("Wanhua Shandong").

Table 7.1 presents the number of producers/exporters that responded to the Commission's questionnaire, their estimated share of total production of MDI products, and their exports to the United States as a share of U.S. imports, by each subject country in 2024.

Table 7.1 MDI products: 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, 2024

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	8	***	***

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 MDI products in 2024. 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 official Commerce import statistics using HTS statistical reporting numbers 2929.10.8010 and 3909.31.0000, accessed February 25, 2025, adjusted to remove merchandise certified as out-of-scope in response to Commission questionnaires using proprietary, Census-edited Customs import records.

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 petition and presented in third-party sources.

Table 7.2 presents information on the MDI products operations of the responding producers in China (or the responding subject producers, by firm), and, table 7.3 presents summary information on responding resellers of subject MDI products. *** reported no exports to the United States during 2024. Three firms reported being resellers of subject MDI products during 2024.

Table 7.2 MDI products: Summary data for responding subject foreign producers in 2024, by firm

Producer	Production (short tons)	Share of reported production (percent)	Exports to the United States (short tons)	Share of reported exports to the United States (percent)	Total shipments (short tons)	Share of firm's total shipments exported to the United States (percent)
BASF Chongping	***	***	***	***	***	***
BASF Shanghai	***	***	***	***	***	***
Covestro	***	***	***	***	***	***
Huntsman	***	***	***	***	***	***
Wanhua Fujian	***	***	***	***	***	***
Wanhua Guangdong	***	***	***	***	***	***
Wanhua Ningbo	***	***	***	***	***	***
Wanhua Shandong	***	***	***	***	***	***
All individual producers	***	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 7.3 MDI products: Summary data for resellers in China in 2024, by source

Reseller	Resales exported to the United States (short tons)	Share of resales exported to the United States (percent)
Wanhua Guangdong	***	***
Wanhua Ningbo	***	***
Wanhua Shandong	***	***
All individual resellers	***	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 7.4 presents events in the subject countries' industries since January 1, 2022.

Table 7.4 MDI products: Important industry events in the subject foreign industry since 2022

Item	Event
Expansions	Wanhua Chemical Group: The firm's subsidiary, Wanhua Chemical (Fujian) Isocyanate Co., Ltd., began operations in December 2022.
Production curtailments	Wanhua Chemical Group: The firm announced in January 2024 that it restarted production at its Ningbo complex following a 50-day maintenance shutdown.
Expansions	Wanhua Chemical Group: The firm announced in April 2024 that its MDI plant in Fujian completed technical upgrading and capacity expansion from 400,000 to 800,000 tons/year.
Other	BASF, Huntsman and their Chinese partners in the joint venture Shanghai Lianheng Isocyanate Co (SLIC) completed the planned separation of their joint MDI production in Caojing, China in July 2023.

Sources: Echemi, "Wanhua Chemical Fujian MDI project started," December 29, 2022, https://www.echemi.com/cms/1136437.html; Argus, "China's Wanhua restarts Ningbo MDI unit," January 9, 2024, https://www.argusmedia.com/de/news-and-insights/latest-market-news/2526092-china-s-wanhua-restarts-ningbo-mdi-unit; Futu, "Wanhua Chemical (600309) April 2024 Monthly Report," May 19, 2024, https://news.futunn.com/en/post/42653629/wanhua-chemical-600309-april-2024-monthly-report-fujian-mdi-doubles?level=1&data_ticket=1741613970314031; BASF Huntsman joint news release: "BASF, Huntsman, Shanghai Hua Yi, Shanghai Chlor-Alkali Chemical Co. Ltd. and Sinopec Shanghai Gaoqiao Petrochemical Co. Ltd. to separate joint MDI production in Caojing, China," July 31, 2023, https://www.basf.com/global/en/media/news-releases/2023/07/p-23-269.

Changes in operations

Subject producers were asked to report any change in the character of their operations or organization relating to the production of MDI products since 2022. Six of 8 responding Chinese producers indicated in their questionnaires that they had experienced such changes. Tables 7.5 and 7.6 presents the changes identified by these producers.

Table 7.5 MDI products: Count of reported changes in operations since January 1, 2022, type of change in operation

Item	China
Plant openings	2
Plant closings	0
Prolonged shutdowns	1
Production curtailments	2
Relocations	0
Expansions	3
Acquisitions	1
Consolidations	0
Weather-related or force majeure events	0
Other	1
Any change	6

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

Table 7.6 MDI products: Reported changes in operations in China since January 1, 2022, by reported change category and firm

Item	Firm name and accompanying narrative response regarding changes in operations
Plant openings	***
Plant openings	***
Prolonged shutdowns	***
Production curtailments	***
Production curtailments	***
Expansions	***
Expansions	***
Expansions	***
Acquisitions	***
Other	***

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

Installed and practical overall capacity

Table 7.7 presents data on subject producers' installed capacity, practical overall capacity, and practical MDI products capacity and production on the same equipment. Between 2022 and 2024, installed overall, installed practical, and practical MDI products capacity increased. Following a similar trend, practical overall, installed overall, and practical MDI products production all increased from 2022 to 2024.[4]

[4] ***. *** foreign producer questionnaire response, section II-9.

