Emulsion Styrene-Butadiene Rubber from Brazil, Mexico, Poland, and South Korea

Investigation Nos. 731-TA-1334-1337 (Review)

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U.S. International Trade Commission

COMMISSIONERS

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> Catherine DeFilippo *Director of Operations*

> > Staff assigned

Tyler Berard, Investigator Raymond Cantrell, Industry Analyst Natalia King, Economist David Boyland, Accountant Aaron Woodward, Statistician Noah Meyer, Attorney Nathanael Comly, Supervisory Investigator

Address all communications to Secretary to the Commission United States International Trade Commission Washington, DC 20436

U.S. International Trade Commission

Washington, DC 20436 www.usitc.gov

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Note.—Information that would reveal confidential operations of individual concerns may not be published.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 Nos. 731-TA-1334-1337 (Review)

Emulsion Styrene-Butadiene Rubber from Brazil, Mexico, Poland, and South Korea

DETERMINATIONS

On the basis of the record¹ developed in the subject five-year reviews, the United States International Trade Commission ("Commission") determines, pursuant to the Tariff Act of 1930 ("the Act"), that revocation of the antidumping duty orders on emulsion styrene-butadiene rubber (ESBR) from Brazil, Mexico, Poland, and South Korea would be likely to lead to continuation or recurrence of material injury to an industry in the United States within a reasonably foreseeable time.²

BACKGROUND

The Commission instituted these reviews on August 1, 2022 (87 FR 47001) and determined on November 4, 2022 that it would conduct full reviews (87 FR 76509, December 14, 2022). Notice of the scheduling of the Commission's reviews and of a public hearing to be held in connection therewith was given by posting copies of the notice in the Office of the Secretary, U.S. International Trade Commission, Washington, DC, and by publishing the notice in the *Federal Register* on December 28, 2022 (87 FR 79905). The Commission conducted its hearing on May 23, 2023. All persons who requested the opportunity were permitted to participate.

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

² Commissioner Randolph J. Stayin not participating.

Views of the Commission

Based on the record in these five-year reviews, we determine under section 751(c) of the Tariff Act of 1930, as amended ("the Tariff Act"), that revocation of the antidumping duty orders on emulsion styrene-butadiene rubber ("ESBR") from Brazil, Mexico, Poland, and South Korea would be likely to lead to continuation or recurrence of material injury to an industry in the United States within a reasonably foreseeable time.

I. Background

Original Investigations. On July 21, 2016, Lion Elastomers, LLC ("Lion") and East West Copolymer, LLC ("East West"), domestic producers of ESBR, filed antidumping duty petitions regarding imports of ESBR from Brazil, Mexico, Poland, and South Korea.¹ The Commission determined, on August 25, 2017, that a domestic industry was materially injured by reason of imports of ESBR from Brazil, Mexico, Poland, and South Korea sold at less-than-fair-value ("LTFV").² On September 12, 2017, the U.S. Department of Commerce ("Commerce") published the antidumping duty orders on imports of ESBR from Brazil, Mexico, Poland, and South Korea.³

Current Reviews. On August 1, 2022, the Commission instituted these first reviews of the orders.⁴ Lion and respondent interested parties Industrias Negromex, S.A. de C.V., a producer and exporter of ESBR in Mexico, Dynasol, LLC, a U.S. importer of ESBR (collectively, "Negromex") and Kumho Petrochemical Co., Ltd. ("Kumho"), a producer and exporter of ESBR

¹ Confidential Report, Memorandum INV-VV-052 (June 16, 2023) ("CR") at I-2; *Emulsion Styrene-Butadiene Rubber from Brazil, Mexico, Poland, and South Korea*, Inv. Nos. 731-TA-1334-1337 (Review), USITC Pub. 5447 (July 2023) ("PR") at I-2; *Emulsion Styrene-Butadiene Rubber from Brazil, Mexico, Poland, and South Korea*, Inv. Nos. 731-TA-1334-1337 (Final), USITC Pub. 4717 (Aug. 2017) ("*Original Determinations*") at 3. East West declared bankruptcy on April 7, 2017, terminated its representation by counsel, and withdrew its support for the petitions. *Original Determinations*, USITC Pub. 4717 at 3. Lion purchased a "very small amount" of East West's assets for Lion's Port Neches, Texas facility, but sold the facility to ExxonMobil Chemical later in 2017; the facility no longer produces ESBR. CR/PR at II-1 and n.7.

² CR/PR at I-2; Original Determinations, USITC Pub. 4717 at 3; Emulsion Styrene-Butadiene Rubber From Brazil, Korea, Mexico, and Poland, 82 Fed. Reg. 43402 (Sept. 15, 2017). Vice Chairman David S. Johanson and Commissioner Meredith M. Broadbent dissented, determining that an industry in the United States was not materially injured or threatened with material injury by reason of LTFV imports of ESBR from Brazil, Mexico, Poland, and South Korea. CR/PR at I-2, n.8; Original Determinations, USITC Pub. 4717 at 3, n.1.

³ Emulsion Styrene-Butadiene Rubber From Brazil, the Republic of Korea, Mexico, and Poland: Antidumping Duty Orders, 82 Fed. Reg. 42790 (Sept. 12, 2017).

⁴ Emulsion Styrene-Butadiene Rubber From Brazil, Mexico, Poland, and South Korea; Institution of Five-Year Reviews, 87 Fed. Reg. 47001 (Aug. 1, 2022).

in South Korea, submitted responses to the notice of institution.⁵ On November 4, 2022, the Commission found that the domestic interested party group response was adequate for all reviews and that the respondent interested party group responses with respect to Mexico and South Korea were also adequate.⁶ Therefore, it decided to conduct full reviews of the antidumping duty orders concerning ESBR from Mexico and South Korea.⁷ The Commission further found that the respondent interested party group responses with respect to Poland and Brazil were inadequate, but nevertheless determined to conduct full reviews concerning the antidumping duty orders on ESBR from Poland and Brazil to promote administrative efficiency in light of its decision to conduct full reviews with respect to the antidumping duty orders concerna.⁸

Lion's representatives appeared at the hearing, accompanied by counsel, and Lion submitted prehearing and posthearing briefs as well as final comments.⁹

Several respondent interested parties also participated in the reviews. Representatives of Negromex and Kumho appeared at the Commission's hearing accompanied by counsel and Negromex and Kumho submitted respective prehearing and posthearing briefs as well as final comments.¹⁰ Arlanxeo USA LLC, ("Arlanxeo") a U.S. importer of ESBR from Brazil, submitted

⁵ Lion's Confidential Response to Notice of Institution, EDIS Doc. 779087 (Aug. 30, 2022); Negromex Confidential Response to the Notice of Institution, EDIS Doc. 779185 (Aug. 31, 2022); Kumho Confidential Response to the Notice of Institution, EDIS Doc. 779183 (Aug. 31, 2022).

⁶ CR/PR at I-1, n.4; *Emulsion Styrene-Butadiene Rubber From Brazil, Mexico, Poland, and South Korea; Notice of Commission Determination To Conduct Full Five-Year Reviews*, 87 Fed. Reg. 76509 (Dec. 14, 2022).

⁷ Emulsion Styrene-Butadiene Rubber From Brazil, Mexico, Poland, and South Korea; Notice of Commission Determination To Conduct Full Five-Year Reviews, 87 Fed. Reg. 76509 (Dec. 14, 2022).

⁸ Emulsion Styrene-Butadiene Rubber From Brazil, Mexico, Poland, and South Korea; Notice of Commission Determination To Conduct Full Five-Year Reviews, 87 Fed. Reg. 76509 (Dec. 14, 2022).

⁹ Lion's Confidential Prehearing Brief, EDIS Doc. 796330 (May 12, 2023) ("Lion Prehr'g Br."); Lion's Confidential Posthearing Brief, EDIS Doc. 797509 (May 31, 2023) ("Lion Posthr'g Br."); Lion's Confidential Final Comments, EDIS Doc. 799580 (June 29, 2023) ("Lion Final Comments").

¹⁰ Kumho's Confidential Prehearing Brief, EDIS Doc. 796341 (May 12, 2023) ("Kumho Prehr'g Br."); Kumho Confidential Posthearing Brief, EDIS Doc. 797526 (May 31, 2023) ("Kumho Posthr'g Br."); Kumho's Confidential Final Comments, EDIS Doc. 799588 (June 29, 2023) ("Kumho Final Comments") ; Negromex's Confidential Prehearing Brief, EDIS Doc. 796343 (May 12, 2023) ("Negromex Prehr'g Br."); Negromex's Confidential Posthearing Brief, EDIS Doc. 797517 (May 31, 2023) ("Negromex Posthr'g Br."); Negromex's Confidential Final Comments, EDIS Doc. 799586 (June 29, 2023) ("Negromex Final Comments").

prehearing and posthearing briefs but did not appear at the Commission's hearing or submit final comments.^{11 12}

In these reviews, U.S. industry data are based on questionnaire responses from two U.S. producers that accounted for virtually all known U.S. production of ESBR during the January 2017 – December 2022 period of review ("POR") and on certain data from the Commission's original investigations concerning ESBR from Brazil, Mexico, Poland, and South Korea.¹³ U.S. import data and related information are based on the questionnaire responses of 22 U.S. importers of ESBR, believed to have accounted for the majority of all U.S. imports of ESBR during the POR, and official Commerce import statistics.¹⁴ Data and related information on the ESBR industry in Brazil are based on the questionnaire response of Arlanxeo Brasil S.A., a producer and exporter of ESBR in Brazil that accounted for *** production of ESBR in Brazil in 2022.¹⁵ Data and related information on the ESBR industry in Mexico are based on the questionnaire response of Negromex, a producer and exporter of ESBR in Mexico that accounted for *** production of ESBR in Mexico in 2022.¹⁶ Data and related information on the ESBR industry in Poland are based on industry research and public export data.¹⁷ Data and related information on the ESBR industry in South Korea are based on the questionnaire response of Kumho, a producer and exporter of ESBR in South Korea that accounted for *** production of ESBR in South Korea in 2022.¹⁸ Additionally, the Commission received 23 usable questionnaire responses from U.S. purchasers of ESBR during the POR.¹⁹

¹¹ Arlanxeo Confidential Prehearing Brief, EDIS Doc. 796329 (May 12, 2023) ("Arlanxeo Prehr'g Br."); Arlanxeo Confidential Posthearing Brief, EDIS Doc. 797506 (May 31, 2023) ("Arlanxeo Posthr'g Br.").

¹² The Commission received no submissions on behalf of any producer/exporter of ESBR from Poland or from any importer of ESBR from Poland.

¹³ CR/PR at I-10, III-1. Former U.S. producer, East West, ceased operations at its Baton Rouge, Louisiana facility effective March 31, 2017. East West accounted for approximately *** percent of total U.S. production of ESBR in 2017. CR/PR at III-1, n.2.

¹⁴ CR/PR at I-10. Import data presented in the sections examining geographical markets and presence in the market are based on official Commerce statistics for U.S. Harmonized Tariff Schedule ("HTSUS") statistical reporting numbers 4002.19.0015 and 4002.19.0019, which include ESBR and outof-scope products. CR/PR at Tables IV-5 and IV-6. Import data otherwise are based on U.S. importer questionnaire responses.

¹⁵ CR/PR at IV-22, Table IV-9.

¹⁶ CR/PR at IV-33, Table IV-19.

¹⁷ CR/PR at IV-42.

¹⁸ CR/PR at IV-45, Table IV-29.

¹⁹ CR/PR at I-25.

II. Domestic Like Product and Industry

A. Domestic Like Product

In making its determination under section 751(c) of the Tariff Act, the Commission defines the "domestic like product" and the "industry."²⁰ 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 under this subtitle."²¹ The Commission's practice in five-year reviews is to examine the domestic like product definition from the original investigation and consider whether the record indicates any reason to revisit the prior findings.²²

Commerce has defined the imported merchandise within the scope of the antidumping duty orders under review as follows:

The product covered by this order is cold-polymerized emulsion styrenebutadiene rubber (ESB rubber). The scope of the order includes, but is not limited to, ESB rubber in primary forms, bales, granules, crumbs, pellets, powders, plates, sheets, strip, etc. ESB rubber consists of nonpigmented rubbers and oil-extended non-pigmented rubbers, both of which contain at least one percent of organic acids from the emulsion polymerization process.

ESB rubber is produced and sold in accordance with a generally accepted set of product specifications issued by the International Institute of Synthetic Rubber Producers (IISRP). The scope of the order covers grades of ESB rubber included in the IISRP 1500 and 1700 series of synthetic rubbers. The 1500 grades are light in color and are often described as "Clear" or "White Rubber." The 1700 grades are oil-extended and thus darker in color, and are often called "Brown Rubber."

²⁰ 19 U.S.C. § 1677(4)(A).

²¹ 19 U.S.C. § 1677(10); see, e.g., Cleo Inc. v. United States, 501 F.3d 1291, 1299 (Fed. Cir. 2007); NEC Corp. v. Department of Commerce, 36 F. Supp. 2d 380, 383 (Ct. Int'l Trade 1998); Nippon Steel Corp. v. United States, 19 CIT 450, 455 (1995); Timken Co. v. United States, 913 F. Supp. 580, 584 (Ct. Int'l Trade 1996); Torrington Co. v. United States, 747 F. Supp. 744, 748-49 (Ct. Int'l Trade 1990), aff'd, 938 F.2d 1278 (Fed. Cir. 1991); see also S. Rep. No. 249, 96th Cong., 1st Sess. 90-91 (1979).

²² See, e.g., Internal Combustion Industrial Forklift Trucks from Japan, Inv. No. 731-TA-377 (Second Review), USITC Pub. 3831 at 8-9 (Dec. 2005); Crawfish Tail Meat from China, Inv. No. 731-TA-752 (Review), USITC Pub. 3614 at 4 (July 2003); Steel Concrete Reinforcing Bar from Turkey, Inv. No. 731-TA-745 (Review), USITC Pub. 3577 at 4 (Feb. 2003).

Specifically excluded from the scope of this order are products which are manufactured by blending ESB rubber with other polymers, high styrene resin master batch, carbon black master batch (i.e., IISRP 1600 series and 1800 series) and latex (an intermediate product).²³

ESBR is a copolymer synthetic rubber produced by a cold emulsion process from styrene and butadiene that contains approximately 25 percent styrene and 75 percent butadiene by weight, with antioxidant added during the production process for protection and storage.²⁴ The ESBR products covered by the scope of these reviews consist of the 1500 and 1700 series of ESBR synthetic rubber copolymers as defined by the International Institute of Synthetic Rubber Producers ("IISRP").²⁵ These series are primarily used in the production of the vulcanized tire treads of car and light truck tires in the replacement market, and to a lesser extent in technical goods such as conveyor belts, the soles of shoes, certain hoses, and flooring.²⁶

In its final determinations, the Commission defined a single domestic like product consisting of ESBR, coextensive with Commerce's scope.²⁷ The Commission found that both the 1500 and 1700 series ESBR were used for the same purposes and were manufactured using the same basic raw materials, manufacturing facilities, production processes, and employees.²⁸ It also found that the record did not support the inclusion in the domestic like product of three products that were outside the scope of the investigations: carbon black masterbatch ("CBMB"), solution styrene-butadiene rubber ("SSBR"), and natural rubber.²⁹

In these reviews, Lion argues that the Commission should again define a single domestic like product comprised of all ESBR, as it did in the original investigations.³⁰ No respondent

²³ Issues and Decision Memorandum for the Expedited Sunset Reviews of the Antidumping Duty Orders on Emulsion Styrene Butadiene Rubber from Brazil, the Republic of Korea, Mexico, and Poland (November 22, 2022) at 2.

²⁴ CR/PR at I-15.

²⁵ CR/PR at I-18.

²⁶ CR/PR at I-16.

²⁷ Original Determinations, USITC Pub. 4717 at 7. *Id.* at n.24.

²⁸ Original Determinations, USITC Pub. 4717 at 7.

²⁹ Original Determinations, USITC Pub. 4717 at 7, n.24. Specifically, the Commission found that CBMB, SSBR, and natural rubber possessed different physical characteristics than ESBR, were produced using different manufacturing processes, were sold at different price levels, and were perceived by producers and purchasers to be different products. *Id.* Consequently, the Commission found that there was a clear dividing line between in-scope ESBR and out-of-scope CBMB, SSBR, and natural rubber. *Id.*

³⁰ Lion's Confidential Response to Notice of Institution, EDIS Doc. 779087 (Aug. 30, 2022) at 26; Lion Prehr'g Br. at 13.

party argues for a different definition, and no party requested that the Commission collect data concerning other possible domestic like products in their comments on the draft questionnaires.³¹ The record in these reviews does not indicate that there have been any changes in the characteristics and uses of domestically produced ESBR since the original investigations that would warrant revisiting the definition of the domestic like product.³² Consequently, we define a single domestic like product consisting of ESBR, coextensive with Commerce's scope.

B. Domestic Industry

Section 771(4)(A) of the Tariff Act defines the relevant industry 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."³³ 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.

Original Investigations. Four firms accounted for all U.S. ESBR production: Lion, Goodyear Tire & Rubber Company ("Goodyear"), Ashland Inc. ("Ashland"), and East West.³⁴ The Commission did not exclude any domestic ESBR producer from the domestic industry under the related parties provision. Although *** was subject to possible exclusion under the related parties provision because it imported subject merchandise during the period of investigation ("POI"),³⁵ the Commission found that appropriate circumstances did not exist to exclude this producer given that its principal interest was in domestic production and its imports consisted of grades that it did not produce domestically.³⁶ Accordingly, the Commission defined the domestic industry as all U.S. producers of ESBR.³⁷

³¹ CR/PR at I-15–20.

³² See CR/PR at I-15–20.

³³ 19 U.S.C. § 1677(4)(A). The definitions in 19 U.S.C. § 1677 are applicable to the entire subtitle containing the antidumping and countervailing duty laws, including 19 U.S.C. §§ 1675 and 1675a. *See* 19 U.S.C. § 1677.

³⁴ Original Determinations, USITC Pub. 4717 at 8. Lion acquired Ashland's Port Neches, Texas facility in December 2014 and East West ceased operations in March 2017 and filed for Chapter 11 bankruptcy in April 2017. *Id.* at n.37.

 ³⁵ Original Determinations, USITC Pub. 4717 at 8; Confidential Views, EDIS Doc. 776639 at 10–11.
 ³⁶ Original Determinations, USITC Pub. 4717 at 8.

³⁷ Original Determinations, USITC Pub. 4717 at 8. Confidential Views, EDIS Doc. 776639 at 10-

Current Reviews. In these reviews, Lion argues that the Commission should define the domestic industry to consist of all domestic producers of ESBR.³⁸ No respondent party presented arguments concerning the appropriate definition of the domestic industry, and there are no related party issues in these reviews.³⁹ Therefore, consistent with our definition of the domestic like product, we again define the domestic industry to include all U.S. producers of ESBR.

III. Cumulation

A. Legal Standard

With respect to five-year reviews, section 752(a) of the Tariff Act provides as follows: the Commission may cumulatively assess the volume and effect of imports of the subject merchandise from all countries with respect to which reviews under

³⁸ Lion Prehr'g Br. at 13.

³⁹ Although *** did not itself import subject merchandise, and is not related to any exporter or U.S. importer of subject merchandise, it reported purchasing subject imports from *** during the POR. CR/PR at Table III-12. A domestic producer shall be considered to be a related party if it directly or indirectly controls an exporter, importer, or third party. 19 U.S.C. § 1677(4)(B). A domestic producer that does not itself import subject merchandise or does not share a corporate affiliation with an importer may nonetheless be deemed a related party if it controls a purchaser of large volumes of subject imports. See SAA at 858. The Commission has found such control to exist, for example, where the domestic producer's purchases were responsible for a predominant proportion of an importer's subject imports and the importer's subject imports were substantial. See, e.g., Iron Construction Castings from Brazil, Canada, and China, Inv. Nos. 701-TA-248, 731-TA-262-263, 265 (Fourth Review), USITC Pub. 4655 at 11 (Dec. 2016); Chlorinated Isocyanurates from China and Spain, Inv. Nos. 731-TA-1082-1083 (Second Review), USITC Pub. 4646 at 12 (Nov. 2016). ***, which accounted for *** percent of domestic ESBR production in 2022, reported purchasing subject imports in quantities of *** pounds in 2017, *** pounds in 2018, *** pounds in 2019, *** pounds in 2020, *** pounds in 2021, and *** pounds in 2022. *** ratio of purchases of subject imports to its U.S. production is less than *** percent throughout the POR. CR/PR at Tables I-13 and III-12. *** did not identify the quantities purchased from individual importers, but reported purchasing subject imports from U.S. importers ***. See CR/PR at Table III-12; see also *** U.S. Producer Questionnaire Response, EDIS Doc. 792760 at II-12. The combined volume of subject imports from South Korea that *** purchased as a share of total subject imports from South Korea was *** percent in 2017, *** percent in 2018, *** percent in 2019, *** percent in 2020, and *** percent in 2021. CR/PR at Table III-12. Its purchases accounted for *** percent of all cumulative U.S. shipments of subject imports in 2017, *** percent in 2018, *** percent in 2019, *** percent in 2020, *** percent in 2021, and *** percent in 2022. Compare CR/PR at Table I-16 with Table III-21. Thus, even if *** purchases accounted for a predominant proportion of each of its importers' subject imports, those importers' subject imports were not substantial enough to give *** control over purchasers of large volumes of subject imports during the POR. We therefore find that *** does not qualify for possible exclusion under the related parties provision.

section 1675(b) or (c) of this title were initiated on the same day, if such imports would be likely to compete with each other and with domestic like products in the United States market. The Commission shall not cumulatively assess the volume and effects of imports of the subject merchandise in a case in which it determines that such imports are likely to have no discernible adverse impact on the domestic industry.⁴⁰

Cumulation therefore is discretionary in five-year reviews, unlike original investigations, which are governed by section 771(7)(G)(i) of the Tariff Act.⁴¹ The Commission may exercise its discretion to cumulate, however, only if the reviews are initiated on the same day, the Commission determines that the subject imports are likely to compete with each other and the domestic like product in the U.S. market, and imports from each such subject country are not likely to have no discernible adverse impact on the domestic industry in the event of revocation. Our focus in five-year reviews is not only on present conditions of competition, but also on likely conditions of competition in the reasonably foreseeable future. The statutory threshold for cumulation is satisfied in these reviews because all reviews were initiated on the same day: August 1, 2022.⁴²

Original Investigations. In the original investigations, the Commission found that the statutory criteria for cumulation were met. The antidumping duty petitions were all filed on July 21, 2016, and the Commission found a reasonable overlap of competition between and among the domestic like product and subject imports from Brazil, Mexico, Poland, and South Korea.⁴³ Specifically, the Commission found that ESBR from each of the subject sources and domestically produced ESBR were fungible.⁴⁴ It found that that subject imports from each source and the domestic like product were sold in similar channels of distribution and

⁴⁰ 19 U.S.C. § 1675a(a)(7).

⁴¹ 19 U.S.C. § 1677(7)(G)(i); see also, e.g., Nucor Corp. v. United States, 601 F.3d 1291, 1293 (Fed. Cir. 2010) (Commission may reasonably consider likely differing conditions of competition in deciding whether to cumulate subject imports in five-year reviews); Allegheny Ludlum Corp. v. United States, 475 F. Supp. 2d 1370, 1378 (Ct. Int'l Trade 2006) (recognizing the wide latitude the Commission has in selecting the types of factors it considers relevant in deciding whether to exercise discretion to cumulate subject imports in five-year reviews); Nucor Corp. v. United States, 569 F. Supp. 2d 1328, 1337-38 (Ct. Int'l Trade 2008).

⁴² Initiation of Five-Year (Sunset) Reviews, 87 Fed. Reg. 46943 (Aug. 1, 2022).

⁴³ Original Determinations, USITC Pub. 4717 at 11–12.

⁴⁴ Original Determinations, USITC Pub. 4717 at 11–12.

geographic markets, and were simultaneously present in the U.S. market for most of the POI.⁴⁵ Accordingly, the Commission cumulated subject imports from Brazil, Mexico, Poland, and South Korea for purposes of its analysis of material injury.⁴⁶

B. Arguments of the Parties in the Current Reviews

Petitioner's Arguments. Lion argues that the Commission should again cumulate subject imports in these reviews.⁴⁷ It asserts that subject imports from each of the subject countries are not likely to have no discernible adverse impact on the domestic industry.⁴⁸ In its view, absent continuation of the orders, the volume of subject imports from each country would likely be significant in terms of volume, would likely have significant effects on domestic prices, and would likely have a significant impact on the domestic industry.⁴⁹ Moreover, Lion contends that there continues to be a likely reasonable overlap of competition between and among subject imports from each source and the domestic like product and that they are likely to compete under similar conditions in the event of revocation.⁵⁰

Respondents' Arguments. Respondent Arlanxeo argues that subject imports from Brazil are likely to have no discernible adverse impact on the domestic industry in the event of revocation because it is focused on supplying non-U.S. markets, including its home and third country markets,⁵¹ it has shifted the focus of its operations *** to the production of non-subject rubber,⁵² and its *** provides a disincentive for it to increase export volumes.⁵³ In the alternative, Arlanxeo contends that there is no reasonable overlap of competition between subject imports from Brazil and ESBR from other sources because the relatively low volumes of subject imports from Brazil consisting of *** ESBR in 2022 allegedly reflect a lack of

⁴⁵ Original Determinations, USITC Pub. 4717 at 11–12.

⁴⁶ Original Determinations, USITC Pub. 4717 at 12.

⁴⁷ Lion Prehr'g Br. at 13; Lion Final Comments at 13–14.

⁴⁸ Lion Prehr'g Br. at 13–28; Lion Final Comments at 13–14.

⁴⁹ Lion Prehr'g Br. at 61–70; Lion Final Comments at 13–14.

⁵⁰ Lion Prehr'g Br. at 28–34; Lion Final Comments at 14.

⁵¹ Arlanxeo Prehr'g Br. at 19–20; Arlanxeo Posthr'g Br. at 7–8. Arlanxeo claims that its home market shipments have ***, command higher prices than those of export shipments during the POR, and that it anticipates demand for ESBR to increase in its home market due to an announced expansion of a high-performance passenger/light truck tire plant by Bridgestone Brazil. *Id*.

⁵² Arlanxeo Prehr'g Br. at 21–22; Arlanxeo Posthr'g Br. at 5–7. Arlanxeo claims that *** would *** and that ***. Arlanxeo Prehr'g Br. at 21–22; Arlanxeo Posthr'g Br. at 5–6.

⁵³ Arlanxeo Prehr'g Br. at 22–23; Arlanxeo Posthr'g Br. at 3–5.

fungibility.⁵⁴ It also claims that subject imports from Brazil differed from subject imports from other sources in entering primarily through eastern ports of entry, being sold *** to tire manufacturers, and in terms of volume trends during the POR, allegedly showing a lack of simultaneous presence.⁵⁵

Respondent Negromex argues that subject imports from Mexico are likely to have no discernible impact on the domestic industry in the event of revocation because they maintained a limited presence in the U.S. market during the POR and are unlikely to increase after revocation, due to Negromex's limited and declining capacity and inability to shift production to ESBR from other products, its primary focus on home market customers, and its use of ***.⁵⁶ It also claims that subject imports from Mexico are likely to compete under different conditions of competition, based on the shared land border between the United States and Mexico, Negromex's reliance on *** in the U.S. market, Negromex's focus on *** products, and the lesser degree of underselling by subject imports from Mexico during the POR.⁵⁷

Respondent Kumho argues that the Commission should not cumulate subject imports from South Korea because they are likely to have no discernible adverse impact if the order were revoked.⁵⁸ Specifically, Kumho asserts that the volume of subject imports from South Korea declined during the POI and POR to low levels and is likely to remain low after revocation, due to Kumho's increasing focus on home and third-country markets and LG Chem's cessation of ESBR production in 2022.⁵⁹ Kumho also argues that these factors, as well as Kumho's focus on serving the U.S. market with grades of ESBR unavailable from domestic producers and realization of higher ESBR prices in home and third country markets, constitute differences in likely conditions of competition that warrant the decumulation of subject imports from South Korea.⁶⁰

⁵⁴ Arlanxeo Prehr'g Br. at 24–25. While Arlanxeo acknowledges that shipments from both Mexico and Poland ***, it claims that U.S. shipments of imports from these sources are in *** than shipments of subject imports from Brazil. *Id*.

⁵⁵ Arlanxeo Prehr'g Br. at 25–28.

⁵⁶ Negromex Posthr'g Br. at 3–4 and Exhs. 2 and 3 (providing copies of its contracts with U.S. tire companies during the POR). Because its contracts allegedly ***, Negromex claims that the relative pricing in the U.S. market and Mexico is not probative of the attractiveness of each market. *Id.* at 4, 6–7.

⁵⁷ Negromex Prehr'g Br.at 6–19; Negromex Posthr'g Br. at 5–8.

⁵⁸ Kumho Prehr'g Br. at 1–12; Kumho Posthr'g Br. at 1–3.

⁵⁹ Kumho Prehr'g Br. at 4–5, 7–10; Kumho Posthr'g Br. at 1–8.

⁶⁰ Kumho Prehr'g Br. at 15, 28; Kumho Posthr'g Br. at 9; Kumho Final Comments at 5–6.

C. Likelihood of No Discernible Adverse Impact

The statute precludes cumulation if the Commission finds that subject imports from a country are likely to have no discernible adverse impact on the domestic industry.⁶¹ Neither the statute nor the Uruguay Round Agreements Act ("URAA") Statement of Administrative Action ("SAA") provides specific guidance on what factors the Commission is to consider in determining that imports "are likely to have no discernible adverse impact" on the domestic industry.⁶² With respect to this provision, the Commission generally considers the likely volume of subject imports and the likely impact of those imports on the domestic industry within a reasonably foreseeable time if the orders are revoked. Our analysis for each of the subject countries takes into account, among other things, the nature of the product and the behavior of subject imports in the original investigations.

Brazil. During the original investigations, U.S. imports of subject merchandise from Brazil decreased from *** pounds in 2014, to *** pounds in 2015, and then increased to *** pounds in 2016; they were lower in January – March ("interim") 2017 at *** pounds than in interim 2016 at *** pounds.⁶³ U.S. importers' U.S. shipments of subject imports from Brazil accounted for *** percent of apparent U.S. consumption in 2016.⁶⁴ In these reviews, subject imports from Brazil decreased from *** pounds in 2017, to *** pounds in 2018, *** pounds in 2019, *** pounds in 2020, and to *** pounds in 2021; there were no reported subject imports from Brazil in 2022.⁶⁵ During these reviews, the share of apparent U.S. consumption accounted for by shipments of subject imports from Brazil decreased from *** percent in 2017, to *** percent in 2018, *** percent in 2019, *** percent in 2020, *** percent in 2021, and ***

In the final phase of the original investigations and in these reviews, the Commission received a foreign producer/exporter questionnaire response from one firm, Arlanxeo, which accounted for *** ESBR production in Brazil.⁶⁷

The capacity of the industry in Brazil to produce ESBR increased initially from *** pounds in 2017, to *** pounds in 2018, then decreased to *** pounds in 2019, and to ***

⁶¹ 19 U.S.C. § 1675a(a)(7).

⁶² SAA, H.R. Rep. No. 103-316, vol. I at 887 (1994).

⁶³ ESBR from Brazil, Korea, Mexico, and Poland Staff Report ("Final Report"), Memorandum INV-PP-100, EDIS Doc. 617873 (July 24, 2017) at Table IV-2.

⁶⁴ CR/PR at Table I-3.

⁶⁵ CR/PR at Table IV-1.

⁶⁶ CR/PR at Table I-16.

⁶⁷ CR/PR at IV-22.

pounds in 2020, before again increasing to *** pounds in 2021, and to *** pounds in 2022.⁶⁸ Its capacity utilization rate declined from *** percent in 2017, to *** percent in 2018, and to *** percent in 2019, before increasing to *** percent in 2020 and *** percent in 2021, and then declining to *** percent in 2022.⁶⁹ Total shipments of ESBR by the industry in Brazil decreased from *** pounds in 2017, to *** pounds in 2018, *** pounds in 2019, and to *** pounds in 2020, before increasing to *** pounds in 2021, and decreasing to *** pounds in 2020, before increasing to *** pounds in 2021, and decreasing to *** pounds in 2022.⁷⁰ Exports of ESBR from Brazil followed a pattern similar to its total shipments; they decreased from *** pounds in 2017, to *** pounds in 2018, *** pounds in 2019, and to *** pounds in 2020, before increasing to *** pounds in 2018, *** pounds in 2019, and to *** pounds in 2020, before increasing to *** pounds in 2018, *** pounds in 2019, and to *** pounds in 2020, before increasing to *** pounds in 2011, and decreasing to *** pounds in 2022.⁷¹ On an annual basis, between *** and *** percent of Arlanxeo's total shipments were exported, and between *** and *** percent of its export shipments were directed to the United States in the years for which such exports were reported.⁷² According to Global Trade Atlas ("GTA") data, the largest export markets for styrene-butadiene rubber ("SBR"), a category that includes ESBR and out-of-scope products, from Brazil in 2022 were Belgium, the United States, and China.⁷³

In the original investigations, subject imports from Brazil undersold the domestic like product in 30 of 32 quarterly comparisons, or 93.8 percent of the time, corresponding to reported subject import sales of 158.3 million pounds.⁷⁴ In these reviews, subject imports from Brazil undersold the domestic like product in 14 of 21 quarterly comparisons, or 66.7 percent of the time, corresponding to reported subject imports sales of *** pounds.⁷⁵

We are unpersuaded by Arlanxeo's arguments that its home market focus and the relatively higher AUVs of its home market shipments would likely prevent subject imports from Brazil from having a discernible adverse impact after revocation.⁷⁶ While Arlanxeo primarily shipped to its home market during both the POI and POR, this did not prevent subject imports

⁶⁸ CR/PR at Table IV-13.

⁶⁹ CR/PR at Table IV-13.

⁷⁰ CR/PR at Table IV-14.

⁷¹ CR/PR at Table IV-14.

⁷² CR/PR at Tables IV-14 and IV-15. *** exports from Brazil to the United States were reported in 2021 and 2022. *Id*. at Table IV-15.

⁷³ CR/PR at Table IV-18.

⁷⁴ Final Report at Table V-10. Underselling accounted for 99.6 percent of the volume of reported sales of subject imports from Brazil during the POI. *Id*.

⁷⁵ CR/PR at V-12. Underselling accounted for *** percent of the volume of reported sales of subject imports from Brazil during the POR. *Id*.

⁷⁶ Arlanxeo Prehr'g Br. at 18–23; Arlanxeo Posthr'g Br at 3–8, Responses to Commissioner Questions at 1–5.

from Brazil from entering into the U.S. market in significant volumes and underselling the domestic like product during the original investigations.⁷⁷ Additionally, while the AUVs for its export shipments to markets other than the United States were generally higher than those for its exports to the United States during the POR, this fluctuated during the POR with the AUVs of its exports to the U.S. market higher than those of any other export destination in 2017 and the second highest in 2019, indicating that the U.S. market was among the most attractively priced at times during the POR.⁷⁸

We are also unpersuaded by Arlanxeo's arguments that its increasing focus on *** would prevent subject imports from Brazil from having a discernible adverse impact on the domestic industry.⁷⁹ While Arlanxeo's production of *** increased irregularly from 2019 to 2021,⁸⁰ as its *** production capacity declined,⁸¹ its excess capacity for ESBR in 2022 was equivalent to *** percent of apparent U.S. consumption that year.⁸² When accounting for Arlanxeo's end-of-period inventories of ESBR, which increased irregularly during the POR, it possessed excess capacity and inventories equivalent to *** percent of apparent U.S. consumption in 2022, with which it could have increased exports to the United States.⁸³

Finally, we are unpersuaded by Arlanxeo's argument that its *** would effectively deter it from utilizing its excess capacity and inventories to increase exports to the U.S. market upon

Arlanxeo claims that it *** in 2019. CR/PR at Table IV-11; Arlanxeo Prehr'g Br. at 21–22; Arlanxeo Posthr'g Br. at 5–6.

⁷⁷ Compare Final Report at Table VII-3, with CR/PR at Table IV-14.

⁷⁸ CR/PR at Table IV-15.

⁷⁹ CR/PR at Table IV-15.

⁸⁰ CR/PR at Table IV-17.

⁸¹ CR/PR at Table IV-13. The Commission's methodology for collecting data on foreign producer capacity has changed since the original investigations. In the original investigations, the Commission requested that foreign producers report their capacity, meaning the production that could be achieved under normal operating conditions. *See, e.g.*, Final Report at Table VII-3. In these reviews, the Commission requested that foreign producers report their capacity separately for "installed overall capacity," meaning their theoretical capacity to produce all products on equipment used to produce ESBR; "practical overall capacity," meaning the production of all products that could realistically be achieved on equipment used to produce ESBR; and "practical ESBR capacity," meaning the production of ESBR that could realistically be achieved using the equipment. *See, e.g.*, CR/PR at Table IV-13. For this reason, the ESBR capacity reported by subject producers in the original investigations may be overstated relative to the practical ESBR capacity they reported in these reviews.

⁸² Derived from CR/PR Tables I-16 and IV-13. Arlanxeo's excess capacity to product ESBR was *** pounds in 2022. CR/PR at IV 13.

⁸³ Derived from CR/PR Tables I-16, IV-13, and IV-14. Arlanxeo's end-of-period inventories in 2022 totaled *** pounds. CR/PR at Table IV-14.

revocation of the pertinent order.⁸⁴ Indeed, the existence of a *** between Arlanxeo and *** did not prevent it from exporting substantial quantities of ESBR to the United States during the POI and more modest quantities during the POR, notwithstanding the disciplining effects of the order.⁸⁵ Moreover, there is no guarantee that Arlanxeo's *** will continue indefinitely, as it ***,⁸⁶ and in any event Arlanxeo has provided no indication the *** Arlanxeo from selling ***.

In light of the foregoing, including the overall increase in the volume of subject imports from Brazil during the original investigations, the continued presence of subject imports from Brazil in the U.S. market during most of the POR, Arlanxeo's large capacity, excess capacity, and inventories, and the underselling of the domestic like product by subject imports from Brazil during the POI and POR, we find that subject imports from Brazil would not likely have no discernible adverse impact on the domestic industry if the order covering these imports were revoked.

Mexico. During the original investigations, U.S. imports of subject merchandise from Mexico decreased from *** pounds in 2014, to *** pounds in 2015, and then increased to *** pounds in 2016; they were lower in interim 2017 at *** pounds than in interim 2016 at *** pounds.⁸⁷ U.S. importers' U.S. shipments of subject imports from Mexico accounted for *** percent of apparent U.S. consumption in 2016.⁸⁸ In these reviews, the volume of subject imports from Mexico decreased from *** pounds in 2017, to *** pounds in 2018, before increasing to *** pounds in 2019, decreasing to *** pounds in 2020, increasing to *** pounds in 2021, and again decreasing to *** pounds in 2022.⁸⁹ During these reviews, the share of apparent U.S. consumption accounted for by shipments of subject imports from Mexico also decreased from *** percent in 2017, to *** percent in 2018, before fluctuating for the remainder of the POR; it was *** percent in 2019, *** percent in 2020, *** percent in 2021, and *** percent in 2022.⁹⁰

In the original investigations and these reviews, the Commission received a foreign producer/exporter questionnaire from one firm, Negromex, which accounted for *** ESBR production in Mexico.⁹¹

⁸⁴ Arlanxeo Prehr'g Br at 22–23; Arlanxeo Posthr'g Br. at 3–5.

⁸⁵ Arlanxeo exported *** pounds ESBR to the U.S. market in 2015 and *** pounds in 2016, years during which it was ***. Final Report at IV-4–5 and Table VII-3.

⁸⁶ Final Report at IV-4.

⁸⁷ Final Report at Table IV-2.

⁸⁸ CR/PR at Table I-3.

⁸⁹ CR/PR at Table IV-1.

⁹⁰ CR/PR at Table I-16.

⁹¹ CR/PR at IV-33.

The capacity of the industry in Mexico to produce ESBR decreased from *** pounds in 2017, to *** pounds in 2018, *** pounds in 2019, and to *** pounds in 2020, before increasing to *** pounds in 2021, and decreasing to *** pounds in 2022.⁹² Its capacity utilization rate initially declined from *** percent in 2017, to *** percent in 2018, before increasing to *** percent in 2019, *** percent in 2020, decreasing slightly to *** percent in 2021, before again increasing to *** percent in 2022.⁹³ Total shipments of ESBR by the industry in Mexico decreased from *** pounds in 2017, to *** pounds in 2018, *** pounds in 2019, and to *** pounds in 2020, before increasing to *** pounds in 2017, to *** pounds in 2011, and decreasing to *** pounds in 2020, before increasing to *** pounds in 2021, and decreasing to *** pounds in 2020, before increasing to *** pounds in 2021, and decreasing to *** pounds in 2022.⁹⁴ Exports of ESBR from Mexico fluctuated during the POR but declined, overall; they totaled *** pounds in 2017, *** pounds in 2018, *** pounds in 2019, *** pounds in 2020, *** pounds in 2021, and *** pounds in 2022.⁹⁵ On an annual basis, between *** and *** percent of Negromex's total shipments were exported, and between *** and *** percent of its export shipments were directed to the United States during the POR.⁹⁶ According to GTA data, the largest export markets for SBR, a category that includes ESBR and out-of-scope products, from Mexico in 2022 was the United States.⁹⁷

In the original investigations, subject imports from Mexico undersold the domestic like product in 37 of 71 quarterly comparisons, or 52.1 percent of the time, corresponding to reported subject import sales of 56.7 million pounds.⁹⁸ In these reviews, subject imports from Mexico oversold the domestic like product in all 33 quarterly comparisons, corresponding to reported subject import sales of *** pounds.⁹⁹

We are unpersuaded by Negromex's arguments that its alleged home market focus, capacity limitations, and inability to shift production from other products to ESBR indicate that subject imports from Mexico would likely have no discernible adverse impact on the domestic industry after revocation.¹⁰⁰ As an initial matter, Negromex exported between *** and ***

⁹⁸ Final Report at Table V-10. Underselling accounted for *** percent of the volume of reported sales of subject imports from Mexico during the POI. *Id*.

⁹⁹ CR/PR at Table V-12.

¹⁰⁰ Negromex Prehr'g Br. at 3–6; Negromex Posthr'g Br at 2–6; Negromex Final Comments at 2–

⁹² CR/PR at Table IV-22.

⁹³ CR/PR at Table IV-22.

⁹⁴ CR/PR at Table IV-23.

⁹⁵ CR/PR at Table IV-23.

⁹⁶ CR/PR at Tables IV-23 and IV-24.