Table 7.7 MDI products: Subject producers' installed and practical capacity and production on the same equipment as in-scope production, by period

Capacity and production in short tons; utilization in percent

Item	Measure	2022	2023	2024
Installed overall	Capacity	***	***	***
Installed overall	Production	***	***	***
Installed overall	Utilization	***	***	***
Practical overall	Capacity	***	***	***
Practical overall	Production	***	***	***
Practical overall	Utilization	***	***	***
Practical MDI products	Capacity	***	***	***
Practical MDI products	Production	***	***	***
Practical MDI products	Utilization	***	***	***

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

Constraints on capacity

Tables 7.8 and 7.9 presents subject producers' reported production and capacity constraints since January 1, 2022. The most commonly reported capacity constraint was production bottlenecks (reported by seven firms), while five firms reported supply of material inputs, as capacity constraints. Of the eight responding firms, ***.

Table 7.8 MDI products: Constraints on practical overall capacity, by subject foreign industry

Count in number of firms reporting

Type of constraint	China
Production bottlenecks	7
Existing labor force	1
Supply of material inputs	5
Fuel or energy	0
Storage capacity	1
Logistics/transportation	0
Other constraints	4

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

Table 7.9 MDI products: Subject producers' reported practical overall capacity constraints since January 1, 2022, by constraint and firm

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

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

Operations on MDI products

Table 7.10 presents information on the MDI products operations of the responding producers/exporters from 2022 to 2024 and projections for full years 2025 and 2026. Between 2022 and 2024, subject producers' combined capacity and production of MDI products increased by *** and *** percent, respectively. Subject producers' capacity utilization increased by *** percentage points from 2022 to 2024. Exports to the United States and to all other markets both increased from 2022 to 2024, by *** and *** percent respectively. while home market shipments and end-of-period inventories both increased, by *** and *** percent.

Subject producers' exports to the United States, which accounted for less than *** percent from 2022 to 2024, as a share of total shipments, increased overall and were projected to be slightly lower during 2025 and 2026. The leading exporter of MDI products from the subject countries to the United States was ***.

Exports to all other markets (other than the United States) accounted for a large portion (***) as a share of subject producers' total shipments of MDI products from 2022 to 2024. Subject producers' exports accounted for between *** and *** percent, respectively during 2022 and 2024 and declined as a share of their total shipments, while home market shipments accounted for the *** as a share of total shipments from 2022 to 2024.

Projections for subject producers in 2025 and 2026 include projected increases in capacity, production, exports shipments, and exports to all other markets.

Table 7.10 MDI products: Data on subject foreign industry by item and period

Quantity in short tons

Item	2022	2023	2024	Projection 2025	Projection 2026
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 7.10 (Continued) MDI products: Data on subject foreign industry by item and period

Ratio and share in percent

Item	2022	2023	2024	Projection 2025	Projection 2026
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
Share of total exports to the U.S. by producers	***	***	***	***	***
Share of total exports to the U.S. by resellers	***	***	***	***	***
Adjusted shares of total shipments exported to the United States	***	***	***	***	***

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

Alternative products

Table 7.11 presents information on subject producers' for responding firms in the subject country produced other products on the same equipment and machinery used to produce MDI products. MDI products production accounted for the *** of subject producers' overall production from 2022 to 2024. Three responding producers/exporters (***) reported the production of other products such as TDI products from 2022 to 2024.

Table 7.11 MDI products: Producers' in China overall production on the same equipment as subject production, by product type and period

Quantity in short tons; shares and ratios in percent

Product type	Measure	2022	2023	2024
MDI products	Quantity	***	***	***
TDI products	Quantity	***	***	***
Other products	Quantity	***	***	***
All out-of-scope products	Quantity	***	***	***
All products	Quantity	***	***	***
MDI products	Share	***	***	***
TDI products	Share	***	***	***
Other products	Share	***	***	***
All out-of-scope products	Share	***	***	***
All products	Share	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

According to GTA, the leading export markets for MDI products from China are the United States, Russia, and the Netherlands, during 2023 (table 4.12). During 2023, the United States was the top export market for MDI products from China, accounting for 22.1 percent, followed by Russia, accounting for 10.5 percent.

Table 7.12 MDI products: Exports from China, by destination market and period

Quantity in short tons; value in 1,000 dollars; unit value in dollars per short ton; shares in percent

Destination market	Measure	2022	2023
United States	Quantity	248,691	253,718
Russia	Quantity	72,006	120,538
Netherlands	Quantity	159,910	101,106
Turkey	Quantity	51,390	77,131
Belgium	Quantity	33,764	75,774
South Korea	Quantity	75,580	74,322
India	Quantity	52,413	54,951
United Arab Emirates	Quantity	45,190	48,029
Vietnam	Quantity	40,732	41,918
All other destination markets	Quantity	309,894	303,064
Non-U.S. destination markets	Quantity	840,879	896,833
All destination markets	Quantity	1,089,570	1,150,551
United States	Value	473,001	319,525
Russia	Value	166,391	220,847
Netherlands	Value	302,735	121,506
Turkey	Value	97,073	108,331
Belgium	Value	54,297	97,950
South Korea	Value	139,080	111,844
India	Value	102,681	77,784
United Arab Emirates	Value	111,897	105,370
Vietnam	Value	83,197	66,530
All other destination markets	Value	612,907	451,996
Non-U.S. destination markets	Value	1,670,256	1,362,158
All destination markets	Value	2,143,257	1,681,683

Table continued

Table 7.12 MDI products (continued): Exports from China, by period

Quantity in short tons; value in 1,000 dollars; unit value in dollars per short ton; share in percent

Destination market	Measure	2022	2023
United States	Unit value	1,902	1,259
Russia	Unit value	2,311	1,832
Netherlands	Unit value	1,893	1,202
Turkey	Unit value	1,889	1,405
Belgium	Unit value	1,608	1,293
South Korea	Unit value	1,840	1,505
India	Unit value	1,959	1,416
United Arab Emirates	Unit value	2,476	2,194
Vietnam	Unit value	2,043	1,587
All other destination markets	Unit value	1,978	1,491
Non-U.S. destination markets	Unit value	1,986	1,519
All destination markets	Unit value	1,967	1,462
United States	Share of quantity	22.8	22.1
Russia	Share of quantity	6.6	10.5
Netherlands	Share of quantity	14.7	8.8
Turkey	Share of quantity	4.7	6.7
Belgium	Share of quantity	3.1	6.6
South Korea	Share of quantity	6.9	6.5
India	Share of quantity	4.8	4.8
United Arab Emirates	Share of quantity	4.1	4.2
Vietnam	Share of quantity	3.7	3.6
All other destination markets	Share of quantity	28.4	26.3
Non-U.S. destination markets	Share of quantity	77.2	77.9
All destination markets	Share of quantity	100.0	100.0

Source: Official exports statistics under HS subheading 390931 as reported by China in the Global Trade Atlas Suite database, accessed February 25, 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 top destination markets in descending order of 2023 data. Data for 2024 are not yet available.

U.S. inventories of imported merchandise

Table 7.13 presents data on U.S. importers' reported inventories of MDI products. U.S. importers' inventories of imports from China increased *** from 2022 to 2024. U.S. importers' inventories of imports from nonsubject sources *** from 2022 levels to 2024 levels.[5]

[5] ***.

Table 7.13 MDI products: U.S. importers' inventories and their ratio to select items, by source and period

Quantity in short tons; ratio in percent

Measure	Source	2022	2023	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	Nonsubject sources	***	***	***
Ratio to imports	Nonsubject sources	***	***	***
Ratio to U.S. shipments of imports	Nonsubject sources	***	***	***
Ratio to total Shipments of imports	Nonsubject sources	***	***	***
Inventories quantity	All import sources	***	***	***
Ratio to imports	All import sources	***	***	***
Ratio to U.S. shipments of imports	All import sources	***	***	***
Ratio to total Shipments of imports	All import sources	***	***	***

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 MDI products from China after December 31, 2024. Their reported data are presented in table 7.14. Nonsubject sources accounted for the majority of U.S. importers' arranged imports of MDI products. The leading individual sources of U.S. importers' total arranged imports for nonsubject sources were ***, which accounted for *** of the arranged imports of MDI products from nonsubject sources. The leading individual source of subject sources of U.S. importers' total arranged imports was ***.

Table 7.14 MDI products: U.S. importers' arranged imports, by source and period

Quantity in short tons

Source	Q1 2025	Q2 2025	Q3 2025	Q4 2025	Total
China	***	***	***	***	***
Nonsubject sources	***	***	***	***	***
All import sources	***	***	***	***	***

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

Third-country trade actions

Available information indicates that there are no third-country trade actions currently in effect.

Information on nonsubject countries

Table 7.15 reports global export data for MDI products under HTS subheading 3909.31 (crude and polymeric MDI). The biggest non-subject exporters of MDI are Belgium, Germany and Netherlands. In 2023, Belgium represented 12.7 percent of global exports by value, followed by Germany (12.3 percent) and Netherlands (10.5 percent). The quantity and value of MDI exported by each of these countries decreased from 2022 to 2023.

Table 7.15 MDI (crude and polymeric products): Global exports, by reporting country and by period

Quantity in short tons; Value in 1,000 dollars

Exporting country	Measure	2022	2023
United States	Quantity	280,532	298,538
China	Quantity	1,089,570	1,150,551
Belgium	Quantity	624,301	546,574
Germany	Quantity	555,857	511,421
Netherlands	Quantity	476,055	431,788
South Korea	Quantity	341,663	349,394
Saudi Arabia	Quantity	386,474	347,201
Japan	Quantity	211,178	217,586
Hungary	Quantity	204,727	189,025
Portugal	Quantity	157,423	172,098
Spain	Quantity	128,920	101,883
United Arab Emirates	Quantity	45,298	50,416
All other exporters	Quantity	161,026	159,202
All reporting exporters	Quantity	4,663,025	4,525,677
United States	Value	675,711	660,005
China	Value	2,143,257	1,681,683
Belgium	Value	1,492,676	1,036,237
Germany	Value	1,242,050	1,000,070
Netherlands	Value	1,160,348	857,358
South Korea	Value	684,178	587,494
Saudi Arabia	Value	883,531	727,987
Japan	Value	337,844	295,843
Hungary	Value	505,247	362,737
Portugal	Value	291,554	277,931
Spain	Value	301,584	221,272
United Arab Emirates	Value	105,305	101,830
All other exporters	Value	403,416	333,560
All reporting exporters	Value	10,226,700	8,144,009

Source: Official exports statistics under HS subheading 3909.31 as reported by various national statistical authorities in the Global Trade Atlas Suite database, accessed March 6, 2025.