⁹⁷ CR/PR at Table IV-26. There were no export shipments of SBR from Mexico to any non-U.S. market in 2022. *Id*.

percent of its total shipments during the POR, reflecting a significant degree of export orientation.¹⁰¹ Additionally, the AUVs of its export shipments to the United States were higher than the AUVs of its home market shipments in five of the six years of the POR, and the relatively higher values in the U.S. market would provide Negromex with an economic incentive to increase its exports to the U.S. market after revocation.¹⁰² Moreover, the high fixed costs associated with ESBR production would create a further economic incentive for Negromex to fill its excess capacity of *** pounds in 2022, equivalent to *** percent of apparent U.S. consumption that year, with increased exports to the United States.¹⁰³ When accounting for Negromex's end-of-period inventories of ESBR, which increased irregularly during the POR, its inventories and excess capacity were equivalent to *** percent of apparent U.S. consumption in 2022.¹⁰⁴ Consequently, irrespective of any ability to shift production among products,¹⁰⁵ Negromex has the ability and incentive to increase its exports to the U.S. market to significant levels after revocation.

We are also unpersuaded by Negromex's argument that its use of ***, which allegedly reduce its incentive to export to the United States, make it unlikely that subject imports from Mexico could have a discernible adverse impact on the domestic industry after revocation.¹⁰⁶ Negromex's use of *** would not prevent Negromex from seeking out additional sales in the U.S. market to new customers, either through *** or spot sales, or from selling ESBR in the U.S. market at low prices pursuant to existing ***.¹⁰⁷ Indeed, Negromex concedes that it sold ESBR in the U.S. market *** during the POR.¹⁰⁸

¹⁰⁴ Derived from CR/PR at Tables I-16, IV-23, and IV-24.

¹⁰⁵ While Negromex ***, it claims it would be economically impractical to do so due to the ***. CR/PR at Table III-2; Negromex Posthr'g Br., Responses to Commissioner Questions at 4–5.

¹⁰⁶ Negromex Posthr'g Br. at 3–4, 6–7, Responses to Commissioner Questions at 2–3, Exhs. 2–4; Negromex Final Comments at 6.

¹⁰⁷ Negromex claims that "***." Negromex Posthr'g Br at 4.

¹⁰¹ CR/PR at Table IV-23.

¹⁰² Compare CR/PR at Table IV-23, with Table IV-24. AUVs of Negromex's exports to the U.S. market were also higher than its AUVs to non-U.S. destination markets for five of the six years of the POR. *Id.* at Table IV-24.

¹⁰³ Derived from CR/PR at Tables I-16 and IV-24. Due to the high fixed costs associated with ESBR production, ESBR producers have an economic incentive to maximize their rate of capacity utilization to reduce their unit fixed costs and increase their economic returns. CR/PR at III-28 nn.36 & 37.

¹⁰⁸ CR/PR at Table V-3; Negromex Posthr'g Br. at 7. We note that Negromex *** the proportion of its U.S. shipments directed to tire manufacturers and *** proportion of its U.S. shipments directed to other end users over the course of the POR. CR/PR at Table II-1. There is no information on the record (Continued...)

Finally, we are unpersuaded that overselling by subject imports from Mexico during the POR indicates that these imports would have no discernible adverse impact if the order were revoked.¹⁰⁹ Overselling by subject imports from Mexico during the POR, under the disciplining effects of the order, is not predictive of the pricing of subject imports from Mexico after revocation. As discussed above, subject imports from Mexico undersold the domestic like product in 37 of 71 quarterly comparisons during the original investigations, and revocation of the order would enable Negromex to increase its underselling of the domestic like product as a means of gaining market share.¹¹⁰

In light of the factors discussed above, including the significant volume of subject imports from Mexico during the original investigations; the continued presence of subject imports from Mexico in the U.S. market during the POR; Negromex's large capacity, including excess capacity, end-of-period inventories, and exports; the attractiveness of the U.S. market; and the underselling by subject imports from Mexico during the original investigations, we find that subject imports from Mexico would not likely have no discernible adverse impact on the domestic industry if the pertinent order were revoked.

Poland. During the original investigations, U.S. imports of subject merchandise from Poland decreased from *** pounds in 2014, to *** pounds in 2015, then increased to *** pounds in 2016; it was higher in interim 2017 at *** pounds than in interim 2016 at *** pounds.¹¹¹ U.S. importers' U.S. shipments of subject imports from Poland accounted for *** percent of apparent U.S. consumption in 2016.¹¹² In these reviews, subject imports from Poland decreased from *** pounds in 2017, to *** pounds in 2018, to *** pounds in 2019, and to *** pounds in 2020, before increasing to *** pounds in 2021, and to *** pounds in 2022.¹¹³ During these reviews, the share of apparent U.S. consumption accounted for by shipments of subject imports from Poland decreased from *** percent in 2017, to *** percent in 2018, and remained at that level for the rest of the POR.¹¹⁴

In the final phase of the original investigations, the Commission received a producer/exporter questionnaire response from Synthos, which accounted for *** ESBR

suggesting that Negromex could not increase the share of its U.S. shipments to tire manufacturers after revocation, if warranted by demand conditions.

¹⁰⁹ Negromex Prehr'g Br. at 5–6; Negromex Posthr'g Br at 4–5; Negromex Final Comments at 7.

¹¹⁰ Final Report at Table V-10.

¹¹¹ Final Report at Table IV-2.

¹¹² CR/PR at Table I-3. ¹¹³ CR/PR at Table IV-1.

¹¹⁴ CR/PR at Table I-16.

production in Poland during the POI.¹¹⁵ In these reviews, the Commission received no questionnaire responses from any producer/exporter of ESBR in Poland.¹¹⁶

According to the IISRP, as of 2020, Synthos maintains an annual ESBR capacity of approximately *** pounds at its plant in Oswiecim, Poland.¹¹⁷ According to GTA data, exports of SBR, a category that includes ESBR and out-of-scope products, from Poland increased steadily from 440.6 million pounds in 2017 to 454.7 million pounds in 2018, 520.3 million pounds in 2019, and 558.2 million pounds in 2020, before decreasing to 528.1 million pounds in 2021, and 411.2 million pounds in 2022.¹¹⁸ The largest export markets for SBR from Poland in 2022 were India, China, and Brazil.¹¹⁹

In the original investigations, subject imports from Poland undersold the domestic like product in 27 of 42 quarterly comparisons, or 64.3 percent of the time, corresponding to reported subject import sales of 9.1 million pounds.¹²⁰ In these reviews, subject imports from Poland undersold the domestic like product in one of five quarterly comparisons, or 20 percent of the time, corresponding to reported subject import sales of *** pounds.¹²¹

In light of the foregoing, including the significant volume of subject imports from Poland during the original investigations, the continued presence of subject imports from Poland in the U.S. market during the POR, Synthos's large capacity and volume of exports, and the underselling by subject imports from Poland during the original investigations, we find that subject imports from Poland would not likely have no discernible adverse impact on the domestic industry if the order covering these imports were revoked.

South Korea. During the original investigations, U.S. imports of subject merchandise from South Korea decreased from *** pounds in 2014, to *** pounds in 2015, and to *** pounds in 2016; they were lower in interim 2017 at *** pounds than in interim 2016 at *** pounds.¹²² U.S. importers' U.S. shipments of subject imports from South Korea accounted for *** percent of apparent U.S. consumption in 2016.¹²³ In these reviews, subject imports from

¹²⁰ Final Report at Table V-10. Underselling accounted for 71.1 percent of the volume of reported sales of subject imports from Poland during the POI. *Id*.

¹²¹ CR/PR at Table V-12. Underselling accounted for *** percent of the volume of reported sales of subject imports from Poland during the POR. *Id*.

¹²² Final Report at Table IV-2.

¹²³ CR/PR at Table I-3.

¹¹⁵ CR/PR at IV-42.

¹¹⁶ CR/PR at IV-42.

 $^{^{\}rm 117}$ CR/PR at IV-42.

 $^{^{\}rm 118}$ CR/PR at Table IV-28.

 $^{^{\}rm 119}$ CR/PR at Table IV-28.

South Korea decreased from *** pounds in 2017, to *** pounds in 2018, *** pounds in 2019, *** pounds in 2020, *** pounds in 2021, and *** in 2022.¹²⁴ During these reviews, the share of apparent U.S. consumption accounted for by shipments of subject imports from South Korea decreased from *** percent in 2017, to *** percent in 2018, *** percent in 2019, *** percent in 2020 and 2021, and *** percent in 2022.¹²⁵

In the original investigations, the Commission received a questionnaire response from two firms, LG Chem and Kumho, which accounted for *** ESBR production in South Korea during the POI.¹²⁶ In these reviews, the Commission received a questionnaire response from Kumho, which accounted for *** ESBR production in South Korea in 2022.¹²⁷

The capacity of the industry in South Korea to produce ESBR decreased from *** pounds in 2017, to *** pounds during the 2018-2021 period, before increasing to *** pounds in 2022.¹²⁸ Its capacity utilization rate increased from *** percent in 2017, to *** percent in 2018, before decreasing to *** percent in 2019, increasing to *** percent in 2020, and to *** percent in 2021, before again decreasing to *** percent in 2022.¹²⁹ Total shipments of ESBR by the industry in South Korea decreased from *** pounds in 2017, to *** pounds in 2018, and to *** pounds in 2019, before increasing to *** pounds in 2020, *** pounds in 2021, and to *** pounds in 2022.¹³⁰ Exports of ESBR from South Korea decreased from *** pounds in 2017, to *** pounds in 2018, and *** pounds in 2019, before increasing to *** pounds in 2020, and *** pounds in 2021, and then decreasing to *** pounds in 2022.¹³¹ On an annual basis, between *** and *** percent of the subject industry's total shipments were exported, and between *** and *** percent of the industry's export shipments were exported to the United States during years for which such exports were reported.¹³² According to GTA data, the largest export markets for SBR, a category that includes ESBR and out-of-scope products, from South Korea in 2022 were China, the United States, and Indonesia.¹³³

¹²⁴ CR/PR at Table IV-1.

¹²⁵ CR/PR at Table I-16.

¹²⁶ CR/PR at IV-45.

¹²⁷ CR/PR at IV-45. Despite outreach by staff to LG Chem to file a questionnaire response in these reviews, LG Chem did not provide one. *Id.* at n.20.

¹²⁸ CR/PR at Table IV-32. LG Chem, which reportedly ceased production of ESBR in 2022, had a capacity to produce SBR as reported by the Korea Petrochemical Industry Association of *** pounds in 2017, 2018, and 2019 and *** pounds in 2020 and 2021. CR/PR at Table IV-36.

¹²⁹ CR/PR at Table IV-32.

¹³⁰ CR/PR at Table IV-33.

¹³¹ CR/PR at Table IV-33.

¹³² CR/PR at Tables IV-33 and IV-34.

¹³³ CR/PR at Table IV-37.

In the original investigations, subject imports from South Korea undersold the domestic like product in 56 of 73 quarterly comparisons, or 76.7 percent of the time, corresponding to reported subject import sales of 61.6 million pounds.¹³⁴ In these reviews, subject imports from South Korea undersold the domestic like product in 2 of 17 quarterly comparisons, or 11.8 percent of the time, corresponding to reported subject import sales of *** pounds.¹³⁵

We are unpersuaded by Kumho's argument that the declining volume of subject imports from South Korea during the original investigations, Kumho's increased focus on serving home and third country markets, and the cessation of LG Chem's ESBR production indicate that subject imports from South Korea would likely have no discernible adverse impact on the domestic industry following revocation of the relevant order.¹³⁶ Notwithstanding their declining volumes,¹³⁷ subject imports from South Korea remained significant during the original investigations in terms of absolute volumes and undersold the domestic like product in 56 of 73 quarterly comparisons.¹³⁸ Additionally, Kumho's allegedly increasing focus on its home market did not prevent Kumho from exporting approximately *** of its total shipments in 2022.¹³⁹ Moreover, even after LG Chem's cessation of ESBR production in 2022,¹⁴⁰ Kumho alone possessed excess capacity of *** pounds, equivalent to *** percent of 2022 apparent U.S. consumption as much of the *** percent increase in Kumho's practical ESBR capacity between

¹³⁴ Final Report at Table V-10. Underselling accounted for 67.1 percent of the volume of reported sales of subject imports from South Korea during the POI. *Id*.

¹³⁵ CR/PR at Table V-12. Underselling accounted for *** percent of the volume of reported sales of subject imports from South Korea during the POR. *Id*.

¹³⁶ Kumho Prehr'g Br. at 3–12; Kumho Posthr'g Br at 1–3.

¹³⁷ The volume of subject imports from South Korea declined during each full year of the POI;

they totaled *** pounds in 2014, *** pounds in 2015, *** pounds in 2016. Final report at Table IV-2. ¹³⁸ Final Report at Table V-10.

¹³⁹ CR/PR at Table IV-33. Notably, although the AUVs of Kumho's home market shipments are *** than the AUVs of its export shipments each year of the POR, Kumho nevertheless exported between *** and *** percent of its total shipments during the POR, indicating that relative AUVs do not appear to be the sole determining factor for where Kumho sells its ESBR. *Compare* CR/PR at Table IV-33, *with* Table IV-34.

¹⁴⁰ Lion notes that LG Chem's capacity associated with its Daesan plant is listed as "idled" in *Worldwide Rubber Statistics: 2023, "Global Synthetic Rubber Manufacturing Capabilities by Region*" and claims that this capacity could therefore be re-started. Lion Posthr'g Br., Responses to Commissioner Questions at 22. Kumho contends that LG Chem has permanently ceased its ESBR operations at this facility and submitted evidence in the form of an affidavit attesting that ***. Kumho Prehr'g Br. at 8-9; Kumho Posthr'g Br. at 10–11, Exh. 9; Kumho Final Comments at 13–14.

2021 and 2022 remained unutilized.¹⁴¹ When accounting for Kumho's end-of period inventories of ESBR, Kumho's excess capacity and inventories were equivalent to *** percent of apparent U.S. consumption in 2022.¹⁴² Given the high fixed costs associated with ESBR production, Kumho would have an economic incentive to fill its excess capacity by increasing exports to the United States after revocation, particularly given its significant exports to the United States during the original investigations and continued presence in the U.S. market.

Based on the factors discussed above, including the significant volume of subject imports from South Korea during the original investigations; their continued presence in the U.S. market during most of the POR; the subject producer's large capacity, including excess capacity, inventories, and exports; and the underselling by subject imports from South Korea during the original investigations, we find that subject imports from South Korea would not likely have no discernible adverse impact on the domestic industry if the order on these imports were revoked.

D. Likelihood of a Reasonable Overlap of Competition

The Commission generally has considered four factors intended to provide a framework for determining whether subject imports compete with each other and with the domestic like

¹⁴¹ Derived from CR/PR at Tables I-16 and IV-32. Notably, Kumho reported an increase in its practical ESBR capacity from *** pounds in 2021 to *** pounds in 2022, ***, even as its capacity utilization rate declined from *** percent to *** percent during this period. CR/PR at Tables IV-31–32. Lion highlights that Kumho reported in 2022 that it planned to invest \$4.5 billion into developing existing and new business, \$2.5 billion of which is aimed at enhancing its core business – the production of synthetic rubbers, including ESBR. Lion Prehr'g Br. at 18–19.

¹⁴² Derived from CR/PR at Tables I-16, IV-32, and IV-33. Kumho reported that ***. CR/PR at Table II-3. Lion disputes Kumho's reported ***, claiming that Kumho was able to *** in *** at a ***. Lion Posthr'g Br., Responses to Commissioner Questions at 1–2. Kumho submitted documentation showing that it shifted production from *** to some extent in 2019. Kumho Prehr'g Br at Exh. 20.

product.¹⁴³ Only a "reasonable overlap" of competition is required.¹⁴⁴ In five-year reviews, the relevant inquiry is whether there likely would be competition even if none currently exists because the subject imports are absent from the U.S. market.¹⁴⁵

Fungibility. In the original investigations, the Commission found that subject imports from each subject country were fungible with the domestic like product and each other.¹⁴⁶

In these reviews, the record shows that subject imports from Brazil, Mexico, Poland, and South Korea, and the domestic like product, remain fungible. Majorities of responding domestic producers, importers, and purchasers reported that ESBR from the United States is always or frequently interchangeable with ESBR from each subject country.¹⁴⁷ Both the domestic industry and subject imports supplied 1500 and 1700 series ESBR to the U.S. market in

¹⁴⁴ See Mukand Ltd. v. United States, 937 F. Supp. 910, 916 (Ct. Int'l Trade 1996); Wieland Werke, 718 F. Supp. at 52 ("Completely overlapping markets are not required."); United States Steel Group v. United States, 873 F. Supp. 673, 685 (Ct. Int'l Trade 1994), aff'd, 96 F.3d 1352 (Fed. Cir. 1996). We note, however, that there have been investigations where the Commission has found an insufficient overlap in competition and has declined to cumulate subject imports. See, e.g., Live Cattle from Canada and Mexico, Inv. Nos. 701-TA-386 and 731-TA-812-13 (Preliminary), USITC Pub. 3155 at 15 (Feb. 1999), aff'd sub nom, Ranchers-Cattlemen Action Legal Foundation v. United States, 74 F. Supp. 2d 1353 (Ct. Int'l Trade 1999); Static Random Access Memory Semiconductors from the Republic of Korea and Taiwan, Inv. Nos. 731-TA-761-62 (Final), USITC Pub. 3098 at 13-15 (Apr. 1998).

¹⁴⁵ See generally, Chefline Corp. v. United States, 219 F. Supp. 2d 1313, 1314 (Ct. Int'l Trade 2002).

¹⁴⁶ Original Determinations, USITC Pub. 4717 at 11–12. In the original investigations, the Commission observed that the domestic industry and importers of subject merchandise from Brazil, Mexico, Poland, and South Korea supplied both 1500 and 1700 series ESBR to the U.S. market. A majority of responding U.S. producers and purchasers reported that ESBR imports from the subject countries were "always" or "frequently" interchangeable with each other and with the domestic like product, and a majority of responding importers reported that ESBR imports from the subject countries were "frequently" or "sometimes" interchangeable with each other and with the domestic like product. Most purchasers reported that ESBR imports from the subject countries were comparable with each other and with the domestic like product on most of 16 specified purchasing factors. *Id.* at 11.

¹⁴⁷ CR/PR at Tables II-12 to II-14.

¹⁴³ The four factors generally considered by the Commission in assessing whether imports compete with each other and with the domestic like product are as follows: (1) the degree of fungibility between subject imports from different countries and between subject imports and the domestic like product, including consideration of specific customer requirements and other quality-related questions; (2) the presence of sales or offers to sell in the same geographical markets of imports from different countries and the domestic like product; (3) the existence of common or similar channels of distribution for subject imports from different countries and the domestic like product; and (4) whether subject imports are simultaneously present in the market with one another and the domestic like product. *See, e.g., Wieland Werke, AG v. United States,* 718 F. Supp. 50 (Ct. Int'l Trade 1989).

2022, with the exception of subject imports from South Korea.¹⁴⁸ That same year, a *** of U.S. shipments of domestically produced and subject ESBR from each country consisted of the *** series.¹⁴⁹ A plurality of purchasers reported never making ESBR purchasing decisions based on the country of origin, and most purchasers with knowledge of the topic reported that domestically produced ESBR and subject imports from Mexico, Poland, and South Korea always met minimum quality specifications.¹⁵⁰ A majority or plurality of purchasers reported that domestically produced ESBR was comparable with ESBR from each of the subject countries across 16 purchasing factors with few exceptions, primarily relating to delivery time.¹⁵¹

The two domestic producers were *** on whether factors other than price were *** significant for domestically produced and subject ESBR.¹⁵² In all but two comparisons, most responding importers reported that factors other than price were sometimes significant between and among the ESBR from the United States and each subject source.¹⁵³ Responses from U.S. purchasers were more varied, with a plurality of purchasers reporting that factors

¹⁴⁹ CR/PR at Table IV-3. In 2022, the 1500 series accounted for *** percent of the domestic industry's U.S. shipments and *** percent of U.S. shipments of subject imports. *Id*.

¹⁵⁰ CR/PR at Tables II-6 and II-9. Most purchasers with knowledge of Brazilian ESBR reported that subject imports from Brazil usually met minimum quality specifications. *Id.* at Table II-9.

¹⁵¹ CR/PR at Table II-11. Majorities of purchasers reported that U.S. product was superior to subject imports from Brazil and South Korea in terms of delivery time and an equal number of purchasers rated domestically produced ESBR as inferior and superior to subject imports from Poland with respect to this factor, and an equal number of purchasers rated domestically produced ESBR as superior and comparable to subject imports from Mexico with respect to delivery time; an equal number of purchasers rated the domestic product as inferior and superior to subject imports from Mexico with respect to reliability of supply; and a majority of purchasers reported that domestically produced ESBR was superior in terms of availability and price compared to subject imports from Poland. *Id*.

¹⁵² CR/PR at Table II-15.

¹⁵³ CR/PR at Table II-16. Only a plurality of importers reported that factors other than price were sometimes significant in comparisons between ESBR from Brazil and Poland and between ESBR from Mexico and Poland. *Id*.

¹⁴⁸ CR/PR at Table IV-3. Although there were no reported U.S. shipments of subject imports from South Korea in 2022, Kumho reported shipping *** ESBR in its total shipments for 2022. *Id.* at Table F-2. Additionally, f.o.b. pricing for pricing product *** were reported from 2017 to 2020 and pricing for pricing product *** were reported in 2017 for subject imports from South Korea. *Id.* at Tables V-7 and V-8. Similarly, although there were no reported U.S. shipments of *** series ESBR from Brazil and Poland in 2022, pricing for product *** was reported in 2017 and for product *** in 2017 and 2018 for subject imports from Brazil, and pricing for product *** was reported in 2017 and 2018 for subject imports from Poland. *Id.* at Tables V-6 to V-8.

other than price were sometimes significant between and among the ESBR from the United States and each subject source in most comparisons.¹⁵⁴

We are unpersuaded by Arlanxeo's argument that there is a limited degree of fungibility between subject imports from Brazil, subject imports from other sources, and the domestic like product because shipments of subject merchandise from Brazil were *** series ESBR in 2022.¹⁵⁵ First, the *** of the domestic industry's shipments and shipments of subject imports from Brazil, Mexico, and Poland were of *** series ESBR, and thus overlapped with subject imports from Brazil in this respect.¹⁵⁶ Moreover, pricing data on the record shows that, although there were no reported U.S. shipments of *** series ESBR from Brazil in 2022, there were reported U.S. shipments of subject imports from Brazil satisfying the definition of product 2 in 2017 and products 2 and 4 in 2018, which are both *** products.¹⁵⁷ This evidence indicates that subject imports from Brazil consisted of both *** grade ESBR, like imports from other sources and the domestic like product. Finally, most responding producers, importers, and purchasers reported subject imports from Brazil, subject imports from other sources, and the domestic like product were always or frequently interchangeable, and most responding purchasers reported that subject imports from Brazil were comparable to ESBR from other subject and domestic sources with respect to most purchasing factors.¹⁵⁸ For all these reasons, we find that there is a sufficient degree of fungibility between subject imports from Brazil, imports from other subject sources, and the domestic like product, for purposes of cumulation.

Geographic Overlap. In the original investigations, domestic producers reported selling ESBR to all U.S. regions of the United States. Although the majority of subject imports from

¹⁵⁴ CR/PR at Table II-17. With respect to comparisons between Brazil and Poland, Mexico and South Korea, and Poland and South Korea, an equal number of purchasers reported that that factors other than price were always, frequently, sometimes, and never significant. In the comparison between Mexico and Poland, an equal number of purchasers reported that that factors other than price were always, frequently, and never significant. *Id*. at Table II-17.

¹⁵⁵ Arlanxeo Prehr'g Br. at 24–25.

¹⁵⁶ CR/PR at IV-7 and Table IV-3. In 2022, most or all U.S. shipments from each subject source consisted of 1500 series ESBR, accounting for *** percent of U.S. producers' U.S. shipments, *** percent of U.S. importers' U.S. shipments from Brazil, *** percent of U.S. importers' U.S. shipments from Mexico, and *** percent of U.S. importers' U.S. shipments from Poland. *Id.* at IV-7. Although there were no reported U.S. shipments of ESBR from South Korea in 2022, evidence on the record indicates that they consisted of *** ESBR during the POR. *See* n.172, *supra*.

¹⁵⁷ CR/PR at Tables V-6 and V-8.

¹⁵⁸ CR/PR at Tables II-11 to II-14.

each source entered in the South during the POI, all were sold in the Midwest, Southeast, Central Southwest, Pacific Coast, and some were sold in additional overlapping regions.¹⁵⁹

In these reviews, domestic producers reported selling ESBR to ***, as did importers of subject merchandise from each source.¹⁶⁰

While Arlanxeo argues that subject imports from Brazil were ***,¹⁶¹ subject imports from each other source also entered into the United States through its ***, albeit in smaller volumes.¹⁶² Moreover, subject imports from Brazil, Mexico, Poland, and South Korea were sold in *** once they entered into U.S. market, alongside the domestic like product.¹⁶³ Thus, the record shows that subject imports from Brazil served the same geographic markets as imports from other sources and the domestic like product.

Channels of Distribution. In the original investigations, the Commission found that the majority of the domestic industry's sales and sales of subject imports from each source were made to end users, and particularly to tire manufacturers.¹⁶⁴

In these reviews, domestic producers and importers of ESBR from Brazil, Mexico, Poland, and South Korea made most of their U.S. shipments to end users, though the proportion of subject imports shipped to tire manufacturers and other end users varied by source.¹⁶⁵

We are unpersuaded by Arlanxeo's argument that subject imports from Brazil are distinct in that *** were shipped to *** during the POR.¹⁶⁶ Subject imports from Brazil, Poland, and South Korea and the domestic like product were shipped *** tire manufacturers throughout most of the POR, while subject imports from Mexico were *** sold to tire manufacturers in ***.¹⁶⁷ Thus, the record shows that subject imports from Brazil overlapped

¹⁵⁹ Original Determinations, USITC Pub. 4717 at 11 and n.49.

¹⁶⁰ CR/PR at Table II-2.

¹⁶¹ Arlanxeo Prehr'g Br. at 25–26.

¹⁶² CR/PR at Table IV-5.

¹⁶³ CR/PR at Table II-2. Notably subject imports from Brazil were the *** subject imports to be sold in the *** regions of the United States. *Id*.

¹⁶⁴ Original Determinations, USITC Pub. 4717 at 11.

¹⁶⁵ CR/PR at Table II-1. Specifically, subject imports from Mexico were primarily shipped to *** in 2017, but trended irregularly towards shipping a greater proportion to *** during the remainder of the POR. Conversely, subject imports from Poland were shipped primarily to *** in 2017 and were shipped primarily, if not wholly, to *** for the remainder of the POR. Subject imports from South Korea were primarily shipped to *** in 2017, 2020, and 2021, but were roughly split between shipments to *** and *** in 2018 and 2019. *Id*.

¹⁶⁶ Arlanxeo Prehr'g Br. at 27–28.

¹⁶⁷ CR/PR at Table II-1.

with imports from other subject sources and the domestic like product in terms of channels of distribution.¹⁶⁸

Simultaneous Presence in Market. In the original investigations, the Commission found that the domestic like product and ESBR imported from Brazil, Mexico, and South Korea were present in the U.S. market in each month of the POI, and that subject imports from Poland were present in the U.S. market in every month of the POI with the exception of a large portion of 2017.¹⁶⁹

In these reviews, the domestic like product and subject imports from Mexico were present in all 72 months of the POR while subject imports from Brazil were present in 67 months, subject imports from South Korea were present in 59 months, and subject imports from Poland were present in 53 months.¹⁷⁰

Conclusion. The record in these reviews indicates that there have been no significant changes in the considerations that led the Commission to conclude in the original investigations that there was a reasonable overlap of competition between and among subject imports from Brazil, Mexico, Poland, and South Korea, and the domestic like product. In particular, the domestic like product and subject imports from each source remain fungible, are primarily shipped through the same or similar channels of distribution, overlap in terms of geographic markets, and were simultaneously present in the U.S. market for most of the POR. In light of this, we find that there would likely be a reasonable overlap in competition between and among subject imports from Brazil, Mexico, Poland, and South Korea and the domestic like product if the orders were revoked.

E. Likely Conditions of Competition

We also find that the record in these reviews does not indicate that there would likely be significant differences in the conditions of competition between subject imports from Brazil, Mexico, Poland, and South Korea if the orders were revoked. While respondents cite various

¹⁶⁸ See CR/PR at Table II-1.

¹⁶⁹ Original Determinations, USITC Pub. 4717 at 11.

¹⁷⁰ CR/PR at Table IV-6. Arlanxeo acknowledges that subject imports from each source were simultaneously present in the U.S. market to some degree during the POR, but argues that subject imports from Brazil exhibited distinctive volume trends. Arlanxeo Prehr'g Br. at 26–27. We fail to see how any differences in volume trends as between subject imports from Brazil and imports from other sources contradict other evidence showing that subject imports from Brazil were simultaneously present in the U.S. market with imports from other sources and the domestic like product throughout most of the POR. CR/PR at Table IV-6.

factors that in their view indicate that subject imports from certain countries are likely to compete under different conditions of competition, we are unpersuaded that any of the factors cited indicate that subject imports from these countries are likely to compete under different conditions of competition in the event of revocation. Instead, we find that the record indicates the subject imports from Brazil, Mexico, Poland, and South Korea are of similar quality, characteristics, and are produced to IISRP standards that do not vary by supplier; all subject countries have the ability to compete in the U.S. market with large quantities given their large production capacities, substantial excess capacity, and their export orientation; and subject imports from each subject country maintained some presence in the U.S. market during most of the POR.

We are unpersuaded by Arlanxeo's argument that subject imports from Brazil would likely compete under different conditions of competition due to its alleged home market focus and ***. As discussed in Section III.C., *supra*, we have found that neither of these factors would prevent Arlanxeo from increasing its exports to the U.S. market after revocation.¹⁷¹ Consequently, we do not find that these factors would lead subject imports from Brazil to compete under different conditions of competition than subject imports from other sources if the orders were revoked.

We are unpersuaded by Negromex's argument that subject imports from Mexico would likely compete under different conditions of competition following revocation due to Negromex's alleged focus on home market customers, its use of ***, and its low dumping

¹⁷¹ While Arlanxeo cites to the Commission's previous determinations in *Brass Sheet and Strip*, Potassium Permanganate, and Certain Carbon Steel Products, among others, for support, Arlanxeo Posthr'g Br., Responses to Commissioner Questions at 1–5, we note that each Commission determination is sui generis, depending on the facts of each proceeding. See, e.g., Cleo Inc. v. United States, 501 F. 3d 1291, 1299 (Fed. Cir. 2007). Further, the reliance on the cases above is inapposite here, as the facts of those determinations are also distinguishable from the facts on the record of these reviews. Brass Sheet and Strip from Brazil, Canada, France, Germany, Italy, and Japan, Inv. Nos. 701-TA-269 and 731-TA-311-314, 317, and 379 (Second Review), USITC Pub. 3842 (March 2006) at 16–17 (export orientation of the subject industry in Brazil far lower than Arlanxeo's in the current reviews); Potassium Permanganate from China and Spain, Inv. Nos. 731-TA-125-126 (Review), USITC Pub. 3245 (Oct 1999) at 10–11 (relying on differences in relative capacities and capacity trends, third-country barriers to importation, and pricing during original investigations, rather than just export orientation); Certain Carbon Steel Products from Australia, Belgium, Brazil, Canada, Finland, France, Germany, Japan, Korea, Mexico, the Netherlands, Poland, Romania, Spain, Sweden, Taiwan, and the United Kingdom, Inv. Nos. AA1921-197, 701-TA-231, 319-320, 322, 325-328, 34, USITC Pub. 3364 (Nov. 2000) at 23, n.123 (sole producer of subject merchandise in United Kingdom affiliated with member of domestic industry by common ownership).

margins and overselling by subject imports from Mexico during the POR.¹⁷² Negromex has not explained how any of these factors indicate that subject imports from Mexico are likely to compete under different conditions of competition in the U.S. market. Moreover, as discussed in Section III.C., above, we have found that none of these factors would prevent Negromex from increasing its exports to the U.S. market after revocation.

We are also unpersuaded by Negromex's arguments regarding the shared land border and ability to ship subject imports by truck between the United States and Mexico.¹⁷³ Negromex has not explained how the ability to re-export subject imports from the United States, notwithstanding that there is no duty-drawback available for antidumping duties, supports its contention that subject imports from Mexico are likely to compete under different conditions of competition. Moreover, the *** during the POR ***.¹⁷⁴ To the extent that the shared border may confer commercial advantages on subject imports from Mexico in terms of delivery time, modes of transportation, and transportation costs, these advantages would make it more likely that subject imports from Mexico would increase after revocation, not distinguish how subject imports from Mexico compete in the U.S. market relative to other subject imports.¹⁷⁵ Consequently, we do not find that these factors would lead subject imports from Mexico to compete under different conditions of competition in the U.S. market than subject imports from other sources if the orders were revoked.

We are unpersuaded by Kumho's argument that subject imports from South Korea would likely compete under different conditions of competition in light of the declining volumes of subject imports from South Korea during the POI and POR and Kumho's capacity constraints, Kumho's alleged focus on supplying certain grades unavailable from domestic producers, and the allegedly higher AUVs of Kumho's shipments to its home market and third country

¹⁷² Negromex Posthr'g Br. at 3–4, 6–7, Responses to Commissioner Questions at 2–3, Exhs. 2–4; Negromex Final Comments at 6.

¹⁷³ Negromex Prehr'g Br. at 8–9; Negromex Posthr'g Br., Responses to Commissioner Questions at 13–15.

¹⁷⁴ Negromex Prehr'g Br. at Exh. 10.

¹⁷⁵ Negromex's citation to *Lemon Juice from Argentina and Mexico*, Inv. Nos. 731-TA-1005-1006 (Review), USITC Pub. 4418 (July 2013), to support its land border argument is unavailing. Not only is each Commission determination *sui generis*, but the Commission determined to decumulate subject imports from Mexico in *Lemon juice* for reasons that do not apply in these reviews. Negromex Posthr'g Br., Responses to Commissioner Questions at 13–15; *Lemon Juice from Argentina and Mexico*, Inv. Nos. 731-TA-1005-1006 (Review), USITC Pub. 4418, at 11-12, 17-18 (July 2013) (industry in Mexico increasingly shipping whole lemons to U.S. market by truck, where processing of lemon juice largely driven by availability of lemons rather than lemon juice demand).

customers.¹⁷⁶ Numerous responding purchasers and importers cited the AD orders as the reason for the withdrawal of subject imports, including those from South Korea, from the U.S. market and reported anticipating their return in the event of revocation.¹⁷⁷ As discussed in section III.C, above, we have found that none of these factors Kumho cites would prevent it from increasing its exports to the U.S. market or competing within the same grade as the domestic like product and other subject imports if the order were revoked. Kumho had sufficient excess capacity to supply *** percent of apparent U.S. consumption in 2022, and exported nearly *** of its total shipments that year.¹⁷⁸ Despite supplying certain grades of ESBR that were allegedly unavailable from the domestic industry, Kumho also reported shipping *** ESBR during the POR, with the *** accounting for a majority of the domestic industry's U.S. shipments during the POR.¹⁷⁹ Additionally, responding importers reported sales of pricing product *** from South Korea during the 2017-2020 period and sales of pricing product *** from South Korea in 2017.¹⁸⁰

Further, as to Kumho's assertion that Kumho commanded relatively higher prices on shipments to home market and third country customers than on shipments to the United States, the record evidence shows that, even if not always higher, U.S. prices are competitive with Kumho's home market and third country prices.¹⁸¹ In any event, relative AUVs do not appear to be the sole determining factor for Kumho's decisions about where to sell its ESBR; despite its home market shipment AUVs being *** than its export shipment AUVs during every year of the POR, Kumho nevertheless exported between *** and *** percent of its total shipments during the POR.¹⁸² Consequently, we do not find that these factors would lead

¹⁸¹ Compare Lion Prehr'g Br. at 63–65; Lion Posthr'g Br. at 2–6 (AUVs of U.S. shipments of subject imports from South Korea, Chemical Market Analytics data, and public export data indicating U.S. market attractively priced), with Kumho Final Comments at 5–6 (AUVs of South Korea exports to U.S. market show relatively low pricing); see also Lion Posthr'g Br. at 3–5 (arguing questionnaire data accounts for only a small portion of the total volume of subject imports from South Korea). To the extent that Kumho is arguing that the different pricing constitutes a different condition of competition, we disagree. The relative attractiveness of the U.S. market does not distinguish subject imports from South Korea from other subject imports in terms of the conditions under which they are likely to compete in the U.S. market if the order is revoked. Kumho acknowledges that AUVs for its U.S. export shipments were *** to those for its exports to Asia in 2018, indicating that U.S. pricing was comparable to that in other markets during the POR. Kumho Posthr'g Br. at 9.

¹⁸² Compare CR/PR at Table IV-33, with Table IV-34.

¹⁷⁶ Kumho Prehr'g Br. at 3–15; Kumho Posthr'g Br. at 1–3.

¹⁷⁷ CR/PR at Table D-1.

¹⁷⁸ CR/PR at Tables I-16, IV-32, IV-33.

¹⁷⁹ CR/PR at Table F-2.

¹⁸⁰ CR/PR at Tables V-7 and V-8.

subject imports from South Korea to compete in the U.S. market under different conditions of competition than subject imports from other sources if the orders were revoked.

Further, as discussed in Section III.B., *supra*, during the original investigations the volume of imports from each of these subject sources was substantial, and subject imports from each of these sources undersold the domestic like product to some degree. In addition, subject imports from each source maintained some presence in the U.S. market during the POR, and each subject industry has the ability to compete in the U.S. market in larger quantities given their production capacity and ability to export substantial volumes of ESBR. We have also explained that, contrary to Respondents' arguments, there is likely to be a reasonable overlap of competition between subject imports from different sources if the orders were revoked. Accordingly, we do not find differences in the conditions of competition sufficient to warrant exercising our discretion not to cumulate subject imports from Brazil, Mexico, Poland, and South Korea.

F. Conclusion

In sum, we determine that subject imports from Brazil, Mexico, Poland, and South Korea, considered individually, are not likely to have no discernible adverse impact on the domestic industry in the event of revocation. We also find that that there would likely be a reasonable overlap of competition between and among subject imports from each country and the domestic like product if the orders were revoked. Finally, we find that subject imports from each subject country would be likely to compete under similar conditions of competition upon revocation of the antidumping duty orders. Accordingly, we exercise our discretion to cumulate subject imports from Brazil, Mexico, Poland, and South Korea for purposes of our analysis in these reviews.

IV. Revocation of the Antidumping Duty Order Would Likely Lead to Continuation or Recurrence of Material Injury Within a Reasonably Foreseeable Time

A. Legal Standards

In a five-year review conducted under section 751(c) of the Tariff Act, Commerce will revoke an antidumping or countervailing duty order unless: (1) it makes a determination that dumping or subsidization is likely to continue or recur and (2) the Commission makes a determination that revocation of the antidumping or countervailing duty order "would be likely to lead to continuation or recurrence of material injury within a reasonably foreseeable

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time."¹⁸³ The SAA states that "under the likelihood standard, the Commission will engage in a counterfactual analysis; it must decide the likely impact in the reasonably foreseeable future of an important change in the status quo – the revocation or termination of a proceeding and the elimination of its restraining effects on volumes and prices of imports."¹⁸⁴ Thus, the likelihood standard is prospective in nature.¹⁸⁵ The U.S. Court of International Trade has found that "likely," as used in the five-year review provisions of the Act, means "probable," and the Commission applies that standard in five-year reviews.¹⁸⁶

The statute states that "the Commission shall consider that the effects of revocation or termination may not be imminent, but may manifest themselves only over a longer period of time."¹⁸⁷ According to the SAA, a "'reasonably foreseeable time' will vary from case-to-case, but normally will exceed the 'imminent' timeframe applicable in a threat of injury analysis in original investigations."¹⁸⁸

Although the standard in a five-year review is not the same as the standard applied in an original investigation, it contains some of the same fundamental elements. The statute

¹⁸⁵ While the SAA states that "a separate determination regarding current material injury is not necessary," it indicates that "the Commission may consider relevant factors such as current and likely continued depressed shipment levels and current and likely continued {sic} prices for the domestic like product in the U.S. market in making its determination of the likelihood of continuation or recurrence of material injury if the order is revoked." SAA at 884.

¹⁸⁶ See NMB Singapore Ltd. v. United States, 288 F. Supp. 2d 1306, 1352 (Ct. Int'l Trade 2003) ("'likely' means probable within the context of 19 U.S.C. § 1675(c) and 19 U.S.C. § 1675a(a)"), aff'd mem., 140 Fed. Appx. 268 (Fed. Cir. 2005); Nippon Steel Corp. v. United States, 26 CIT 1416, 1419 (2002) (same); Usinor Industeel, S.A. v. United States, 26 CIT 1402, 1404 nn.3, 6 (2002) ("more likely than not" standard is "consistent with the court's opinion;" "the court has not interpreted 'likely' to imply any particular degree of 'certainty'"); Indorama Chemicals (Thailand) Ltd. v. United States, 26 CIT 1059, 1070 (2002) ("standard is based on a likelihood of continuation or recurrence of injury, not a certainty"); Usinor v. United States, 26 CIT 767, 794 (2002) ("'likely' is tantamount to 'probable,' not merely 'possible'").

¹⁸⁷ 19 U.S.C. § 1675a(a)(5).

¹⁸⁸ SAA at 887. Among the factors that the Commission should consider in this regard are "the fungibility or differentiation within the product in question, the level of substitutability between the imported and domestic products, the channels of distribution used, the methods of contracting (such as spot sales or long-term contracts), and lead times for delivery of goods, as well as other factors that may only manifest themselves in the longer term, such as planned investment and the shifting of production facilities." *Id*.

¹⁸³ 19 U.S.C. § 1675a(a).