Table 7.15 Continued
MDI (crude and polymeric products): Global exports, by reporting country and by period

Unit values in dollars per short ton; Shares in percent

Exporting country	Measure	2022	2023
United States	Unit value	2,409	2,211
China	Unit value	1,967	1,462
Belgium	Unit value	2,391	1,896
Germany	Unit value	2,234	1,955
Netherlands	Unit value	2,437	1,986
South Korea	Unit value	2,002	1,681
Saudi Arabia	Unit value	2,286	2,097
Japan	Unit value	1,600	1,360
Hungary	Unit value	2,468	1,919
Portugal	Unit value	1,852	1,615
Spain	Unit value	2,339	2,172
United Arab Emirates	Unit value	2,325	2,020
All other exporters	Unit value	2,505	2,095
All reporting exporters	Unit value	2,193	1,800
United States	Share of quantity	6.0	6.6
China	Share of quantity	23.4	25.4
Belgium	Share of quantity	13.4	12.1
Germany	Share of quantity	11.9	11.3
Netherlands	Share of quantity	10.2	9.5
South Korea	Share of quantity	7.3	7.7
Saudi Arabia	Share of quantity	8.3	7.7
Japan	Share of quantity	4.5	4.8
Hungary	Share of quantity	4.4	4.2
Portugal	Share of quantity	3.4	3.8
Spain	Share of quantity	2.8	2.3
United Arab Emirates	Share of quantity	1.0	1.1
All other exporters	Share of quantity	3.5	3.5
All reporting exporters	Share of quantity	100.0	100.0

Source: Official exports statistics under HS subheading 390931 as reported by various national statistical authorities in the Global Trade Atlas Suite database, accessed March 6, 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
90 FR 9913, February 19, 2025	*Methylene Diphenyl Diisocyanate (MDI) From China; Institution of Antidumping Duty Investigation and Scheduling of Preliminary Phase Investigation*	https://www.govinfo.gov/content/pkg/FR-2025-02-19/pdf/2025-02760.pdf
90 FR 11710, March 11, 2025	*Methylene Diphenyl Diisocyanate From the People's Republic of China: Initiation of Less-Than-Fair-Value Investigation*	https://www.govinfo.gov/content/pkg/FR-2025-03-11/pdf/2025-03823.pdf

APPENDIX B

LIST OF STAFF CONFERENCE WITNESSES

CALENDAR OF PUBLIC PRELIMINARY CONFERENCE

Those listed below appeared as witnesses at the United States International Trade Commission's preliminary conference:

Subject: Methylene Diphenyl Diisocyanate (MDI) from China

Inv. No.: 731-TA-1733 (Preliminary)

Date and Time: March 5, 2025 – 9:30 a.m.

Sessions were held in connection with this preliminary phase investigation in the Main Hearing Room (Room 101), 500 E Street, SW., Washington, DC.

OPENING REMARKS:

In Support of Imposition (**Stephen J. Orava**, King & Spalding LLP)
In Opposition to Imposition (**Daniel L. Porter**, Curtis, Mallet-Prevost, Colt & Mosle LLP)

In Support of the Imposition of the Antidumping Order:

King & Spalding LLP
Washington, DC
on behalf of

MDI Fair Trade Coalition

Marcio Nespatti, VP Isocyanates & Inorganics Business Management NA, Monomers, BASF Corporation

Stephen Martin, Sr. Product Steward - Monomers, BASF Corporation

Gregory Mohr, MDI Asset Manager - Monomers, BASF Corporation

Stephen W. Wagner, Assistant General Counsel – Product & Trade Regulation, BASF Corporation

Doug Todd, NAA Polyurethanes Senior Product Director & Global Business Strategy Director - Formulated Systems, The Dow Chemical Company

In Support of the Imposition of the Antidumping Order (continued):

Megan McCulloch, Senior Managing Counsel, Commercial Transactions, Trademark & Copyright, and Oversight Core Legal Practices, The Dow Chemical Company

Stephen J. Orava)
Stephen P. Vaughn)
) – OF COUNSEL
Barbara Medrado)
Victor Leite)

In Opposition to the Imposition of Antidumping Order:

Curtis, Mallet-Prevost, Colt & Mosle LLP
Washington, DC
on behalf of

Wanhua Chemical America (WCA)

Jacob Sturgeon, Chief Executive Officer, Wanhua Chemical America

Ernest Liu, General Counsel, Wanhua Chemical America

James Shao, Chief Financial Officer, Wanhua Chemical America

Robert Smith, Marketing and Business Director, Wanhua Chemical America

Daniel L. Porter)
Antonio Riva Palacio) – OF COUNSEL
William C. Sjoberg)

REBUTTAL/CLOSING REMARKS:

In Support of Imposition (**Stephen P. Vaughn**, King & Spalding LLP)
In Opposition to Imposition (**Daniel L. Porter**, Curtis, Mallet-Prevost, Colt & Mosle LLP)

APPENDIX C

SUMMARY DATA

U.S. producers

Table C.1
MDI products: Summary data concerning the U.S. market, by item and period
Quantity=short tons; Value=1,000 dollars; Unit values, unit labor costs, and unit expenses=dollars per short ton; Period changes=percent--exceptions noted