¹⁸⁴ SAA at 883–84. The SAA states that "{t}he likelihood of injury standard applies regardless of the nature of the Commission's original determination (material injury, threat of material injury, or material retardation of an industry). Likewise, the standard applies to suspended investigations that were never completed." *Id*. at 883.

provides that the Commission is to "consider the likely volume, price effect, and impact of imports of the subject merchandise on the industry if the orders are revoked or the suspended investigation is terminated."¹⁸⁹ It directs the Commission to take into account its prior injury determination, whether any improvement in the state of the industry is related to the order or the suspension agreement under review, whether the industry is vulnerable to material injury if an order is revoked or a suspension agreement is terminated, and any findings by Commerce regarding duty absorption pursuant to 19 U.S.C. § 1675(a)(4).¹⁹⁰ The statute further provides that the presence or absence of any factor that the Commission is required to consider shall not necessarily give decisive guidance with respect to the Commission's determination.¹⁹¹

In evaluating the likely volume of imports of subject merchandise if an order under review is revoked and/or a suspended investigation is terminated, the Commission is directed to consider whether the likely volume of imports would be significant either in absolute terms or relative to production or consumption in the United States.¹⁹² In doing so, the Commission must consider "all relevant economic factors," including four enumerated factors: (1) any likely increase in production capacity or existing unused production capacity in the exporting country; (2) existing inventories of the subject merchandise, or likely increases in inventories; (3) the existence of barriers to the importation of the subject merchandise into countries other than the United States; and (4) 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.¹⁹³

In evaluating the likely price effects of subject imports if an order under review is revoked and/or a suspended investigation is terminated, the Commission is directed to consider whether there is likely to be significant underselling by the subject imports as compared to the domestic like product and whether the subject imports are likely to enter the United States at prices that otherwise would have a significant depressing or suppressing effect on the price of the domestic like product.¹⁹⁴

¹⁸⁹ 19 U.S.C. § 1675a(a)(1).

¹⁹⁰ 19 U.S.C. § 1675a(a)(1). Commerce has not made any duty absorption findings since the imposition of the orders. CR/PR at I-11, n.13.

¹⁹¹ 19 U.S.C. § 1675a(a)(5). Although the Commission must consider all factors, no one factor is necessarily dispositive. SAA at 886.

¹⁹² 19 U.S.C. § 1675a(a)(2).

¹⁹³ 19 U.S.C. § 1675a(a)(2)(A–D).

¹⁹⁴ See 19 U.S.C. § 1675a(a)(3). The SAA states that "{c}onsistent with its practice in investigations, in considering the likely price effects of imports in the event of revocation and (Continued...)

In evaluating the likely impact of imports of subject merchandise if an order under review is revoked and/or a suspended investigation is terminated, the Commission is directed to consider all relevant economic factors that are likely to have a bearing on the state of the industry in the United States, including but not limited to the following: (1) likely declines in output, sales, market share, profits, productivity, return on investments, and utilization of capacity; (2) likely negative effects on cash flow, inventories, employment, wages, growth, ability to raise capital, and investment; and (3) likely negative effects on the existing development and production efforts of the industry, including efforts to develop a derivative or more advanced version of the domestic like product.¹⁹⁵ All relevant economic factors are to be considered within the context of the business cycle and the conditions of competition that are distinctive to the industry. As instructed by the statute, we have considered the extent to which any improvement in the state of the domestic industry is related to the orders under review and whether the industry is vulnerable to material injury upon revocation.¹⁹⁶

B. Conditions of Competition and the Business Cycle

In evaluating the likely impact of the subject imports on the domestic industry if an order is revoked or suspended investigation is terminated, the statute directs the Commission to consider all relevant economic factors "within the context of the business cycle and conditions of competition that are distinctive to the affected industry."¹⁹⁷ The following conditions of competition inform our determinations.

1. Demand Conditions

Original Investigations. The Commission found that U.S. demand for ESBR is primarily driven by demand for replacement tires and, to a lesser degree, for tires that original equipment manufacturers ("OEMs") mount on new vehicles.¹⁹⁸ Additionally, it found that ESBR

termination, the Commission may rely on circumstantial, as well as direct, evidence of the adverse effects of unfairly traded imports on domestic prices." SAA at 886.

¹⁹⁵ 19 U.S.C. § 1675a(a)(4).

¹⁹⁶ The SAA states that in assessing whether the domestic industry is vulnerable to injury if the order is revoked, the Commission "considers, in addition to imports, other factors that may be contributing to overall injury. While these factors, in some cases, may account for the injury to the domestic industry, they may also demonstrate that an industry is facing difficulties from a variety of sources and is vulnerable to dumped or subsidized imports." SAA at 885.

¹⁹⁷ 19 U.S.C. § 1675a(a)(4).

¹⁹⁸ Original Determinations, USITC Pub. 4717 at 17.

was also used in the production of conveyor belts, hosing, shoes, flooring, and mechanical goods.¹⁹⁹ *** responding domestic producers, two of 14 responding importers, and four of 16 responding purchasers reported that U.S. demand for ESBR had declined during the POI.²⁰⁰

Current Reviews. Demand for ESBR continues to be primarily driven by demand for the end use products in which it is used: replacement tires and, to some degree, OEM mounts.²⁰¹ ESBR also continues to be used in the production of conveyor belts, hosing, shoes, flooring, and mechanical goods.²⁰² Both Petitioner and Respondents agree that U.S. demand for ESBR declined during the POR, citing factors such as the COVID-19 pandemic and increasing use of SSBR in replacement tires as contributing to the declines.²⁰³

Apparent U.S. consumption of ESBR decreased irregularly during the POR, declining from *** pounds in 2017, to *** pounds in 2018, *** pounds in 2019, and *** pounds in 2020, increasing to *** pounds in 2021, and then declining to *** pounds in 2022, a level *** percent lower than in 2017.²⁰⁴

2. Supply Conditions

Original Investigations. The domestic industry was the largest supplier of ESBR to the U.S. market and its share of apparent U.S. consumption increased steadily during each full year of the POI.²⁰⁵ There were four domestic producers during the POI: Goodyear, Lion, Ashland,

¹⁹⁹ Original Determinations, USITC Pub. 4717 at 17.

²⁰⁰ Original Determinations, USITC Pub. 4717 at 17, n.80; Confidential Views, EDIS Doc. 776639 at 24, n.80. Both petitioner and respondents agreed that U.S. demand for ESBR had decreased during the POI, citing reduced demand for replacement tires, off-the-road tires, and conveyor belts as a reason for the decrease. Original Determinations, USITC Pub. 4717 at 17; Confidential Views, EDIS Doc. 776639 at 24. Apparent U.S. consumption of ESBR declined each year of the POI and as lower in interim 2017 than in interim 2016. Original Determinations, USITC Pub. 4717 at 17 and n.82.

²⁰¹ CR/PR at I-16; Lion Prehr'g Br. at 39.

²⁰² CR/PR at I-16.

²⁰³ CR/PR at II-12 and Table II-4; Lion Prehr'g Br. at 39–42; Kumho Prehr'g Br. at 16–17; Negromex Prehr'g Br. at 20; Negromex Posthr'g Br. at 9–10, Responses to Commissioner Questions at 6– 7.

²⁰⁴ CR/PR at Table I-16.

²⁰⁵ Original Determinations, USITC Pub. 4717 at 18; Confidential Views, EDIS Doc. 776639 at 24. The domestic industry's market share increased from *** percent in 2014 to *** percent in 2015 and *** percent in 2016. Its market share was lower in interim 2017 at *** percent than in interim 2016 at *** percent. Original Determinations, USITC Pub. 4717 at 18 and n.83; Confidential Views, EDIS Doc. 776639 at 24 and n.83.

and East West.²⁰⁶ By the end of the POI, only Goodyear and Lion remained as domestic producers of ESBR.²⁰⁷

Cumulated subject imports were the second largest source of supply of ESBR to the U.S. market during the POI, although their share of apparent U.S. consumption declined during each full year of the period.²⁰⁸ Nonsubject imports were the smallest source of supply and their share of apparent U.S. consumption increased from 2014 to 2015 before decreasing in 2016.²⁰⁹ Germany was the largest individual source of nonsubject ESBR from 2014 to 2016.²¹⁰

The Commission found that although the statutory captive production provision did not apply because the second statutory criterion (whether the domestic like product is the predominant material input into the downstream product) was not satisfied; nevertheless, the domestic industry's significant volume of captive consumption of ESBR was a relevant condition of competition.²¹¹

Current Reviews. The domestic industry, which is comprised of Lion and Goodyear, was the largest source of supply during each year of the POR, accounting for *** percent of

²⁰⁸ Original Determinations, USITC Pub. 4717 at 18. Cumulated subject imports' share of the market decreased from *** percent in 2014 to *** percent in 2015 and *** percent in 2016. Their market share was higher in interim 2017 at *** percent than in interim 2016 at *** percent. Original Determinations, USITC Pub. 4717 at 18 and n.89; Confidential Views, EDIS Doc. 776639 at 25 and n.89. Arlanxeo accounted for all production of subject merchandise in Brazil, LG Chem and Kumho accounted for all production of subject merchandise in South Korea, Negromex accounted for all production of subject merchandise in Poland during the POI. Original Determinations, USITC Pub. 4717 at 18.

²⁰⁹ Original Determinations, USITC Pub. 4717 at 18; Confidential Views, EDIS Doc. 776639 at 26. Nonsubject imports' share of the U.S. market increased from *** percent in 2014 to *** percent in 2015, before decreasing to *** percent in 2016. It was higher in interim 2017 at *** percent than in interim 2016 at *** percent. Original Determinations, USITC Pub. 4717 at 18 and n.91; Confidential Views, EDIS Doc. 776639 at 26 and n.91.

²¹⁰ Original Determinations, USITC Pub. 4717 at 18.

²¹¹ Original Determinations, USITC Pub. 4717 at 16–17.

²⁰⁶ Original Determinations, USITC Pub. 4717 at 18.

²⁰⁷ Original Determinations, USITC Pub. 4717 at 18. After Lion exited the U.S. ESBR market in December 2013, it sold its plant in Baton Rouge, Louisiana to East West in April 2014. Lion re-entered the market in December 2014 when it purchased Ashland's facility in Port Neches, Texas. In May 2017, Lion purchased East West's assets, including the Baton Rouge plant, following East West's filing for chapter 11 bankruptcy. *Id*.

apparent U.S. consumption in 2022.²¹² The domestic industry's ESBR production capacity decreased irregularly from *** pounds in 2017 to *** pounds in 2022.²¹³

The domestic industry experienced multiple supply disruptions during the POR, including a ***; ***; and the ***.²¹⁴ These supply constraints had subsided by the end of the POR.²¹⁵ Following these disruptions, Lion undertook investments to prevent such future disruptions, including the construction of butadiene railcar receiving facilities in 2020, the expansion of a vessel dock for receiving butadiene in 2021, the restoration and updating of a secondary butadiene pipeline in 2021, a plant capacity expansions associated with its Port Neches facility in 2021, and the implementation of freeze protections, water drainage systems, and forecast planning in 2022.²¹⁶

Cumulated subject imports were the second largest source of supply in 2017 and the smallest source for the remainder of the POR, declining irregularly as a share of apparent U.S. consumption from *** percent of apparent U.S. consumption in 2017 to *** percent in 2022.²¹⁷ One producer of subject merchandise in Brazil (Arlanxeo), one producer of subject merchandise in South Korea (Kumho), one producer of subject merchandise in Mexico (Negromex), and one producer of subject merchandise in Poland (Synthos), accounted for all known production of subject merchandise in the respective subject countries in 2022.²¹⁸

Nonsubject imports were the smallest source of supply in 2017 and the second-smallest source for the remainder of the POR, increasing irregularly as a share of apparent U.S.

²¹² CR/PR at Table I-16, III-1. As discussed in Section I, *supra*, former U.S. producer, East West, declared bankruptcy on April 7, 2017, and no longer produces ESBR. *Original Determinations*, USITC Pub. 4717 at 3. East West accounted for less than *** percent of total U.S. production of ESBR in 2017 and, following East West's exit from the industry, Goodyear and Lion accounted for all U.S. production of ESBR during remainder of the POR. CR/PR at III-1, n.2. Goodyear accounted for *** percent of U.S. production in 2022, and Lion accounted for the remaining *** percent of U.S. production in 2022. *Id.* at Table I-13. Goodyear *** the order, but reported that the impact of revocation of the orders would *** *Compare id., with id.* at Table D-1.

²¹³ CR/PR at Table III-5.

²¹⁴ CR/PR at Tables III-1 and III-2. Nine of 21 responding purchasers reported that they had experienced supply constraints from domestic or foreign sources since January 1, 2017. CR/PR II-9–II-10.

²¹⁵ See CR/PR at Tables III-1 and III-2.

²¹⁶ Lion Prehr'g Br. at 45–46; Hearing Tr. at 9 (Arkan); 17–18 and 35–36 (Rikhoff); 36–37 (Pickard).

²¹⁷ CR/PR at Table I-16. Subject imports from South Korea *** in the U.S. market in 2022. *Id*.

²¹⁸ CR/PR at IV-22, IV-33, IV-42, and IV-45; CR/PR at Tables IV-9, IV-19, and IV-29. As discussed above, LG Chem ceased production of ESBR in South Korea in 2022, but had substantial reported SBR capacity throughout the POR. CR/PR at IV-45, n.20.

consumption from *** percent in 2017 to *** percent in 2022.²¹⁹ The largest sources of nonsubject imports during the POR, in decreasing order by volume, were Taiwan, Germany, Russia, Czechia, and China.²²⁰

3. Substitutability and Other Conditions

Original Investigations. The Commission found a moderate-to-high degree of substitutability between the domestic like product and subject ESBR.²²¹ It also found that price plays an important role in purchasing decisions, while recognizing that quality and availability were also important.²²²

The Commission observed that styrene and butadiene were the primary raw materials for ESBR production and that raw material costs represented between *** and *** percent of the domestic industry's cost of goods sold ("COGS") during the POI.²²³ The cost of styrene and butadiene declined by *** and *** percent, respectively, between January 2014 and December 2014, and increased by *** and *** percent, respectively, from December 2016 to March 2017.²²⁴

The Commission found that domestic producers and importers sold the *** of their ESBR through annual contracts, although *** sales were spot market transactions.²²⁵ It found that the pricing formulas utilized by ESBR contracts generally consisted of: (1) the variable component that is tied to published prices of styrene and butadiene, and (2) the conversion fee component that covers producers' other material costs, fixed overhead costs, and profit margin.²²⁶

Current Reviews. We find that there remains a moderate-to-high degree of substitutability between subject imports and domestically produced ESBR.²²⁷ Both 1500 and

27.

²¹⁹ CR/PR at Table I-16.

²²⁰ CR/PR at II-9. The calculation of the largest sources of nonsubject imports is based on official Commerce import statistics under HTS statistical reporting numbers 4002.19.0015 and 4002.19.0019, which may include out-of-scope product. *Id.*, n.24.

²²¹ Original Determinations, USITC Pub. 4717 at 19.

²²² Original Determinations, USITC Pub. 4717 at 19.

²²³ Original Determinations, USITC Pub. 4717 at 19; Confidential Views, EDIS Doc. 776639 at 27.

²²⁴ Original Determinations, USITC Pub. 4717 at 19–20; Confidential Views, EDIS Doc. 776639 at

²²⁵ Original Determinations, USITC Pub. 4717 at 19–20; Confidential Views, EDIS Doc. 776639 at 27–28.

²²⁶ Original Determinations, USITC Pub. 4717 at 20.

²²⁷ CR/PR at II-14.

1700 series ESBR are manufactured according to IISRP specifications that do not vary by supplier.²²⁸ Responses of market participants also reinforce this level of substitutability as majorities of responding domestic producers, importers, and purchasers reported that domestically produced ESBR is always or frequently interchangeable with ESBR from each subject country.²²⁹ A majority or plurality of purchasers also reported that domestically produced ESBR was comparable with ESBR from each of the subject countries with respect to 16 purchasing factors with few exceptions, primarily relating to delivery time.²³⁰ A majority of purchasers reported never making ESBR purchasing decision based on the country of origin, and most purchasers with knowledge of the topic reported that domestically produced ESBR and subject imports from Mexico, Poland, and South Korea always met minimum quality specifications.²³¹ Majorities or pluralities of purchasers with knowledge of subject sources also reported that the domestic like product and subject imports from Mexico, Poland, and South Korea always met minimum quality specifications, and a majority reported that subject imports from Brazil usually met minimum quality specifications.²³²

We also find that price continues to be an important factor in purchasing decisions, along with quality and availability. More responding purchasers reported price as among their top three purchasing factors than any other factor, with 20 purchasers ranking price as among their top three purchasing factors as compared to 17 for availability and 13 for quality.²³³ Moreover, 17 of 21 responding purchasers reported that price was very important to their purchasing decisions, with the remaining four reporting that price was somewhat important.²³⁴ When asked how often non-price factors are important to purchasing decisions, domestic

²³¹ CR/PR at Tables II-6 and II-9.
²³² CR/PR at Table II-9.
²³³ CR/PR at Table II-7.
²³⁴ CR/PR at Table II-8.

²²⁸ CR/PR at II-14.

²²⁹ CR/PR at Tables II-12 to II-14.

²³⁰ CR/PR at Table II-11. Majorities of purchasers reported that U.S. product was superior to subject imports from Brazil and South Korea in terms of delivery time and an equal number of purchasers rated domestically produced ESBR as inferior and superior to subject imports from Poland with respect to this factor, and an equal number of purchasers rated domestically produced ESBR as superior and comparable to subject imports from Mexico with respect to delivery time; an equal number of purchasers rated the domestic product as inferior and superior to subject imports from Mexico with respect to reliability of supply; and a majority of purchasers reported that domestically produced ESBR was superior in terms of availability and price compared to subject imports from Poland. *Id*.

producers were *** between reporting ***, while most responding importers and a plurality of responding purchasers reported sometimes.²³⁵ It is also undisputed that pricing in the U.S. ESBR market remains transparent.²³⁶

The primary raw materials used in the production of ESBR are styrene and butadiene,²³⁷ and raw materials accounted for *** percent of the domestic industry's COGS in 2017, *** percent in 2018, *** percent in 2019, *** percent in 2020, *** percent in 2021, and *** percent in 2022.²³⁸ Butadiene was the single largest component of the domestic industry's total raw material costs, ranging from *** percent of total raw material costs in 2020 to *** percent in 2018.²³⁹

During the POR, *** percent of the domestic industry's commercial U.S. shipments were sold via annual contracts, with the *** being sold through spot sales, while *** percent of subject imports were sold via spot sales.²⁴⁰ Contracts contain pricing formulas that generally consist of a variable component, tied to published prices of styrene and butadiene, and a fixed component covering conversion costs, also known as the "conversion fee," which is potentially capped at the highest price that the customer is willing to pay.²⁴¹

Because ESBR production is associated with high fixed costs, producers must operate at high rate of capacity utilization to reduce their unit fixed costs to an economic level.²⁴²

Supplier certification requirements are prevalent in the U.S. ESBR market, with 18 of 22 responding purchasers reporting that they require their suppliers to undergo a certification process which can reportedly take as little as seven days or as much as one year to complete.²⁴³

²³⁵ CR/PR at Tables II-15–17.

²³⁶ CR/PR at II-2; Hearing Tr. at 7 (Arkan), 28–29 (Pickard) ("I don't believe we heard any testimony disputing the interchangeability of ESBR by specific grade regardless of source . . . any testimony disputing the importance of price generally in this market, and . . . any testimony disputing how transparent price was in this market."), 147 (Pickard).

²³⁷ CR/PR at V-1.

²³⁸ CR/PR at Table III-14

²³⁹ CR/PR at III-26.

²⁴⁰ CR/PR at Table V-3.

²⁴¹ CR/PR at V-9–10.

²⁴² CR/PR at III-28 nn.36 & 37.

²⁴³ CR/PR at II-17–18.

Finally, we consider the domestic industry's internal consumption of a portion of its production as a condition of competition, as the Commission did in the original investigations.²⁴⁴

C. Likely Volume of Cumulated Subject Imports

1. The Original Investigations

The Commission found that the volume of cumulated subject imports was significant, both in absolute terms and relative to apparent U.S. consumption.²⁴⁵ It found that the volume of cumulated subject imports increased from 2013 to 2014 as they were pulled into the U.S. market due to a supply shortage coinciding with the closure of Lion's Baton Rouge plant in 2013.²⁴⁶ Although the volume of cumulated subject imports decreased from 2014 to 2016, the Commission found that cumulated subject imports had not meaningfully retreated from the U.S. market and remained at elevated levels in 2015 and 2016 despite the reopening of Lion's Baton Rouge plant in 2014.²⁴⁷

2. The Current Reviews

As discussed above, despite the disciplining effect of the orders, cumulated subject imports maintained a continuous presence in the U.S. market during the POR. Cumulated subject import volume declined irregularly from *** pounds in 2017, to *** pounds in 2018, *** pounds in 2019, and to *** pounds in 2020, before increasing to *** pounds in 2021 and declining to *** pounds in 2022.²⁴⁸ As a share of apparent U.S. consumption, U.S. shipments of cumulated subject imports followed a similar pattern, decreasing from *** percent in 2017, to

²⁴⁴ CR/PR at Table I-16. In 2022, the domestic industry internally consumed *** percent of its total production of ESBR. *Derived from* CR/PR at Tables III-6 and III-10. Lion's U.S. shipments consisted ***, whereas Goodyear reported ***. *Id.* at Table III-10.

²⁴⁵ Original Determinations, USITC Pub. 4717 at 21; Confidential Views, EDIS Doc. 776639 at 30. The quantity of cumulated subject imports decreased from *** pounds in 2014, to *** pounds in 2015, and to *** pounds in 2016; it was lower in interim 2017 at *** pounds than in interim 2016 at *** pounds. The market share of cumulated subject imports decreased from *** percent in 2014 to *** percent in 2015 and *** percent in 2016; it was higher in interim 2017, at *** percent, than in interim 2016, at *** percent. Original Determinations, USITC Pub. 4717 at 20; Confidential Views, EDIS Doc. 776639 at 29.

²⁴⁶ Original Determinations, USITC Pub. 4717 at 21 and n.113.

²⁴⁷ Original Determinations, USITC Pub. 4717 at 21.

²⁴⁸ CR/PR at Table IV-1.

*** percent in 2018, *** percent in 2019, and to *** percent in 2020, before increasing to *** percent in 2021 and declining to *** percent in 2022.²⁴⁹

On a cumulated basis, subject producers maintain the ability and incentive to increase their exports to the United States to a significant level. The record indicates that cumulated production capacity in the subject countries remains substantial, despite decreasing from *** pounds in 2017 to *** pounds in 2020.²⁵⁰ On a cumulated basis, subject foreign producers possessed excess capacity of *** pounds in 2022, equivalent to *** percent of apparent U.S. consumption that year.²⁵¹ Cumulative end-of-period Inventories of ESBR in subject countries increased irregularly from *** pounds in 2017 to *** pounds in 2022, equivalent to *** percent of apparent U.S. consumption that year.²⁵² The subject industries were export oriented, cumulatively exporting between *** and *** percent of their total shipments during the POR.²⁵³ The high fixed costs associated with ESBR production coupled with significant available capacity and inventories and export orientation of the subject industries supports that, on a cumulated basis, producers in the subject countries would have the incentive to significantly increase their exports to the United States if the orders were revoked.

The U.S. market also remains attractive to subject producers. Despite the disciplining effect of the orders, cumulated subject imports maintained a continuous presence in the U.S. market, indicating that they retain access to U.S. distribution networks and customers that could be used to expand their presence in the market if the orders were revoked. The record also indicates that the U.S. market offers attractive ESBR prices compared to the subject producers' home and third country markets, giving them an economic incentive to increase their exports to the U.S. market after revocation. The AUVs of subject producers' exports to the U.S. market after revocation their country markets throughout the POR and those on their shipments to home market customers in three out of the six years of the POR.²⁵⁴ Finally, the antidumping order imposed by Mexico on ESBR from South Korea would

²⁴⁹ CR/PR at Table I-16.

²⁵⁰ CR/PR at Table IV-38.

²⁵¹ CR/PR at Table IV-38. We also note that *** responding foreign producers reported the ability to shift production from out-of-scope to in-scope merchandise, though their ability to do so may be limited by the significant time and expense to undergo the shift. CR/PR at II-6–II-8 and Table II-3.

²⁵² CR/PR at Table IV-38.

²⁵³ CR/PR at Table IV-38.

²⁵⁴ CR/PR at Table IV-39. On a disaggregated basis, the AUVs of Arlanxeo's home market shipments were higher than those of its export shipments to the U.S. market during every year for which comparisons were available; the AUVs of its export shipments to non-U.S. markets were lower than (Continued...)

make the U.S. market relatively more attractive to subject producers in South Korea if the orders were revoked.²⁵⁵

We are unpersuaded by Arlanxeo's and Negromex's arguments that cumulated subject imports are unlikely to increase due to the subject producers' declining capacity and capacity utilization rate of *** percent, focus on home market customers, low inventory levels, and ***, as well as the limited third country barriers to their exports.²⁵⁶ First, as discussed above, producers of subject merchandise cumulatively maintained *** pounds of excess capacity in in 2022, equivalent to *** percent of apparent U.S. consumption that year.²⁵⁷ Second, subject producers' alleged focus on their respective home markets did not prevent them from cumulatively exporting between *** and *** percent of their total shipments during the POR.²⁵⁸ Third, while U.S. importers' end-of-period inventories only accounted for *** percent of apparent U.S. consumption in 2022, end-of-period inventories held by subject producers increased overall during the review period and were equivalent to *** percent of apparent U.S. consumption in 2022.²⁵⁹ Fourth, the antidumping order imposed by Mexico covering ESBR from South Korea would increase the attractiveness of the U.S. market to Kumho, the *** responding producer of subject merchandise with the *** degree of export orientation during the POR, if the U.S. orders were revoked.²⁶⁰ Even absent the ability to shift production to ESBR from other products, the subject producers' end-of-period inventories and ESBR-specific excess

those of its export shipments to the U.S. market during two out of the four years for which comparisons were available. *Compare Id.* at Table IV-14, *with* Table IV-15. The AUVs of Negromex's home market shipments as well as the AUVs of its non-U.S. export shipments were lower than those of its export shipments to the U.S. market during five out of six years during the POR. *Compare Id.* at Table IV-23, *with* Table IV-24. The AUVs of Kumho's home market shipments were higher than those of its export shipments to the U.S. market during every year for which comparisons were available; the AUVs of its export shipments to non-U.S. markets were higher than those of its export shipments to the U.S. markets were higher than those of its export shipments to the U.S. markets were higher than those of its export shipments to the U.S. markets were higher than those of its export shipments to the U.S. markets were higher than those of its export shipments to the U.S. markets were higher than those of its export shipments to the U.S. markets were higher than those of its export shipments to the U.S. market during four out of the five years for which comparisons were available and were equal during the remaining year. *Compare Id.* at Table IV-33, *with* Table IV-34. The AUVs of importers' U.S. shipments of subject imports from South Korea were higher than those for Kumho's non-U.S. export and home market shipments during four out of five of the years of the POR for which comparisons were available. *Compare* CR/PR at Tables IV-33–34, *with* Table C-1.

²⁵⁵ CR/PR at IV-60.

²⁵⁶ Negromex Prehr'g Br. at 41–43; Arlanxeo Prehr'g Br. at 4–9.

²⁵⁷ CR/PR at Table IV-38. These figures are likely understated due to Synthos's non-participation in these reviews.

²⁵⁸ CR/PR at Table V-38.

²⁵⁹ *Derived from* CR/PR at Tables I-16 and IV-38.

²⁶⁰ CR/PR at IV-60; *compare* CR/PR Table IV-33, *with* Tables IV-14 and IV-23.

capacity were equivalent to *** percent of consumption in 2022.²⁶¹ Thus, the record shows that subject producers possess the ability to significantly increase their exports to the U.S. market.

Accordingly, based on the significant volume and market share of cumulated subject imports during the original investigations, the continued presence of cumulated subject imports during the POR while under the discipline of the orders, the cumulated subject producers' substantial capacity, excess capacity, inventories, and exports, and the attractiveness of the U.S. market, we find that the likely volume of cumulated subject imports would be significant, both in absolute terms and relative to consumption in the United States, if the orders were revoked.

D. Likely Price Effects of Cumulated Subject Imports

1. The Original Investigations

The Commission reiterated that there was a moderate-to-high degree of substitutability between cumulated subject imports and the domestic like product and that price was an important factor in purchasing decisions.²⁶² It found that subject imports undersold the domestic like product in 150 of 218 quarterly comparisons, or 68.8 percent of the time, at margins that ranged from 0.1 percent to 53.2 percent.²⁶³ Accordingly, the Commission found the underselling by cumulated subject imports to be significant.²⁶⁴

The Commission also examined price trends for domestically produced ESBR and cumulated subject imports.²⁶⁵ It observed that for all six pricing products, prices of domestically produced ESBR declined from January 2014 to December 2016, by *** to ***

²⁶¹ Derived from CR/PR at Tables I-16 and IV-38. Lion asserts that an alleged surge in Russianorigin ESBR to Asia and Latin America, due to European Union ("EU") sanctions on ESBR from Russia resulting from Russia's invasion of Ukraine, would cause ESBR from subject sources to be redirected from those markets to the U.S. market following revocation. Lion Posthr'g Br. at 6–11. These EU sanctions on Russian synthetic rubber imports are not scheduled to be imposed until July 1, 2024, however. CR/PR at IV-74.

²⁶² Original Determinations, USITC Pub. 4717 at 22.

²⁶³ Original Determinations, USITC Pub. 4717 at 22. Cumulated subject imports sold during quarters in which their average price was less than that of the domestic product accounted for 85.6 of the volume of subject imports covered by the Commission's pricing data. *Id.* at 22–23.

²⁶⁴ Original Determinations, USITC Pub. 4717 at 23.

²⁶⁵ Original Determinations, USITC Pub. 4717 at 24.

percent.²⁶⁶ It found that cumulated subject imports put pressure on the domestic industry to reduce prices by lowering their fixed conversion fee in the contract pricing formulas.²⁶⁷ While recognizing that other factors contributed to declining domestic prices, the Commission found that declining demand and raw material prices did not fully explain the greater declines in prices for the domestic like product.²⁶⁸ Similarly, the Commission acknowledged that intra-industry competition may have contributed to declining prices, but found that the domestic industry also competed for sales with subject imports in a market with transparent pricing.²⁶⁹ It therefore concluded that subject imports depressed prices for the domestic like product to a significant degree.²⁷⁰

2. The Current Reviews

As discussed above in Section IV.B.2., we continue to find a moderate-to-high degree of substitutability between domestically produced ESBR and subject imports, and that price is an important factor in purchasing decisions.

The Commission requested pricing data for four pricing products in these reviews.²⁷¹ Two U.S. producers and five importers provided usable pricing data for sales of the requested products, although not all firms reported pricing for all products for all quarters.²⁷² Pricing data reported by these firms accounted for approximately *** percent of U.S. producers' U.S. shipments of ESBR and *** percent of U.S. shipments of subject imports from Mexico in 2022.²⁷³

34.

²⁶⁸ Original Determinations, USITC Pub. 4717 at 24–25.

²⁷⁰ Original Determinations, USITC Pub. 4717 at 27.

Product 1.-- IISRP 1502 grade of ESBR in all forms, sales made under a contract agreement; **Product 2**.-- IISRP 1783 grade of ESBR in all forms, sales made under a contract agreement;

Product 2.-- IISRP 1502 grade of ESBR in all forms, spot sales; and

Product 4.-- IISRP 1783 grade of ESBR in all forms, spot sales.

²⁷² CR/PR at V-12.

²⁶⁶ Original Determinations, USITC Pub. 4717 at 24; Confidential Views, EDIS Doc. 776639 at 33–

²⁶⁷ Original Determinations, USITC Pub. 4717 at 25–26.

²⁶⁹ Original Determinations, USITC Pub. 4717 at 26.

²⁷¹ CR/PR at V-11. The pricing product definitions are as follows:

²⁷³ CR/PR at V-12. No pricing data for Brazil were reported in 2022; pricing data were only reported in 2017 through 2020. No pricing data for Poland were reported in 2022; pricing data were only reported in 2017 and 2018. No pricing data were reported for subject imports from South Korea in 2021–2022. *Id*.

Subject imports were priced lower than the domestic like product in 17 of 76 quarterly comparisons, corresponding to reported subject import sales of *** pounds, at margins ranging from *** to *** percent and averaging *** percent.²⁷⁴ Subject imports were priced higher than the domestic like product in the remaining 59 quarterly comparisons, corresponding to reported subject import sales of *** pounds, at margins ranging from *** to *** and averaging *** percent.²⁷⁵

Over the POR, prices of U.S.-produced ESBR for three of the four pricing products decreased between *** percent and *** percent.²⁷⁶ The AUVs of the domestic industry's U.S. shipments of ESBR increased since 2016, the final year of the POI.²⁷⁷

Given the significant underselling in the original investigations, the moderate-to-high degree of substitutability between subject imports and the domestic like product, and the importance of price to purchasing decisions, as well as our findings that the likely cumulated subject import volume would be significant if the orders were revoked, we find that there would likely be significant underselling by cumulated subject imports if the orders were revoked, as a means of gaining market share. Because of the importance of price in purchasing decisions, the significant volume of low-priced subject imports would likely cause the domestic industry to either reduce its prices, forego price increases that would otherwise have occurred, or risk losing market share to subject imports. Thus, if the orders were revoked, the significant volume of low-priced subject imports would likely have significant price effects within a reasonably foreseeable time.²⁷⁸

²⁷⁷ Compare CR/PR at Table C-1, with Summary Data Collected in Prior Proceedings. The AUVs of the domestic industry's U.S. shipments were \$*** in 2016, \$*** in 2017, \$*** in 2018, \$*** in 2019, \$*** in 2020, \$*** in 2021, and \$*** in 2022. *Id*; see Lion Prehr'g Br. at 67–68.

²⁷⁸ CR/PR at Table V-11. We are not persuaded by Negromex's argument that the pricing behavior of cumulated subject imports or the reduced incidence of underselling during the POR is probative of the likely pricing or price effects of subject imports in the event of revocation. Negromex Prehr'g Br. at 43. Subject import prices during the POR reflect the disciplining effect of the orders, and cumulated subject imports undersold the domestic like product in 150 of 218 quarterly comparisons in the original investigations. Final Report at Table IV-10. Similarly, we are unpersuaded that subject imports' *** during the POR would prevent these imports from competing with the domestic like product for *** if the orders were revoked. As an initial matter, subject imports sold through *** compete for sales volume and market share with domestically produced ESBR sold ***, at the very least, during contract formation. *See* CR/PR at V-9 (indicating that Goodyear's *** while Lion's ***). (Continued...)

²⁷⁴ CR/PR at Table V-11.

²⁷⁵ CR/PR at Table V-11.

²⁷⁶ CR/PR at V-23 and Table V-9. Prices of U.S.-produced ESBR for the fourth pricing product increased by *** percent. *Id.*

E. Likely Impact of Cumulated Subject Imports

1. The Original Investigations

The Commission found that most of the domestic industry's performance indicators declined from 2014 to 2016, notwithstanding the industry's increasing market share during the POI.²⁷⁹ During this period, its production, capacity utilization, U.S. shipments, and U.S. inventories declined.²⁸⁰ While most the domestic industry's employment indicators fluctuated from 2014 to 2016, its sales revenues, operating income, operating margins, gross profit, and net income all declined over the period.²⁸¹ The Commission found that significant volumes of cumulated subject imports had undersold the domestic like product and depressed prices for domestically produced ESBR to a significant degree.²⁸² By depressing the domestic industry's revenues to be lower than they otherwise would have been.²⁸³ Accordingly, the Commission concluded that cumulated subject imports had a significant impact on the domestic industry during the POI.²⁸⁴

In its non-attribution analysis, the Commission found that nonsubject imports increased their share of apparent U.S. consumption during the POI but maintained a relatively small presence in the U.S. market.²⁸⁵ It also found that nonsubject imports from Germany, the largest source of nonsubject imports, oversold the domestic like product and subject imports in

Additionally, a substantial share of the domestic industry's sales, *** percent, were made on the spot market during the POR, CR/PR at Table V-3, and there is no evidence on the record that subject producers could not resume selling a greater proportion of their sales through contracts, as they did during the original investigations. *See* Final Report at Table V-2. Similarly, Arlanxeo's argument that cumulated subject imports would not likely have significant price effects if the orders were revoked, due to the importance of non-price factors, is unavailing. Arlanxeo Prehr'g Br. at 9–12. As discussed in Section IV.B.2., the record reflects that price remains an important purchasing factor, in addition to quality and availability. Moreover, as discussed in Section IV.C.1., the Commission found that factors such as availability and quality were also important in the original investigations, in addition to price, and the importance of these factors did not prevent cumulated subject imports from having significant adverse price effects. *Original Determinations*, USITC Pub. 4717 at 19, 22–23.

²⁷⁹ Original Determinations, USITC Pub. 4717 at 28.

²⁸⁰ Original Determinations, USITC Pub. 4717 at 28.

²⁸¹ Original Determinations, USITC Pub. 4717 at 28–29.

²⁸² Original Determinations, USITC Pub. 4717 at 29.

²⁸³ Original Determinations, USITC Pub. 4717 at 29–30.

²⁸⁴ Original Determinations, USITC Pub. 4717 at 31.

²⁸⁵ Original Determinations, USITC Pub. 4717 at 31.

a majority of quarterly comparisons, and therefore could not explain the domestic industry's declining prices and consequent loss of revenues during the POI.²⁸⁶

Accordingly, the Commission determined that the domestic ESBR industry was materially injured by reason of cumulated subject imports.²⁸⁷

2. The Current Reviews

Most of the domestic industry's performance indicators improved or were stable in 2017 and 2018, as the domestic industry's market share and capacity utilization initially improved after imposition of the orders. The domestic industry's performance declined by most measures after 2018, however, as the COVID-19 pandemic, numerous supply disruptions, and decreasing demand negatively impacted the domestic industry's performance.²⁸⁸

The domestic industry's trade-related indicators were mixed during the period of review. The industry's capacity was stable at *** pounds in 2017 and 2018, but declined gradually to *** pounds in 2019, *** pounds in 2020, and to *** pounds in 2021, before increasing to *** pounds in 2022.²⁸⁹ Its production volume declined from *** pounds in 2017 to *** pounds in 2018, *** pounds in 2019, and to *** pounds in 2020, before increasing to *** pounds in 2021 and again decreasing to *** pounds in 2022.²⁹⁰ Its capacity utilization rate decreased from *** percent in 2017, to *** percent in 2018, *** percent in 2019, and to *** percent in 2020, before increasing to *** percent in 2021 and decreasing to *** percent in 2021.²⁹¹

Most of the domestic industry's employment indicators fluctuated, but improved during the POR, overall. Its number of production and related workers increased from *** production-related workers ("PRW") in 2017 to *** PRW in 2018, declined to *** PRW in 2019, and ***

²⁸⁶ Original Determinations, USITC Pub. 4717 at 31. The Commission found that intra-industry competition did not account for the domestic industry's poor performance as it could not explain the injury caused by the significant price depression caused by the cumulated subject imports, and the increased subject import competition during the POI. Similarly, it found that declining demand could not account for the price depression and consequent declines in the domestic industry's revenues during this period. *Id*.

²⁸⁷ Original Determinations, USITC Pub. 4717 at 31.

²⁸⁸ Compare CR/PR at Table C-1, with CR/PR at Summary Data Compiled from the Prior Proceedings. The domestic industry's share of apparent U.S. consumption was *** percent in 2016, *** percent in 2017, and *** percent in 2018. *Id*. Its capacity utilization rate was *** percent in 2016, *** percent in 2017, and *** percent in 2018.

²⁸⁹ CR/PR at Table III-5.

²⁹⁰ CR/PR at Table III-5.

²⁹¹ CR/PR at Table III-5.

PRW in 2020, before increasing to *** PRW in 2021, and to *** PRW in 2022.²⁹² Its total number of hours worked increased from *** hours in 2017, to *** hours in 2018, before decreasing to *** hours in 2019, *** hours in 2020, and again increasing to *** hours in 2021, and to *** hours in 2022.²⁹³ Its wages paid fluctuated: it was \$*** in 2017, to \$*** in 2018, \$*** in 2019, \$*** in 2020, \$*** in 2021, and \$*** in 2022.²⁹⁴ Its productivity, as measured in pounds per hour, declined from *** pounds in 2017, to *** pounds in 2018, *** pounds in 2019, and to *** pounds in in 2020, before increasing to *** pounds in 2021, and declining to *** pounds in 2022.²⁹⁵

The domestic industry's U.S. shipments initially increased from *** pounds in 2017, to *** pounds in 2018, declined to *** pounds in 2019, *** pounds in 2020, before increasing to *** pounds in 2021, and *** pounds in 2022.²⁹⁶ It accounted for *** percent of apparent U.S. consumption in 2017, *** percent in 2018, *** percent in 2019, *** percent in 2020, *** percent in 2021, and *** percent in 2022.²⁹⁷

The domestic industry's end-of-period inventories increased from *** pounds in 2017, to *** pounds in 2018, decreased to *** pounds in 2019, and to *** pounds in 2019, before increasing to *** pounds in 2021, and again decreasing to *** pounds in 2022.²⁹⁸

The domestic industry's total net sales value declined for the first four years of the POR, from \$*** in 2017, \$*** in 2018, \$*** in 2019, and to \$*** in 2020, before increasing to \$*** in 2021, and to \$*** in 2022.²⁹⁹ Its gross profits initially increased from \$*** in 2017, to \$*** in 2018, before declining irregularly to a \$*** in 2019, a \$*** in 2020, a \$*** in 2021, and a \$*** in 2022.³⁰⁰ Its operating income initially increased from \$*** in 2017, to \$*** in 2018, before decreasing irregularly to a \$*** in 2019, a \$*** in 2020, a \$*** in 2021, and a \$*** in 2022.³⁰¹ Its operating income initially increased from \$*** in 2021, and a \$*** in 2022.³⁰¹ Its operating income to net sales ratio was initially stable at *** percent in 2017 and 2018, declined to *** percent in 2019, *** percent in 2020, before increasing to *** percent in 2022.³⁰² Its net income decreased from \$*** in 2017, to \$*** in 2017, to \$*** in 2021, and to *** percent in 2022.³⁰² Its net income decreased from \$*** in 2017, to \$*** in 2017, to \$*** in 2021, and to *** percent in 2022.³⁰⁴ Its net income decreased from \$*** in 2017, to \$*** in 2017, to \$*** in 2021, and to *** percent in 2022.³⁰⁴ Its net income decreased from \$*** in 2017, to \$*** in 2021, and to *** percent in 2022.³⁰⁴ Its net income decreased from \$*** in 2017, to \$*** in 2021, and to *** percent in 2022.³⁰⁴ Its net income decreased from \$*** in 2017, to \$*** in 2017, to \$*** in 2021, and to *** percent in 2022.³⁰⁴ Its net income decreased from \$*** in 2017, to \$*** in 2021, and to *** percent in 2022.³⁰⁴ Its net income decreased from \$*** in 2017, to \$*** in 2021, and to *** percent in 2022.³⁰⁵ Its net income decreased from \$*** in 2017, to \$*** in 2021, and to *** percent in 2022.³⁰⁶ Its net income decreased from \$*** in 2017, to \$*** in 2021, and to *** percent in 2022.³⁰⁷ Its net income decreased from \$*** in 2017, to \$*** in 2017, to \$*** in 2021, and to *** percent in 2022.³⁰⁸ Its net income decreased from \$*** in 2017, to \$*** in 2021, and

²⁹² CR/PR at Table III-13.

²⁹³ CR/PR at Table III-13.

²⁹⁴ CR/PR at Table III-13.

²⁹⁵ CR/PR at Table III-13.

²⁹⁶ CR/PR at Table III-10.

²⁹⁷ CR/PR at Table I-16.

²⁹⁸ CR/PR at Table III-11.

²⁹⁹ CR/PR at Table III-14.

³⁰⁰ CR/PR at Table III-14. ³⁰¹ CR/PR at Table III-14.

³⁰² CR/PR at Table III-14.

2018, to a \$*** in 2019, and a \$*** in 2020, before increasing to a \$*** in 2021, and decreasing to a \$*** in 2022.³⁰³ Its net-income-to-sales ratio was stable at *** percent in 2017 and 2018, decreased to *** percent in 2019, and to *** percent in 2020, before increasing to *** percent in 2021, and, again, decreasing to *** percent in 2022.³⁰⁴

The domestic industry's total capital expenditures initially increased from \$*** in 2017, to \$*** in 2018, decreased to \$*** in 2019, and to \$*** in 2020, before increasing to \$*** in 2021, and to \$*** in 2022.³⁰⁵ Its research and development expenditures decreased from \$*** in 2017, to \$*** in 2018, increased to \$*** in 2019, decreased to \$*** in 2020, before increasing to \$*** in 2021, and to \$*** in 2022.³⁰⁶ Its return on assets was *** percent I 2017 and 2018, before decreasing irregularly to *** percent in 2019, *** percent in 2020, *** percent in 2021, and to *** percent in 2022.³⁰⁷

Based on the domestic industry's exceedingly poor and declining performance over the POR and relative declines compared to 2016 (the terminal year of the POI), we find that the domestic industry is vulnerable to the continuation or recurrence of material injury by cumulated subject imports. Despite initial improvements in its profitability following the imposition of the orders, the domestic industry's total production,³⁰⁸ U.S. shipment³⁰⁹ volumes, net sales volume,³¹⁰ and profitability all declined,³¹¹ over the POR due to declining demand, the COVID-19 pandemic, and the industry's reported supply interruptions.³¹² Notably, the domestic

³⁰⁸ Production volume was *** pounds in 2016, *** pounds in 2017, *** pounds in 2018, *** pounds in 2019, and *** pounds in 2020, *** pounds in 2021, and *** pounds in 2022. *Compare* CR/PR at Table III-5, *with* Final Report at Table III-5.

³⁰⁹ Its U.S. shipments were *** pounds in 2016, *** pounds in 2017, *** pounds in 2018, *** pounds in 2019, *** pounds in 2020, *** pounds in 2021, and *** pounds in 2022. *Compare* CR/PR at Table III-10, *with* Final Report at Table III-6.

³¹⁰ Its net sales volume was *** pounds in 2016, *** pounds in 2017, *** pounds in 2018, *** pounds in 2019, and *** pounds in 2020, *** pounds in 2021, and *** pounds in 2022. *Compare* CR/PR at Table III-14, *with* Final Report at Table III-5.

³¹¹ Its operating income to net sales ratio was *** percent in 2016, *** percent in 2017 and 2018, *** percent in 2019, *** percent in 2020, *** percent in 2021, and *** percent in 2022. *Compare* CR/PR at Table III-14, *with* Final Report at Table VI-1.

³¹² We are unpersuaded by Kumho's argument that revocation of the orders would not have a significant impact on the domestic industry because, despite what it characterizes as the domestic industry's mixed financial performance during the POR, the industry's AUVs, number of production (Continued...)

³⁰³ CR/PR at Table III-14.

³⁰⁴ CR/PR at Table III-14.

³⁰⁵ CR/PR at Table III-17.

³⁰⁶ CR/PR at Table III-19.

³⁰⁷ CR/PR at Table III-22.

industry sustained operating and net income *** for each of the last *** of the POR, with operating income to net sales ratios ranging from *** percent to *** percent and net income to net sales ratios ranging from *** percent to *** percent.³¹³

As discussed above, we have found that if the orders were revoked, the volume of cumulated subject imports would likely be significant, as subject producers revert to significant underselling to increase their penetration of the U.S. market. This underselling likely would force the domestic industry to either lower their prices, forgo price increases that would otherwise have occurred, or else lose sales and market share to subject imports. Under these circumstances, the likely significant volume and price effects of the cumulated subject imports would likely have a significant impact on the production, shipments, sales, market share, and revenue of the domestic industry. These declines would likely impact the already-vulnerable domestic industry's profitability and employment, its ability to raise capital, and to make and maintain capital investments. Consequently, we conclude that, if the orders were revoked, cumulated subject imports from Brazil, Mexico, Poland, and South Korea would be likely to have an adverse impact on the domestic industry within a reasonably foreseeable time.³¹⁴

³¹³ CR/PR at Table C-1.

related workers, and hourly wages all hit period highs in 2022. Kumho Prehr'g Br. at 29. Notwithstanding improvements to a few measures of the domestic industry's performance, we have found that the domestic industry is in a vulnerable position because its performance declined, according to most measures, towards the end of the POR and it registered significant operating and net income *** in the last *** of the POR.

We disagree with the implication that the domestic industry's vulnerability must be correlated to subject import volume to support a vulnerability finding. Negromex Posthr'g Br., Responses to Commissioner Questions at 20–21; Kumho Posthr'g Br. at 13, Responses to Commissioner Questions at 19–23. Indeed, the SAA recognizes that industry vulnerability may be caused by factors other than subject imports and instructs the Commission to consider the weakened condition of the U.S. industry in assessing whether injury will continue or recur if the orders are revoked. SAA, H.R. Rep. No. 103-316, vol. I, at 885 (1994). It is unsurprising, and not particularly instructive, that there was no correlation between cumulated subject import volume and the domestic industry's performance during the POR. As the U.S. Court of International Trade has explained, the Commission's task in a five-year review is "not to determine whether the subject imports significantly contributed to the decline of the domestic industry during the POR ... {T}he antidumping duty orders under review ... {make} it less likely that subject imports would be source of any domestic industry vulnerability during the POR." *Consolidated Fibers, Inc. v. United States*, 571 F. Supp. 2d 1355, 1365 (Ct. Int'l Trade 2008).

³¹⁴ We are unpersuaded by Arlanxeo's argument that cumulated subject imports could have no significant impact on the domestic industry after revocation because, in its view, cumulated subject import volume is unlikely to increase and there was no correlation between cumulated subject import volume and the domestic industry's performance during the POR. Arlanxeo Prehr'g Br. at 13–17. As discussed in section IV.C, above, we have found that cumulated subject import volume is likely to be (Continued...)

We have also considered the role of factors other than subject imports, including the presence of nonsubject imports. The volume of U.S. shipments of nonsubject imports increased irregularly from *** pounds in 2017, equivalent to *** percent of apparent U.S. consumption, to *** pounds in 2022, equivalent to *** percent of apparent U.S. consumption.³¹⁵ However, the record provides no indication that the presence of nonsubject imports would prevent subject imports from entering the U.S. market in significant volumes, adversely affecting the domestic industry's prices and/or taking market share from the industry and nonsubject imports upon revocation of the orders. Given the domestic industry's *** percent share of apparent U.S. consumption in 2022, the moderate-to-high degree of substitutability between subject imports and the domestic like product, and the importance of price in purchasing decisions, the presence of nonsubject imports would not likely prevent the significant volume of low-priced cumulated subject imports that we have found likely in the event of revocation from taking market share from the domestic industry, as well as nonsubject imports, or forcing the domestic industry to reduce prices or forego price increases that otherwise would occur to retain sales and market share. We therefore find that any effects of nonsubject imports would be distinct from the likely effects attributable to cumulated subject imports.

We have also considered the likely effects of demand trends of the domestic industry. Apparent U.S. consumption declined irregularly from *** pounds in 2017 to *** pounds in 2022, a level *** percent lower than in 2017.³¹⁶ Although apparent U.S. consumption recovered relatively quickly in 2021 after the sharp drop in demand caused by the COVID-19 pandemic in 2020, there is little indication that such strong demand growth will persist in the reasonably foreseeable future, particularly in light of weakening demand in 2022.³¹⁷ Responding U.S. producers are *** their demand projections, ***, while a majority of responding U.S. importers and foreign producers and a plurality of responding purchasers

significant after revocation, given the subject producers' substantial excess capacity, end-of-period inventories, and export orientation, as well as the attractiveness of the U.S. market. We have also found that cumulated subject import volume declined during the POR under the disciplining effect of the orders, while the domestic industry's performance declined after 2018 due to supply disruptions, the COVID-19 pandemic, and declining demand. Given this, and as discussed above, it is unsurprising, and not particularly instructive, that there was no correlation between cumulated subject import volume and the domestic industry's performance during the POR. *See Consolidated Fibers, Inc.,* 571 F. Supp. 2d at 1365.

 ³¹⁵ CR/PR at Table I-16.
 ³¹⁶ CR/PR at Table I-16.
 ³¹⁷ CR/PR at Table I-16.

project *** in demand.³¹⁸ Even if demand were to decline or remain weak, the significant volume of low-priced cumulated subject imports that is likely after revocation would exacerbate any injury caused by adverse demand trends by further reducing the industry's sales and placing additional downward pressure on domestic ESBR prices.

In sum, we conclude that if the orders were revoked, cumulated subject imports from Brazil, Mexico, Poland, and South Korea would likely have a significant impact on the domestic industry within a reasonably foreseeable time.

V. Conclusion

For the above-stated reasons, we determine that revocation of the antidumping duty orders on ESBR from Brazil, Mexico, Poland, and South Korea would be likely to lead to continuation or recurrence of material injury to an industry in the United States within a reasonably foreseeable time.

³¹⁸ CR/PR at Table II-4.

Part I: Introduction

Background

On August 1, 2022, the U.S. International Trade Commission ("Commission" or "USITC") gave notice, pursuant to section 751(c) of the Tariff Act of 1930, as amended ("the Act"),¹ that it had instituted reviews to determine whether revocation of the antidumping duty orders on emulsion styrene-butadiene rubber ("ESBR") from Brazil, Mexico, Poland, and South Korea would likely lead to the continuation or recurrence of material injury to a domestic industry.^{2 3} On November 4, 2022, the Commission determined that it would conduct full reviews pursuant to section 751(c)(5) of the Act.⁴ Table I-1 presents information relating to the background and schedule of this proceeding.⁵

¹ 19 U.S.C. 1675(c).

² 87 FR 47001, August 1, 2022. All interested parties were requested to respond to this notice by submitting the information requested by the Commission.

³ In accordance with section 751(c) of the Act, the U.S. Department of Commerce ("Commerce") published a notice of initiation of five-year reviews of the subject antidumping duty orders. 87 FR 46943, August 1, 2022.

⁴ 87 FR 76509, December 14, 2022. The Commission found that both the domestic and respondent interested party group responses from Mexico and South Korea to its notice of institution were adequate, and determined to conduct full reviews of the orders on imports from Mexico and South Korea. The Commission also found that the respondent interested party group responses from Brazil and Poland were inadequate but determined to conduct full reviews of the orders on imports on imports from those countries in order to promote administrative efficiency in light of its determinations to conduct full reviews of the orders with respect to Mexico and South Korea.

⁵ The Commission's notice of institution, notice to conduct full reviews, and scheduling notice are referenced in appendix A and may also be found at the Commission's website (<u>www.usitc.gov</u>). Commissioners' votes on whether to conduct expedited or full reviews may also be found at the web site. Appendix B presents the witnesses who appeared at the Commission's hearing.

Effective date	Action
September 12, 2017	Commerce's antidumping duty orders on ESBR from Brazil, Mexico, Poland, and South Korea (82 FR 42790, September 12, 2017)
August 1, 2022	Commission's institution of five-year reviews (87 FR 47001, August 1, 2022)
August 1, 2022	Commerce's initiation of five-year reviews (87 FR 46943, August 1, 2022)
November 4, 2022	Commission's determinations to conduct full five-year reviews (87 FR 76509, December 14, 2022)
November 29, 2022	Commerce's final results of expedited five-year reviews of the antidumping duty orders (87 FR 73286, November 29, 2022)
December 22, 2022	Commission's scheduling of the reviews (87 FR 79905, December 28, 2022)
May 23, 2023	Commission's hearing
July 10, 2023	Commission's vote
July 27, 2023	Commission's determinations and views

 Table I-1

 ESBR: Information relating to the background and schedule of this proceeding

The original investigations

The original investigations resulted from petitions filed on July 21, 2016, with Commerce and the Commission by Lion Elastomers, LLC ("Lion"), Port Neches, Texas, and East West Copolymer, LLC ("East West"), Baton Rouge, Louisiana.⁶ On July 19, 2017, Commerce determined that imports of ESBR from Brazil, Mexico, Poland, and South Korea were being sold at less than fair value ("LTFV").⁷ The Commission determined on August 25, 2017 that the domestic industry was materially injured by reason of LTFV imports of ESBR from Brazil, Mexico, Poland, and South Korea.⁸ On September 12, 2017, Commerce issued its antidumping duty orders with the final weighted-average dumping margins of 19.61 percent for Brazil, 19.52 percent for Mexico, 25.43 percent for Poland, and ranging from 9.66 to 44.30 percent for South Korea.⁹

⁶ Emulsion Styrene-Butadiene Rubber from Brazil, Korea, Mexico, and Poland, Inv. Nos. 731-TA-1334-1337 (Final), USITC Publication 4717, August 2017 ("Original publication"), p. I-1.

⁷ 82 FR 33045, 33048, 33061, and 33062, July 19, 2017.

⁸ 82 FR 43402, September 15, 2017. Vice Chairman David S. Johanson and Commissioner Meredith M. Broadbent entered dissenting views and determined that an industry in the United States was not materially injured or threatened with material injury by reason of LTFV imports of ESBR from Brazil, Mexico, Poland, and South Korea. Original publication, p. 35.

⁹ 82 FR 42790, September 12, 2017.

Previous and related investigations

The Commission has conducted a number of previous import relief investigations on ESBR, as presented in table I-2.

Date	Number	Country	Determination
1998	731-TA-794	Brazil	Negative
1998	731-TA-795	South Korea	Negative
1998	731-TA-796	Mexico	Negative
2021	731-TA-1575	Czechia	Negative
2021	731-TA-1576	Italy	Petition withdrawn
2021	731-TA-1577	Russia	Negative

Table I-2 ESBR: Previous and related Commission proceedings

Source: U.S. International Trade Commission publications and Federal Register notices.

Note: "Date" refers to the year in which the investigation was instituted by the Commission.

Summary data

Tables I-3 and I-4 and figure I-1 present a summary of data from the original investigations and the current five-year reviews. Since the original investigations, U.S. producer East West ceased operations at its Baton Rouge, Louisiana facility effective March 31, 2017, and subsequently filed for bankruptcy.¹⁰

U.S. producers' capacity and production were *** percent and *** percent lower, respectively, in 2022 than in 2016, while capacity utilization was *** percentage points higher over the same comparison. The average unit value ("AUV") of U.S. producers' U.S. shipments was *** percent higher in 2022 compared to 2016. U.S. producers' employment-related data were lower in 2022 than in 2016, with the exception of hourly wages.

The AUV of U.S. importers' U.S. shipments from Brazil was *** percent higher in 2022 than in 2016. Over the same comparison, the AUV of U.S. importers' U.S. shipments from Mexico was *** percent higher and the AUV of U.S. importers' U.S. shipments from Poland was *** percent higher. No responding U.S. importer reported U.S. shipments from South Korea in 2022.

Apparent U.S. consumption was *** percent lower in 2022 than in 2016 by quantity and *** percent lower by value. U.S. producers' market share based on quantity was higher in

¹⁰ East West halts operations at historic rubber facility, Rubber News, <u>https://www.rubbernews.com/article/20170417/NEWS/170419951/east-west-halts-operations-at-historic-rubber-facility</u>, retrieved March 24, 2023.

2022 at *** percent than in 2016 at *** percent, while subject import market share was lower (*** percent in 2022 compared to *** percent in 2016).

Table I-3 ESBR: Comparative data from the original investigations and subsequent reviews to-date, by terminal year

Item Measure 2016 2022 *** *** Apparent consumption Quantity *** *** U.S. producers market share Share of quantity *** *** Brazil market share Share of quantity *** *** Mexico market share Share of quantity *** *** Poland market share Share of quantity *** *** South Korea market share Share of quantity *** *** Share of quantity Subject market share *** *** Nonsubject market share Share of quantity *** *** Share of quantity Import market share *** *** Apparent consumption Value *** *** U.S. producers market share Share of value *** *** Brazil market share Share of value *** *** Share of value Mexico market share *** *** *** *** ***

Quantity in 1,000 pounds; value in 1,000 dollars; unit value in dollars per pound; share in percent

Poland market share	Share of value	***	***
South Korea market share	Share of value	***	***
Subject market share	Share of value	***	***
Nonsubject market share	Share of value	***	***
Import market share	Share of value	***	***
Brazil	Quantity	***	***
Brazil	Value	***	***
Brazil	Unit value	***	***
Mexico	Quantity	***	***
Mexico	Value	***	***
Mexico	Unit value	***	***
Poland	Quantity	***	***
Poland	Value	***	***
Poland	Unit value	***	***
South Korea	Quantity	***	***
South Korea	Value	***	***
South Korea	Unit value	***	***
Subject sources	Quantity	***	***
Subject sources	Value	***	***
Subject sources	Unit value	***	***

Table continued.

Table I-3 Continued ESBR: Comparative data from the original investigations and subsequent reviews to-date, by terminal year

ltem	Measure	2016	2022
Nonsubject sources	Quantity	***	***
Nonsubject sources	Value	***	***
Nonsubject sources	Unit value	***	***
All import sources	Quantity	***	44,782
All import sources	Value	***	53,071
All import sources	Unit value	***	\$1.19
Capacity	Quantity	***	***
Production	Quantity	***	***
Capacity utilization	Ratio	***	***
Producer U.S. shipments	Quantity	***	***
Producer U.S. shipments	Value	***	***
Producer U.S. shipments	Unit value	***	***
Producer inventories	Quantity	***	***
Producer inventory ratio to total shipments	Ratio	***	***
Production and related workers (PRWs) (number)	Noted in label	***	***
Hours worked (in 1,000 hours)	Noted in label	***	***
Wages paid (1,000 dollars)	Value	***	***
Hourly wages (dollars per hour)	Value	***	***
Productivity (pounds per hour)	Noted in label	***	***
Net sales	Quantity	***	***
Net sales	Value	***	***
Net sales	Unit value	***	***
Cost of goods sold	Value	***	***
Gross profit or (loss)	Value	***	***
SG&A expense	Value	***	***
Operating income or (loss)	Value	***	***
Unit COGS	Unit value	***	***
Unit operating income	Unit value	***	***
COGS/ Sales	Ratio	***	***
Operating income or (loss)/Sales	Ratio	***	***

Quantity in 1,000 pounds; value in 1,000 dollars; unit value in dollars per pound; ratio in percent

Source: For 2016, data are compiled from the confidential staff report from the original investigations, Office of Investigations memorandum INV-PP-100 (July 24, 2017). For 2022, data are 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 I-4 ESBR: U.S. shipments, by period and source

	ity in 1,000 pounds
--	---------------------

Source	Measure	2014	2015	2016	2017	2018
U.S. producers	Quantity	***	***	***	***	***
Subject sources	Quantity	***	***	***	***	***
Nonsubject sources	Quantity	***	***	***	***	***
All import sources	Quantity	***	***	***	***	***
All sources	Quantity	***	***	***	***	***

Table continued.

Table I-4 Continued ESBR: U.S. shipments, by period and source

Quantity in 1,000 pounds

Source	Measure	2019	2020	2021	2022
U.S. producers	Quantity	***	***	***	***
Subject sources	Quantity	***	***	***	***
Nonsubject sources	Quantity	***	***	***	***
All import sources	Quantity	***	***	***	***
All sources	Quantity	***	***	***	***

Source: For 2014-16, data are compiled from the confidential staff report from the original investigations, Office of Investigations memorandum INV-PP-100 (July 24, 2017). For 2017-22, data are compiled from data submitted in response to Commission questionnaires.

Figure I-1 ESBR: Historical apparent U.S. consumption based on quantity, by period and source

* * * * * * *

Source: For 2014-16, data are compiled from the confidential staff report from the original investigations, Office of Investigations memorandum INV-PP-100 (July 24, 2017). For 2017-22, data are compiled from data submitted in response to Commission questionnaires.

Statutory criteria

Section 751(c) of the Act requires Commerce and the Commission to conduct a review no later than five years after the issuance of an antidumping or countervailing duty order or the suspension of an investigation to determine whether revocation of the order or termination of the suspended investigation "would be likely to lead to continuation or recurrence of dumping or a countervailable subsidy (as the case may be) and of material injury."

Section 752(a) of the Act provides that in making its determination of likelihood of continuation or recurrence of material injury--

(1) IN GENERAL.--... the Commission shall determine whether revocation of an order, or termination of a suspended investigation, would be likely to lead to continuation or recurrence of material injury within a reasonably foreseeable time. The Commission shall consider the likely volume, price effect, and impact of imports of the subject merchandise on the industry if the order is revoked or the suspended investigation is terminated. The Commission shall take into account--

(A) its prior injury determinations, including the volume, price effect, and impact of imports of the subject merchandise on the industry before the order was issued or the suspension agreement was accepted,

(B) whether any improvement in the state of the industry is related to the order or the suspension agreement,

(*C*) whether the industry is vulnerable to material injury if the order is revoked or the suspension agreement is terminated, and

(D) in an antidumping proceeding . . ., (Commerce's findings) regarding duty absorption

(2) VOLUME.--In evaluating the likely volume of imports of the subject merchandise if the order is revoked or the suspended investigation is terminated, the Commission shall consider whether the likely volume of imports of the subject merchandise would be significant if the order is revoked or the suspended investigation is terminated, either in absolute terms or relative to production or consumption in the United States. In so doing, the Commission shall consider all relevant economic factors, including--

(A) any likely increase in production capacity or existing unused production capacity in the exporting country,

(B) existing inventories of the subject merchandise, or likely increases in inventories,

(*C*) the existence of barriers to the importation of such merchandise into countries other than the United States, and

(D) 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.

(3) PRICE.--In evaluating the likely price effects of imports of the subject merchandise if the order is revoked or the suspended investigation is terminated, the Commission shall consider whether--

(A) there is likely to be significant price underselling by imports of the subject merchandise as compared to domestic like products, and

(B) imports of the subject merchandise are likely to enter the United States at prices that otherwise would have a significant depressing or suppressing effect on the price of domestic like products.

(4) IMPACT ON THE INDUSTRY.--In evaluating the likely impact of imports of the subject merchandise on the industry if the order is revoked or the suspended investigation is terminated, the Commission shall consider all relevant economic factors which are likely to have a bearing on the state of the industry in the United States, including, but not limited to-

(A) likely declines in output, sales, market share, profits, productivity, return on investments, and utilization of capacity,

(B) likely negative effects on cash flow, inventories, employment, wages, growth, ability to raise capital, and investment, and

(C) likely negative effects on the existing development and production efforts of the industry, including efforts to develop a derivative or more advanced version of the domestic like product.

The Commission shall evaluate all such relevant economic factors . . . within the context of the business cycle and the conditions of competition that are distinctive to the affected industry.

Section 752(a)(6) of the Act states further that in making its determination, "the Commission may consider the magnitude of the margin of dumping or the magnitude of the net countervailable subsidy. If a countervailable subsidy is involved, the Commission shall consider information regarding the nature of the countervailable subsidy and whether the subsidy is a subsidy described in Article 3 or 6.1 of the Subsidies Agreement."

Organization of report

Information obtained during the course of the reviews that relates to the statutory criteria is presented throughout this report. A summary of trade and financial data for ESBR as collected in the reviews is presented in appendix C. U.S. industry data are based on the questionnaire responses of two U.S. producers of ESBR that accounted for virtually all U.S. production of ESBR during 2017-22. U.S. import data and related information are based on Commerce's official import statistics and the questionnaire responses of 22 U.S. importers of ESBR that are believed to have accounted for the majority of U.S. imports from Brazil, Mexico, Poland, South Korea, and all other sources during 2017-22.¹¹ Foreign industry data and related information are based on the questionnaire responses of three foreign producers of ESBR: one producer in Brazil, one producer in Mexico, and one producer in South Korea. These foreign producers reportedly accounted for *** production of ESBR in Brazil, Mexico, and South Korea during 2022.¹² No producer in Poland submitted a response to the Commission's questionnaire. Responses by U.S. producers, importers, purchasers, and foreign producers of ESBR to a series of questions concerning the significance of the existing antidumping duty orders and the likely effects of revocation of such orders are presented in appendix D.

¹¹ See section titled "U.S. imports" in part IV for more information.

¹² See sections titled "The industry in Brazil," "The industry in Mexico," and "The industry in South Korea" in part IV for more information.

Commerce's reviews¹³

Administrative reviews

Since the imposition of the antidumping duty orders, Commerce has completed three administrative reviews of the order with respect to Brazil, three administrative reviews of the order with respect to Mexico, one administrative review of the order with respect to Poland, and two administrative reviews of the order with respect to South Korea. The results of these administrative reviews are presented in tables I-5 through I-8.¹⁴

Table I-5

ESBR: Administrative reviews of the antidumping duty order for Brazil

Date results published	Period of review	Producer or exporter	Margin (percent)
85 FR 38847 (June 29, 2020); amended 85 FR 47342 (August 5, 2020)	February 24, 2017 through August 31, 2018	ARLANXEO Brasil S.A.	18.38
86 FR 30589 (June 9, 2021)	September 1, 2018 through August 31, 2019	ARLANXEO Brasil S.A.	34.93
86 FR 53033 (September 24, 2021)	September 1, 2019 through August 31, 2020	ARLANXEO Brasil S.A.	67.99

Source: Cited Federal Register notices.

Table I-6

ESBR: Administrative reviews of the antidumping duty order for Mexico

Date results published	Period of review	Producer or exporter	Margin (percent)
85 FR 43536	February 24, 2017 through	Industrias Negromex S.A.	2.68
(July 17, 2020)	August 31, 2018	de C.V.	
86 FR 41815	September 1, 2018 through	Industrias Negromex S.A.	23.26
(August 3, 2021)	August 31, 2019	de C.V.	
87 FR 7799	September 1, 2019 through	Industrias Negromex S.A.	2.65
(February 10, 2022)	August 31, 2020	de C.V.	

Source: Cited Federal Register notices.

¹³ Commerce has not conducted any changed circumstances reviews or scope rulings since the imposition of the orders. In addition, Commerce has not issued any duty absorption findings, company revocations, or anti-circumvention findings since the imposition of the orders.

¹⁴ For previously reviewed or investigated companies not included in an administrative review, the cash deposit rate continues to be the company-specific rate published for the most recent period.

Table I-7ESBR: Administrative reviews of the antidumping duty order for Poland

Date results published	Period of review	Producer or exporter	Margin (percent)
84 FR 64261 (November 21, 2019)	February 24, 2017 through August 31, 2018	Synthos Dwory 7 Spolka z Ograniczona Odpowiedzialnoscia Spolka Jawna's (SP.ZO.O.S.J.)	44.54

Source: Cited Federal Register notices.

Table I-8

ESBR: Administrative reviews of the antidumping duty order for South Korea

Date results	Date results Period of review Producer or ex		Margin (percent)
published			
85 FR 42352	February 24, 2017 through	LG Chem, Ltd.	4.19
(July 14, 2020)	August 31, 2018		
85 FR 42352	February 24, 2017 through	Daewoo International	4.19
(July 14, 2020)	August 31, 2018	Corporation	
85 FR 42352	February 24, 2017 through	Kumho Petrochemical	4.19
(July 14, 2020)	August 31, 2018	Co. Ltd.	
85 FR 42352	February 24, 2017 through	Sungsan International	4.19
(July 14, 2020)	August 31, 2018	Co, Ltd.	
85 FR 42352	February 24, 2017 through	WE International Co., Ltd.	4.19
(July 14, 2020)	August 31, 2018		
85 FR 42352	February 24, 2017 through	Kukje Trading Corp.	4.19
(July 14, 2020)	August 31, 2018		
85 FR 42352	February 24, 2017 through	Hyundai Glovis Co., Ltd.	4.19
(July 14, 2020)	August 31, 2018		
85 FR 67512	September 1, 2018 through	LG Chem Ltd.	44.30
(October 23, 2020)	August 31, 2019		
85 FR 67512	September 1, 2018 through	Daewoo International	44.30
(October 23, 2020)	August 31, 2019	Corporation	
85 FR 67512	September 1, 2018 through	Hyundai Glovis Co.	44.30
(October 23, 2020)	August 31, 2019		
85 FR 67512	September 1, 2018 through	Kukje Trading Corp.	44.30
(October 23, 2020)	August 31, 2019		
85 FR 67512	September 1, 2018 through	Kumho Petrochemical	44.30
(October 23, 2020)	August 31, 2019	Co. Ltd.	
85 FR 67512	September 1, 2018 through	Sungsan International	44.30
(October 23, 2020)	August 31, 2019	Co., Ltd.	
85 FR 67512	September 1, 2018 through	WE International Co., Ltd.	44.30
(October 23, 2020)	August 31, 2019		

Source: Cited Federal Register notices.

Five-year reviews

Commerce has issued the final results of its expedited reviews with respect to all subject countries.¹⁵ Tables I-9 through I-12 present the dumping margins calculated by Commerce in its original investigations and first five-year reviews.

Table I-9

ESBR: Commerce's original and first five-year dumping margins for producers/exporters in Brazil

Producer/exporter	Original margin (percent)	First five-year review margin (<i>percent</i>)
ARLANXEO Brasil S.A.	19.61	
All others	19.61	

Source: 82 FR 42790, September 12, 2017 and 87 FR 73286, November 29, 2022.

Note: In its expedited first five-year review, Commerce determined that revocation of the antidumping duty order on ESBR from Brazil would be likely to lead to continuation or recurrence of dumping at weighted-average margins of up to 19.61 percent. Commerce did not present weighted-average dumping margins for individual companies or a country-wide dumping margin.

Table I-10 ESBR: Commerce's original and first five-year dumping margins for producers/exporters in Mexico

Producer/exporter	Original margin (percent)	First five-year review margin (<i>percent</i>)
Industrias Negromex S.A. de		
C.V.—Planta Altamira (Negromex)	19.52	
All others	19.52	

Source: 82 FR 42790, September 12, 2017 and 87 FR 73286, November 29, 2022.

Note: In its expedited first five-year review, Commerce determined that revocation of the antidumping duty order on ESBR from Mexico would be likely to lead to continuation or recurrence of dumping at weighted-average margins of up to 19.52 percent. Commerce did not present weighted-average dumping margins for individual companies or a country-wide dumping margin.

Table I-11

ESBR: Commerce's original and first five-year dumping margins for producers/exporters in Poland

		First five-year review margin
Producer/exporter	Original margin (percent)	(percent)
Synthos Dwory	25.43	
All others	25.43	

Source: 82 FR 42790, September 12, 2017 and 87 FR 73286, November 29, 2022.

Note: In its expedited first five-year review, Commerce determined that revocation of the antidumping duty order on ESBR from Poland would be likely to lead to continuation or recurrence of dumping at weighted-average margins of up to 25.43 percent. Commerce did not present weighted-average dumping margins for individual companies or a country-wide dumping margin.

¹⁵ 87 FR 73286, November 29, 2022.

Table I-12ESBR: Commerce's original and first five-year dumping margins for producers/exporters in SouthKorea

Producer/exporter	Original margin (percent)	First five-year review margin (percent)
LG Chem, Ltd.	9.66	
Daewoo International Corporation	44.30	
Kumho Petrochemical Co, Ltd.	44.30	
All others	9.66	

Source: 82 FR 42790, September 12, 2017 and 87 FR 73286, November 29, 2022.

Note: In its expedited first five-year review, Commerce determined that revocation of the antidumping duty order on ESBR from South Korea would be likely to lead to continuation or recurrence of dumping at weighted-average margins of up to 44.30 percent. Commerce did not present weighted-average dumping margins for individual companies or a country-wide dumping margin.

The subject merchandise

Commerce's scope

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

The products covered by the orders are cold-polymerized emulsion styrene-butadiene rubber (ESB rubber). The scope of the orders includes, but is not limited to, ESB rubber in primary forms, bales, granules, crumbs, pellets, powders, plates, sheets, strip, etc. ESB rubber consists of non-pigmented rubbers and oil-extended non-pigmented rubbers, both of which contain at least one percent of organic acids from the emulsion polymerization process.

ESB rubber is produced and sold in accordance with a generally accepted set of product specifications issued by the International Institute of Synthetic Rubber Producers (IISRP). The scope of the investigations covers grades of ESB rubber included in the IISRP 1500 and 1700 series of synthetic rubbers. The 1500 grades are light in color and are often described as "Clear" or "White Rubber." The 1700 grades are oil-extended and thus darker in color and are often called "Brown Rubber."

Specifically excluded from the scope of these orders are products which are manufactured by blending ESB rubber with other polymers, high styrene resin master batch, carbon black master batch (i.e., IISRP 1600 series and 1800 series) and latex (an intermediate product).¹⁶

¹⁶ Commerce's Issues and Decision Memorandum for the Expedited Sunset Reviews of the Antidumping Duty Orders on Emulsion Styrene-Butadiene Rubber from Brazil, the Republic of Korea, Mexico, and Poland, November 22, 2022, p. 2.

Tariff treatment

Based upon the scope set forth by Commerce, information available to the Commission indicates that the merchandise subject to these reviews is imported under the following provisions of the Harmonized Tariff Schedule of the United States ("HTS") 4002.19.0015 (ESBR in bales) and 4002.19.0019 (other), a residual SBR category including ESBR in forms other than bales along with other products. The 2022 general rate of duty is free under HTS subheading 4002.19.00; however, normal trade relations with the nonsubject Russian Federation were suspended by Public Law 117-110 and the column 2 duty rate of 20 percent ad valorem began to apply. Subsequently, pursuant to authority granted in that act, that column 2 duty was increased to 35 percent ad valorem effective July 27, 2022.¹⁷ Decisions on the tariff classification and treatment of imported goods are otherwise within the authority of U.S. Customs and Border Protection.¹⁸

The product

Description and applications¹⁹

ESBR ranks as a dominant elastomer in global markets. It is a reactive copolymer product of styrene and butadiene petrochemical feedstocks produced by a cold emulsion process. The ESBR rubber polymer contains by weight about 25 percent styrene and 75 percent butadiene, with antioxidant added during the process for protection and storage. There are two major types of styrene-butadiene ("SBR") elastomeric polymers, ESBR, and solution SBR ("SSBR"), each based on different manufacturing processes, and having different properties. ESBR, as covered by the scope of these reviews, is produced in several grades by aqueous

¹⁷ On April 8, 2022, the President signed the "Suspending Normal Trade Relations with Russia and Belarus Act" (19 U.S.C. 2434 note) (Suspending NTR Act) which provided for a shift to prevailing column 2 rates. Subsequentially, Presidential Proclamation 10420 of June 27, 2022, provided for "Increasing Duties on Certain Articles from the Russian Federation" including all articles under subject 8digit HTS subheading 4002.19.00. An increased column 2 rate of 35 percent ad valorem for all articles of HTS 4002.19.00 on the Russia Federation became effective on July 27, 2022, as detailed in ANNEX A and ANNEX B to this proclamation. Presidential Documents, Proclamation 10420, 87 FR 38875, June 30, 2022.

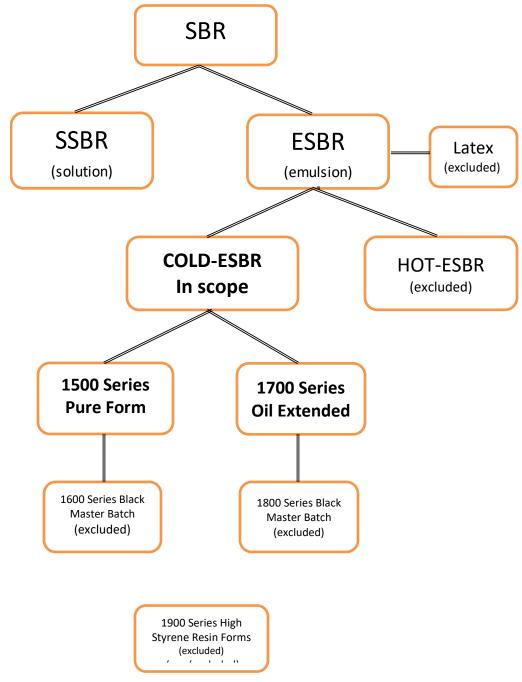
¹⁸ Section 301 tariffs of 10 percent were imposed on products of China at the direction of the President by the U.S. Trade Representative in September 2018, and likewise raised to 25 percent in May 2019 (83 FR 47974, September 21, 2018; 84 FR 20459, May 9, 2019).

¹⁹ Unless otherwise noted, this information is based on the original publication, pp. I-7-I-10, and Emulsion Styrene-Butadiene from Czechia and Russia, Inv. Nos. 731-1575 and 731-1577 (Final), USITC Publication 5392, January 2023 ("Final 2023 Publication"), pp. I-8-12.

emulsion technology, while out-of-scope solution SSBR is produced in an anhydrous organic solution process. Each form has numerous downstream end use applications, but most particularly, 70 percent or more of in-scope ESBR is used in vulcanized tire tread compounds in replacement tires for passenger car and light trucks, truck tire retreads and bicycles. ESBR is also used in diverse non-tire applications such as conveyor belting, cables, hoses, o-rings and other mechanical rubber goods, footwear and flooring, while the more-expensive SSBR is better suited for high performance original equipment manufacturer ("OEM") tire applications and certain other non-tire uses such as athletic footwear.

Figure I-2 provides a breakout of the various forms of SBR rubber grades (as covered by the scope of these investigations and out-of-scope) as specified on a global basis by the International Institute of Synthetic Rubber Producers ("IISRP"), Houston, Texas.

Figure I-2 ESBR: Styrene-butadiene rubber (SBR) flow diagram



Source: The Synthetic Rubber Manual, IISRP, 2015.

In-scope products consist of the 1500 and 1700 series of ESBR synthetic rubbers of styrene and butadiene copolymer as defined by IISRP, and generally recognized by the international industry. Subject ESBR elastomer is produced by a cold aqueous emulsion process at 41-55 degrees Fahrenheit, and finished as a dry, or oil modified crumb-like polymeric material, which is most often sold pressed into bales of up to about 80 pounds; however, the scope covers ESBR in all physical forms regardless of type of packaging. The 1500 series is considered a "neat" or pure form of ESBR, while the 1700 series contains petroleum-based processing extender oil as an integral component of the rubber particle. The oil component of the rubber particle aids in the eventual processing of ESBR compounds that are extruded, mixed, and rolled into rubber goods. The styrene content of ESBR can be modified to provide products with special advantages and properties. A "normal" level of styrene is 23.5 percent, but in selected cases a lower styrene content polymer may be obtained that has advantages in mixing, shaping, building, and curing. Styrene levels above 40 percent range typically fall into the out-of-scope high styrene resin (HSR) 1900 series grades.

Several IISRP series of SBR products are not covered by the scope. Exclusions include significantly different kinds of synthetic rubber materials or products. For example, the 1600 and 1800 series are grades of emulsion SBR carbon black masterbatch (CBMB) typically produced by a different process using separate production equipment, and shipped in solid slabs with a hard rubber consistency. Other categories of emulsion SBR not covered by the scope definition are the 1000 and 1900 series of synthetic rubbers, as specified under the IISRP numbering system. Unlike subject cold process ESBR, the 1000 series is a "hot" polymerized series of emulsion SBR produced at about 106 degrees Fahrenheit, and employed in a variety of end uses other than those to which subject ESBR is best suited. The 1900 series of emulsion SBR is a high-styrene synthetic rubber having resin characteristics that is used in a variety of non-tire end uses. The SSBR solution rubber process 1200 series is also excluded as previously noted. ESBR colloidal liquid latex is used in fabric coatings, carpet backing, paper coatings, and gloves.

End users of ESBR formulate compounds prior to the production of vulcanized (cured) rubber goods. Processing begins by breaking down the bales through heating, mixing, and rolling in order to plasticize the rubber. The time required for breakdown is much less for ESBR than for natural rubber which is compounded in a similar manner. ESBR has better extrusion properties than natural rubber and has a lesser tendency to scorch, and also better tread wear properties than natural rubber, while natural rubber has better grip. Thus, the two may be blended, and ESBR can be blended with all diene polymers in any proportion to adjust the final properties and economy of the finished product. End users may also formulate compounds by

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blending subject ESBR with excluded polymer types, including emulsion SBR sources such as carbon black master batch ("CBMB"), and with solution styrene-butadiene rubber ("SSBR"). SSBR is more expensive to produce, but is used in high performance original equipment (OE) tire production because of its range of physical properties which also serve to impart a lower rolling resistance integral to mileage and fuel consumption standards both in the United States and Europe. Tire components such as tire tread, sidewall, bead, and carcass generally use specialized formulations.

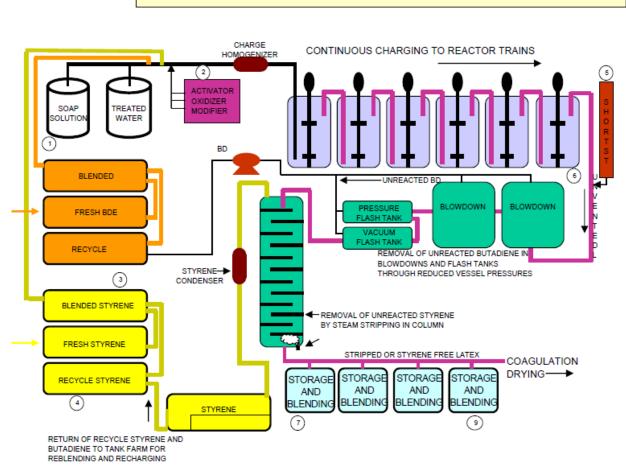
Manufacturing processes²⁰

Subject ESBR is produced by a continuous cold aqueous emulsion latex process at 41-55 degrees Fahrenheit, known technically as emulsion copolymerization, a free radical mechanism that joins reactive styrene (C₆H₅-CH=CH₂) and butadiene (CH2=CH-CH=CH2) molecules together in lengthy copolymer chains. The continuous manufacturing process is accomplished using five main ingredients which are added through a series of several reactors connected in series: (1) water, (2) the two monomers, styrene and butadiene, (3) soap emulsifier, (4) a polymer "modifier" used to control molecular structure, and (5) an "initiator" designed to drive the polymerization reaction. When about 60 percent of the monomers have been converted to polymer chains, the process is stopped by an "inhibitor" or "short-stop," designed to prevent large increases in undesirable polymer chain branching and the commencing of polymer crosslinking beyond that point. The resulting ESBR latex emulsion is next purified by removing unreacted butadiene and styrene for recycling via flash distillation and steam stripping, together with the addition of a stabilizing antioxidant. The 1500 series latex product at this point is ready for transfer to the finishing section, while in the case of the oil-extended 1700 series, the emulsified process oil must first be added to the purified rubber latex.