Item	Reported data: Calendar year 2022	Reported data: Calendar year 2023	Reported data: Calendar year 2024	Period change comparisons: Calendar year 2022–24	Period change comparisons: Calendar year 2022–23	Period change comparisons: Calendar year 2023–24
U.S. consumption quantity:						
Amount	***	***	***	▼***	▼***	▲***
Producers' share (fn1)	***	***	***	▲***	▲***	▼***
Importers' share (fn1):						
China	***	***	***	▲***	▲***	▼***
Nonsubject sources	***	***	***	▼***	▼***	▲***
All import sources	***	***	***	▼***	▼***	▲***
U.S. consumption value:						
Amount	***	***	***	▼***	▼***	▼***
Producers' share (fn1)	***	***	***	▲***	▲***	▼***
Importers' share (fn1):						
China	***	***	***	▼***	▲***	▼***
Nonsubject sources	***	***	***	▼***	▼***	▲***
All import sources	***	***	***	▼***	▼***	▲***
U.S. importers' U.S. shipments of imports from:						
China:						
Quantity	***	***	***	▲***	▲***	▼***
Value	***	***	***	▼***	▼***	▼***
Unit value	***	***	***	▼***	▼***	▼***
Ending inventory quantity	***	***	***	▲***	▼***	▲***
Nonsubject sources:						
Quantity	***	***	***	▼***	▼***	▲***
Value	***	***	***	▼***	▼***	▲***
Unit value	***	***	***	▼***	▼***	▼***
Ending inventory quantity	***	***	***	▼***	▼***	▲***
All import sources:						
Quantity	320,206	241,077	293,942	▼(8.2)	▼(24.7)	▲21.9
Value	855,423	492,107	549,992	▼(35.7)	▼(42.5)	▲11.8
Unit value	$2,671	$2,041	$1,871	▼(30.0)	▼(23.6)	▼(8.3)
Ending inventory quantity	***	***	***	▲***	▼***	▲***
U.S. producers':						
Practical capacity quantity	1,677,247	1,715,186	1,644,550	▼(1.9)	▲2.3	▼(4.1)
Production quantity	1,249,123	1,215,781	1,270,780	▲1.7	▼(2.7)	▲4.5
Capacity utilization (fn1)	74.5	70.9	77.3	▲2.8	▼(3.6)	▲6.4
U.S. shipments:						
Quantity	985,894	978,344	1,009,048	▲2.3	▼(0.8)	▲3.1
Value	3,025,403	2,430,946	2,256,738	▼(25.4)	▼(19.6)	▼(7.2)
Unit value	$3,069	$2,485	$2,237	▼(27.1)	▼(19.0)	▼(10.0)
Export shipments:						
Quantity	242,093	247,778	239,072	▼(1.2)	▲2.3	▼(3.5)
Value	605,488	565,425	532,186	▼(12.1)	▼(6.6)	▼(5.9)
Unit value	$2,501	$2,282	$2,226	▼(11.0)	▼(8.8)	▼(2.5)
Ending inventory quantity	127,641	117,299	139,959	▲9.7	▼(8.1)	▲19.3
Inventories/total shipments (fn1)	10.4	9.6	11.2	▲0.8	▼(0.8)	▲1.6

Table continued.

Table C.1 Continued
MDI products: Summary data concerning the U.S. market, by item and period
Quantity=short tons; Value=1,000 dollars; Unit values, unit labor costs, and unit expenses=dollars per short ton; Period changes=percent--exceptions noted

Item	Reported data			Period change comparisons		
	Calendar year			Calendar year		
	2022	2023	2024	2022–24	2022–23	2023–24
U.S. producers':						
Production workers	944	785	781	▼(17.3)	▼(16.8)	▼(0.5)
Hours worked (1,000s)	2,580	1,925	1,957	▼(24.1)	▼(25.4)	▲1.7
Wages paid ($1,000)	176,274	128,279	132,771	▼(24.7)	▼(27.2)	▲3.5
Hourly wages (dollars per hour)	$68.32	$66.64	$67.84	▼(0.7)	▼(2.5)	▲1.8
Productivity (short tons per 1,000 hours)	484.2	631.6	649.4	▲34.1	▲30.4	▲2.8
Unit labor costs	$141.12	$105.51	$104.48	▼(26.0)	▼(25.2)	▼(1.0)
Net sales:						
Quantity	1,227,987	1,226,122	1,248,120	▲1.6	▼(0.2)	▲1.8
Value	3,630,891	2,996,371	2,788,924	▼(23.2)	▼(17.5)	▼(6.9)
Unit value	$2,957	$2,444	$2,234	▼(24.4)	▼(17.4)	▼(8.6)
Cost of goods sold (COGS)	2,760,991	2,432,717	2,528,740	▼(8.4)	▼(11.9)	▲3.9
Gross profit or (loss) (fn2)	869,900	563,654	260,184	▼(70.1)	▼(35.2)	▼(53.8)
SG&A expenses	201,373	207,319	207,066	▲2.8	▲3.0	▼(0.1)
Operating income or (loss) (fn2)	668,527	356,335	53,118	▼(92.1)	▼(46.7)	▼(85.1)
Net income or (loss) (fn2)	***	***	***	▼***	▼***	▼***
Unit COGS	$2,248	$1,984	$2,026	▼(9.9)	▼(11.8)	▲2.1
Unit SG&A expenses	$164	$169	$166	▲1.2	▲3.1	▼(1.9)
Unit operating income or (loss) (fn2)	$544	$291	$43	▼(92.2)	▼(46.6)	▼(85.4)
Unit net income or (loss) (fn2)	***	***	***	▼***	▼***	▼***
COGS/sales (fn1)	76.0	81.2	90.7	▲14.6	▲5.1	▲9.5
Operating income or (loss)/sales (fn1)	18.4	11.9	1.9	▼(16.5)	▼(6.5)	▼(10.0)
Net income or (loss)/sales (fn1)	***	***	***	▼***	▼***	▼***
Capital expenditures	314,765	263,870	387,233	▲23.0	▼(16.2)	▲46.8
Research and development expenses	***	***	***	▼***	▼***	▼***
Total assets	2,785,372	2,599,658	2,711,639	▼(2.6)	▼(6.7)	▲4.3