The second phase of the continuous process, or finishing line process, is accomplished by first acidifying and coagulating the latex, thus separating the solid ESBR rubber particles from the water of the latex. The resulting coagulated crumb is then washed, dewatered, dried, and packaged in 80 pound rectangular bales either as 1500 or oil-extended 1700 series finished products.

A detailed process flow diagram of the ESBR manufacturing process is presented in figure I-3.

²⁰ Unless otherwise noted, this information is based on the original publication, pp. I-11-I-12.



Continuous Polymerization of E-SBR

Source: The Synthetic Rubber Manual, IISRP, 2012.

The emulsion polymerization process has several advantages. It is normally used under mild reaction conditions that are tolerant to water and requires only the absence of oxygen. The process is relatively robust to impurities and amenable to using a range of functionalized and non-functionalized monomers. Additional benefits of emulsion polymerization are that it gives high solids contents with low reaction viscosity and cost-effectiveness. The physical state of the emulsion (colloidal) system makes it easy to control the process. Thermal and viscosity problems are much less significant than in bulk polymerization.

Domestic like product issues

In its original determinations, the Commission defined a single domestic like product consisting of the 1500 and 1700 series ESBR, coextensive with the scope.²¹

In its notice of institution in these current five-year reviews, the Commission solicited comments from interested parties regarding the appropriate domestic like product and domestic industry.²² In its response to the notice of institution, the domestic interested party stated that it agreed with the domestic like product definition in the Commission's original determinations.²³ The Mexican respondent interested parties and the South Korean respondent interested party did not express a view regarding the definitions of the domestic like product and domestic industry, but stated that they reserve the right to comment on these definitions at a later stage in the proceeding.²⁴ No party requested that the Commission collect data concerning other possible domestic like products in their comments on the Commission's draft questionnaires.

In its prehearing brief, the domestic interested party stated that the Commission should find that 1500 and 1700 series ESBR constitute a single like product, coextensive with the scope.²⁵ No other interested party provided further comment on the domestic like product.

²¹ The Commission found that the record did not support the inclusion in the domestic like product of three products that were outside the scope of the original investigations: carbon black masterbatch (CBMB), solution styrene-butadiene rubber (SSBR), and natural rubber. Original publication, p. 7.

²² 87 FR 47001, August 1, 2022.

²³ Domestic interested party's response to the notice of institution, August 30, 2022, p. 26.

²⁴ Mexican respondent interested parties' response to the notice of institution, August 31, 2022, p. 20 and South Korean respondent interested party's response to the notice of institution, August 31, 2022, p. 13.

²⁵ Domestic interested party's prehearing brief, p. 13.

U.S. market participants

U.S. producers

During the final phase of the original investigations, three U.S. producers supplied the Commission with information on their U.S. operations with respect to ESBR: East West, The Goodyear Tire & Rubber Company ("Goodyear"), and Lion.²⁶ These firms accounted for all known production of ESBR in the United States during 2016.²⁷

In the current five-year reviews, the Commission received usable questionnaire responses from two U.S. producers—Goodyear and Lion—which accounted for virtually all U.S. production of ESBR during 2017-22. Table I-13 presents a list of current domestic producers of ESBR and each company's position on continuation of the orders, production locations(s), and share of reported production of ESBR in 2022.

Table I-13 ESBR: U.S. producers, positions on orders, U.S. production locations, and shares of reported U.S. production, 2022

Share in percent

Firm	Position on orders	Production location(s)	Share of production
Goodyear	***	Houston, TX	***
Lion	***	Port Neches, TX	***
All firms	Various	Various	100.0

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

As indicated in table I-14, no U.S. producers are related to foreign producers of the subject merchandise or to U.S. importers of the subject merchandise. No U.S. producers directly import the subject merchandise. As discussed in greater detail in Part III, one U.S. producer (***) reported purchases of imports from ***.

https://www.rubbernews.com/article/20170417/NEWS/170419951/east-west-halts-operations-athistoric-rubber-facility, retrieved March 24, 2023.

²⁶ As previously mentioned, U.S. producer East West ceased operations at its Baton Rouge, Louisiana facility effective March 31, 2017, and subsequently filed for bankruptcy. East West halts operations at historic rubber facility, Rubber News,

²⁷ Original publication, p. III-1.

ESBR: U.S. producers' ownership, related and/or affiliated firms				
Reporting firm Relationship type and related firm Details of relationship				
***	***	***		
Source: Compiled f	rom data submitted in response to Commission questionnaire	e		

Table I-14

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

U.S. importers

During the final phase of the original investigations, the Commission received U.S. importer questionnaires from 15 firms, which accounted for the following shares of U.S. imports of ESBR by source during 2016, based on official Commerce statistics—Brazil, 100.0 percent; Mexico, 100.0 percent; Poland, 99.9 percent; South Korea, 92.2 percent; and all other sources, 79.5 percent.²⁸ Import data presented in the original investigations are based on questionnaire responses supplemented as appropriate with official Commerce import statistics.29

In the current proceeding, the Commission issued U.S. importer questionnaires to 64 firms believed to be importers of ESBR and all U.S. producers of ESBR. Usable questionnaire responses were received from 22 firms, estimated to account for the majority of U.S. imports of ESBR from Brazil, Mexico, Poland, South Korea, and all other sources during 2017-22.³⁰ Table I-15 lists all responding U.S. importers of ESBR from Brazil, Mexico, Poland, South Korea, and other sources, their locations, and their shares of U.S. imports in 2022.

²⁸ Of the responding U.S. importers in the original investigations, one was a domestic producer: Goodyear. Original publication, pp. I-4, IV-2.

²⁹ In the original investigations, questionnaire data for U.S. imports were supplemented with nonresponding U.S. importers' U.S. imports under HTS statistical reporting number 4002.19.0015 and, for South Korea only, also under HTS statistical reporting number 4002.19.0019. Ibid.

³⁰ See section titled "U.S. imports" in part IV for more information.

Table I-15ESBR: U.S. importers, their headquarters, and share of imports within each source, 2022

								All
					South	Subject	Nonsubject	import
Firm	Headquarters	Brazil	Mexico	Poland	Korea	sources	sources	sources
Arlanxeo	Moon Township, PA	***	***	***	***	***	***	***
ARP	Amherst, NY	***	***	***	***	***	***	***
Carlstar	Franklin, TN	***	***	***	***	***	***	***
Channel Prime	Des Moines, IA	***	***	***	***	***	***	***
Chem	Middlefield, OH	***	***	***	***	***	***	***
Continental	Fort Mill, MI	***	***	***	***	***	***	***
Dynasol	Spring, TX	***	***	***	***	***	***	***
Giti	Richburg, SC	***	***	***	***	***	***	***
GPC	Woodbridge, VA	***	***	***	***	***	***	***
Harwick	Akron, OH	***	***	***	***	***	***	***
HB	Twinsburg, OH	***	***	***	***	***	***	***
Intertex	Carrollton, GA	***	***	***	***	***	***	***
Kumho	Macon, GA	***	***	***	***	***	***	***
LG Chem America	Atlanta, GA	***	***	***	***	***	***	***
Michelin	Greenville, SC	***	***	***	***	***	***	***
Nokian	Dayton, TN	***	***	***	***	***	***	***
Pirelli	Rome, GA	***	***	***	***	***	***	***
Posco	Teaneck, NJ	***	***	***	***	***	***	***
Sumitomo	Tonawanda, NY	***	***	***	***	***	***	***
Тоуо	White, GA	***	***	***	***	***	***	***
Yokohama	West Point, MS	***	***	***	***	***	***	***
Zeon	Louisville, KY	***	***	***	***	***	***	***
All firms	Various	***	***	***	***	***	***	***

Share in percent

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

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

U.S. purchasers

The Commission received 23 usable questionnaire responses from firms that bought ESBR during the period.³¹ Eleven responding purchasers are tire manufacturers, two are distributors, six are other end users, and five are classified as other users.³² In general, responding U.S. purchasers were located on the East coast, the Mid-West, and the South. The responding purchasers were mainly concentrated in rubber producing industries, particularly tire production. Large purchasers of ESBR include tire manufacturers *** and distributor ***.

Apparent U.S. consumption and market shares

Quantity

Table I-16 and figure I-4 present data on apparent U.S. consumption and U.S. market shares by quantity for ESBR. Apparent U.S. consumption by quantity decreased overall by *** percent during 2017-22. Apparent U.S. consumption decreased in each year between 2017 and 2020 (decreasing by *** percent during 2017-18, *** percent during 2018-19, and *** percent during 2019-20) then fluctuated between 2020 and 2022 (increasing by *** percent during 2020-21 then decreasing by *** percent during 2021-22). Between 2017 and 2022 U.S. producers' market share by quantity increased overall by *** percentage points (from *** percent to *** percent) and nonsubject import market share increased overall by *** percentage points (from *** percent to *** percent). Conversely, subject import market share decreased overall by *** percent to *** percent.³³

³¹ Of the 23 responding purchasers, 20 purchased the domestic product, 1 purchased imports of the subject merchandise from Brazil, 3 purchased subject ESBR from Mexico, 1 purchased product from Poland, 1 purchased product from South Korea, and 14 purchased imports of ESBR from other sources. Other sources include Argentina, Czechia, Germany, Italy, Japan, Russia, Saudi Arabia, Taiwan, and Thailand.

³² These firms reported they were rubber mixers, or produced rubber products such as masterbatch, carpet underlayment, soles and heels, and conveyor belts.

³³ Subject import market share decreased in each year during 2017-20 (decreasing by *** percentage points during 2017-18, *** percentage points during 2018-19, and *** percentage points during 2019-20) then fluctuated between 2020-22 (increasing by *** percentage points during 2020-21 then decreasing by *** percentage points during 2021-22). In contrast, nonsubject import market share increased in each year during 2017-21 (increasing by *** percentage points during 2017-18, *** percentage points during 2017-21, *** percentage points during 2019-20, and *** percentage points during 2020-21) then decreased by *** percentage points during 2021-22.

Table I-16ESBR: Apparent U.S. consumption and market shares based on quantity, by source and period

Source	Measure	2017	2018	2019	2020	2021	2022
U.S. producers:							
Commercially sold	Quantity	***	***	***	***	***	***
U.S. producers:							
Internally consumed	Quantity	***	***	***	***	***	***
U.S. producers:		***	***	***	***	***	***
Overall U.S. shipments	Quantity						
Brazil	Quantity	***	***	***	***	***	***
Mexico	Quantity	***	***	***	***	***	***
Poland	Quantity	***	***	***	***	***	***
South Korea	Quantity	***	***	***	***	***	***
Subject sources	Quantity	***	***	***	***	***	***
Nonsubject sources	Quantity	***	***	***	***	***	***
All import sources	Quantity	***	***	***	***	***	***
All sources	Quantity	***	***	***	***	***	***
U.S. producers:							
Commercially sold	Share	***	***	***	***	***	***
U.S. producers:							
Internally consumed	Share	***	***	***	***	***	***
U.S. producers:		***	***	***	***	***	***
Overall U.S. shipments	Share						
Brazil	Share	***	***	***	***	***	***
Mexico	Share	***	***	***	***	***	***
Poland	Share	***	***	***	***	***	***
South Korea	Share	***	***	***	***	***	***
Subject sources	Share	***	***	***	***	***	***
Nonsubject sources	Share	***	***	***	***	***	***
All import sources	Share	***	***	***	***	***	***
All sources	Share	100.0	100.0	100.0	100.0	100.0	100.0

Quantity in 1,000 pounds; shares in percent

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 I-4 ESBR: Apparent U.S. consumption based on quantity, by source and period

* * * * * * *

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

Value

Table I-17 and figure I-5 present data on apparent U.S. consumption and U.S. market shares by value for ESBR. Apparent U.S. consumption by value decreased overall by *** percent during 2017-22. Apparent U.S. consumption by value decreased in each year between 2017 and 2020 (decreasing by *** percent during 2017-18, *** percent during 2018-19, and *** percent during 2019-20) then increased in each year between 2020 and 2022 (increasing by *** percent during 2020-21 and *** percent during 2021-22). Between 2017 and 2022 U.S. producers' market share by value increased overall by *** percentage points (from *** percent to *** percent) and nonsubject import market share increased overall by *** percentage points (from *** percentage points (from *** percent). Subject import market share decreased overall by *** percentage points between 2017 and 2022, from *** percent to *** percent.

Table I-17ESBR: Apparent U.S. consumption and market shares based on value, by source and period

Source	Measure	2017	2018	2019	2020	2021	2022
U.S. producers:							
Commercially sold	Value	***	***	***	***	***	***
U.S. producers:		***	***	***	***	***	***
Internally consumed	Value	***	***	***	***	***	***
U.S. producers:	N/ Jack	***	***	***	***	***	***
Overall U.S. shipments	Value	***	***	***	***	***	***
Brazil	Value						
Mexico	Value	***	***	***	***	***	***
Poland	Value	***	***	***	***	***	***
South Korea	Value	***	***	***	***	***	***
Subject sources	Value	***	***	***	***	***	***
Nonsubject sources	Value	***	***	***	***	***	***
All import sources	Value	***	***	***	***	***	***
All sources	Value	***	***	***	***	***	***
U.S. producers:							
Commercially sold	Share	***	***	***	***	***	***
U.S. producers:							
Internally consumed	Share	***	***	***	***	***	***
U.S. producers:		***	***	***	***	***	***
Overall U.S. shipments	Share						
Brazil	Share	***	***	***	***	***	***
Mexico	Share	***	***	***	***	***	***
Poland	Share	***	***	***	***	***	***
South Korea	Share	***	***	***	***	***	***
Subject sources	Share	***	***	***	***	***	***
Nonsubject sources	Share	***	***	***	***	***	***
All import sources	Share	***	***	***	***	***	***
All sources	Share	100.0	100.0	100.0	100.0	100.0	100.0

Value in 1,000 dollars; shares in percent

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 I-5 ESBR: Apparent U.S. consumption based on value, by source and period

* * * * * *

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

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

U.S. market characteristics

ESBR is a synthetic rubber copolymer that is produced as a dry, crumb-like material and typically sold in bales, with a "normal" styrene content of 23.5 percent. Most (approximately 70 percent) of ESBR is used for new rubber tires for the replacement market,¹ and ESBR is also used in "technical goods" such as conveyor belts, soles of shoes, some hoses, and flooring.^{2 3} The 1502 grade is the "most commercially sold ESBR" globally. The base polymer for the 1700-series typically has a higher viscosity than the 1500 series.⁴ ESBR is produced to international standards by the International Institute of Synthetic Rubber Producers ("IISRP").⁵ The IISRP approves specific grades of ESBR sold by producers prior to marketing, and its *Synthetic Rubber Manual* lists approved vendors and their corresponding approved grades.⁶

There are two domestic producers of ESBR, which account for all the domestically produced ESBR sold in the United States in 2022. Domestic producer East West ceased production and went bankrupt in April 2017, and U.S. producer Lion purchased a "very small amount" of East West's assets for Lion's Port Neches, Texas facility.⁷ U.S. producer Lion produces approximately 40 percent of ESBR produced in the United States, while Goodyear is responsible for the remaining 60 percent.⁸

Tire manufacturers are producers, importers, and purchasers of ESBR. In 2022, approximately *** percent of U.S. producer Goodyear's ESBR production was consumed

¹ Domestic producer Lion argued that the shift towards electric vehicles ("EVs") makes ESBR a "more environmentally friendly choice" than other synthetic rubber copolymers, because ESBR-based tires last longer. Respondent Kumho disagreed that the shift towards EVs will increase demand for ESBR, noting that next generation solution styrene-butadiene rubber ("SSBR") will be used in EVs. U.S. producer Lion's posthearing brief, Answers to Commissioner's Questions, pp. 47-48; Respondent Kumho's posthearing brief, exh. 1, pp. 15-17.

² Tire components, such as tire tread, sidewalls, and cores use "specialized" formulations. Final 2023 Publication, p. II-1.

³ SSBR is primarily used in OEM tires. SSBR has "reduced rolling resistance, which reduces energy loss and lowers fuel consumption" which OEMs prefer in order to meet average fuel economy standards. ESBR "finds great use" in the replacement tire market. Final 2023 publication, p. II-1.

⁴ The 1500 series is considered a "neat" or pure form of ESBR, while the 1700 series contains added petroleum-based processing oil. Final 2023 publication, p. II-1.

⁵ See part I for a discussion on the ESBR manufacturing process and IISRP standards.

⁶ U.S. producer Lion's prehearing brief, p. 36.

⁷ Lion sold the facility to Exxon Mobil Chemical later in 2017. The East West facility no longer produces ESBR and is used as a logistics source. Final 2023 Publication, p. II-2.

⁸ Final 2023 Publication, p. II-2.

internally. Eight of the 11 responding purchasers that are tire producers⁹ also import ESBR.^{10 11} ESBR from China has been subject to section 301 tariffs since September 2018.¹²

*** of 20 importers, and 17 of 22 purchasers indicated that the market was not subject to distinctive conditions of competition. Of the firms reporting distinct conditions of competition, *** reported that purchasers have "price transparency" coupled with an "iterative contracting process between sophisticated purchasers" and that solution-polymerized styrenebutadiene ("SSBR") has replaced ESBR in markets outside of the United States. Importer *** reported that tire producers' request for offers are made once a year and are requests to supply ESBR for the following year. Importer *** also noted that there is a "lack of domestic capacity for ESBR" and that in some cases there is a push to move away from oil related ESBR to natural rubber in the United States. Purchasers reported that ESBR prices reflect monomer prices¹³ (***) and that the automotive industry heavily influences the pricing and demand for ESBR (***). Almost all responding purchasers reported that the product mix or marketing of ESBR have not changed since 2017.

Apparent U.S. consumption of ESBR generally decreased from 2017-22, although apparent U.S. consumption increased between 2020 and 2021. During 2017-19, apparent U.S. consumption steadily decreased and decreased significantly in 2020; it rebounded in 2021 and decreased again in 2022. Overall, apparent U.S. consumption in 2022 was 27.5 percent lower than in 2017.

Shelf Life

U.S. producers and importers were asked about any shelf-life policies they impose on their ESBR, after which it is considered to be off-specification ("off-spec"). U.S. producer Lion

⁹ Purchasers *** are tire producers.

¹⁰ Tire producers ***. Their questionnaire responses are reported separately throughout this section of the report, unless otherwise noted. ***. U.S. producer Goodyear ***.

¹¹ On a quantity basis, importers internally consumed over 55 percent of total U.S. shipments of imported ESBR from all import sources in 2022.

¹² 84 FR 20459, May 9, 2019, and 83 FR 47974, September 21, 2018.

¹³ See Part V for a discussion on monomer prices.

reported that its ***.¹⁴ Most importers (*** of 21) have an off-spec policy, with *** importers reporting a shelf life of 1 year, *** firms reporting about 1.5 years, *** firms reporting 2 years, and *** firm reporting 2-3 years. Most responding importers that have a set policy reported that they do not sell off-spec ESBR,¹⁵ however, four importers sell to the off-spec market.

Channels of distribution

U.S. producers sold mainly to tire manufacturers, although the share of their shipments to tire producers decreased from 2017-22, as shown in table II-1. Importers sold product from Brazil mainly to tire manufacturers. Importers sold product from South Korea mainly to tire producers in 2017 and 2020-21, with sales *** amongst tire producers, distributors, and other end users during 2018-19.¹⁶ Importers sold a majority of their shipments of Mexican ESBR to tire producers in 2017 and 2020-22. Importers sold product from Poland mainly to other end users in 2018 and 2020-22. Importers sold product from Poland mainly to other end users in 2017, and the majority *** of their sales were to tire manufacturers in 2018-22.

¹⁴ U.S. producer Goodyear reported it ***.

¹⁵ Importers instead scrapped the off-spec ESBR, re-test it after its set shelf-life, or use it before the product is beyond its self-life.

¹⁶ No importers reported importing or selling ESBR from South Korea in 2022.

Table II-1 ESBR: Share of U.S. shipments by source, channel of distribution, and period

Source	Channel	2017	2018	2019	2020	2021	2022
United States	Distributors	***	***	***	***	***	***
United States	Tire manufacturers	***	***	***	***	***	***
United States	Other end users	***	***	***	***	***	***
Brazil	Distributors	***	***	***	***	***	***
Brazil	Tire manufacturers	***	***	***	***	***	***
Brazil	Other end users	***	***	***	***	***	***
Mexico	Distributors	***	***	***	***	***	***
Mexico	Tire manufacturers	***	***	***	***	***	***
Mexico	Other end users	***	***	***	***	***	***
Poland	Distributors	***	***	***	***	***	***
Poland	Tire manufacturers	***	***	***	***	***	***
Poland	Other end users	***	***	***	***	***	***
South Korea	Distributors	***	***	***	***	***	***
South Korea	Tire manufacturers	***	***	***	***	***	***
South Korea	Other end users	***	***	***	***	***	***
Subject sources	Distributors	***	***	***	***	***	***
Subject sources	Tire manufacturers	***	***	***	***	***	***
Subject sources	Other end users	***	***	***	***	***	***
Nonsubject sources	Distributors	***	***	***	***	***	***
Nonsubject sources	Tire manufacturers	***	***	***	***	***	***
Nonsubject sources	Other end users	***	***	***	***	***	***
All imports	Distributors	***	***	***	***	***	***
All imports	Tire manufacturers	***	***	***	***	***	***
All imports	Other end users	***	***	***	***	***	***

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

Geographic distribution

U.S. producers reported selling ESBR to *** and imports from at least one subject country was present in all regions in the United States (table II-2).¹⁷ Importers reported selling product from Brazil *** and reported selling ESBR from Mexico, Poland, and South Korea in ***.

¹⁷ Both producers did not ***. U.S. producer Lion reported *** while Goodyear reported ***.

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 had no sales of ESBR from subject countries within 100 miles of their U.S. point of shipment, *** percent between 101 and 1,000 miles, and *** percent over 1,000 miles.¹⁸

Table II-2 ESBR: Count of U.S. producers' and U.S. importers' geographic markets

Number of firms reporting

Region	U.S. producers	Brazil	Mexico	Poland	South Korea	Subject sources
Northeast	***	***	***	***	***	5
Midwest	***	***	***	***	***	6
Southeast	***	***	***	***	***	7
Central Southwest	***	***	***	***	***	6
Mountains	***	***	***	***	***	4
Pacific Coast	***	***	***	***	***	5
Other	***	***	***	***	***	1
All regions (except Other)	***	***	***	***	***	4
Reporting firms	***	***	***	***	***	7

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 II-3 provides a summary of the supply factors regarding ESBR from U.S. producers and from subject countries. From 2017-22, practical capacity for all producers decreased albeit at varying degrees.¹⁹

¹⁸ Three importers reported the distances it shipped product from the subject countries. Importer *** reported that 100 percent of its shipments were shipped over 1,000 miles from its U.S. point of shipment. Importers *** reported the distances they shipped their product but did not report commercial shipments of product from subject countries. Their responses have not been included.

¹⁹ One producer from Brazil, Mexico, and South Korea responded to the Commission's questionnaire; no producer from Poland responded.

Table II-3 ESBR: Supply factors that affect the ability to increase shipments to the U.S. market, by country

Factor	Measure	United States	Brazil	Mexico	Poland	South Korea	Subject sources
Capacity 2017	Quantity	***	***	***	***	***	***
Capacity 2022	Quantity	***	***	***	***	***	***
Capacity utilization 2017	Ratio	***	***	***	***	***	***
Capacity utilization 2022	Ratio	***	***	***	***	***	***
Ending inventories 2017	Ratio	***	***	***	***	***	***
Ending inventories 2022	Ratio	***	***	***	***	***	***
Home market 2022	Share	***	***	***	***	***	***
Non-US export markets 2022	Share	***	***	***	***	***	***
Ability to shift production	Count	***	***	***	***	***	***

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

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

Note: Responding U.S. producers accounted for all of U.S. production of ESBR in 2022. Responding foreign producer/exporter firms accounted for *** of U.S. imports of ESBR from Brazil during 2020 (the most recent year in which it reported exports to the United States), *** of U.S imports from Mexico during 2022, and *** imports from South Korea in 2021. No producers from Poland responded to the Commission's questionnaire. 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 I, "Organization of Report."

Domestic production

Based on available information, Goodyear and Lion, the two U.S. producers of ESBR have the ability to respond to changes in demand with *** changes in the quantity of shipments of U.S.-produced ESBR to the U.S. market. The main contributing factors to this degree of responsiveness of supply are the ***. Factors mitigating responsiveness of supply include the ***.

From 2017 to 2022, capacity decreased by ***, while production decreased by ***, resulting in a capacity utilization decline from *** to ***. Exports accounted for *** of U.S. producers' total shipments in 2022, with U.S. producers reporting *** as major export markets, in addition to ***. U.S. producers reported *** and *** as

barriers to trade. Neither U.S. producer reported that it can ***.²⁰

To the extent that there is a shortage of inputs or domestic producers face force majeures, as described below in the supply constraints section, producers may be less able to respond to changes in demand with increased ESBR production.

Subject imports from Brazil

Based on available information, Arlanxeo, the producer of ESBR from Brazil, has the ability to respond to changes in demand with *** changes in the quantity of shipments of ESBR to the U.S. market. The main contributing factors to this degree of responsiveness of supply are ***. Factors mitigating responsiveness of supply include ***.

Arlanxeo's capacity decreased by *** from 2017-22, while its production decreased by *** percent, resulting in a *** decrease in its capacity utilization from *** percent to *** percent. Export shipments comprise a *** share of Arlanxeo's total shipments, and it listed *** as major export markets. It reported ***.

Arlanxeo reported it can *** equipment as ESBR. It noted that it began producing ***.²¹

Subject imports from Mexico

Based on available information, the one producer of ESBR from Mexico, Negromex, has the ability to respond to changes in demand with *** changes in the quantity of shipments of ESBR to the U.S. market. The main contributing factors to this degree of responsiveness of supply are primarily

²⁰ U.S. producer Lion reported that ***. It added that ***. See part III for additional details.

²¹ Arlanxeo stated that it ***. Respondent Arlanexo's prehearing brief, pp. 8 and 21.

***. Factors mitigating responsiveness of supply include ***.

Negromex's capacity decreased by *** percent from 2017-22, while its production decreased by *** percent, resulting in *** in its capacity utilization from *** percent in 2017 to *** percent in 2022. Export shipments to non-U.S. markets comprised more than *** of its total shipments in 2022, and it listed *** as its principal export markets. Other products that Negromex reportedly ***. Factors affecting Negromex's ability to shift production include ***.²²

Subject imports from Poland

No producers from Poland responded to the Commission's questionnaire.

Subject imports from South Korea

Based on available information, the one producer of ESBR from South Korea, Kumho, has the ability to respond to changes in demand with *** changes in the quantity of shipments of ESBR to the U.S. market. The main contributing factors to this degree of responsiveness of supply are ***. Factors mitigating responsiveness of supply include ***.

Kumho's capacity decreased by *** percent from 2017-22, while its production decreased by *** percent, resulting in *** in its capacity utilization from *** percent in 2017 to *** percent in 2022. Export shipments to non-U.S. markets comprised *** its total shipments in 2022, and it listed *** as its principal export markets. Kumho reported that ***.

²² U.S. producer Lion argued that Negromex produces a CBMB, NBR, and a hot-emulsion SBR, and that these out-of-scope products are made on the "exact same polymerization platform." It added that if Negromex were to switch from out-of-scope product to in-scope product would require a "very lengthy cleaning period of time" consisting of "weeks," but Lion believes it is possible for Negromex to switch from in-scope to out-of-scope products. Negromex disagreed with this characterization arguing that it is "not economically practical regardless of the type of product." Hearing transcript, pp. 66-67 (Rickhoff), Respondent Negromex's posthearing brief, exh. 1, pp. 4-5.

Imports from nonsubject sources

Nonsubject imports accounted for *** percent of total U.S. imports of ESBR in 2022.²³ The largest sources of nonsubject imports during 2017-22 were Taiwan, Germany, Russia, Czechia, and China (in order of quantities imported). Combined, these countries accounted for 74.5 percent of nonsubject imports in 2022.²⁴

Supply constraints

Both U.S. producers reported that they ***.²⁵ Most importers (*** of 19) reported that they had not experienced supply constraints since January 1, 2017.²⁶

Nine of 21 responding purchasers reported that they had experienced supply constraints from domestic or foreign sources since January 1, 2017.²⁷ Regarding supply issues from domestic sources, in addition to the issues caused by Winter Storm Uri, purchasers reported the 2017 closure of U.S. producer East West, and that the TPC plant explosion created general supply shortages. Purchaser *** reported that both domestic suppliers put customers on allocation "until imports could arrive to support the domestic demand" after the East West closure.

Force Majeure and Natural Disasters

Multiple purchasers *** cited the impact of Winter Storm Uri on ESBR production and supply.²⁸ The storm disrupted Texas' power supply beginning on February 14,

²³ Based on data submitted in response to Commission questionnaires.

²⁴ Based on official Commerce import statistics under HTS statistical reporting numbers 4002.19.0015 and 4002.19.0019, which may include out-of-scope product.

²⁵ U.S. producer Lion reported that ***.

²⁶ Those reporting supply constraints listed COVID-19 related shortages (***), the inability to supply the U.S. market due to strong home market demand (***), and force majeure and customer allocations from butadiene suppliers during November 2020 through July 2021 (***). Importer *** also reported that the imposition of antidumping duties caused supply shortages.

²⁷ Purchaser *** was the only firm to list a supply constraint from a foreign supplier, noting that Winter Storm Uri had forced allocations at "Goodyear, Lion Elastomers, and some overseas providers (SRC, Synthos, etc.,)".

²⁸ In addition to the impact on ESBR production, importers *** reported that the 2021 winter storm also impacted butadiene supply.

2021, and resulted in both U.S. producers ***.²⁹ U.S. producer Lion reported that its ***. U.S. producer Goodyear reported that *** and that ***.

Purchasers *** reported that they were placed on allocation or that supply was limited from both U.S. producers in the aftermath of Winter Storm Uri; Lion placed purchaser *** on allocations ranging from ***. Purchaser *** also reported that the winter storm "greatly impacted pricing" in tandem with the limited supply. Purchaser *** added that Goodyear had a prolonged shutdown following Winter Storm Uri due to a gasket failure during startup activities in March 2021.³⁰

Purchasers also listed other storms such as Hurricane Harvey in 2017 (***), Hurricanes Marco and Laura in 2020 (***), Hurricane Ida in 2021 (***),³¹ Winter Storm Viola in 2021 (***).³² Purchaser *** reported force majeures "throughout the pandemic from numerous suppliers."³³

U.S. producer Lion stated that the TPC Group explosion and Winter Storm Uri "galvanized significant investments to improve its supply infrastructure" and to "ensure supply continuity to downstream customers." These improvements included a butadiene railcar receiving facilities in 2020, investing in the receiving dock for styrene and butadiene in 2021, a secondary butadiene pipeline in 2021, a butadiene plant expansion in 2021, and investment in "freeze protections" for water systems in 2022.³⁴ Respondent Kumho stated that due to these

²⁹ U.S. producer Lion ***, but purchaser *** reported that ***.

^{30 ***.}

³¹ Purchaser *** added that Hurricane Ida also interrupted the availability of butadiene and styrene in the U.S. market. See ***.

³² *** reported that the impact of these storms resulted in "extensive down time and lost production" and that domestic sources "couldn't ship for weeks" or "cut shipments for weeks."

³³ In the 2023 final investigation, one firm reported that butadiene supplier TPC filed for bankruptcy in June 2022 as an additional supply constraint for domestic ESBR. No firms reported this as a supply constraint in the current reviews. Final 2023 Publication, pp. II-9-II-10. TPC exited bankruptcy and completed financial restructuring in December 2022. *TPC Group, TPC Group Successfully Completes Financial Restructuring*, <u>https://www.tpcgrp.com/news-and-events/news/tpc-group-successfully-</u> *completes-financial-restructuring*, retrieved April 19, 2023.

³⁴ U.S. producer Lion's prehearing brief, pp. 44-45.

supply constraints a U.S. tire producer was "so desperate to source ESBR" that it paid the "high antidumping duty" and air freight to ensure ESBR supply.³⁵

New suppliers

Twenty-one of 23 purchasers indicated that no new suppliers had entered the U.S. market since January 1, 2017, and most (17 of 19) do not expect additional entrants.³⁶

U.S. demand

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

End uses and cost share

U.S. demand for ESBR depends on the demand for U.S.-produced downstream products, particularly tire manufacturing.³⁷ Reported end uses include tires, rubber compounds, conveyor belts, bumpers, balance pads, traffic markers, rubber heels and soles for shoes, floor sanding disks, hoses, and rubber feet for chairs.³⁸ *** almost all importers (*** of 21) and purchasers (18 of 19) reported no changes in end uses. Purchasers' responses regarding changes in demand for ESBR end uses varied. Four purchasers reported an increase in ESBR demand, particularly due to an increase in tire production. Six purchasers reported no change in demand for end use products, three reported a decrease, and five reported that demand fluctuated.

ESBR accounts for a small to moderate share of the cost of the end-use products in which it is used. It is a relatively small share of the cost of tires.³⁹ Reported cost shares for some end uses were as follows: 1 to 8 percent for tires; 8 to 67 percent for rubber compounds, and other products had cost shares ranging from 1 to 70 percent.⁴⁰

³⁵ Hearing transcript, pp. 77 (Shin) and 82 (Moran).

³⁶ Purchasers *** reported ARP, Synthos, and Tapiol Material as new suppliers.

³⁷ Over 70 percent of ESBR is used in tire manufacturing. 2017 Final Publication, p. II-8.

³⁸ Final 2023 Publication, II-12.

³⁹ Purchasers in the 2023 final reported that ESBR represented between 1 and 8 percent of the cost of tires.

⁴⁰ Final 2023 Publication, II-12. Cost shares as reported in the original publication were not public.

Business cycles

*** indicated that the market was subject to business cycles while most importers (*** of 21) and purchasers (15 of 21) reported they were not. *** reported that the tire industry is "cyclical" and *** added that demand is softer at the beginning and end of the year. Importer *** reported that the aftermarket follows economic cycles and the OEM market follows automotive production. Importer *** reported that natural rubber prices impact demand for ESBR.

Demand trends

Most firms reported U.S. demand for ESBR did not change or it had fluctuated since January 1, 2017 (table II-4), although *** reported that demand had decreased.⁴¹ Most firms do not expect demand to change over the next two years, although a sizeable number of purchasers expect U.S. demand to fluctuate (table II-5).

⁴¹ *** reported that demand declined due to the substitution to other materials and changes in the tire production mix.

Table II-4ESBR: Count of firms' responses regarding overall domestic and foreign demand since January 1,2017, by firm type

Number of firms reporting

Market	Firm type	Increase	No change	Decrease	Fluctuate
U.S. demand	U.S. producers	***	***	***	***
U.S. demand	Importers	***	***	***	***
U.S. demand	Purchasers	2	7	2	7
U.S. demand	Foreign producers	0	2	0	1
Foreign demand	U.S. producers	***	***	***	***
Foreign demand	Importers	***	***	***	***
Foreign demand	Purchasers	2	6	2	4
Demand in subject home					
market	Foreign producers	2	0	1	1
Demand in other export					
markets	Foreign producers	0	2	0	2
Demand for end use products	Purchasers	4	6	3	5

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

Table II-5 ESBR: Count of firms' responses regarding anticipated overall domestic and foreign demand, by firm type

Number of firms reporting

Market	Firm type	Increase	No change	Decrease	Fluctuate
U.S. demand	U.S. producers	***	***	***	***
U.S. demand	Importers	***	***	***	***
U.S. demand	Purchasers	2	8	2	6
U.S. demand	Foreign producers	1	2	0	0
Foreign demand	U.S. producers	***	***	***	***
Foreign demand	Importers	***	***	***	***
Foreign demand	Purchasers	2	7	2	3
Demand in subject home					
market	Foreign producers	3	0	0	0
Demand in other export					
markets	Foreign producers	2	1	0	0

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

Substitute products

Substitutes for ESBR are limited, these include SSBR, natural rubber, and butadiene rubber.⁴² Most importers and purchasers reported that there were no substitutes⁴³ and almost all responding firms did not anticipate any future changes in substitutes.

⁴² Final 2023 Publication, p. II-14.

⁴³ Final 2023 Publication, p. II-14.

Substitutability issues

This section assesses the degree to which U.S.-produced ESBR and imports of ESBR from subject countries can be substituted for one another by examining the importance of certain purchasing factors and the comparability of ESBR from domestic and imported sources based on those factors. For ESBR of a single IISRP grade, there is typically a high degree of interchangeability, as ESBR of a specific grade does not vary based on supplier. Based on the available data, staff believes that there is a moderately high degree of substitutability.⁴⁴ Factors contributing to this level of substitutability include similar physical properties and physical gualities,⁴⁵ somewhat similar lead times for ESBR from inventory, little preference for particular country of origin or producers, similarities between domestically produced ESBR and ESBR imported from subject countries across multiple purchase factors, and general interchangeability between domestic and subject sources. Factors reducing substitutability include differences in perceived quality, supply disruptions, limited availability of domestic product at certain times during 2017-22, certain types of ESBR only being available from certain sources, most purchasers requiring supplier certifications that can last over a year, differences between domestic and subject sources regarding "very important" purchase factors, and some significant factors other than price that firms consider.

Factors affecting purchasing decisions⁴⁶

Purchaser decisions based on source

As shown in table II-6, most purchasers never (8 of 22) or sometimes (7) make purchasing decisions based on the producer and never (13) make decisions based on the country of origin. Almost all purchasers (14 of 16) reported that their customers never make purchasing decisions based on the producer or country of origin. Of the three purchasers that

⁴⁴ The degree of substitution between domestic and imported ESBR depends upon the extent of product differentiation between the domestic and imported products and reflects how easily purchasers can switch from domestically produced ESBR to the ESBR imported from subject countries (or vice versa) when prices change. The degree of substitution may include such factors as relative prices (discounts/rebates), 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.).

⁴⁵ As ESBR is produced to international standards, staff believes it is physically interchangeable regardless of source.

⁴⁶ Of the 21 responding purchasers, all purchasers indicated they had marketing/pricing knowledge of domestic product, 10 of Brazilian product, 10 of Mexican product, 8 of Polish product, 10 of South Korean product, and 13 of product from nonsubject countries.

reported that they always make decisions based on the manufacturer, *** reported it sources based on qualified suppliers and *** reported it has a *** with ***.

Table II-6

ESBR: Count of purchasers' responses regarding frequency of purchasing decisions based on producer and country of origin

Firm making decision	Decision based on	Always	Usually	Sometimes	Never
Purchaser	Producer	3	4	7	8
Customer	Producer	1	0	1	14
Purchaser	Country	2	1	5	13
Customer	Country	0	1	1	14

Number of firms reporting

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

Some purchasers noted that certain series of ESBR are produced only by certain suppliers. Purchaser *** reported that Lion is the only domestic source for the 1500 series, and that "only a handful of international suppliers" will run the 1500 series "on a regular basis." It also reported that the 1502 series is "readily available" from domestic and international sources. Purchaser *** reported that Goodyear is the only domestic producer for 1723 and it is available from "many other sources globally."

U.S. producer Lion stated that it is "not aware of a single grade in the 1500 and 1700 series that a U.S. producer does not make directly or the equivalent of."⁴⁷ Respondent Kumho, however, reported that it serves a "niche role that is not met by other producers" and that it produces certain grades that are not domestically produced.^{48 49}

Importance of purchasing domestic product

Sixteen of 21 responding purchasers reported that most or all of their purchases did not require purchasing U.S.-produced product. Purchasers *** reported that their customers required domestic product, these sales

⁴⁷ Hearing transcript, p. 60 (Rikhoff).

⁴⁸ Hearing transcript, pp. 76-77 (Shin).

⁴⁹ Respondent Kumho stated that it produces grades *** and these are not made in the United States. Domestic producer Lion stated that it produces grades that are "chemically equivalent"; specifically, Lion produces *** and ***. Lion "has every technical capability to produce the ***" but reported that "there is no known demand for the *** grade in the United States." Respondent Kumho's prehearing brief, pp. 6-7; U.S. producer Lion's posthearing brief, Answers to Commissioners Questions, p. 24. See also, Respondent Kumho's posthearing brief, exh. 1, pp. 23-25.

accounted for 0.2 and 100 percent, respectively, of their purchases.⁵⁰ Four purchasers reported "other preferences" for domestic product.^{51 52}

Most important purchase factors

The most often cited top three factors firms consider in their purchasing decisions for ESBR were price/cost (20 firms), availability (17 firms), and quality (13 firms) as shown in table II-7. Quality was the most frequently cited first-most important factor (cited by 10 firms), followed by availability (4 firms); price was the most frequently reported second-most important factor (11 firms); and availability was the most frequently reported third-most important factor (8 firms).

Table II-7

ESBR: Count of ranking of factors used in purchasing decisions as reported by purchasers, by factor

Number of firms reporting

Factor	First	Second	Third	Total
Price/cost	3	11	6	20
Availability	4	5	8	17
Quality	10	2	1	13
Reliability	2	3	0	5
All other factors	2	0	2	NA

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

Note: Other factors include contract, plant processing of material, extension of credit, and customer stipulated. Availability also includes three responses of "lead times" and reliability includes one response of "traditional / approved supplier" and one response of "security of supply."

The majority of purchasers (12 of 21) reported that they only sometimes purchase the lowest-priced product.⁵³

⁵⁰ The remaining *** percent of *** 2022 purchases did not have a domestic requirement.

⁵¹ Purchasers *** reported that 100 percent of their total 2022 purchases of ESBR was due to a ***. Purchaser *** reported 60 percent of its 2022 purchases were from a *** and *** reported that 85 percent of its 2022 purchases were from domestic producers because they are the "sole source" of a certain type of ESBR. The remaining 40 percent of *** 2022 purchases and the remaining 15 percent of *** 2022 purchases did not require purchasing domestic product.

⁵² No purchasers reported that domestic product was required by law.

⁵³ Eight purchasers reported usually purchasing the lowest-priced product, and one reported it never does.

Importance of specified purchase factors

Purchasers were asked to rate the importance of 16 factors in their purchasing decisions (table II-8). The factors rated as very important by more than half of responding purchasers were availability (20 of 21), product consistency, quality meets industry standards (18 each), price, reliability of supply (17 each), and delivery time (13).