Source: Compiled from data submitted in response to Commission questionnaires. 508-compliant tables for 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.--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. producers and processors

Table C.2
MDI products: Summary data concerning the U.S. market including U.S. processors, by item and period
Quantity=short tons; Value=1,000 dollars; Unit values, unit labor costs, and unit expenses=dollars per short ton; Productivity=short tons per 1,000 hours; Period changes=percent--exceptions noted

Item	Reported data			Period change comparisons		
	Calendar year			Calendar year		
	2022	2023	2024	2022–24	2022–23	2023–24
U.S. consumption quantity:						
Amount	***	***	***	▼***	▼***	▲***
Producers' share (fn1)	***	***	***	▲***	▲***	▼***
Importers' share (fn1):						
China	***	***	***	▲***	▲***	▼***
Nonsubject sources	***	***	***	▼***	▼***	▲***
All import sources	***	***	***	▼***	▼***	▲***
U.S. consumption value:						
Amount	***	***	***	▼***	▼***	▼***
Producers' share (fn1):						
Fully domestic value:	***	***	***	▲***	▲***	▼***
Incremental value added to imports	***	***	***	▲***	▼***	▲***
Total value	***	***	***	▲***	▲***	▼***
Importers' share (fn1):						
China	***	***	***	▼***	▲***	▼***
Nonsubject sources	***	***	***	▼***	▼***	▲***
All import sources	***	***	***	▼***	▼***	▲***
U.S. importers' U.S. shipments of imports from:						
China:						
Quantity	***	***	***	▲***	▲***	▼***
Value	***	***	***	▼***	▼***	▼***
Unit value	***	***	***	▼***	▼***	▼***
Ending inventory quantity	***	***	***	▲***	▼***	▲***
Nonsubject sources:						
Quantity	***	***	***	▼***	▼***	▲***
Value	***	***	***	▼***	▼***	▲***
Unit value	***	***	***	▼***	▼***	▼***
Ending inventory quantity	***	***	***	▼***	▼***	▲***
All import sources:						
Quantity	***	***	***	▼***	▼***	▲***
Value	***	***	***	▼***	▼***	▲***
Unit value	***	***	***	▼***	▼***	▼***
Ending inventory quantity	***	***	***	▲***	▼***	▲***
U.S. producers' and 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	***	***	***	▼***	▼***	▼***

Table continued.

Table C.2 Continued
MDI products: Summary data concerning the U.S. market including U.S. processors, by item and period
Quantity=short tons; Value=1,000 dollars; Unit values, unit labor costs, and unit expenses=dollars per short ton; Productivity=short tons per 1,000 hours; Period changes=percent--exceptions noted

Item	Reported data			Period change comparisons		
	Calendar year			Calendar year		
	2022	2023	2024	2022–24	2022–23	2023–24
U.S. producers' and processors': Continued						
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	***	***	***	▲***	▲***	▲***
Producers: Unit labor costs	***	***	***	▼***	▼***	▼***
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.2 Continued
MDI products: Summary data concerning the U.S. market including U.S. processors, by item and period
Quantity=short tons; Value=1,000 dollars; Unit values, unit labor costs, and unit expenses=dollars per short ton; Productivity=short tons per 1,000 hours; Period changes=percent--exceptions noted

Item	Reported data			Period change comparisons		
	Calendar year			Calendar year		
	2022	2023	2024	2022–24	2022–23	2023–24
U.S. processors':						
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' and processors':						
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	***	***	***	▼***	▼***	▲***

Source: Compiled from data submitted in response to Commission questionnaires. 508-compliant tables for these data are contained in parts 3, 4, 6, and 7, and appendices E and F 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 U.S. producers' U.S. shipment quantities. Value for U.S. shipments reflects MDI products sold in the United States from domestically manufactured MDI products (including the value added by U.S. processors to domestic MDI products), as well as the incremental value added by U.S. processors to imported MDI products. 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.

APPENDIX D

U.S. PRODUCERS AND U.S. IMPORTERS NARRATIVES COMPARING MDI PRODUCTS AND TDI PRODUCTS, BY DOMESTIC LIKE PRODUCT FACTORS

Table D.1
MDI products: U.S. producers' narratives comparing MDI and TDI, by domestic like product factors

Factor	Producer name and narrative response on comparability
Physical characteristics	***
Physical characteristics	***
Physical characteristics	***
Interchangeability	***
Interchangeability	***
Interchangeability	***

Factor	Producer name and narrative response on comparability
Channels	***
Channels	***
Channels	***
Channels	***
Manufacturing	***
Manufacturing	***
Manufacturing	***
Manufacturing	***

Factor	Producer name and narrative response on comparability
Perceptions	***
Perceptions	***
Perceptions	***
Perceptions	***
Price	***
Price	***
Price	***
Price	***

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

Table D.2
MDI products: U.S. importers' narratives comparing MDI and TDI, by domestic like product factors

Factor	Importer name and narrative response on comparability
Physical characteristics	***
Physical characteristics	***
Physical characteristics	***
Physical characteristics	***

Table continued

Factor	Importer name and narrative response on comparability
Interchangeability	***
Interchangeability	***
Interchangeability	***
Interchangeability	***

Table continued

Factor	Importer name and narrative response on comparability
Channels	***
Channels	***
Channels	***
Channels	***
Channels	***