Table II-8 ESBR: Count of purchasers' responses regarding importance of purchase factors, by factor

Number of firms reporting

Factor	Very important	Somewhat important	Not important
Availability	20	1	0
Delivery terms	6	15	0
Delivery time	13	7	1
Discounts offered	3	8	10
Minimum quantity requirements	4	7	10
Packaging	9	8	4
Payment terms	10	9	1
Price	17	4	0
Product consistency	18	3	0
Product range	2	11	8
Quality meets industry standards	18	3	0
Quality exceeds industry standards	6	11	3
Reliability of supply	17	4	0
Shelf life	3	13	4
Technical support/service	2	15	4
U.S. transportation costs	5	13	3

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

Lead times

ESBR is primarily sold from inventory. U.S. producers reported that *** percent of their commercial shipments were sold from inventory, with lead times averaging *** days. The remaining *** percent of their commercial shipments were produced-to-order, with lead times averaging *** days. Importers reported that all of their product was sold from inventories with lead times averaging 10 days.

Supplier certification

Eighteen of 22 responding purchasers require their suppliers to become certified or qualified to sell ESBR to their firm. Most purchasers reported that the time to qualify a new

supplier ranged from 7 days to 1 year.⁵⁴ Purchasers reported that certification or qualification involves multiple phases including lab trials, factory trials, end product tests, tire trials, and continuous quality assessments or audits. Five purchasers reported that foreign suppliers had failed in their attempt to qualify ESBR or had lost its approved status since 2017.⁵⁵ No purchasers reported domestic producers failing to qualify nor losing their approved status since 2017.

Minimum quality specifications

As can be seen from table II-9, 14 responding purchasers reported that domestically produced product always met minimum quality specifications. Most purchasers reported that they did not know whether ESBR from subject sources met minimum quality specifications. Of those with knowledge, a majority reported that product from Mexico and Poland always met minimum quality specifications, product from Brazil usually met those specifications, and an equal number of purchasers reported product from South Korea always or usually did so.

Table II-9

ESBR: Count of purchasers' responses regarding suppliers' ability to meet minimum quality specifications, by source

Source of				Rarely or	
purchases	Always	Usually	Sometimes	never	Don't Know
United States	14	6	0	0	2
Brazil	3	5	1	0	12
Mexico	4	3	0	0	14
Poland	5	1	1	0	14
South Korea	3	3	0	0	14
Nonsubject sources	8	3	0	0	4

Number of firms reporting

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

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

Twenty-one purchasers reported factors that determined quality including: viscosity, physical characteristics, chemical structures, meeting specifications of manufacturers, and "processability."

⁵⁴ Purchaser *** reported about 1.5 years for certification of a new supplier and *** reported 2 years.

⁵⁵ ESBR from Russia and Poland failed to qualify, and product from Poland did not finish its quality certification. Purchaser *** reported that product from Brazil, Czechia, Korea, and Russia "lost qualification" as *** had not purchased from those sources in the past year.

Changes in purchasing patterns

Half of responding purchasers reported that they had changed suppliers since January 1, 2017. Specifically, multiple firms dropped or reduced purchases from Arlanxeo (Brazil)⁵⁶ because of the antidumping orders. Purchaser *** reported that it reduced purchases from ***, it decreased purchases from SIBUR (Russia) due to "poor physical properties," and increased purchases from Lion.⁵⁷ *** reported that it added "multiple new suppliers" to diversify risk within the supply chain, noting that domestic ESBR plants are "subject to hurricanes, flooding, and winter storms."

Purchasers were also asked about changes in their purchasing patterns from different countries since January 1, 2017 (table II-10). An equal number of purchasers reported their purchases of domestic product increased, was constant, or fluctuated. Reasons for increasing purchases of domestic ESBR included increased tire production and increased demand, generally, as well as lack of supply from non-domestic sources. Purchasers cited price, availability, and post-COVID demand as reasons for fluctuating purchases from domestic sources.⁵⁸ Most purchasers reported that they did not purchase product from the subject countries.⁵⁹ Purchasers reported increased purchases of product from nonsubject countries because of availability.⁶⁰

⁵⁶ Purchaser *** added that it ***.

⁵⁷ Purchaser *** also reported that it increased purchases from Lion but did not provide an explanation.

⁵⁸ Purchaser *** reported that it entered into a ***.

⁵⁹ Of those purchasers reporting changes in their purchasing patterns, the majority reported decreased purchases from each subject country.

⁶⁰ Purchaser *** reported that the U.S. market "needs more ESBR than the local suppliers can supply if demand is strong" and cited supply issues such as hurricanes, freezes, and unplanned equipment failures as reasons for diversifying supply sources.

Table II-10 ESBR: Count of purchasers' responses regarding changes in purchase patterns from U.S., subject, and nonsubject countries

Source of purchases	Decreased	Increased	Constant	Fluctuated	Did not purchase	
United States	0	7	7	7	0	
Brazil	4	0	0	1	12	
Mexico	4	1	1	0	12	
Poland	4	0	1	1	12	
South Korea	5	0	2	0	11	
All other sources	2	4	3	7	3	
Sources unknown	1	0	0	0	10	

Number of firms reporting

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

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

Purchasers were asked a number of questions comparing ESBR produced in the United States, subject countries, and nonsubject countries. First, purchasers were asked for a country-by-country comparison on the same 16 factors (table II-11) for which they were asked to rate the importance.

A plurality or majority of purchasers reported that domestic ESBR was comparable on most factors with product from each of the subject countries. In comparison factors ranked as "very important" ⁶¹ a majority of purchasers rated domestic ESBR as superior to Brazilian ESBR regarding delivery time. An equal number of purchasers rated domestic ESBR as superior and comparable to Mexican ESBR regarding delivery time, and an equal number also reported domestic ESBR was superior and inferior to Mexican ESBR regarding reliability of supply. A majority of purchasers reported that domestic ESBR was superior to Polish ESBR regarding availability and price, and an equal number of purchasers reported that domestic ESBR was superior and inferior regarding delivery time. A plurality of purchasers reported that domestic ESBR was superior to South Korean ESBR regarding delivery time. Most purchasers reported that U.S. and ESBR from nonsubject sources were comparable on all factors, except for delivery time, with a plurality of purchasers reporting that domestic product is superior.

⁶¹ See table II-8. The factors rated as very important by more than half of responding purchasers were availability (20 of 21), product consistency, quality meets industry standards (18 each), price, reliability of supply (17 each), and delivery time (13).

Table II-11 ESBR: Count of purchasers' responses comparing U.S.-produced and imported product, by factor and country pair

Number of firms reporting

	Superior	Comparable	Inferior
U.S. v. Brazil	2	4	0
U.S. v. Brazil	2	4	0
U.S. v. Brazil	5	0	1
U.S. v. Brazil	1	5	0
U.S. v. Brazil	1	5	0
U.S. v. Brazil	1	5	0
U.S. v. Brazil	1	3	2
U.S. v. Brazil	2	4	0
U.S. v. Brazil	1	5	0
U.S. v. Brazil	1	4	1
U.S. v. Brazil	1	5	0
U.S. v. Brazil	1	5	0
U.S. v. Brazil	2	3	1
U.S. v. Brazil	1	5	0
U.S. v. Brazil	2	4	0
U.S. v. Brazil	2	4	0
	U.S. v. Brazil U.S. v. Brazil	U.S. v. Brazil 2 U.S. v. Brazil 5 U.S. v. Brazil 1 U.S. v. Brazil 2 U.S. v. Brazil 1 U.S. v. Brazil 2	U.S. v. Brazil 2 4 U.S. v. Brazil 5 0 U.S. v. Brazil 1 5 U.S. v. Brazil 1 3 U.S. v. Brazil 2 4 U.S. v. Brazil 1 5 U.S. v. Brazil 2 3 U.S. v. Brazil 1 5 U.S. v. Brazil 1 5 U.S. v. Brazil 2 3 U.S. v. Brazil 2 4

Table continued.

Table II-11 Continued

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

Factor	Country pair	Superior	Comparable	Inferior
Availability	U.S. v. Mexico	3	5	0
Delivery terms	U.S. v. Mexico	2	6	0
Delivery time	U.S. v. Mexico	4	4	0
Discounts offered	U.S. v. Mexico	1	7	0
Minimum quantity requirements	U.S. v. Mexico	1	6	1
Packaging	U.S. v. Mexico	1	7	0
Payment terms	U.S. v. Mexico	1	7	0
Price	U.S. v. Mexico	3	5	0
Product consistency	U.S. v. Mexico	1	7	0
Product range	U.S. v. Mexico	2	5	1
Quality meets industry standards	U.S. v. Mexico	1	7	0
Quality exceeds industry standards	U.S. v. Mexico	1	7	0
Reliability of supply	U.S. v. Mexico	3	2	3
Shelf life	U.S. v. Mexico	1	7	0
Technical support/service	U.S. v. Mexico	2	6	0
U.S. transportation costs	U.S. v. Mexico	2	5	1

Number of firms reporting

Table continued.

Table II-11 Continued ESBR: Count of purchasers' responses comparing U.S.-produced and imported product, by factor and country pair

Number of firms reporting

Factor	Country pair	Superior	Comparable	Inferior
Availability	U.S. v. Poland	3	1	1
Delivery terms	U.S. v. Poland	2	3	0
Delivery time	U.S. v. Poland	2	1	2
Discounts offered	U.S. v. Poland	2	3	0
Minimum quantity requirements	U.S. v. Poland	1	4	0
Packaging	U.S. v. Poland	1	4	0
Payment terms	U.S. v. Poland	2	3	0
Price	U.S. v. Poland	3	1	1
Product consistency	U.S. v. Poland	1	4	0
Product range	U.S. v. Poland	1	4	0
Quality meets industry standards	U.S. v. Poland	1	4	0
Quality exceeds industry standards	U.S. v. Poland	1	4	0
Reliability of supply	U.S. v. Poland	1	3	1
Shelf life	U.S. v. Poland	1	4	0
Technical support/service	U.S. v. Poland	1	4	0
U.S. transportation costs	U.S. v. Poland	2	3	0
Table continued	•		•	

Table continued.

Table II-11 Continued

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

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

Number of firms reporting

Table continued.

Table II-11 ContinuedESBR: Count of purchasers' responses comparing U.S.-produced and imported product, by factorand country pair

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

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

Note: A rating of superior means that price/U.S. transportation cost is generally lower. For example, if a firm reported "U.S. superior," it meant that the U.S. product was generally priced lower than the imported product.

Comparison of U.S.-produced and imported ESBR

In order to determine whether U.S.-produced ESBR can generally be used in the same applications as imports from Brazil, Mexico, Poland, and South Korea, U.S. producers, importers, and purchasers were asked whether the products can always, frequently, sometimes, or never be used interchangeably. As shown in tables II-12 to II-14, U.S. producer *** reported ESBR is *** interchangeable regardless of source, and *** reported it is *** interchangeable. A plurality of importers reported domestic ESBR was frequently interchangeable with ESBR from each subject source. A plurality of purchasers reported that product from Brazil was frequently interchangeable with domestic product, and a majority reported that ESBR from Mexico was frequently interchangeable with U.S.-produced ESBR. An equal number of purchasers reported product from Poland was always or frequently interchangeable with domestic ESBR, and a plurality reported that South Korean product was always interchangeable with domestic ESBR.⁶²

Importers reported that factors limiting interchangeability included the type of styrene and oil used, and that various extenders could result in product differences. Importer and purchaser *** reported that "clear type ESBRs" are mostly interchangeable between suppliers, but customers still need to test and evaluate the product. Oil extended ESBRs, however, are mostly not interchangeable because they require evaluation and adjustments. Purchaser *** explained that it needs to perform tests to guarantee that materials are interchangeable. Purchaser *** also added that a specific product from South Korea and Germany is not available in the United States.

Table II-12

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

Country pair	Always	Frequently	Sometimes	Never
United States vs. Brazil	***	***	***	***
United States vs. Mexico	***	***	***	***
United States vs. Poland	***	***	***	***
United States vs. South Korea	***	***	***	***
Brazil vs. Mexico	***	***	***	***
Brazil vs. Poland	***	***	***	***
Brazil vs. South Korea	***	***	***	***
Mexico vs. Poland	***	***	***	***
Mexico vs. South Korea	***	***	***	***
Poland vs. South Korea	***	***	***	***
United States vs. Other	***	***	***	***
Brazil vs. Other	***	***	***	***
Mexico vs. Other	***	***	***	***
Poland vs. Other	***	***	***	***
South Korea vs. Other	***	***	***	***

Number of firms reporting

⁶² As noted above, most purchasers reported that they did not have knowledge of product from the subject countries.

Table II-13

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

Country pair	Always	Frequently	Sometimes	Never
United States vs. Brazil	***	***	***	***
United States vs. Mexico	***	***	***	***
United States vs. Poland	***	***	***	***
United States vs. South Korea	***	***	***	***
Brazil vs. Mexico	***	***	***	***
Brazil vs. Poland	***	***	***	***
Brazil vs. South Korea	***	***	***	***
Mexico vs. Poland	***	***	***	***
Mexico vs. South Korea	***	***	***	***
Poland vs. South Korea	***	***	***	***
United States vs. Other	***	***	***	***
Brazil vs. Other	***	***	***	***
Mexico vs. Other	***	***	***	***
Poland vs. Other	***	***	***	***
South Korea vs. Other	***	***	***	***

Number of firms reporting

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

Table II-14

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

Country pair	Always	Frequently	Sometimes	Never
United States vs. Brazil	3	5	2	0
United States vs. Mexico	5	7	1	0
United States vs. Poland	3	3	1	0
United States vs. South Korea	5	4	2	0
Brazil vs. Mexico	3	3	1	0
Brazil vs. Poland	2	2	1	0
Brazil vs. South Korea	2	3	1	0
Mexico vs. Poland	2	1	1	0
Mexico vs. South Korea	2	2	1	0
Poland vs. South Korea	2	3	1	1
United States vs. Other	3	5	4	1
Brazil vs. Other	2	4	2	0
Mexico vs. Other	2	2	3	1
Poland vs. Other	1	3	2	0
South Korea vs. Other	1	3	3	0

Number of firms reporting

In addition, U.S. producers, importers, and purchasers were asked to assess how often differences other than price were significant in sales of ESBR from the United States, subject, or nonsubject countries. As seen in tables II-15 to II-17, U.S. producers ***. When comparing domestic and subject sourced ESBR, most importers and at least a plurality of purchasers reported that non-price factors are sometimes significant.

*** reported that non-price factors include logistics costs, shipping times, its ability to adjust to changing customer volume requirements, as well as supply chain capabilities. Importer and purchaser *** reported significant non-price factors include: quality, ability to meet specifications, availability, payment terms, logistics, local storage, and that customers require an approved supplier which can be a "lengthy process." Purchaser *** added that quality, particularly the consistency within the mix, is the "primary factor" in purchasing decisions and that availability is "critical."

Table II-15

ESBR: 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

Number of firms reporting								
Country pair	Always	Frequently	Sometimes	Never				
United States vs. Brazil	***	***	***	***				
United States vs. Mexico	***	***	***	***				
United States vs. Poland	***	***	***	***				
United States vs. South Korea	***	***	***	***				
Brazil vs. Mexico	***	***	***	***				
Brazil vs. Poland	***	***	***	***				
Brazil vs. South Korea	***	***	***	***				
Mexico vs. Poland	***	***	***	***				
Mexico vs. South Korea	***	***	***	***				
Poland vs. South Korea	***	***	***	***				
United States vs. Other	***	***	***	***				
Brazil vs. Other	***	***	***	***				
Mexico vs. Other	***	***	***	***				
Poland vs. Other	***	***	***	***				
South Korea vs. Other	***	***	***	***				

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

Table II-16

ESBR: Count of importers reporting the significance of differences between product produced in the United States and in other countries, by country pair

Number of firms reporting					
Country pair	Always	Frequently	Sometimes	Never	
United States vs. Brazil	***	***	***	***	
United States vs. Mexico	***	***	***	***	
United States vs. Poland	***	***	***	***	
United States vs. South Korea	***	***	***	***	
Brazil vs. Mexico	***	***	***	***	
Brazil vs. Poland	***	***	***	***	
Brazil vs. South Korea	***	***	***	***	
Mexico vs. Poland	***	***	***	***	
Mexico vs. South Korea	***	***	***	***	
Poland vs. South Korea	***	***	***	***	
United States vs. Other	***	***	***	***	
Brazil vs. Other	***	***	***	***	
Mexico vs. Other	***	***	***	***	
Poland vs. Other	***	***	***	***	
South Korea vs. Other	***	***	***	***	

Table II-17

ESBR: Count of purchasers reporting the significance of differences between product produced in the United States and in other countries, by country pair

Number of firms reporting								
Country pair	Always	Frequently	Sometimes	Never				
United States vs. Brazil	1	2	6	0				
United States vs. Mexico	2	1	4	3				
United States vs. Poland	1	1	3	1				
United States vs. South Korea	2	1	4	1				
Brazil vs. Mexico	1	1	2	1				
Brazil vs. Poland	1	1	1	1				
Brazil vs. South Korea	1	1	2	1				
Mexico vs. Poland	1	1	0	1				
Mexico vs. South Korea	1	1	1	1				
Poland vs. South Korea	1	1	1	1				
United States vs. Other	3	5	5	1				
Brazil vs. Other	1	2	3	1				
Mexico vs. Other	1	1	3	1				
Poland vs. Other	1	2	2	1				
South Korea vs. Other	1	1	1	1				

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

Elasticity estimates

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

U.S. supply elasticity

The domestic supply elasticity for ESBR measures the sensitivity of the quantity supplied by U.S. producers to changes in the U.S. market price of ESBR. The elasticity of domestic supply depends on several factors including the level of excess capacity, the ease with which producers can alter capacity, producers' ability to shift to production of other products, the existence of inventories, and the availability of alternate markets for U.S.-produced ESBR. Analysis of these factors above indicates that the U.S. industry has the moderate ability to increase or decrease shipments to the U.S. market; an estimate in the range of 3 to 5 is suggested.⁶³

⁶³ The U.S. supply elasticity is assumed to be moderate rather than large (as would normally be expected from the firms' production characteristics) because of the supply constraints resulting from force majeures and other supply disruptions.

U.S. demand elasticity

The U.S. demand elasticity for ESBR measures the sensitivity of the overall quantity demanded to a change in the U.S. market price of ESBR. This estimate depends on factors discussed above such as the existence, availability, and commercial viability of substitute products, as well as the component share of the ESBR in the production of any downstream products. Based on the available information, the aggregate demand for ESBR is likely to be moderately to highly inelastic; a range of -0.2 to -0.75 is suggested.

Substitution elasticity

The elasticity of substitution depends upon the extent of product differentiation between the domestic and imported products.⁶⁴ Product differentiation, in turn, depends upon such factors as quality (e.g., chemistry, appearance, etc.) and conditions of sale (e.g., availability, sales terms/discounts/promotions, etc.). Based on available information, the elasticity of substitution between U.S.-produced ESBR and imported ESBR is likely to be in the range of 4 to 6. The ability to substitute between domestic ESBR and product from subject sources is somewhat limited due to non-physical properties and requirements⁶⁵ such as purchasers requiring certification for suppliers that can take over a year to complete, limited availability of domestic product due to force majeures and other supply constraints, certain types of ESBR only being available from certain sources, differences between domestic and subject sources regarding "very important" purchase factors (especially availability and delivery times), and some significant factors other than price that purchasers consider.

⁶⁴ The substitution elasticity measures the responsiveness of the relative U.S. consumption levels of the subject imports and the domestic like products to changes in their relative prices. This reflects how easily purchasers switch from the U.S. product to the subject products (or vice versa) when prices change.

⁶⁵ Based only on physical properties, staff believes there is a high degree of interchangeability between domestic and subject sourced ESBR.

Part III: Condition of the U.S. industry

Overview

The information in this section of the report was compiled from responses to the Commission's U.S. producer questionnaire. Two U.S. producers provided usable data on their operations in these reviews: Goodyear and Lion.¹ These firms accounted for virtually all U.S. production of ESBR during January 2017 through December 2022.²

Table III-1 presents events in the U.S. industry since January 1, 2017.

¹ Two firms (***) submitted responses certifying that they had not produced ESBR in the United States at any time since January 1, 2017.

² U.S. producer East West ceased operations effective March 31, 2017. Based on data submitted on behalf of East West in the final phase of the original investigations, Commission staff estimate that East West accounted for less than *** percent of total U.S. production of ESBR in 2017. Following East West's exit from the industry, U.S. producers Goodyear and Lion accounted for all U.S. production of ESBR during April 2017 through December 2022.

 Table III-1

 ESBR: Important industry events since January 1, 2017

ltem	Firm	Event
Expansion	Lion	Announced \$22 million expansion of ethylene propylene diamine (EPDM) rubber at Geismar, Louisiana, August 31, 2022, for industrial and consumer hoses and belts, also categories of certain SBR non-tire applications.
Expansion	Lion	Addition of nitrile rubber (NBR) to Port Neches, Texas product portfolio, expected onstream second-half 2022 to first-half 2023.
Acquisition	Lion	Purchase of Firestone butadiene rubber (BR), styrene butadiene block copolymer (SBC) rubber, and SSBR rubber plant at Orange, Texas, August 1, 2019, BR and SSBR each major tire components and all three compatible with ESBR.
Closure	East West	ESBR plant closure and bankruptcy at Baton Rouge, Louisiana, March 31, 2017, and April 7, 2017.
Acquisition	Lion	Purchase of bankrupt East West ESBR assets at Baton Rouge, Louisiana, effective May 28, 2017.
Acquisition	ExxonMobil	Purchase of Lion's (previously East West's) decommissioned Baton Rouge, Louisiana, plant for land value, effective August 15, 2017.
Butadiene Outage	TPC	On November 27, 2019, a catastrophic butadiene explosion and fire occurred at Texas Petroleum's (TPC) Port Neches, Texas plant. The butadiene plant was destroyed causing \$450 million in onsite damages, \$150 million to surrounding areas, and disrupted butadiene supplies for an extended period to Lion's major source of supply for ESBR production at Port Neches.
Hurricane Laura	Lion	On August 27, 2020, Hurricane Laura made landfall near Port Neches, Texas, closing Lion's ESBR plant beforehand. The plant began restart operations mid-September and reported to resume regular operations by third week of September 2020.
Winter Storm Uri	Lion & Goodyear	On February 11, 2021, Winter Storm Uri dumped record ice and snow across all 254 counties of Texas. The storm shut down and caused damage to chemical plants and refineries, and disrupted natural gas supplies for feedstock and utilities, including butadiene supply disruptions to Lion's and Goodyear's ESBR plants at Port Neches and Houston, Texas. Lion closed its ESBR plant from February 15, 2021 until March 4, 2021 with a declaration of force majeure until April 2021.
Hurricane Ida	Lion	On August 29-30, 2021, Hurricane Ida made landfall near Port Fourchon, Louisiana. Power outages and other supply issues reportedly kept Lion's Port Neches ESBR plant out of operation for about a month. Customers were supplied from inventory.
Closure	Goodyear	Gadsden, Alabama, 9.5 million tires annually, April 2020.
Acquisition	Goodyear	On June 7, 2021, Goodyear Tire and Rubber acquired the assets of Cooper Tire and Rubber in a reported \$2.5 billion deal. Cooper subsidiary operates replacement passenger vehicle and light truck tire plants at three U.S. plants which in aggregate have a capacity of some 35 million tires per year. Goodyear and Cooper also have tire operations in China.

Item	Firm	Event
U.S. Tire Capacity	New Producers	Between 2017-19, four new grassroots state-of-the-art passenger vehicle and light truck tire plants were brought online by Kumho and Hankook of South Korea, Giti of China, and Nokian of Finland, having an aggregate annual capacity of some 18 million tires when fully implemented, or 65 percent of the total U.S. tire capacity increase during the period of review.
U.S. Tire Demand	USTMA	U.S. tire shipments rebound 10.8 percent in 2021 v 2020, and 1.0 percent compared to 2019.

Source: Lion Elastomers announces \$22 million expansion of Geismar Plant, August 31, 2022, https://www.lionelastomers.com/news, retrieved September 3, 2022; Lion Elastomers expands to enter NBR Business, October 27, 2021, onstream second-half 2022, https://www.lionelastomers.com/news, retrieved June 7, 2022; Lion Elastomers completes acquisition, August 1, 2019, https://www.lionelastomers.com/news, retrieved July 20, 2022; Rubber News, " East West halts operations at historic rubber facility," April 17, 2017, effective dates, March, 31/April 7, https://www.rubbernews.com/article/20170417/NEWS/170419951/east-west-halts-operations-at-historicrubber-facility, retrieved October 17, 2022; Lion News: "Lion Elastomers Completed the Purchase of Assets from East West Copolymer." June 2. 2017. Effective May 28. 2017. https://www.lionelastomers.com/news/lion-elastomers-completed-the-purchase-of-assets-from-east-westcopolymer, retrieved October 17, 2022; "ExxonMobil buys Lion Copolymer Rubber Plant," ERJ, August 21, 2017, effective August 15, https://www.european-rubber-journal.com/article/2065515/reportexxonmobil-buys-lion-copolymer-rubber-plant, retrieved January 17, 2022; Explosions and Fires at TPC Group Chemical Plant Butadiene Unit, November 27, 2019, Final Report, U.S. Chemical Safety Board, December 19, 2022, https://www.csb.gov/tpc-port-neches-explosions-and-fire/, retrieved January 2023; Lion Press: Hurricane Laura updates, https://www.lionelastomers.com/news/hurricane-laura-update-5, Sept. 11, 2020. U.S. Winter Storm Uri, https://www.tdem.texas.gov/disasters/winter-storm-uri; https://comptroller.texas.gov/economy/fiscal-notes/2021/oct/winter-storm-impact.php, February/November 2021. Hurricane Ida: Emulsion Butadiene-Styrene Rubber from Czechia and Russia, (Final), USITC Publication 5392, January 2023, pp. II-9-10, II-11 and II-11, Fn. 13. Tire Business, "Goodyear Gadsden plant to close May 6, 2020," https://www.tirebusiness.com/manufacturers/goodyear-gadsden-plant-closemay-6, retrieved June 2, 2023. Goodyear: "Goodyear completes acquisition of Cooper," June 7, 2021, https://corporate.goodyear.com/us/en/media/news/goodyear-completes-acquisition-of-cooper.html, June 7, 2021. Passenger Vehicle and Light Truck Tires from China (Review), USITC Publication 5158, February 2021, Table I-2, p. I-25; Modern Tire Dealer, "Facts Issues," 2016 and 2023." U.S. Tire Manufacturers Association (USTMA), www.ustires.org/treading, December 1, 2021.

Changes experienced by the industry

As previously noted, U.S. producer East West ceased operations at its Baton Rouge, Louisiana facility effective March 31, 2017, and subsequently filed for bankruptcy. The remaining U.S. producers, Goodyear and Lion, reported several changes in the character of their operations relating to the production of ESBR since January 1, 2017 (table III-2). The domestic industry experienced multiple shutdowns over the period being examined. Lion ***. Goodyear reported ***. Both Goodyear and Lion reported ***.

Type of change	Firm name and narrative on changes in operations
Prolonged shutdowns or curtailments	***
Prolonged shutdowns or curtailments	***
Natural disasters or force majeure events	***
Natural disasters or force majeure events	***
Other	***

Table III-2ESBR: Reported changes in operations since January 1, 2017

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

U.S. producers were asked to describe the impact of the COVID-19 pandemic on their ESBR operations. Their responses are presented in table III-3. Goodyear reported that the COVID-19 pandemic ***. Goodyear further reported ***.³

Lion reported that ***. Additionally, Lion stated that ***.⁴

³ Goodyear's U.S. producer questionnaire response, II-2b.

⁴ Lion's U.S. producer questionnaire response, II-2b.

ESBR: Reported impact of COVID-19 on U.S. producers' operations since January 1, 2020 Narrative on impact of COVID-19 pandemic Firm name *** Goodyear *** Lion

Table III-3

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

Anticipated changes in operations

U.S. producers were asked to report any anticipated changes in the character of their

operations related to the production of ESBR. Table III-4 presents their responses.

Table III-4

ESBR: Anticipated changes in operations

Firm name	Narrative on anticipated changes in operations				
Lion	***				

U.S. production, capacity, and capacity utilization

Table III-5 presents U.S. producers' installed and practical capacity, production, and capacity utilization using the same equipment/machinery as used to produce ESBR.

Table III-5

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

Item	Measure	2017	2018	2019	2020	2021	2022
Installed overall	Capacity	***	***	***	***	***	***
Installed overall	Production	***	***	***	***	***	***
Installed overall	Utilization	***	***	***	***	***	***
Practical overall	Capacity	***	***	***	***	***	***
Practical overall	Production	***	***	***	***	***	***
Practical overall	Utilization	***	***	***	***	***	***
Practical ESBR	Capacity	***	***	***	***	***	***
Practical ESBR	Production	***	***	***	***	***	***
Practical ESBR	Utilization	***	***	***	***	***	***

Capacity and production in 1,000 pounds; utilization in percent

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

Table III-6 and figure III-1 present U.S. producers' production, capacity, and capacity utilization. Goodyear accounted for *** of total domestic ESBR production in each year during 2017-22, with Lion accounting for the balance. U.S. producers' capacity, production, and capacity utilization all ended lower in 2022 than in 2017.

U.S. producers' capacity decreased overall by *** percent during 2017-22 and U.S. producers' production decreased overall by *** percent over the same period. U.S. producers' capacity remained unchanged during 2017-18, decreased in each year during 2018-21 (decreasing by *** percent during 2018-19, by *** percent during 2019-20, and by *** percent during 2020-21), then increased by *** percent during 2021-22. Production decreased in each year during 2017-20 (decreasing by *** percent during 2017-18, by *** percent during 2018-19, and by *** percent during 2019-20), then increased by *** percent during 2020-21 and decreased by *** percent during 2021-22. As a result of production decreasing at a greater rate than capacity, capacity utilization decreased overall by *** percentage points during 2017-22, from *** percent in 2017 to *** percent in 2022. Capacity utilization was lowest for both U.S. producers in 2020.⁵

⁵ As previously noted, the domestic industry experienced several shutdowns during the period being examined—***.

Additionally, ***. Email from ***, May 1, 2023.

Table III-6 ESBR: Firm-by-firm capacity, by period

Capacity

Quantity in 1,000 pounds

Firm	2017	2018	2019	2020	2021	2022
Goodyear	***	***	***	***	***	***
Lion	***	***	***	***	***	***
All firms	***	***	***	***	***	***

Table continued.

Table III-6 Continued ESBR: Firm-by-firm production, by period

Production

Quantity in 1,000 pounds

Firm	2017	2018	2019	2020	2021	2022
Goodyear	***	***	***	***	***	***
Lion	***	***	***	***	***	***
All firms	***	***	***	***	***	***

Table continued.

Table III-6 Continued ESBR: Firm-by-firm capacity utilization, by period

Capacity utilization

Ratio in percent						
Firm	2017	2018	2019	2020	2021	2022
Goodyear	***	***	***	***	***	***
Lion	***	***	***	***	***	***
All firms	***	***	***	***	***	***

Table continued.

Table III-6 Continued ESBR: Firm-by-firm share of production, by period

Share of production

Share in percent		-				
Firm	2017	2018	2019	2020	2021	2022
Goodyear	***	***	***	***	***	***
Lion	***	***	***	***	***	***
All firms	100.0	100.0	100.0	100.0	100.0	100.0

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

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

Figure III-1

ESBR: U.S. producers' production, capacity, and capacity utilization, by period

* * * * * * *

Alternative products

Both U.S. producers reported production of alternative products using the same equipment and/or labor as used to produce ESBR; however, they also noted several factors that limit production interchangeability between ESBR and these alternative products. Lion explained that ***.⁶ Goodyear reported that ***.⁷

Despite the reported limited production interchangeability between ESBR and these alternative products using the same equipment and/or labor, Goodyear provided its overall capacity and production figures for ESBR and ***, while Lion provided its overall capacity and production figures for ESBR and ***. As shown in table III-7, ESBR accounted for over *** of U.S. producers' overall production on this equipment in each year during 2017-22. *** accounted for between *** and *** percent of U.S. producers' overall production over the period examined, *** accounted for between *** and *** percent of *** and *** percent, and *** accounted for ***.

⁶ Lion further explained that ***. Similarly, ***. For these reasons, any such switch in production ***. Lion's U.S. producer questionnaire response, II-4.

⁷ Email from ***, April 5, 2023.

Table III-7 ESBR: U.S. producers' production on the same equipment as subject production, by period

Item	Measure	2017	2018	2019	2020	2021	2022
ESBR	Quantity	***	***	***	***	***	***
СВМВ	Quantity	***	***	***	***	***	***
SSBR	Quantity	***	***	***	***	***	***
Hot polymerized ESBR	Quantity	***	***	***	***	***	***
Other products	Quantity	***	***	***	***	***	***
All out-of-scope production	Quantity	***	***	***	***	***	***
All production	Quantity	***	***	***	***	***	***
ESBR	Share	***	***	***	***	***	***
СВМВ	Share	***	***	***	***	***	***
SSBR	Share	***	***	***	***	***	***
Hot polymerized ESBR	Share	***	***	***	***	***	***
Other products	Share	***	***	***	***	***	***
All out-of-scope production	Share	***	***	***	***	***	***
All production	Share	100.0	100.0	100.0	100.0	100.0	100.0

Quantity in 1,000 pounds; share in percent

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

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

Constraints on capacity

Table III-8 presents the constraints that U.S. producers reported set the limits on their

practical overall production capacity.

Table III-8

ESBR: U.S. producers' reported capacity constraints, by type of constraint and firm

Type of constraint	Firm name and narrative on constraints to practical overall capacity
Existing labor force	***
Fuel or energy	***
Supply of material inputs	***
Other	***

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

Table III-9 presents U.S. producers' U.S. shipments, export shipments, and total shipments. These data demonstrate that U.S. producers are primarily focused on the domestic market, with U.S. shipments accounting for the large majority (over ***) of total shipments in each year between 2017 and 2022. *** reported export shipments in each year between 2017 and 2022. ***

U.S. producers' U.S. shipments decreased *** percent by quantity and *** percent by value during 2017-22, while export shipments increased *** percent by quantity and *** percent by value over the same period. The average unit values ("AUVs") of both U.S. shipments and export shipments increased during 2017-22, by *** percent and *** percent, respectively.¹⁰ The AUVs of U.S. shipments were higher than that of export shipments in each year between 2017 and 2022.

⁸ ***'s export shipments include ***. ***'s U.S. producer questionnaire response, section II-6. ⁹ ***.

¹⁰ The AUVs of both U.S. shipments and export shipments were at their lowest point during 2020. Goodyear reported that ***. Email from ***, April 28, 2023. ***, Lion reported that ***. Email from ***, May 1, 2023.

Table III-9 ESBR: U.S. producers' <u>shipments</u>, by destination and period

Item	Measure	2017	2018	2019	2020	2021	2022
U.S. shipments	Quantity	***	***	***	***	***	***
Export shipments	Quantity	***	***	***	***	***	***
Total shipments	Quantity	***	***	***	***	***	***
U.S. shipments	Value	***	***	***	***	***	***
Export shipments	Value	***	***	***	***	***	***
Total shipments	Value	***	***	***	***	***	***
U.S. shipments	Unit value	***	***	***	***	***	***
Export shipments	Unit value	***	***	***	***	***	***
Total shipments	Unit value	***	***	***	***	***	***
U.S. shipments	Share of quantity	***	***	***	***	***	***
Export shipments	Share of quantity	***	***	***	***	***	***
Total shipments	Share of quantity	100.0	100.0	100.0	100.0	100.0	100.0
U.S. shipments	Share of value	***	***	***	***	***	***
Export shipments	Share of value	***	***	***	***	***	***
Total shipments	Share of value	100.0	100.0	100.0	100.0	100.0	100.0

Quantity in 1,000 pounds; value in 1,000 dollars; unit value in dollars per pound; shares in percent

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

Table III-10 presents U.S. producers' U.S. shipments by type. Lion's U.S. shipments consisted ***, while Goodyear reported ***.¹¹ Goodyear *** and reported ***.

During 2017-22, commercial U.S. shipments represented *** to *** percent of U.S. producers' U.S. shipments by quantity and *** to *** percent by value. Over the same period, ***'s internal consumption represented *** to *** percent of U.S. producers' U.S. shipments by quantity and *** to *** percent by value.

¹¹ Goodyear's *** accounted for approximately *** of its total U.S. shipments in each year between 2017 and 2022.

Table III-10 ESBR: U.S. producers' <u>U.S. shipments</u>, by type and period

Item	Measure	2017	2018	2019
Commercial U.S. shipments	Quantity	***	***	***
Internal consumption	Quantity	***	***	***
Transfers to related firms	Quantity	***	***	***
U.S. shipments	Quantity	***	***	***
Commercial U.S. shipments	Value	***	***	***
Internal consumption	Value	***	***	***
Transfers to related firms	Value	***	***	***
U.S. shipments	Value	***	***	***
Commercial U.S. shipments	Unit value	***	***	***
Internal consumption	Unit value	***	***	***
Transfers to related firms	Unit value	***	***	***
U.S. shipments	Unit value	***	***	***
Commercial U.S. shipments	Share of quantity	***	***	***
Internal consumption	Share of quantity	***	***	***
Transfers to related firms	Share of quantity	***	***	***
U.S. shipments	Share of quantity	100.0	100.0	100.0
Commercial U.S. shipments	Share of value	***	***	***
Internal consumption	Share of value	***	***	***
Transfers to related firms	Share of value	***	***	***
U.S. shipments	Share of value	100.0	100.0	100.0

Quantity in 1,000 pounds; value in 1,000 dollars; unit value in dollars per pound; shares in percent

Table continued.

Table III-10 ContinuedESBR: U.S. producers' U.S. shipments, by type and period

Item	Measure	2020	2021	2022
Commercial U.S. shipments	Quantity	***	***	***
Internal consumption	Quantity	***	***	***
Transfers to related firms	Quantity	***	***	***
U.S. shipments	Quantity	***	***	***
Commercial U.S. shipments	Value	***	***	***
Internal consumption	Value	***	***	***
Transfers to related firms	Value	***	***	***
U.S. shipments	Value	***	***	***
Commercial U.S. shipments	Unit value	***	***	***
Internal consumption	Unit value	***	***	***
Transfers to related firms	Unit value	***	***	***
U.S. shipments	Unit value	***	***	***
Commercial U.S. shipments	Share of quantity	***	***	***
Internal consumption	Share of quantity	***	***	***
Transfers to related firms	Share of quantity	***	***	***
U.S. shipments	Share of quantity	100.0	100.0	100.0
Commercial U.S. shipments	Share of value	***	***	***
Internal consumption	Share of value	***	***	***
Transfers to related firms	Share of value	***	***	***
U.S. shipments	Share of value	100.0	100.0	100.0

Quantity in 1,000 pounds; value in 1,000 dollars; unit value in dollars per pound; shares in percent

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

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

U.S. producers' inventories

Table III-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. Inventories increased overall by *** percent during 2017-22; they were lowest in 2020 at *** pounds and highest in 2021 at *** pounds. The ratio of inventories to U.S. production during 2017-22 ranged between *** percent in both 2017 and 2020 and *** percent in 2021. The ratio of inventories to U.S. shipments during 2017-22 ranged between *** percent in 2020 and **

Table III-11

ESBR: U.S. producers' inventories and their ratio to select items, by period

ltem	Measure	2017	2018	2019	2020	2021	2022
End-of-period inventory	Quantity	***	***	***	***	***	***
Inventory to U.S. production	Ratio	***	***	***	***	***	***
Inventory to U.S. shipments	Ratio	***	***	***	***	***	***
Inventory to total shipments	Ratio	***	***	***	***	***	***

Quantity in 1,000 pounds; ratio in percent

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

U.S. producers' imports from subject sources

Neither U.S. producer reported imports from subject sources since January 1, 2017.

U.S. producers' purchases of imports from subject sources

*** reported purchases of imports from *** (table III-12). These purchases amounted to *** pounds in 2017, *** pounds in 2018, *** pounds in 2019, *** pounds in 2020, *** pounds in 2021, and *** pounds in 2022. The ratio of ***'s purchases of imports from *** to its U.S. production was less than *** percent in each year during 2017-22.

Table III-12 ESBR: ***'s purchases of imports from subject sources, by period

Item	Measure	2017	2018	2019	2020	2021	2022
U.S. production							
reported by ***	Quantity	***	***	***	***	***	***
U.S. purchases of							
imports from *** by							
*** (imported by ***)	Quantity	***	***	***	***	***	***
Overall U.S. imports							
from ***	Quantity	***	***	***	***	***	***
U.S. purchases of							
imports from *** by							
*** relative to overall							
imports from ***	Ratio	***	***	***	***	***	***
U.S. purchases of							
imports from *** by							
*** to its U.S.							
production	Ratio	***	***	***	***	***	***

Quantity in 1,000 pounds; ratio in percent

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. employment, wages, and productivity

Table III-13 presents U.S. producers' employment-related data. U.S. producers' employment-related data were generally higher in 2022 than in 2017, with the exception of hours worked per PRW and productivity, which were lower over the same comparison. Goodyear reported that ***. During 2017-22, the number of production and related workers ("PRWs") increased by *** percent, total hours worked increased by *** percent, wages paid increased by *** percent, hourly wages increased by *** percent, and unit labor costs increased by *** percent. Conversely, productivity decreased by *** percent between 2017 and 2022 and hours worked per PRW decreased by *** percent.

Table III-13 ESBR: U.S. producers' employment related information, by period

Item	2017	2018	2019	2020	2021	2022
Production and related workers (PRWs) (number)	***	***	***	***	***	***
Total hours worked (1,000 hours)	***	***	***	***	***	***
Hours worked per PRW (hours)	***	***	***	***	***	***
Wages paid (\$1,000)	***	***	***	***	***	***
Hourly wages (dollars per hour)	***	***	***	***	***	***
Productivity (pounds per hour)	***	***	***	***	***	***
Unit labor costs (dollars per pound)	***	***	***	***	***	***

Financial experience of U.S. producers

Background¹²

Two U.S. producers, Goodyear and Lion, reported financial results and related information on their U.S. ESBR operations. The U.S. producers' ESBR financial results are based on information from accounting systems designed to generate/report overall financial results on a U.S. GAAP basis and were reported for calendar-year periods.

With regard to events/activity impacting ESBR operations during the period of review, Lion experienced a butadiene supply disruption in late 2019, resulting in plant closure for several weeks.¹³ During 2020, Goodyear *** for several months due to reduced demand resulting from COVID-19 and related mitigation efforts. In contrast, Lion reported *** due to COVID-19.¹⁴ During early 2021 Goodyear and Lion reported that their ESBR operations were impacted by weather-related production disruptions due to Winter Storm Uri.¹⁵ ***

¹² The following abbreviations may be used in the tables and/or text of this section: generally accepted accounting principles ("GAAP"), 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 ("R&D"), and return on assets ("ROA").