Table continued

Factor	Importer name and narrative response on comparability
Manufacturing	***
Manufacturing	***
Manufacturing	***
Manufacturing	***
Manufacturing	***
Perceptions	***
Perceptions	***
Perceptions	***
Perceptions	***
Perceptions	***

Table continued

Factor	Importer name and narrative response on comparability
Price	***
Price	***
Price	***
Price	***
Price	***

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

APPENDIX E

SUFFICIENT PRODUCTION RELATED ACTIVITIES AND U.S. PROCESSOR DATA

Table E.1 MDI products: U.S. processors, their positions on the petition, processing locations, and shares of reported processing, 2024

Shares in percent

Firm	Position on petition	Location(s)	Share of processing
BASF	Petitioner	Geismar, LA	***
Dow Chemical	Petitioner	Freeport, TX La Porte, TX	***
Huntsman	***	Geismar, LA	***
All firms	Various	Various	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 MDI products: U.S. producers' and processors' narratives on their domestic activities

Item	Firm name and narrative response
BASF	***
Covestro	***
Dow Chemical	***
Huntsman	***

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

Table E.3 MDI products: U.S. producers' and 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
BASF	***	***
Covestro	***	***
Dow Chemical	***	***
Huntsman	***	***

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

Table E.4 MDI products: U.S. producers' and processors' reported domestic operations, by factor

Value as noted in the table, Value added in percent, employment in average number of PRWs

Factor	BASF	Covestro	Dow	Huntsman	BASF (Pro-cessor)	Dow (Pro-cessor)	Huntsman (Pro-cessor)
Greenfield capital investment costs	*** million	*** million	*** million	*** million	*** million	*** million	*** million
Capital invest-ments: Assets	*** million	*** million	*** million	*** million	*** million	*** million	*** million
Capital invest-ments: Capital expenditures	*** million	*** million	*** million	*** million	*** thousand	*** thousand	*** thousand
Technical expertise: R & D expenses	*** million	*** million	*** million	*** million	*** thousand	*** thousand	*** thousand
Value added	*** percent	*** percent	*** percent	*** percent	*** percent	*** percent	*** percent
Employ-ment	*** PRWs	*** PRWs	*** PRWs	*** PRWs	*** PRWs	*** PRWs	*** PRWs
Quantity, type, and source of parts	***	***	***	***	***	***	***

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

Note: Domestic Interested Parties reported *** in their postconference briefs. Ex. 1, p. 8.

Table E.5 MDI products: U.S. producers' and processors' narratives on their domestic activities, by item

Item	Firm name and narrative response
Capital investments	***
Capital investments	***
Capital investments	***
Capital investments	***
Technical expertise	***
Technical expertise	***
Technical expertise	***
Technical expertise	***
Value added	***
Value added	***
Value added	***
Value added	***

Table continued

Table E.5 MDI products (continued): U.S. producers' and processors' narratives on their domestic activities, by item

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	***
Costs and activities	***
Costs and activities	***
Costs and activities	***
Costs and activities	***

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

Table E.6 MDI products: U.S. processors' output: Practical capacity, by firm and period

Capacity in short tons

Firm	2022	2023	2024
BASF	***	***	***
Dow Chemical	***	***	***
Huntsman	***	***	***
All firms	***	***	***

Table continued

Table E.6 MDI products (continued): U.S. processors' output: Production, by firm and period

Production in short tons

Firm	2022	2023	2024
BASF	***	***	***
Dow Chemical	***	***	***
Huntsman	***	***	***
All firms	***	***	***

Table continued

Table E.6 MDI products (continued): U.S. processors' output: Capacity utilization, by firm and period

Capacity utilization ratios in percent

Firm	2022	2023	2024
BASF	***	***	***
Dow Chemical	***	***	***
Huntsman	***	***	***
All firms	43.7	14.5	58.4

Table continued

Table E.6 MDI products (continued): U.S. processors' output: Production, by firm and period

Share in production in percent

Firm	2022	2023	2024
BASF	***	***	***
Dow Chemical	***	***	***
Huntsman	***	***	***
All firms	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 MDI products (continued): U.S. processors' output: Ratio of processing operations to their U.S. production operations, by firm and period

Share in production in percent

Firm	2022	2023	2024
BASF	***	***	***
Dow Chemical	***	***	***
Huntsman	***	***	***
All firms	***	***	***

Figure E.1 MDI products: U.S. processors' capacity, production, and capacity utilization, by period

* * * * * * *

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

Table E.7 MDI products: U.S. processors' production by production input type and period

Quantity in short tons; shares in percent

Production input type	Measure	2022	2023	2024
Domestic MDI	Quantity	***	***	***
Subject MDI	Quantity	***	***	***
Nonsubject MDI	Quantity	***	***	***
All imported MDI	Quantity	***	***	***
MDI from all sources	Quantity	***	***	***
Domestic MDI	Share	***	***	***
Subject MDI	Share	***	***	***
Nonsubject MDI	Share	***	***	***
All imported MDI	Share	***	***	***
MDI from all sources	Share	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.8 MDI products: Share of U.S. processors' U.S. shipments by source, channel of distribution, and period

Shares in percent

Source	Channel	2022	2023	2024
U.S. processors	Distributors	***	***	***
U.S. processors	Processors	***	***	***
U.S. processors	End users	***	***	***

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 MDI products: U.S. processors' U.S. shipments by destination market and period

Quantity in short tons; Value in 1,000 dollars; Unit values in dollars per short ton; Shares in percent

Item	Measure	2022	2023	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
U.S. shipments	Share of value	***	***	***
Export shipments	Share of value	***	***	***
Total shipments	Share of value	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.10 MDI products: U.S. producers' and U.S. processors' U.S. shipments for use in apparent consumption, by period

Quantity in short tons; Value in 1,000 dollars

Item	Measure	2022	2023	2024
U.S. producers	Quantity	985,894	978,344	1,009,048
U.S. producers	Value	3,025,403	2,430,946	2,256,738
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 MDI products sold in the United States from domestically manufactured MDI products (including the value added by U.S. processors to domestic MDI products), as well as the incremental value added by U.S. processors to imported MDI products. 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 "—".