¹³ Final 2023 Publication, p. VI-1. The butadiene supply disruption was caused by an explosion/fire at TPC's petrochemical plant in Port Neches, Texas, which at the time reportedly accounted for 20 percent of the butadiene produced in the United States. "Second explosion hits TPC's Port Neches petchem plant in Texas," November 27, 2019, <u>https://www.spglobal.com/commodityinsights/en/market-insights/latest-news/oil/112719-major-blast-hits-tpcs-port-neches-petchem-plant-in-texas</u>.

¹⁴ *** U.S. producer questionnaire response, section II-2b. *** U.S. producer questionnaire response, sections II-2b and III-15.

¹⁵ Final 2023 Publication, p. VI-1.

*** 16 17

With respect to other changes in ESBR operations during the period, Goodyear finalized its acquisition of Cooper Tire in June 2021.¹⁸

Figure III-2 presents firm-specific shares of total 2022 net sales quantity.

Figure III-2 ESBR: U.S. producers' share of net sales quantity in 2022, by firm

* * * * * * *

¹⁶ Email with attachment from *** to USITC staff, March 31, 2023. ***. Ibid. With regard to the 2019 and 2021 production disruptions, a Lion company official stated that the company's "... inventory of butadiene and styrene was specifically utilized, to mitigate these exact events during the POI ... as with our butadiene and styrene inventory levels, our finished goods inventory was never depleted at any point during the POI." Final 2023 Publication, p. VI-1.

¹⁷ ***. Email with attachment from *** to USITC staff, April 5, 2023.

¹⁸ Goodyear 2022 10-K, p. 1. ***.

Operations on ESBR

Table III-14 and table III-15, respectively, present income-and-loss data for U.S. producers' ESBR operations and corresponding AUV (dollars per pound) percentage and unit changes. Table III-16 presents a variance analysis of financial results. Appendix E presents selected company-specific financial information.

Table III-14 ESBR: U.S. producers' results of operations, by item and period

Item	Measure	2017	2018	2019	2020	2021	2022
Commercial sales	Quantity	***	***	***	***	***	***
Internal consumption	Quantity	***	***	***	***	***	***
Transfers to related firms	Quantity	***	***	***	***	***	***
Total net sales	Quantity	***	***	***	***	***	***
Commercial sales	Value	***	***	***	***	***	***
Internal consumption	Value	***	***	***	***	***	***
Transfers to related firms	Value	***	***	***	***	***	***
Total net sales	Value	***	***	***	***	***	***
COGS: Butadiene	Value	***	***	***	***	***	***
COGS: Styrene	Value	***	***	***	***	***	***
COGS: Other raw material inputs	Value	***	***	***	***	***	***
COGS: Total raw materials	Value	***	***	***	***	***	***
COGS: Direct labor	Value	***	***	***	***	***	***
COGS: Other factory costs	Value	***	***	***	***	***	***
COGS: Total	Value	***	***	***	***	***	***
Gross profit or (loss)	Value	***	***	***	***	***	***
SG&A expenses	Value	***	***	***	***	***	***
Operating income or (loss)	Value	***	***	***	***	***	***
Interest expense	Value	***	***	***	***	***	***
All other expenses	Value	***	***	***	***	***	***
All other income	Value	***	***	***	***	***	***
Net income or (loss)	Value	***	***	***	***	***	***
Depreciation expense included above	Value	***	***	***	***	***	***
Estimated cash flow from operations	Value	***	***	***	***	***	***

Quantity in 1,000 pounds; value in 1,000 dollars

Table continued.

Table III-14 ContinuedESBR: U.S. producers' results of operations, by item and period

ltem	Measure	2017	2018	2019	2020	2021	2022
COGS: Butadiene	Ratio to NS	***	***	***	***	***	***
COGS: Styrene	Ratio to NS	***	***	***	***	***	***
COGS: Other raw material inputs	Ratio to NS	***	***	***	***	***	***
COGS: Total raw materials	Ratio to NS	***	***	***	***	***	***
COGS: Direct labor	Ratio to NS	***	***	***	***	***	***
COGS: Other factory costs	Ratio to NS	***	***	***	***	***	***
COGS: Total	Ratio to NS	***	***	***	***	***	***
Gross profit or (loss)	Ratio to NS	***	***	***	***	***	***
SG&A expenses	Ratio to NS	***	***	***	***	***	***
Operating income or (loss)	Ratio to NS	***	***	***	***	***	***
Net income or (loss)	Ratio to NS	***	***	***	***	***	***
COGS: Butadiene	Share	***	***	***	***	***	***
COGS: Styrene	Share	***	***	***	***	***	***
COGS: Other raw material inputs	Share	***	***	***	***	***	***
COGS: Total raw materials	Share	***	***	***	***	***	***
COGS: Direct labor	Share	***	***	***	***	***	***
COGS: Other factory costs	Share	***	***	***	***	***	***
COGS: Total	Share	***	***	***	***	***	***
Commercial sales	Unit value	***	***	***	***	***	***
Internal consumption	Unit value	***	***	***	***	***	***
Transfers to related firms	Unit value	***	***	***	***	***	***
Total net sales	Unit value	***	***	***	***	***	***
COGS: Butadiene	Unit value	***	***	***	***	***	***
COGS: Styrene	Unit value	***	***	***	***	***	***
COGS: Other raw material inputs	Unit value	***	***	***	***	***	***
COGS: Total raw materials	Unit value	***	***	***	***	***	***
COGS: Direct labor	Unit value	***	***	***	***	***	***
COGS: Other factory costs	Unit value	***	***	***	***	***	***
COGS: Total	Unit value	***	***	***	***	***	***
Gross profit or (loss)	Unit value	***	***	***	***	***	***
SG&A expenses	Unit value	***	***	***	***	***	***
Operating income or (loss)	Unit value	***	***	***	***	***	***
Net income or (loss)	Unit value	***	***	***	***	***	***
Operating losses	Count	***	***	***	***	***	***
Net losses	Count	***	***	***	***	***	***
Data	Count	2	2	2	2	2	2

Ratios in percent; shares in percent; unit values in dollars per pound; count in number of firms reporting

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

Note: Shares represent the share of COGS.

Table III-15 ESBR: Changes in AUVs between comparison periods

Changes in percent

ltem	2017-22	2017-18	2018-19	2019-20	2020-21	2021-22
Commercial sales	***	***	***	***	***	***
Internal consumption	***	***	***	***	***	***
Transfers to related firms	***	***	***	***	***	***
Total net sales	***	***	***	***	***	***
COGS: Butadiene	***	***	***	***	***	***
COGS: Styrene	***	***	***	***	***	***
COGS: Other raw material inputs	***	***	***	***	***	***
COGS: Total raw materials	***	***	***	***	***	***
COGS: Direct labor	***	***	***	***	***	***
COGS: Other factory costs	***	***	***	***	***	***
COGS: Total	***	***	***	***	***	***

Table continued.

Table III-15 ContinuedESBR: Changes in AUVs between comparison periods

Changes in dollars per pound

ltem	2017-22	2017-18	2018-19	2019-20	2020-21	2021-22
Commercial sales	***	***	***	***	***	***
Internal consumption	***	***	***	***	***	***
Transfers to related firms	***	***	***	***	***	***
Total net sales	***	***	***	***	***	***
COGS: Butadiene	***	***	***	***	***	***
COGS: Styrene	***	***	***	***	***	***
COGS: Other raw material inputs	***	***	***	***	***	***
COGS: Total raw materials	***	***	***	***	***	***
COGS: Direct labor	***	***	***	***	***	***
COGS: Other factory costs	***	***	***	***	***	***
COGS: Total	***	***	***	***	***	***
Gross profit or (loss)	***	***	***	***	***	***
SG&A expenses	***	***	***	***	***	***
Operating income or (loss)	***	***	***	***	***	***
Net income or (loss)	***	***	***	***	***	***

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

Note: Changes in dollars per pound shown as "0.00" represent values greater than zero but less than "0.005" dollars per pound.

Table III-16ESBR: Variance analysis on the operations of U.S. producers between comparison periods

ltem	2017-22	2017-18	2018-19	2019-20	2020-21	2021-22
Net sales price variance	***	***	***	***	***	***
Net sales volume variance	***	***	***	***	***	***
Net sales total variance	***	***	***	***	***	***
COGS cost variance	***	***	***	***	***	***
COGS volume variance	***	***	***	***	***	***
COGS total variance	***	***	***	***	***	***
Gross profit variance	***	***	***	***	***	***
SG&A cost variance	***	***	***	***	***	***
SG&A volume variance	***	***	***	***	***	***
SG&A total variance	***	***	***	***	***	***
Operating income price var.	***	***	***	***	***	***
Operating income cost var.	***	***	***	***	***	***
Operating income net vol. var.	***	***	***	***	***	***
Operating income total var.	***	***	***	***	***	***

Value in 1,000 dollars

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

Net sales

The U.S. industry's commercial sales accounted for the largest share of overall sales volume (*** percent), followed by internal consumption (*** percent), and transfer sales to related firms (*** percent). While Goodyear reported *** sales categories (***),¹⁹ Lion reported *** commercial sales.²⁰

The sales section of the variance analysis table (table III-16) shows that the relative importance of volume and price variances was mixed during most of the period;²¹ the effect of price variances predominating only between 2020-2021 and 2021-2022.

¹⁹ ***. *** U.S. producer questionnaire, section III-9b. Pursuant to the Commission's income statement format, U.S. producers reported ESBR internal consumption as a sale, valued at estimated fair market value (see also footnote 28). Corresponding manufacturing costs associated with internal consumption were included in COGS.

²⁰ ***. *** U.S. producer questionnaire response, section II-15.

²¹ The Commission's variance analysis is calculated in three parts: sales variance, COGS variance, and SG&A expenses variance. Each part consists of a price variance (in the case of the sales variance) or a cost or expense variance (in the case of the COGS and SG&A expenses variance), and a volume variance.

Quantity

Total sales quantity declined throughout most of the period, reaching its lowest level in 2020. In 2021 and 2022, total sales quantity increased but remained below the levels reported earlier in the period. Goodyear and Lion *** directional pattern of change in sales quantity *** between 2019-2020 and 2020-2021 (declines and increases, respectively).²²

Value

A large share of ESBR commercial sales is made pursuant to annual contracts in which sales value reflects both a negotiated "conversion price" and a raw material passthrough. The remainder of ESBR commercial sales generally represents spot sales.²³ ***

The sales or cost/expense variance is calculated as the change in unit price or per-unit cost/expense 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. As summarized at the bottom of the variance analysis, the price variance is from sales, the cost/expense variance is the sum of those items from COGS and SG&A variances, respectively, and the volume variance is the sum of the volume components of the net sales, COGS, and SG&A expenses variances. In general, the utility of the Commission's variance analysis is enhanced when product mix remains the same throughout the period. As described below (see footnote 31), *** reported that changes in average sales values primarily reflect changes in prices, as opposed to changes in underlying product mix.

²² Of the two U.S. producers, *** indicated that COVID-19 and related mitigation efforts had a more notable impact on ESBR financial results. ***. *** U.S. producer questionnaire response, section III-15. ***. Email with attachment from *** to USITC staff, April 5, 2023. ***. *** U.S. producer questionnaire response, section III-15.

²³ Final 2023 Publication, p. VI-10. Note: In the context of ESBR sales, "conversion price" is a component of sales value. The term "conversion" does not signify that "conversion price" is directly equal to and/or is intended to solely recover conversion costs; i.e., the non-raw material components of COGS. See footnote 35.

***.²⁴ *** provided a similar, albeit less expansive, description of the cost recovery and profitability objectives of conversion price.²⁵

*** reported that the raw material passthrough component of ESBR conversion price sales primarily reflects butadiene and styrene but can include other inputs: *** raw material passthrough ***;²⁶ ***.²⁷

As shown in table III-14, average sales values declined during most of the period, reaching their lowest level in 2021, and then increased, reaching their highest level in 2022. On a company-specific basis, Lion's average sales value (***) was ***, by varying magnitudes, than Goodyear's overall average sales value (***), primarily reflecting *** corresponding average values assigned to ***.²⁸

*** U.S. producers reported their *** average sales values in 2022. ***

²⁴ Email with attachment from *** to USITC staff, March 31, 2023.

²⁵ Email with attachment from *** to USITC staff, April 5, 2023.

²⁶ ***. Email with attachment from *** to USITC staff, March 31, 2023.

²⁷ ***. Email with attachment from *** to USITC staff, April 5, 2023.

²⁸ ***. Ibid. ***. Ibid.

***.²⁹ *** average per pound sales value also increased in 2022, reflecting higher values in ***. Similar to *** description, *** stated that ***.³⁰

During the period in general, changes in ESBR product mix were reportedly not an important factor with respect to changes in average sales value.³¹

Cost of goods sold and gross profit or loss

Raw materials

As noted above, butadiene and styrene (***), as well as ***, are included in the raw material passthrough component of ESBR conversion pricing sales. Butadiene was the single largest component of total raw material cost (ranging from *** percent of total raw material costs (2020) to *** percent (2018)), followed by total other raw materials, (*** percent (2018) to *** percent (2020)),³² and styrene (*** percent (2020) to *** percent (2019)). Corresponding total raw material cost (combined butadiene, styrene, and other raw materials) accounts for the largest share of total COGS (*** percent of total COGS (2020) to *** percent (2017)).³³

²⁹ Email with attachment from *** to USITC staff, March 31, 2023.

 $^{^{\}rm 30}$ Email with attachment from *** to USITC staff, April 5, 2023.

³¹ ***. Ibid. ***. Email with attachment from *** to USITC staff, March 31, 2023.

³² Other raw materials reflect a number of underlying inputs: Goodyear reporting ***; Lion reporting ***. *** U.S. producer questionnaire responses, section III-9c.

Goodyear and Lion reported average per pound butadiene and styrene costs that were *** throughout the period (see table E-1). Directionally and with ***, the average per pound butadiene and styrene costs of *** companies also followed the *** pattern of *** in 2018 through 2020 followed by *** in 2021 and 2022. (Note: The *** was the *** in Goodyear's average per pound styrene cost in 2018 versus the *** in average per pound styrene cost reported by Lion.) For most of the period and as compared to Lion, Goodyear reported a somewhat *** average per pound other raw material costs, which in turn explains why Goodyear's average total raw material costs were generally *** than Lion's. (Note: The *** was 2021 when Goodyear's average other raw material cost and total average raw material were both *** compared to those of Lion.)³⁴

Direct labor and other factory costs

Direct labor cost, the smallest primary component of total COGS, ranged from *** percent of total COGS (2022) to *** percent (2020). Other factory costs, the second largest primary component of total COGS, ranged from *** percent (2017) to *** percent (2020).

As shown in table E-1, Lion's average per pound direct labor cost and other factory costs were ***, respectively, compared to those of Goodyear. Company-specific average per pound conversion costs (the sum of average direct labor and other factory costs) were *** in 2017, 2018 and 2019 and then ***: Goodyear's average per

^{***.} Email with attachment from *** to USITC staff, March 31, 2023. ***. Email with attachment from *** to USITC staff, April 5, 2023.

³⁴ As shown in Appendix E and compared to preceding years, Lion's average per pound other raw material cost were *** in 2021 and 2022. ***. Ibid. Goodyear's average other raw material costs *** in 2022, which the company attributed to ***. Email with attachment from *** to USITC staff, April 5, 2023.

pound conversion costs *** during the rest of the period; Lion's *** somewhat in 2020 and 2021 and then *** in 2022.³⁵

Both Goodyear and Lion indicated that ESBR COGS and financial results are affected by capacity utilization and the degree to which fixed costs are absorbed by production.^{36 37} While Goodyear and Lion *** reported *** in practical ESBR capacity utilization in 2020 (see table III-5), *** Goodyear reported a relatively large *** in average conversion costs in that year, principally reflecting *** average other factory costs. ***, Lion's average conversion cost *** modestly in 2020.

Gross profit or loss

The U.S. industry's total gross profit was positive and increased between 2017 and 2018 and then transitioned to gross losses that increased irregularly throughout the rest of the period, the highest absolute level of gross loss reported in 2022. As indicated in table III-15, the modest expansion in overall gross profit ratio (total gross profit divided by total net sales value) between 2017-2018 reflects a percentage increase in average total sales value that exceeded the corresponding percentage increase in average COGS, while the transition to a gross loss ratio (2018-2019) and subsequent expansion of gross loss ratio (2019-2020) reflects percentage declines in average total sales value that exceeded the corresponding percentage declines in

³⁵ Since the amounts assigned to direct labor and other factory costs reflect company-specific choices regarding cost assignment, combining company-specific direct labor and other factory costs into a single conversion cost amount should generally enhance comparability. Final 2023 Publication, p. VI-14. When considering company-specific average per pound conversion costs, Goodyear and Lion were *** in 2017 through 2020, ***, and then ***: Goodyear's average conversion costs *** for the remainder of the period; Lion's average conversion costs *** in 2020 and 2021, and then *** in 2022 (see table E-1).

³⁶ ***. Email with attachment from *** to USITC staff, April 5, 2023.

³⁷ ***. Email with attachment from *** to USITC staff, March 31, 2023.

average COGS. While remaining negative, overall gross loss ratios contracted somewhat in 2020-2021 and 2021-2022, reflecting percentage increases in average sales value that exceeded corresponding percentage increases in average COGS.

On a company-specific basis, Goodyear's gross results followed the *** pattern of *** between 2017 and 2018 followed by irregularly ***. ***, Lion reported *** from 2017 through 2020, a *** somewhat *** in 2021, and *** in 2022.

In general, the *** in company-specific gross results reflect both sales and cost factors. On the sales side, Goodyear's average per pound total sales values (***) were ***, by varying magnitudes, compared to Lion's average sales value (***). On the cost side Goodyear's average COGS were *** than Lion's, reflecting generally *** average per pound other raw material costs and conversion costs throughout most of the period. (Note: The *** were 2018, when Goodyear's average conversion cost was *** as Lion's, and 2020, when Goodyear's average other raw material cost was *** than Lion's.)

SG&A expenses and operating income or loss

SG&A expenses increased in 2018, declined irregularly between 2019 and 2021, and then increased in 2022, reaching their second highest level of the period. Company-specific SG&A expense ratios (total SG&A expenses divided by total net sales value) trended higher between 2017 and 2020 and then generally declined (see table E-1).

Goodyear's *** was *** its SG&A expenses and generate a modest level of *** in 2017 and essentially *** in 2018. For the remainder of the period, when Goodyear reported *** (2019 through 2022), its SG&A expenses were *** in terms of determining the level of ***. While reporting *** during most of the period, the *** being 2021, Lion reported *** operating results, like Goodyear, *** in 2017 and 2018. In conjunction with factors such as capacity utilization, Goodyear and Lion *** indicated that conversion pricing was an important factor in determining the pattern of financial results during the period.^{38 39}

Interest expense, other expenses and income, and net income or loss

The U.S. industry's interest expense, other expenses and income were reported by *** with *** confirming that this information is *** tracked/reported by the business unit that responded to the Commission's U.S. producer questionnaire.⁴⁰ While interest expense and other income were reported *** the period, other expenses were reported *** in 2019.⁴¹

For most of the period changes in operating and net results were directionally the same: operating and net results declining/worsening between 2018-2019, 2019-2020, and 2021-2022; increasing/improving between 2020-2021. The exception was between 2017-2018 when operating results increased somewhat and net results declined, which is generally explained by

³⁸ ***. Email with attachment from *** to USITC staff, April 5, 2023. ***. Ibid.

³⁹ ***. Email with attachment from *** to USITC staff, March 31, 2023.

⁴⁰ Email with attachment from *** to USITC staff, April 5, 2023.

⁴¹ ***. *** U.S. producer questionnaire response, section III-10b.

the somewhat higher level of *** reflected in 2018 net results as compared to 2017.

Capital expenditures and research and development expenses

Table III-17 and table III-19 present capital expenditures and R&D expenses, respectively, by firm. Table III-18 and table III-20 present the firms' narrative explanations of the nature, focus, and significance of their capital expenditures and R&D expenses, respectively.

Table III-17 ESBR: U.S. producers' capital expenditures, by firm and period

Value in 1,000 dollars

Firm	2017	2018	2019	2020	2021	2022
Goodyear	***	***	***	***	***	***
Lion	***	***	***	***	***	***
All firms	***	***	***	***	***	***

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

Table III-18 ESBR: U.S. producers' narrative descriptions of their capital expenditures, by firm

Firm	Narrative on capital expenditures
Goodyear	***
Lion	***

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

Table III-19 ESBR: U.S. producers' R&D expenses, by firm and period

Value in 1,000 dollars

Firm	2017	2018	2019	2020	2021	2022
Goodyear	***	***	***	***	***	***
Lion	***	***	***	***	***	***
All firms	***	***	***	***	***	***

Firm	Narrative on R&D expenses
Goodyear	***
Lion	***

Table III-20ESBR: U.S. producers' narrative descriptions of their R&D expenses, by firm

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

Assets and return on assets

Table III-21 presents data on total net assets and table III-22 presents their operating

ROA.⁴² Table III-23 presents firms' narrative responses regarding major asset categories.

Table III-21 ESBR: U.S. producers' total net assets, by firm and period

Value in 1,000 dollars

Firm	2017	2018	2019	2020	2021	2022
Goodyear	***	***	***	***	***	***
Lion	***	***	***	***	***	***
All firms	***	***	***	***	***	***

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

Table III-22 ESBR: U.S. producers' ROA, by firm and period

Ratio in percent

Firm	2017	2018	2019	2020	2021	2022
Goodyear	***	***	***	***	***	***
Lion	***	***	***	***	***	***
All firms	***	***	***	***	***	***

⁴² 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 III-23ESBR: U.S. producers' narrative descriptions of their total net assets, by firm

Firm	Narrative on net assets
Goodyear	***
Lion	***

Part IV: U.S. imports and the foreign industries

U.S. imports

Overview

The Commission issued importer questionnaires to 64 potential importers of ESBR between 2017 to 2022 and all U.S. producers of ESBR. Twenty-two firms provided data and information in response to the questionnaires, while 20 firms certified that they had not imported ESBR at any time since January 1, 2017.¹ These firms are estimated to account for the majority of U.S. imports of ESBR from Brazil, Mexico, Poland, South Korea, and all other sources during 2017-22.² Unless otherwise noted, U.S. import data presented in this report are based on questionnaire responses.

Based on a comparison of official Commerce import statistics with data ***, Commission staff believe that *** under HTS statistical reporting number 4002.19.0015 represent out-of-scope products. Moreover, based on a comparison of official Commerce import statistics with data reported by all U.S. importers in their questionnaire responses, Commission staff believe that *** of total imports under HTS statistical reporting number 4002.19.0019 represent out-of-scope product. Because HTS statistical reporting numbers 4002.19.0015 and 4002.19.0019 include out-of-scope products, U.S. import data presented in this report are based on questionnaire responses, unless otherwise noted.

¹ The following firms certified that they did not import ESBR from any source at any time since January 1, 2017: ***.

² As discussed in Part I, subject ESBR is imported under HTS statistical reporting numbers 4002.19.0015 (which specifically includes ESBR in bales) and 4002.19.0019 (an aggregate "basket" styrene-butadiene rubber category which includes ESBR in forms other than bales and out-of-scope products). While HTS statistical reporting number 4002.19.0015 specifically includes ESBR in bales, *** under this statistical reporting number. Email from ***, April 12, 2023.

Imports from subject and nonsubject countries

Tables IV-1 and IV-2 and figure IV-1 present information on U.S. imports of ESBR from Brazil, Mexico, Poland, South Korea, and all other sources over the period examined. U.S. imports of ESBR from all sources decreased overall by 57.0 percent during 2017-22, primarily driven by the decline in subject imports from ***. Subject imports decreased irregularly from their highest level in 2017 to their lowest level in 2022, decreasing overall by *** percent during 2017-22.³ The leading U.S. importers of ESBR from subject sources include ***. Nonsubject imports increased irregularly by *** percent during 2017-22; they were at their lowest level in 2017 and their highest level in 2021.⁴ The largest U.S. importers of ESBR from nonsubject sources include ***, whose imports collectively accounted for more than *** of imports from nonsubject sources.⁵ Subject import AUVs increased irregularly during 2017-22, from \$*** in 2017 to \$*** in 2022, increasing overall by *** percent.⁶ Similarly, nonsubject import AUVs increased irregularly from \$*** in 2017 to \$*** in 2022, increasing overall by *** percent.

Imports from each individual subject country were at their highest levels in 2017 and remained below 2017 levels from 2018 through 2022. Imports from Brazil decreased in each year between 2017 and 2022, from *** pounds in 2017 to *** in 2022. Similarly, imports from South Korea decreased in each year between 2017 and 2022, from *** pounds in 2017 to *** in 2022. Imports from Mexico decreased irregularly by *** percent during 2017-22, from *** pounds in 2017 to *** pounds in 2017 to *** pounds in 2017 to *** pounds in 2022. Imports from Poland decreased in each year between 2017-2020 then increased in each year between

³ Subject imports decreased in each year between 2017 and 2020 (decreasing by *** percent during 2017-18, *** percent during 2018-19, and *** percent during 2019-20) then increased by *** percent during 2020-21 and decreased by *** percent during 2021-22.

⁴ Nonsubject imports increased by *** percent during 2017-18 then decreased during 2018-2020 (decreasing by *** percent during 2018-19 and *** percent during 2019-20) then increased by *** percent during 2020 and decreased by *** percent during 2021-22.

⁵ The leading U.S. importers of ESBR from nonsubject sources during 2017-22 reported importing from Argentina, China, Czechia, Germany, Italy, Russia, Taiwan, and Thailand.

⁶ The AUV for imports from South Korea *** from 2020 (\$***) to 2021 (\$***), largely driven by ***. *** attributed the increase to *** during that period. *** explained that during that period ***. Email from ***, May 19, 2023; and email from ***, May 23, 2023.

2020-22, decreasing overall by *** percent (from *** pounds in 2017 to *** pounds in 2022). As a share of total imports by quantity, subject imports declined in each year between 2017 and 2021, from *** percent in 2017 to *** percent in 2021, then increased to *** percent in 2022, decreasing overall by *** percentage points during the period being examined.

The ratio of subject imports to U.S. production declined in each year between 2017 and 2020, from *** percent in 2017 to *** percent in 2020, then increased slightly to *** percent in 2021, before declining again to *** percent in 2022, decreasing overall by *** percentage points during 2017-22. The ratio of nonsubject imports to U.S. production increased in each year between 2017 and 2021, from *** percent in 2017 to *** percent in 2021, then decreased to *** percent in 2022, increasing overall by *** percentage points during 2017-22.

Table IV-1 ESBR: U.S. imports by source and period

Source	Measure	2017	2018	2019	2020	2021	2022
Brazil	Quantity	***	***	***	***	***	***
Mexico	Quantity	***	***	***	***	***	***
Poland	Quantity	***	***	***	***	***	***
South Korea	Quantity	***	***	***	***	***	***
Subject sources	Quantity	***	***	***	***	***	***
Nonsubject sources	Quantity	***	***	***	***	***	***
All import sources	Quantity	94,304	62,497	57,197	45,768	68,219	40,552
Brazil	Value	***	***	***	***	***	***
Mexico	Value	***	***	***	***	***	***
Poland	Value	***	***	***	***	***	***
South Korea	Value	***	***	***	***	***	***
Subject sources	Value	***	***	***	***	***	***
Nonsubject sources	Value	***	***	***	***	***	***
All import sources	Value	84,111	55,661	45,817	30,464	62,631	46,420
Brazil	Unit value	***	***	***	***	***	***
Mexico	Unit value	***	***	***	***	***	***
Poland	Unit value	***	***	***	***	***	***
South Korea	Unit value	***	***	***	***	***	***
Subject sources	Unit value	***	***	***	***	***	***
Nonsubject sources	Unit value	***	***	***	***	***	***
All import sources	Unit value	0.89	0.89	0.80	0.67	0.92	1.14

Quantity in 1,000 pounds; value in 1,000 dollars; unit value in dollars per pound

Table IV-1 Continued ESBR: U.S. imports by source and period

Source	Measure	2017	2018	2019	2020	2021	2022
Brazil	Share of quantity	***	***	***	***	***	***
Mexico	Share of quantity	***	***	***	***	***	***
Poland	Share of quantity	***	***	***	***	***	***
South Korea	Share of quantity	***	***	***	***	***	***
Subject sources	Share of quantity	***	***	***	***	***	***
Nonsubject sources	Share of quantity	***	***	***	***	***	***
All import sources	Share of quantity	100.0	100.0	100.0	100.0	100.0	100.0
Brazil	Share of value	***	***	***	***	***	***
Mexico	Share of value	***	***	***	***	***	***
Poland	Share of value	***	***	***	***	***	***
South Korea	Share of value	***	***	***	***	***	***
Subject sources	Share of value	***	***	***	***	***	***
Nonsubject sources	Share of value	***	***	***	***	***	***
All import sources	Share of value	100.0	100.0	100.0	100.0	100.0	100.0
Brazil	Ratio	***	***	***	***	***	***
Mexico	Ratio	***	***	***	***	***	***
Poland	Ratio	***	***	***	***	***	***
South Korea	Ratio	***	***	***	***	***	***
Subject sources	Ratio	***	***	***	***	***	***
Nonsubject sources	Ratio	***	***	***	***	***	***
All import sources	Ratio	***	***	***	***	***	***

Shares and ratios in percent; Ratios represent the ratio to U.S. production

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 IV-2ESBR: Changes in import quantity, values, and unit values between comparison periods

ltem	Measure	2017-22	2017-18	2018-19	2019-20	2020-21	2021-22
Brazil	Δ% Quantity	▼***	▼***	***	▼***	***	▼***
Mexico	Δ% Quantity	***	***	***	***	***	▼***
Poland	Δ% Quantity	▼***	***	***	***	***	A ***
South Korea	Δ% Quantity	***	***	***	***	***	▼***
Subject sources	Δ% Quantity	***	▼***	***	▼***	***	▼***
Nonsubject sources	Δ% Quantity	▲ ***	▲ ***	▼***	▼***	▲ ***	▼***
All import sources	Δ% Quantity	▼(57.0)	▼(33.7)	▼(8.5)	▼(20.0)	▲49.1	▼(40.6)
Brazil	∆% Value	***	▼***	***	***	***	▼***
Mexico	Δ% Value	***	***	***	***	***	▼***
Poland	Δ% Value	▼***	▼***	***	▼***	▲ ***	▲ ***
South Korea	∆% Value	***	***	***	***	***	▼***
Subject sources	∆% Value	▼***	▼***	***	***	***	▼***
Nonsubject sources	∆% Value	▲ ***	***	▼***	***	▲ ***	▼***
All import sources	∆% Value	▼(44.8)	▼(33.8)	▼(17.7)	▼(33.5)	▲105.6	▼(25.9)
Brazil	Δ% Unit value	▼***	▼***	▲ ***	***	▲ ***	▼***
Mexico	Δ% Unit value	***	A ***	***	▼***	***	***
Poland	Δ% Unit value	***	A ***	***	▼***	***	▲ ***
South Korea	Δ% Unit value	***	***	***	***	***	▼***
Subject sources	Δ% Unit value	▲ ***	▼***	▲ ***	***	▲ ***	▲ ***
Nonsubject sources	Δ% Unit value	***	▼***	▼***	▼***	▲ ***	***
All import sources	Δ% Unit value	▲28.3	▼(0.1)	▼(10.1)	▼(16.9)	▲37.9	▲24.7

Figure IV-1 ESBR: U.S. import quantities and average unit values, by source and period

* * * * * * *

Cumulation considerations

In assessing whether U.S. imports from the subject countries are likely to compete with each other and with the domestic like product, the Commission has generally considered four factors: (1) fungibility, (2) presence of sales or offers to sell in the same geographical markets, (3) common or similar channels of distribution, and (4) simultaneous presence in the market. Information regarding channels of distribution, market areas, and interchangeability appear in Part II. Additional information concerning fungibility, geographical markets, and simultaneous presence in the market is presented below.

Fungibility

Table IV-3 and figure IV-2 present U.S. producers' and U.S. importers' U.S. shipments by series (1500 series vs. 1700 series) in 2022.⁷ More than *** of U.S. producers' and U.S. importers' combined U.S. shipments were of 1500 series ESBR. Most or all U.S. shipments from each source consisted of 1500 series ESBR, accounting for *** percent of U.S. producers' U.S. shipments, *** percent of U.S. importers' U.S. shipments from Brazil, *** percent of U.S. importers' U.S. shipments from Mexico, *** percent of U.S. importers' U.S. shipments from Poland, and *** percent of U.S. importers U.S. shipments from nonsubject sources. No U.S. importer reported U.S. shipments of imports from South Korea during 2022.

Additionally, firms were asked to indicate which specific grade(s) of 1500 and 1700 series ESBR were included in their U.S. shipments in 2022; table IV-4 presents a tabulation of their responses.

⁷ Appendix F presents U.S. producers' U.S. shipments and foreign producers' total shipments by series type and product grade.

Table IV-3ESBR: U.S. producers' and U.S. importers' U.S. shipments by series type, 2022

Quantity in 1,000 pounds

Source	1500 series	1700 series	All series
U.S. producers	***	***	***
Brazil	***	***	***
Mexico	***	***	***
Poland	***	***	***
South Korea	***	***	***
Subject sources	***	***	***
Nonsubject sources	***	***	***
All import sources	***	***	***
All sources	***	***	***
Table continued.			

Table IV-3 Continued

ESBR: U.S. producers' and U.S. importers' U.S. shipments by series type, 2022

Share across in percent

1500 series	1700 series	All series	
***	***	***	
***	***	***	
***	***	***	
***	***	***	
***	***	***	
***	***	***	
***	***	***	
***	***	***	
***	***	***	
	*** *** *** *** *** *** ***	*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***	

Table continued.

Table IV-3 ContinuedESBR: U.S. producers' and U.S. importers' U.S. shipments by series type, 2022

Share down in percent

Source	1500 series	1700 series	All series
U.S. producers	***	***	***
Brazil	***	***	***
Mexico	***	***	***
Poland	***	***	***
South Korea	***	***	***
Subject sources	***	***	***
Nonsubject sources	***	***	***
All import sources	***	***	***
All sources	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 IV-2 ESBR: U.S. producers' and U.S. importers' U.S. shipments by series type, 2022

* * * * * * *

Table IV-4ESBR: Count of U.S. producers' and U.S. importers' U.S. shipments by product grade, 2022

					_	_		All
	U.S.				South	Subject	Nonsubject	import
Product grade	producers	Brazil	Mexico	Poland	Korea	sources	sources	sources
1500	***	***	***	***	***	***	***	***
1502	***	***	***	***	***	***	***	***
1507	***	***	***	***	***	***	***	***
1509	***	***	***	***	***	***	***	***
Other 1500 series	***	***	***	***	***	***	***	***
1712	***	***	***	***	***	***	***	***
1721	***	***	***	***	***	***	***	***
1723	***	***	***	***	***	***	***	***
1732	***	***	***	***	***	***	***	***
1739	***	***	***	***	***	***	***	***
1745	***	***	***	***	***	***	***	***
1763	***	***	***	***	***	***	***	***
1769	***	***	***	***	***	***	***	***
1778	***	***	***	***	***	***	***	***
1783	***	***	***	***	***	***	***	***
1789	***	***	***	***	***	***	***	***
1793	***	***	***	***	***	***	***	***
1799	***	***	***	***	***	***	***	***
Other 1700 series	***	***	***	***	***	***	***	***

Count in number of firms

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

Geographical markets

Table IV-5 presents data on U.S. imports of ESBR by border of entry in 2022, based on official Commerce import statistics. Over four-fifths of imports from subject sources entered the United States through ports located in the South, largely driven by the quantity of imports from Mexico. All imports from Brazil entered the United States through ports located in the East and virtually all imports from Mexico entered through ports located in the South. The majority of imports from Poland entered through ports located in the South and the majority of imports from South Korea entered through ports located in the West.

Table IV-5 ESBR: U.S. imports by source and border of entry, 2022

Quantity in 1,000 pounds

					All
Source	East	North	South	West	borders
Brazil	1,904				1,904
Mexico	1	35	25,218	27	25,281
Poland	614	2,510	3,394		6,518
South Korea	2	123	29	284	438
Subject sources	2,521	2,668	28,641	311	34,141
Nonsubject sources	51,961	18,782	9,166	9,043	88,951
All import sources	54,482	21,450	37,807	9,353	123,092

Table continued.

Table IV-5 Continued

ESBR: U.S. imports by source and border of entry, 2022

Share across in percent

					All
Source	East	North	South	West	borders
Brazil	100.0				100.0
Mexico	0.0	0.1	99.8	0.1	100.0
Poland	9.4	38.5	52.1		100.0
South Korea	0.5	28.2	6.5	64.8	100.0
Subject sources	7.4	7.8	83.9	0.9	100.0
Nonsubject sources	58.4	21.1	10.3	10.2	100.0
All import sources	44.3	17.4	30.7	7.6	100.0
Table continued					

Table continued.

Table IV-5 ContinuedESBR: U.S. imports by source and border of entry, 2022

Share down in percent

Source	East	North	South	West	All borders
Brazil	3.5				1.5
Mexico	0.0	0.2	66.7	0.3	20.5
Poland	1.1	11.7	9.0		5.3
South Korea	0.0	0.6	0.1	3.0	0.4
Subject sources	4.6	12.4	75.8	3.3	27.7
Nonsubject sources	95.4	87.6	24.2	96.7	72.3
All import sources	100.0	100.0	100.0	100.0	100.0

Source: Compiled from official U.S. import statistics of the U.S. Department of Commerce Census Bureau using HTS statistical reporting numbers 4002.19.0015 and 4002.19.0019, accessed March 16, 2023. Imports are based on the imports for consumption data series.

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

Presence in the market

Table IV-6 and figures IV-3 and IV-4 present monthly U.S. imports of ESBR from January 2017 through December 2022, based on official Commerce import statistics. Imports from Mexico were present in each month between January 2017 through December 2022, while imports from Brazil were present in 67 (of 72) months, imports from South Korea were present in 59 months, and imports from Poland were present in 53 months.

Table IV-6 ESBR: Quantity of U.S. imports, by source and month

Year	Month	Brazil	Mexico	Poland	South Korea	Subject sources
2017	January	3,967	2,002	519	5,356	11,843
2017	February	2,878	1,921	593	1,986	7,377
2017	March	5,953	3,749	405	1,849	11,955
2017	April	5,845	4,020	844	583	11,292
2017	May	1,906	3,359	338	511	6,114
2017	June	5,256	2,259	192	528	8,235
2017	July	426	2,824	39	607	3,896
2017	August	0	1,475	37	421	1,933
2017	September	773	2,918	39	1,248	4,978
2017	October	1,346	2,720		731	4,797
2017	November	903	2,054	37	713	3,707
2017	December	692	1,289		96	2,076
2018	January	2,214	1,245	114	908	4,481
2018	February	1,912	1,385		259	3,556
2018	March	1,530	2,219	73	1,612	5,435
2018	April	1,651	2,257	81	1,309	5,298
2018	Мау	341	918	37	2,239	3,535
2018	June	75	778	37	858	1,748
2018	July	97	1,833	37	1,292	3,258
2018	August	84	2,674	39	1,929	4,726
2018	September	187	679	37	1,113	2,015
2018	October	101	822	73	1,124	2,120
2018	November	155	2,607		1,495	4,258
2018	December		1,706	37	790	2,533

Quantity in 1,000 pounds

Quantity in 1,000 pounds

					All other	Nonsubject	All import
Year	Month	China	Czechia	Russia	sources	sources	sources
2017	January	1,170			4,347	5,517	17,360
2017	February	1,028		42	5,142	6,213	13,589
2017	March	1,357	304	42	6,962	8,664	20,619
2017	April	1,416	820	2,019	9,093	13,348	24,640
2017	May	1,915	282	1,283	6,379	9,860	15,974
2017	June	1,101	554	302	8,322	10,279	18,514
2017	July	1,210	623		3,532	5,365	9,261
2017	August	1,687	889		5,175	7,751	9,685
2017	September	1,011	842	56	7,920	9,828	14,806
2017	October	2,041	1,032	389	6,175	9,637	14,433
2017	November	1,767	886	139	5,938	8,731	12,438
2017	December	873	695		3,063	4,631	6,708
2018	January	1,367	1,647	222	4,342	7,578	12,059
2018	February	1,310	989		5,800	8,099	11,655
2018	March	1,715	1,619		4,408	7,741	13,176
2018	April	1,721	737	441	6,155	9,055	14,353
2018	May	1,490	443	926	7,395	10,254	13,789
2018	June	1,887	803	948	5,345	8,983	10,731
2018	July	1,947	1,282	222	6,610	10,062	13,320
2018	August	2,440	1,505	303	5,736	9,984	14,710
2018	September	475	449	40	6,924	7,888	9,903
2018	October	899	822	222	4,349	6,292	8,412
2018	November	120	771	933	3,615	5,439	9,697
2018	December	1,444	858	610	4,303	7,214	9,747

Quantity in 1,000 pounds

Veer	Month	Brozil	Maxiaa	Deland	South Korea	Subject
Year	Month	Brazil	Mexico	Poland	South Korea	sources
2019	January	79	2,229		671	2,979
2019	February	2,510	1,401	37	116	4,064
2019	March	1,128	2,242	73	83	3,526
2019	April	169	1,490	36	42	1,737
2019	Мау	183	1,570	39	185	1,977
2019	June	185	1,953	37	681	2,855
2019	July		1,106	37	238	1,380
2019	August		1,428		34	1,462
2019	September	401	1,648	37	171	2,257
2019	October	160	1,108			1,268
2019	November	177	1,381	37	162	1,758
2019	December	138	1,995	39		2,172
2020	January	114	1,501	39	66	1,718
2020	February		778		20	798
2020	March	175	1,882	37	162	2,255
2020	April	239	639	37	32	947
2020	May	552	1,394		80	2,026
2020	June	126	1,025	18	244	1,413
2020	July	305	668	29	264	1,266
2020	August	150	1,137	73	127	1,488
2020	September	2,101	1,684	37	30	3,852
2020	October	18	1,318			1,336
2020	November	99	1,707	36	37	1,879
2020	December	37	463		54	553

Quantity in 1,000 pounds

	•				All other	Nonsubject	All import
Year	Month	China	Czechia	Russia	sources	sources	sources
2019	January	43	1,063	317	7,667	9,090	12,069
2019	February	177	675	496	6,683	8,031	12,095
2019	March	205	1,389	852	7,198	9,644	13,170
2019	April	325	948	395	8,195	9,864	11,601
2019	Мау	310	1,669	171	6,151	8,301	10,278
2019	June	178	1,777	863	5,622	8,440	11,295
2019	July	573	3,022	596	6,548	10,740	12,120
2019	August	728	1,159	998	4,171	7,057	8,519
2019	September	427	1,498	104	5,966	7,996	10,253
2019	October	366	2,250	444	4,885	7,945	9,213
2019	November	140	971	110	4,093	5,313	7,071
2019	December	538	1,162	1,381	5,162	8,243	10,415
2020	January	140	882	3,343	6,710	11,076	12,794
2020	February	487	959	2,541	6,281	10,268	11,065
2020	March	370	1,403	4,829	9,989	16,590	18,844
2020	April	660	2,588	3,394	6,958	13,600	14,547
2020	May	706	869	1,747	3,435	6,757	8,783
2020	June	482	397	840	3,176	4,895	6,308
2020	July	694	833	1,199	4,463	7,190	8,455
2020	August	444	438	1,981	6,086	8,949	10,437
2020	September	630	911	1,198	6,316	9,055	12,907
2020	October	443	1,627	3,279	5,023	10,372	11,708
2020	November	371	695	1,479	6,103	8,647	10,527
2020	December	685	714	2,295	3,332	7,026	7,579

Quantity in 1,000 pounds

Year	Month	Brazil	Mexico	Poland	South Korea	Subject sources
2021	January	42	1,552	37	9	1,639
2021	February	110	1,308	36	65	1,519
2021	March	58	2,392		165	2,616
2021	April	293	2,515		5	2,813
2021	May		1,728		44	1,772
2021	June	159	2,016		70	2,244
2021	July	219	1,898		11	2,128
2021	August	183	2,344			2,527
2021	September	167	2,433	66	330	2,995
2021	October	284	1,914			2,198
2021	November	170	2,241		37	2,448
2021	December	40	498	39		577
2022	January	169	1,404	366	123	2,062
2022	February	256	2,837	292	284	3,669
2022	March	135	2,372	693		3,200
2022	April	81	581	474	29	1,165
2022	May	84	2,524	550		3,159
2022	June	164	1,947	835		2,945
2022	July	77	2,704	475		3,255
2022	August	514	2,047	31	1	2,593
2022	September	48	1,809	619	1	2,477
2022	October	79	2,026	765		2,870
2022	November	178	1,334	771		2,284
2022	December	119	3,697	646		4,462

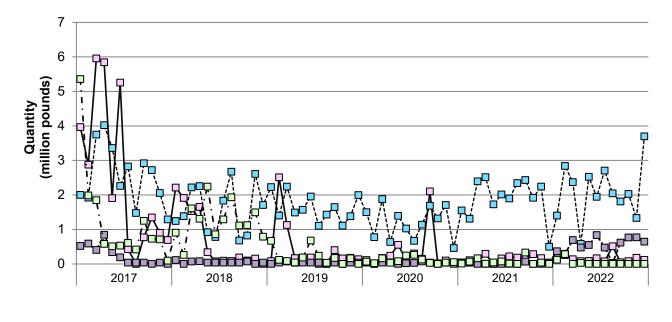
Quantity in 1,000 pounds

					All other	Nonsubject	All import
Year	Month	China	Czechia	Russia	sources	sources	sources
2021	January	414	1,692	2,088	4,494	8,687	10,327
2021	February	581	752	2,329	3,252	6,913	8,432
2021	March	568	1,073	1,795	5,850	9,287	11,902
2021	April	387	1,050	2,643	4,653	8,733	11,546
2021	May	513	307	3,377	8,571	12,768	14,540
2021	June	357	2,078	2,433	5,421	10,290	12,534
2021	July	541	1,298	6,271	6,865	14,975	17,103
2021	August	712	1,230	4,539	7,243	13,724	16,251
2021	September	821	2,321	4,011	5,809	12,962	15,957
2021	October	659	2,666	5,956	6,572	15,853	18,051
2021	November	775	1,656	2,284	5,386	10,102	12,550
2021	December	594	1,787	1,960	4,264	8,604	9,181
2022	January	776	1,093	5,144	4,277	11,290	13,353
2022	February	615	1,765	2,799	3,554	8,733	12,402
2022	March	538	815	1,861	5,616	8,830	12,030
2022	April	692	1,780	1,226	6,299	9,997	11,162
2022	May	987	2,333	2,039	3,656	9,015	12,174
2022	June	607	1,565	56	3,757	5,985	8,929
2022	July	1,120	2,479	333	2,248	6,180	9,434
2022	August	593	565		3,678	4,837	7,430
2022	September	723	1,438		4,283	6,445	8,922
2022	October	1,114	660		5,985	7,759	10,629
2022	November	793	894		3,903	5,590	7,873
2022	December	906	73		3,312	4,291	8,753

Source: Compiled from official U.S. import statistics of the U.S. Department of Commerce Census Bureau using HTS statistical reporting numbers 4002.19.0015 and 4002.19.0019, accessed March 16, 2023. Imports are based on the imports for consumption data series.