Table E.11 MDI products: * U.S. processing source comparison**

Quantity in short tons; ratios in percent

Item	Measure	2022	2023	2024
Domestic MDI	Quantity	***	***	***
Subject MDI	Quantity	***	***	***
Nonsubject MDI	Quantity	***	***	***
Production using all MDI	Quantity	***	***	***
Domestic MDI	Ratio	***	***	***
Subject MDI	Ratio	***	***	***
Nonsubject MDI	Ratio	***	***	***
Production using all MDI	Ratio	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 MDI products: * U.S. processing source comparison**

Quantity in short tons; ratios in percent

Item	Measure	2022	2023	2024
Domestic MDI	Quantity	***	***	***
Subject MDI	Quantity	***	***	***
Nonsubject MDI	Quantity	***	***	***
MDI from all sources	Quantity	***	***	***
Domestic MDI	Ratio	***	***	***
Subject MDI	Ratio	***	***	***
Nonsubject MDI	Ratio	***	***	***
MDI from all sources	Ratio	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.13 MDI products: * U.S. processing source comparison**

Quantity in short tons; ratios in percent

Item	Measure	2022	2023	2024
Domestic MDI	Quantity	***	***	***
Subject MDI	Quantity	***	***	***
Nonsubject MDI	Quantity	***	***	***
MDI from all sources	Quantity	***	***	***
Domestic MDI	Ratio	***	***	***
Subject MDI	Ratio	***	***	***
Nonsubject MDI	Ratio	***	***	***
MDI from all sources	Ratio	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.14 MDI products: U.S. processor's employment related information, by item and period

Item	2022	2023	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 (short tons per 1,000 hours)	***	***	***
Unit labor costs (dollars per pound)	***	***	***

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

Table E.15 MDI products: U.S. producers' and U.S. processor's combined employment related information, by item and period

Item	2022	2023	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.

Table E.16 MDI products: U.S. processors' U.S. shipments in 2024, by product and end use

Quantity in short tons; shares in percent

End Use	Quantity	Share
Rigid foams	***	***
Flexible foams	***	***
Surface coating	***	***
Adhesives/sealants	***	***
Elastomers	***	***
Other known uses	***	***
Unknown uses	***	***
For all end uses	***	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.17 MDI products: U.S. processors' U.S. shipments in 2024, by product form

Quantity in short tons; Value in 1,000 dollars, Unit values in dollars per short ton; shares in percent

Product form	Quantity	Value	Unit value	Share of quantity	Share of value
Crude polymeric	***	***	***	***	***
Monomeric	***	***	***	***	***
All other product forms	***	***	***	***	***
All product forms	***	***	***	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.18 MDI products: Apparent consumption and market shares based on quantity, by source and period

Quantity in short tons; shares in percent

Source	Measure	2022	2023	2024
U.S. producers	Quantity	985,894	978,344	1,009,048
China	Quantity	***	***	***
Nonsubject sources	Quantity	***	***	***
All import sources	Quantity	***	***	***
All sources	Quantity	***	***	***
U.S. producers	Share	***	***	***
China	Share	***	***	***
Nonsubject sources	Share	***	***	***
All import sources	Share	***	***	***
All sources	Share	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 "—". Quantity for U.S. shipments U.S. 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. Unit value reflects the fully domestic value.

Figure E.2 MDI products: Apparent consumption and market shares based on quantity, by source and period

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

Table E.19 MDI products: Apparent consumption and market shares based on value, by source and period

Value in 1,000 dollars; shares in percent

Source	Measure	2022	2023	2024
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	***	***	***
Nonsubject sources	Value	***	***	***
All import sources	Value	***	***	***
All sources	Value	***	***	***
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	***	***	***
Nonsubject sources	Share	***	***	***
All import sources	Share	***	***	***
All sources	Share	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 "—". Value for U.S. shipments reflects MDI products sold in the United States from domestically manufactured MDI products (including the value added by U.S. processors to domestic MDI products), as well as the incremental value added by U.S. processors to imported MDI products. 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.

Figure E.3 MDI products: Apparent consumption and market shares based on value, by source and period

* * * * * * *

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

Note: The shares represent the share in the overall dataset, exclusive of processor data. Certain product forms and sources are not separately labeled in the figure if they are relatively small.

Figure E.4 MDI products: U.S. producers' U.S. shipments and U.S. importers' U.S. imports, by product form and source, for 2024

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

Note: The shares represent the share in the overall dataset, exclusive of processor data. Certain product forms and sources are not separately labeled in the figure if they are relatively small.

Figure E.5 MDI products: U.S. producers' and U.S. importers' U.S. U.S. shipments, by end use and source, for 2024

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

Note: The shares represent the share in the overall dataset, exclusive of processor data. Certain uses and sources are not separately labeled in the figure if they are relatively small. Some labels have been truncated due to their relatively small size in the overall combined data, exclusive of processor data.