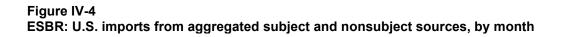
Note: Quantity shown as "0" represent values greater than zero but less than 500 pounds. Zeroes, null values, and undefined calculations are suppressed and shown as "---".

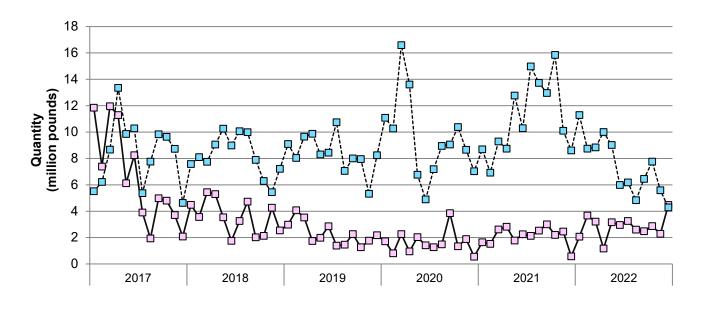
Figure IV-3 ESBR: U.S. imports from individual subject sources, by month



–□– Brazil ---□--- Mexico --□--· Poland – □- · South Korea

Source: Compiled from official U.S. import statistics of the U.S. Department of Commerce Census Bureau using HTS statistical reporting numbers 4002.19.0015 and 4002.19.0019, accessed March 16, 2023. Imports are based on the imports for consumption data series.





----- Subject ----- Nonsubject

Source: Compiled from official U.S. import statistics of the U.S. Department of Commerce Census Bureau using HTS statistical reporting numbers 4002.19.0015 and 4002.19.0019, accessed March 16, 2023. Imports are based on the imports for consumption data series.

U.S. inventories of imported merchandise

Table IV-7 presents data for inventories of U.S. imports of ESBR from Brazil, Mexico, Poland, South Korea, and all other sources held in the United States. Six of 22 responding U.S. importers reported inventories of subject imports (primarily from ***), with *** accounting for the majority of those inventories over the period examined. Inventories of subject imports decreased overall by *** percent during 2017-22, decreasing irregularly from *** pounds in 2017 to *** pounds in 2022.⁸ Inventories of nonsubject imports nearly doubled between 2017 and 2022, increasing irregularly from *** pounds in 2017 to *** pounds in 2022.

⁸ *** was the second largest source of U.S. importers' inventories of subject imports during 2017-19, the largest source in 2020, and the third largest source in 2021. There were no reported inventories of subject imports from *** in 2022.

Table IV-7 ESBR: U.S. importers' inventories and their ratio to select items, by source and period

Measure	Source	2017	2018	2019	2020	2021	2022
Inventories quantity	Brazil	***	***	***	***	***	***
Ratio to imports	Brazil	***	***	***	***	***	***
Ratio to U.S. shipments of imports	Brazil	***	***	***	***	***	***
Ratio to total shipments of imports	Brazil	***	***	***	***	***	***
Inventories quantity	Mexico	***	***	***	***	***	***
Ratio to imports	Mexico	***	***	***	***	***	***
Ratio to U.S. shipments of imports	Mexico	***	***	***	***	***	***
Ratio to total shipments of imports	Mexico	***	***	***	***	***	***
Inventories quantity	Poland	***	***	***	***	***	***
Ratio to imports	Poland	***	***	***	***	***	***
Ratio to U.S. shipments of imports	Poland	***	***	***	***	***	***
Ratio to total shipments of imports	Poland	***	***	***	***	***	***
Inventories quantity	South Korea	***	***	***	***	***	***
Ratio to imports	South Korea	***	***	***	***	***	***
Ratio to U.S. shipments of imports	South Korea	***	***	***	***	***	***
Ratio to total shipments of imports	South Korea	***	***	***	***	***	***
Inventories quantity	Subject sources	***	***	***	***	***	***
Ratio to imports	Subject sources	***	***	***	***	***	***
Ratio to U.S. shipments of imports	Subject sources	***	***	***	***	***	***
Ratio to total shipments of imports	Subject sources	***	***	***	***	***	***
Inventories quantity	Nonsubject	***	***	***	***	***	***
Ratio to imports	Nonsubject	***	***	***	***	***	***
Ratio to U.S. shipments of imports	Nonsubject	***	***	***	***	***	***
Ratio to total shipments of imports	Nonsubject	***	***	***	***	***	***
Inventories quantity	All	***	***	***	***	***	***
Ratio to imports	All	***	***	***	***	***	***
Ratio to U.S. shipments of imports	All	***	***	***	***	***	***
Ratio to total shipments of imports	All	***	***	***	***	***	***

Quantity in 1,000 pounds; ratios in percent

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

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

U.S. importers' imports subsequent to December 31, 2022

The Commission requested importers to indicate whether they had imported or arranged for the importation of ESBR for delivery after December 31, 2022 (table IV-8). Fourteen of 22 responding U.S. importers indicated that they had arranged such imports. Three firms reported arranged imports from subject sources and thirteen firms reported arranged imports from nonsubject sources. U.S. importers' arranged imports from subject sources accounted for approximately *** of total arranged imports.

Table IV-8 ESBR: U.S. importers' arranged imports, by source and period

Source	Jan-Mar 2023	Apr-Jun 2023	Jul-Sep 2023	Oct-Dec 2023	Total
Brazil	***	***	***	***	***
Mexico	***	***	***	***	***
Poland	***	***	***	***	***
South Korea	***	***	***	***	***
Subject sources	***	***	***	***	***
Nonsubject sources	***	***	***	***	***
All import sources	***	***	***	***	***

Quantity in 1,000 pounds

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

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

The industry in Brazil

Overview

During the final phase of the original investigations, the Commission received a foreign producer/exporter questionnaire from one firm, Arlanxeo. This firm accounted for *** production of ESBR in Brazil and its exports to the United States accounted for *** U.S. imports of ESBR from Brazil during January 2014 through March 2017.⁹

In the current five-year reviews, the Commission received a foreign producer/exporter questionnaire from one firm, Arlanxeo.¹⁰ This firm accounted for *** production of ESBR in Brazil and its exports to the United States are believed to account for *** U.S. imports of ESBR from Brazil during 2017-22. Table IV-9 presents information on the ESBR operations of the responding producer/exporter in Brazil.

Table IV-9 ESBR: Summary data for producer in Brazil, 2022

Quantity in 1,000 pounds

Firm	Production (1,000 pounds)	Share of reported production (percent)	Exports to the United States (1,000 pounds)	Share of reported exports to the United States (percent)	Total shipments (1,000 pounds)	Share of firm's total shipments exported to the United States (percent)
Arlanxeo	***	***	***	***	***	***
All firms	***	***	***	***	***	***

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

Table IV-10 presents events in Brazil's industry since January 1, 2017.

⁹ Original confidential report, p. VII-3.

¹⁰ Additionally, a second firm in Brazil, ***, certified that it had not produced or exported ESBR at any time since January 1, 2017.

 Table IV-10

 ESBR: Important industry events in Brazil since January 1, 2017

Item	Firm	Event
Expansion	Arlanxeo	New butadiene rubber production line in Brazil announced for
		domestic use, April 10, 2023. The product is reported to be
		abrasion and heat resistant and finds use in tire treads, heels and
		soles for footwear.
Expansion	Bridgestone Brazil	\$192 million high-performance passenger/light truck tire plant
		expansion announced September 6, 2022 at Camacari will result in
		a total production capability of 5.1 million tires per year and
		increase Brazilian synthetic rubber demand.
Acquisition	Saudi Aramco	Saudi Aramco acquired the remaining 50 percent of ESBR
		producer Lanxess shares, and Brazilian ESBR producer Arlanxeo
		became a wholly owned subsidiary on December 31, 2018.
Court reviews	Arlanxeo, et al.	Appeals of Commission's determinations original investigations to
		Court of International Trade (CIT), and to U.S. Court of Appeals,
		Federal Circuit.

Source: Rubber News, Arlanxeo meets demand with new polybutadiene production line in Brazil, April 10, 2023. Bridgestone Americas, "Bridgestone Announces Additional New Investments in Bahia Plant, https://www.bridgestoneamericas.com/en/newsroom/press-releases/2022/bridgestone-announcesinvestment-brazil, September 6, 2022, retrieved October 17, 2022; and Arlanxeo website, https://arlanxeo.com/en/company/history, retrieved October 3, 2022.

Changes in operations

As presented in table IV-11, the producer in Brazil reported several operational and organizational changes relating to the production of ESBR since January 1, 2017. Arlanxeo indicated that *** changes in the character of its operations or organization relating to the production of ESBR in the near future.

 Table IV-11

 ESBR: Reported changes in operations in Brazil since January 1, 2017, by firm

ltem	Firm name and narrative on changes in operations
Acquisitions	***
Prolonged shutdowns or curtailments	***
Natural disasters or force majeure events	***

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

The producer in Brazil was also asked about the impact of the COVID-19 pandemic on its ESBR operations. Table IV-12 presents the impacts identified by Arlanxeo.

Table IV-12

ESBR: Reported	impact of COVID-19 on operations in Brazil since January 1, 2020)
		_

Firm name	Narrative on impact of COVID-19 pandemic
Arlanxeo	***
<u> </u>	

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

Operations on ESBR

Table IV-13 presents Arlanxeo's installed and practical capacity, production, and

capacity utilization using the same equipment/machinery as used to produce ESBR.

Table IV-13

ESBR: Brazilian producer's installed and practical capacity and production on the same equipment as subject production, by period

Quantity in 1,000 pou	inds; value in 1	,000 dollars	; utilization i	n percent			
ltem	Measure	2017	2018	2019	2020	2021	2022
Installed overall	Capacity	***	***	***	***	***	**
Installed overall	Production	***	***	***	***	***	**
Installed overall	Utilization	***	***	***	***	***	**
Practical overall	Capacity	***	***	***	***	***	**
Practical overall	Production	***	***	***	***	***	**
Practical overall	Utilization	***	***	***	***	***	**
Practical ESBR	Capacity	***	***	***	***	***	**
Practical ESBR	Production	***	***	***	***	***	**
Practical ESBR	Utilization	***	***	***	***	***	**

*** *** *** *** *** *** *** *** ***

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

Tables IV-14 and IV-15 present information on the ESBR operations of the responding producer in Brazil, Arlanxeo. Capacity to produce ESBR fluctuated between 2017 and 2022, increasing by *** percent during 2017-18, decreasing by *** percent during 2018-20, and increasing by *** percent during 2020-22, decreasing overall by *** percent. Arlanxeo attributed the fluctuations in capacity to ***.¹¹ Production decreased in each year between 2017 and 2020 (decreasing by *** percent over this period) then increased by *** during 2020-21 and decreased by *** during 2021-22, ending *** percent lower in 2022 than in 2017. Both capacity and production were at their lowest in 2020, reflecting the impact of the COVID-19 pandemic on Arlanxeo's operations. Capacity utilization decreased overall by *** percent age points during 2017-22, decreasing irregularly from *** percent in 2017 to *** percent in 2022. End-of-period inventories nearly *** over the period being examined, increasing overall by *** percent from 2017 to a period high in 2022. Arlanxeo's end-of-period inventories increased by *** percent during 2017-18, decreased by *** percent during 2018-19, and increased by *** percent during 2019-22.

Home market shipments by quantity increased by *** percent during 2017-18, decreased by *** percent during 2018-20, and increased by *** percent during 2020-22, decreasing overall by *** percent. Exports to the United States decreased by *** percent during 2017-20¹² and *** exports to the United States in 2021 and 2022. Exports to all other markets (primarily ***) decreased by *** percent during 2017-20, increased by *** percent during 2020-21, and decreased by *** percent during 2021-22, ending *** percent lower in 2022 than in 2017.¹³ As a share of total shipments, home market shipments increased from *** percent in 2017 to *** percent in 2022, while export shipments decreased from *** percent in 2017 to *** percent in 2022. The AUVs of home market shipments were higher than that of export shipments in each year during 2017-22. In 2022, Arlanxeo's total shipments consisted of *** ESBR, including the following grades: ***.

¹¹ Arlanxeo's foreign producer questionnaire response, section II-3c.

¹² The largest decrease occurred during 2017-18, when Arlanxeo's exports of ESBR to the United States fell by *** percent. Related to the overall trend, Arlanxeo reported ***. Arlanxeo's foreign producer questionnaire response, section II-9.

¹³ Arlanxeo reported ***. Arlanxeo also reported ***. Arlanxeo's foreign producer questionnaire response, sections II-8a and II-8b.

Table IV-14 ESBR: Data on industry in Brazil, by period

ltem	Measure	2017	2018	2019	2020	2021	2022
Capacity	Quantity	***	***	***	***	***	***
Production	Quantity	***	***	***	***	***	***
End-of-period inventories	Quantity	***	***	***	***	***	***
Internal consumption and transfers	Quantity	***	***	***	***	***	***
Commercial home market shipments	Quantity	***	***	***	***	***	***
Home market shipments	Quantity	***	***	***	***	***	***
Export shipments	Quantity	***	***	***	***	***	***
Total shipments	Quantity	***	***	***	***	***	***
Internal consumption and transfers	Value	***	***	***	***	***	***
Commercial home market shipments	Value	***	***	***	***	***	***
Home market shipments	Value	***	***	***	***	***	***
Export shipments	Value	***	***	***	***	***	***
Total shipments	Value	***	***	***	***	***	***

Quantity in 1,000 pounds; value in 1,000 dollars

Table IV-14 Continued ESBR: Data on industry in Brazil, by period

Item	Measure	2017	2018	2019	2020	2021	2022
Internal							
consumption and							
transfers	Unit value	***	***	***	***	***	***
Commercial home							
market shipments	Unit value	***	***	***	***	***	***
Home market							
shipments	Unit value	***	***	***	***	***	***
Export shipments	Unit value	***	***	***	***	***	***
Total shipments	Unit value	***	***	***	***	***	***
Capacity utilization							
ratio	Ratio	***	***	***	***	***	***
Inventory ratio to							
production	Ratio	***	***	***	***	***	***
Inventory ratio to							
total shipments	Ratio	***	***	***	***	***	***
Internal							
consumption and							
transfers	Share	***	***	***	***	***	***
Commercial home							
market shipments	Share	***	***	***	***	***	***
Home market							
shipments	Share	***	***	***	***	***	***
Export shipments	Share	***	***	***	***	***	***
Total shipments	Share	100.0	100.0	100.0	100.0	100.0	100.0

Unit value in dollars per pound; ratio and share in percent

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

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

Table IV-15ESBR: Producer's exports from Brazil, by destination market and period

Destination market	Measure	2017	2018	2019	2020	2021	2022
United States	Quantity	***	***	***	***	***	***
European Union	Quantity	***	***	***	***	***	***
Asia	Quantity	***	***	***	***	***	***
All other destination markets	Quantity	***	***	***	***	***	***
Non-U.S. destination markets	Quantity	***	***	***	***	***	***
All destination markets	Quantity	***	***	***	***	***	***
United States	Value	***	***	***	***	***	***
European Union	Value	***	***	***	***	***	***
Asia	Value	***	***	***	***	***	***
All other destination markets	Value	***	***	***	***	***	***
Non-U.S. destination markets	Value	***	***	***	***	***	***
All destination markets	Value	***	***	***	***	***	***
United States	Unit value	***	***	***	***	***	***
European Union	Unit value	***	***	***	***	***	***
Asia	Unit value	***	***	***	***	***	***
All other destination markets	Unit value	***	***	***	***	***	***
Non-U.S. destination markets	Unit value	***	***	***	***	***	***
All destination markets	Unit value	***	***	***	***	***	***
United States	Share of quantity	***	***	***	***	***	***
European Union	Share of quantity	***	***	***	***	***	***
Asia	Share of quantity	***	***	***	***	***	***
All other destination markets	Share of quantity	***	***	***	***	***	***
Non-U.S. destination markets	Share of quantity	***	***	***	***	***	***
All destination markets	Share of quantity	***	***	***	***	***	***
United States	Ratio	***	***	***	***	***	***
European Union	Ratio	***	***	***	***	***	***
Asia	Ratio	***	***	***	***	***	***
All other destination markets	Ratio	***	***	***	***	***	***
Non-U.S. destination markets	Ratio	***	***	***	***	***	***
All destination markets	Ratio	***	***	***	***	***	***
	•						

Quantity in 1,000 pounds; value in 1,000 dollars; unit value in dollars per pound; share and ratio in percent

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

Note: Ratios represent the portion of the producer's total shipments that are exported. Zeroes, null values, and undefined calculations are suppressed and shown as "---".

Table IV-16 presents the constraints identified by Arlanxeo that set the limits on its practical overall production capacity.

Table IV-16

ESBR: Reported capac	ity constraints in Brazil, by type of constraint and firm
Type of constraint	Firm name and narrative on constraints to practical overall capacity
Other constraints	***
0 0 1 1 (

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

Alternative products

Arlanxeo reported the production of *** using the same equipment and machinery used to produce ESBR. As shown in table IV-17, ESBR accounted for *** of Arlanxeo's total production on this equipment in each year between 2017 and 2022.

Table IV-17 ESBR: Overall production on the same equipment as subject production in Brazil, by period

Production type	Measure	2017	2018	2019	2020	2021	2022
ESBR	Quantity	***	***	***	***	***	***
СВМВ	Quantity	***	***	***	***	***	***
SSBR	Quantity	***	***	***	***	***	***
Hot polymerized ESBR	Quantity	***	***	***	***	***	***
Other products	Quantity	***	***	***	***	***	***
All out-of-scope production	Quantity	***	***	***	***	***	***
All production	Quantity	***	***	***	***	***	***
ESBR	Share	***	***	***	***	***	***
СВМВ	Share	***	***	***	***	***	***
SSBR	Share	***	***	***	***	***	***
Hot polymerized ESBR	Share	***	***	***	***	***	***
Other products	Share	***	***	***	***	***	***
All out-of-scope production	Share	***	***	***	***	***	***
All production	Share	100.0	100.0	100.0	100.0	100.0	100.0

Quantity in 1,000 pounds; share in percent

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

Exports

Table IV-18 presents Global Trade Atlas ("GTA") export data for styrene-butadiene rubber, a category that includes ESBR and out-of-scope products, from Brazil. During 2022, Belgium and the United States were the top export markets for styrene-butadiene rubber from Brazil, accounting for 24.0 percent and 14.4 percent, respectively, of total exports. While the United States remains a top export market for styrene-butadiene rubber from Brazil, the share of total exports accounted for by exports destined for the United States decreased irregularly between 2017 and 2022, from 26.6 percent in 2017 to 14.4 percent in 2022.

Table IV-18Styrene-butadiene rubber: Exports from Brazil, by destination market and period

Destination market	Measure	2017	2018	2019	2020	2021	2022
United States	Quantity	37,020	7,259	5,506	6,641	8,410	7,383
Belgium	Quantity	9,669	6,822	6,063	4,505	6,031	12,346
China	Quantity	2,761	1,839	1,554	1,435	2,648	4,547
Chile	Quantity	553	11,031	1,826	6,854	15,630	4,069
Costa Rica	Quantity	6,933	6,308	1,558	2,022	1,872	2,744
Peru	Quantity	5,323	2,506	2,262	1,214	5,299	2,313
Singapore	Quantity	1,083		686		0	2,250
Argentina	Quantity	8,633	10,104	3,387	3,634	3,465	2,218
Canada	Quantity	5,837	3,539	2,778	3,736	1,983	1,828
All other destination markets	Quantity	61,187	31,731	36,357	22,207	13,097	11,636
Non-U.S. destination markets	Quantity	101,980	73,881	56,470	45,608	50,025	43,952
All destination markets	Quantity	139,000	81,140	61,976	52,249	58,435	51,335
United States	Value	35,024	5,624	4,546	4,202	9,654	9,079
Belgium	Value	7,159	4,921	2,928	2,029	5,066	9,114
China	Value	2,764	1,721	1,212	1,302	2,789	4,083
Chile	Value	550	12,721	1,884	4,998	15,524	4,675
Costa Rica	Value	5,988	5,799	1,263	1,409	1,583	2,755
Peru	Value	3,881	1,841	1,395	655	5,562	2,534
Singapore	Value	731		352		2	1,132
Argentina	Value	9,992	9,201	3,019	2,376	3,720	2,600
Canada	Value	4,905	2,819	1,694	1,835	1,484	1,378
All other destination markets	Value	46,758	25,253	22,079	11,180	11,570	10,551
Non-U.S. destination markets	Value	82,727	64,277	35,826	25,784	47,298	38,822
All destination markets	Value	117,750	69,901	40,372	29,986	56,953	47,901

Quantity in 1,000 pounds; value in 1,000 dollars

Table IV-18 Continued Styrene-butadiene rubber: Exports from Brazil, by destination market and period

Destination market	Measure	2017	2018	2019	2020	2021	2022
United States	Unit value	0.95	0.77	0.83	0.63	1.15	1.23
Belgium	Unit value	0.74	0.72	0.48	0.45	0.84	0.74
China	Unit value	1.00	0.94	0.78	0.91	1.05	0.90
Chile	Unit value	0.99	1.15	1.03	0.73	0.99	1.15
Costa Rica	Unit value	0.86	0.92	0.81	0.70	0.85	1.00
Peru	Unit value	0.73	0.73	0.62	0.54	1.05	1.10
Singapore	Unit value	0.67		0.51		12.09	0.50
Argentina	Unit value	1.16	0.91	0.89	0.65	1.07	1.17
Canada	Unit value	0.84	0.80	0.61	0.49	0.75	0.75
All other destination markets	Unit value	0.76	0.80	0.61	0.50	0.88	0.91
Non-U.S. destination markets	Unit value	0.81	0.87	0.63	0.57	0.95	0.88
All destination markets	Unit value	0.85	0.86	0.65	0.57	0.97	0.93
United States	Share of quantity	26.6	8.9	8.9	12.7	14.4	14.4
Belgium	Share of quantity	7.0	8.4	9.8	8.6	10.3	24.0
China	Share of quantity	2.0	2.3	2.5	2.7	4.5	8.9
Chile	Share of quantity	0.4	13.6	2.9	13.1	26.7	7.9
Costa Rica	Share of quantity	5.0	7.8	2.5	3.9	3.2	5.3
Peru	Share of quantity	3.8	3.1	3.6	2.3	9.1	4.5
Singapore	Share of quantity	0.8		1.1		0.0	4.4
Argentina	Share of quantity	6.2	12.5	5.5	7.0	5.9	4.3
Canada	Share of quantity	4.2	4.4	4.5	7.2	3.4	3.6
All other destination markets	Share of quantity	44.0	39.1	58.7	42.5	22.4	22.7
Non-U.S. destination markets	Share of quantity	73.4	91.1	91.1	87.3	85.6	85.6
All destination markets	Share of quantity	100.0	100.0	100.0	100.0	100.0	100.0

Unit value in dollars per pound; share in percent

Source: Official exports statistics under HS subheading 4002.19 as reported by SECEX – Foreign Trade Secretariat in the Global Trade Atlas database, accessed March 16, 2023.

Note: United States is shown at the top. All remaining top export destinations are shown in descending order of 2022 data. Quantity shown as "0" represent values greater than zero but less than 500 pounds. 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 "---".

The industry in Mexico

Overview

During the final phase of the original investigations, the Commission received a foreign producer/exporter questionnaire from one firm, Negromex. This firm accounted for *** production of ESBR in Mexico and its exports to the United States accounted for approximately *** percent of U.S. imports of ESBR from Mexico during January 2014 through March 2017.¹⁴

In the current five-year reviews, the Commission received a foreign producer/exporter questionnaire from one firm, Negromex. This firm accounted for *** production of ESBR in Mexico and its exports to the United States are believed to account for *** U.S. imports of ESBR from Mexico during 2017-22. Table IV-19 presents information on the ESBR operations of the responding producer/exporter in Mexico.

Table IV-19 ESBR: Summary data for producer in Mexico, 2022

Quantity in 1,000 pounds

Firm	Production (1,000 pounds)	Share of reported production (percent)	Exports to the United States (1,000 pounds)	Share of reported exports to the United States (percent)	Total shipments (1,000 pounds)	Share of firm's total shipments exported to the United States (percent)
Negromex	***	***	***	***	***	***
All firms	***	***	***	***	***	***

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

Table IV-20 presents events in Mexico's industry since January 1, 2017.

¹⁴ Original confidential report, p. VII-16.

Table IV-20ESBR: Important industry events in Mexico since January 1, 2017

Item	Firm	Event
Expansion	Dynasol Group (Negromex)	Dynasol, parent company of Negromex, in April 2022 announced new production lines for Negromex Styrene Block Copolymers, (SBCs) at Altamara, Mexico. SBCs have certain non-tire end uses comparable to ESBR in footwear, for example.
Reviews	Negromex	Commerce administrative review 2020-21 found "de minimis" margins.
COVID-19	Negromex	Depressed shipments first-half 2020, improved thereafter in concert with upward trends in new passenger tire demand, and truck tire retreading.
Tire capacity	Goodyear	New grassroots plant designed for the production of 6 million passenger tires annually, inaugurated in November 2017.
Tire capacity	Michelin	Currently, Leon, Guanajuato, performance passenger tire production capacity has reached 5 million tires annually, but is expected to increase owing to recent reports of additional capital investments in tire plant assets there.
Tire capacity	Pirelli	High performance passenger tire capacity expansions since plant inauguration in 2012, have increased tire capacity from 2 million to current 7 million tires annually. A recent \$112.6 million investment is expected to increase annual capacity to about 9 million tires by 2025.

Source: "Dynasol Group to expand production capacity," April 26, 2022, https://dynasolgroup.com/en/communication/news, retrieved June 7, 2022; 87 FR 59050, September 29, 2022; and Mexican respondent interested parties' response to notice of institution, August 31, 2022, pp.18-19. "Goodyear tire plant in San Luis Potosi is officially operational," November 2, 2017, https://mexico-now.com/goodyear-tire-plant-in-san-luis-potosi-is-officially-operational/, retrieved May 30, 2023. "Michelin invests \$400 million in Leon, Guanajuato," April 29, 2022, https://mexiconow.com/michelin-invests-us400-million-in-leon-guanajuato/; "Guanajuato has the most modern Michelin plant worldwide," June 15, 2022, https://mexico-now.com/guanajuato-has-the-most-modern-michelinplant-worldwide/, retrieved May 30, 2023. "Pirelli invests \$112.6 million to expand its plant in Guanajuato," November 1, 2022, https://mexico-now.com/pirelli-invests-us112-6-million-to-expand-its-plant-inguanajuato/.

Changes in operations

The producer in Mexico was asked to report any change in the character of its operations or organization related to the production of ESBR since January 1, 2017. Table IV-21 presents the changes identified by Negromex.

Table IV-21

ESBR: Reported char	ges in operations in Mexico since January 1, 2017, by firm

ltem	Firm name and narrative on changes in operations					
Other	***					
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Source: Compiled from data submitted in response to Commission questionnaires.

Operations on ESBR

Table IV-22 presents Negromex's installed and practical capacity, production, and capacity utilization using the same equipment/machinery as used to produce ESBR.

Table IV-22

ESBR: Mexican producer's installed and practical capacity and production on the same equipment as subject production, by period

Item	Measure	2017	2018	2019	2020	2021	2022
Installed overall	Capacity	***	***	***	***	***	***
Installed overall	Production	***	***	***	***	***	***
Installed overall	Utilization	***	***	***	***	***	***
Practical overall	Capacity	***	***	***	***	***	***
Practical overall	Production	***	***	***	***	***	***
Practical overall	Utilization	***	***	***	***	***	***
Practical ESBR	Capacity	***	***	***	***	***	***
Practical ESBR	Production	***	***	***	***	***	***
Practical ESBR	Utilization	***	***	***	***	***	***

Quantity in 1,000 pounds; value in 1,000 dollars; utilization in percent

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

Table IV-23 and IV-24 present information on the ESBR operations of the responding producer in Mexico, Negromex. Capacity to produce ESBR decreased by *** percent during 2017-2020, increased by *** percent during 2020-21, and decreased by *** percent during 2021-22, decreasing overall by *** percent during 2017-22. Negromex attributed the fluctuations in capacity to ***.¹⁵ Following a similar trend as capacity, production decreased by *** percent during 2017-20, increased by *** percent during 2020-21, and decreased by *** percent during 2017-20, increased by *** percent during 2020-21, and decreased by *** percent during 2021-22, decreasing overall by *** percent. As a result of capacity decreasing at a greater rate than production, Negromex's capacity utilization increased from *** percent in 2017 to *** percent in 2022. End-of-period inventories increased irregularly by *** percent during 2017-22, increasing by *** percent during 2017-19, decreasing by *** percent during 2019-21, and increasing by *** percent during 2021-22.

Home market shipments by quantity decreased overall by *** percent during 2017-22, decreasing by *** percent during 2017-20, increasing by *** percent during 2020-21, and decreasing by *** percent during 2021-22. Negromex's exports to the United States fluctuated in each year between 2017 and 2022, decreasing overall by *** percent. Exports

¹⁵ Negromex's foreign producer questionnaire response, section II-3f.

to all other markets (primarily ***) decreased by *** percent during 2017-18, increased by *** percent during 2018-21, and decreased by *** percent during 2021-22, ending *** percent higher in 2022 than in 2017.¹⁶ As a share of total shipments, home market shipments increased from *** percent in 2017 to *** percent in 2022, while export shipments decreased from *** percent in 2017 to *** percent in 2022. The AUVs of home market shipments were higher than that of export shipments during 2017-18, equal during 2019-20, and lower during 2021-22. In 2022, Negromex's total shipments consisted of *** ESBR, including the following grades: ***.

Table IV-23

ESBR: Data on industry	in Mexico, by period
------------------------	----------------------

ltem	Measure	2017	2018	2019	2020	2021	2022
Capacity	Quantity	***	***	***	***	***	***
Production	Quantity	***	***	***	***	***	***
End-of-period inventories	Quantity	***	***	***	***	***	***
Internal consumption and transfers	Quantity	***	***	***	***	***	***
Commercial home market shipments	Quantity	***	***	***	***	***	***
Home market shipments	Quantity	***	***	***	***	***	***
Export shipments	Quantity	***	***	***	***	***	***
Total shipments	Quantity	***	***	***	***	***	***
Internal consumption and transfers	Value	***	***	***	***	***	***
Commercial home market shipments	Value	***	***	***	***	***	***
Home market shipments	Value	***	***	***	***	***	***
Export shipments	Value	***	***	***	***	***	***
Total shipments	Value	***	***	***	***	***	***

Quantity in 1.000 pounds: value in 1.000 dollars

¹⁶ Since 2017, Negromex reported that it has ***. Negromex's foreign producer questionnaire response, sections II-8a and II-8b.

Table IV-23 Continued ESBR: Data on industry in Mexico, by period

Item	Measure	2017	2018	2019	2020	2021	2022
Internal consumption and transfers	Unit value	***	***	***	***	***	***
Commercial home market shipments	Unit value	***	***	***	***	***	***
Home market shipments	Unit value	***	***	***	***	***	***
Export shipments	Unit value	***	***	***	***	***	***
Total shipments	Unit value	***	***	***	***	***	***
Capacity utilization ratio	Ratio	***	***	***	***	***	***
Inventory ratio to production	Ratio	***	***	***	***	***	***
Inventory ratio to total shipments	Ratio	***	***	***	***	***	***
Internal consumption and transfers	Share	***	***	***	***	***	***
Commercial home market shipments	Share	***	***	***	***	***	***
Home market shipments	Share	***	***	***	***	***	***
Export shipments	Share	***	***	***	***	***	***
Total shipments	Share	100.0	100.0	100.0	100.0	100.0	100.0

Unit value in dollars per pound; ratio and share in percent

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

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

Table IV-24ESBR: Producer's exports from Mexico, by destination market and period

Destination market	Measure	2017	2018	2019	2020	2021	2022
United States	Quantity	***	***	***	***	***	***
European Union	Quantity	***	***	***	***	***	***
Asia	Quantity	***	***	***	***	***	***
All other destination markets	Quantity	***	***	***	***	***	***
Non-U.S. destination markets	Quantity	***	***	***	***	***	***
All destination markets	Quantity	***	***	***	***	***	***
United States	Value	***	***	***	***	***	***
European Union	Value	***	***	***	***	***	***
Asia	Value	***	***	***	***	***	***
All other destination markets	Value	***	***	***	***	***	***
Non-U.S. destination markets	Value	***	***	***	***	***	***
All destination markets	Value	***	***	***	***	***	***
United States	Unit value	***	***	***	***	***	***
European Union	Unit value	***	***	***	***	***	***
Asia	Unit value	***	***	***	***	***	***
All other destination markets	Unit value	***	***	***	***	***	***
Non-U.S. destination markets	Unit value	***	***	***	***	***	***
All destination markets	Unit value	***	***	***	***	***	***
United States	Share of quantity	***	***	***	***	***	***
European Union	Share of quantity	***	***	***	***	***	***
Asia	Share of quantity	***	***	***	***	***	***
All other destination markets	Share of quantity	***	***	***	***	***	***
Non-U.S. destination markets	Share of quantity	***	***	***	***	***	***
All destination markets	Share of quantity	***	***	***	***	***	***
United States	Ratio	***	***	***	***	***	***
European Union	Ratio	***	***	***	***	***	***
Asia	Ratio	***	***	***	***	***	***
All other destination markets	Ratio	***	***	***	***	***	***
Non-U.S. destination markets	Ratio	***	***	***	***	***	***
All destination markets	Ratio	***	***	***	***	***	***

Quantity in 1,000 pounds; value in 1,000 dollars; unit value in dollars per pound

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

Note: Ratios represent the portion of the producer's total shipments that are exported.

Alternative products

Negromex reported the production of *** using the same equipment and machinery used to produce ESBR. As shown in table IV-25, ESBR accounted for more than *** of Negromex's total production on this equipment in each year between 2017 and 2022.

Table IV-25
ESBR: Overall production on the same equipment as subject production in Mexico, by period

Production type	Measure	2017	2018	2019	2020	2021	2022
ESBR	Quantity	***	***	***	***	***	***
СВМВ	Quantity	***	***	***	***	***	***
SSBR	Quantity	***	***	***	***	***	***
Hot polymerized ESBR	Quantity	***	***	***	***	***	***
Other products	Quantity	***	***	***	***	***	***
All out-of-scope production	Quantity	***	***	***	***	***	***
All production	Quantity	***	***	***	***	***	***
ESBR	Share	***	***	***	***	***	***
СВМВ	Share	***	***	***	***	***	***
SSBR	Share	***	***	***	***	***	***
Hot polymerized ESBR	Share	***	***	***	***	***	***
Other products	Share	***	***	***	***	***	***
All out-of-scope production	Share	***	***	***	***	***	***
All production	Share	100.0	100.0	100.0	100.0	100.0	100.0

Quantity in 1,000 pounds; share in percent

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

Exports

Table IV-26 presents GTA export data for styrene-butadiene rubber, a category that includes ESBR and out-of-scope products, from Mexico. The United States was the leading export market for styrene-butadiene rubber from Mexico during 2017-22, accounting for between 50.4 and 100.0 percent of total exports in any given year.

Table IV-26 Styrene-butadiene rubber: Exports from Mexico, by destination market and period

Destination market	Measure	2017	2018	2019	2020	2021	2022
United States	Quantity	132,845	126,985	40,427	18,005	82,771	80,161
Brazil	Quantity	8,009	10,302		16,240	1,983	
Colombia	Quantity	3,839	3,304	1,885	493	1,193	
France	Quantity	470	379		630		
Guatemala	Quantity	1,592	1,009		389		
China	Quantity	11,061	8,707	719			
Ecuador	Quantity	854	808	95			
Spain	Quantity	19,159	17,385				
Belgium	Quantity	20,430	17,232				
All other destination markets	Quantity	28,602	27,080	0	0	0	
Non-U.S. destination markets	Quantity	94,016	86,206	2,699	17,752	3,176	
All destination markets	Quantity	226,861	213,191	43,126	35,757	85,947	80,161
United States	Value	121,951	134,542	35,971	14,699	83,472	95,880
Brazil	Value	8,616	11,095		15,063	1,963	
Colombia	Value	4,241	3,359	1,740	389	1,259	
France	Value	550	437		527		
Guatemala	Value	1,682	1,006		318		
China	Value	12,403	9,849	688			
Ecuador	Value	981	1,020	110			
Spain	Value	15,008	15,505				
Belgium	Value	18,790	17,521				
All other destination markets	Value	29,191	28,183				
Non-U.S. destination markets	Value	91,463	87,975	2,537	16,297	3,222	
All destination markets	Value	213,414	222,517	38,508	30,996	86,694	95,880

Quantity in 1,000 pounds; value in 1,000 dollars

Table IV-26 Continued Styrene-butadiene rubber: Exports from Mexico, by destination market and period

Destination market	Measure	2017	2018	2019	2020	2021	2022
United States	Unit value	0.92	1.06	0.89	0.82	1.01	1.20
Brazil	Unit value	1.08	1.08		0.93	0.99	
Colombia	Unit value	1.10	1.02	0.92	0.79	1.06	
France	Unit value	1.17	1.15		0.84		
Guatemala	Unit value	1.06	1.00		0.82		
China	Unit value	1.12	1.13	0.96			
Ecuador	Unit value	1.15	1.26	1.15			
Spain	Unit value	0.78	0.89				
Belgium	Unit value	0.92	1.02				
All other destination markets	Unit value	1.02	1.04				
Non-U.S. destination markets	Unit value	0.97	1.02	0.94	0.92	1.01	
All destination markets	Unit value	0.94	1.04	0.89	0.87	1.01	1.20
United States	Share of quantity	58.6	59.6	93.7	50.4	96.3	100.0
Brazil	Share of quantity	3.5	4.8		45.4	2.3	
Colombia	Share of quantity	1.7	1.5	4.4	1.4	1.4	
France	Share of quantity	0.2	0.2		1.8		
Guatemala	Share of quantity	0.7	0.5		1.1		
China	Share of quantity	4.9	4.1	1.7			
Ecuador	Share of quantity	0.4	0.4	0.2			
Spain	Share of quantity	8.4	8.2				
Belgium	Share of quantity	9.0	8.1				
All other destination markets	Share of quantity	12.6	12.7	0.0	0.0	0.0	
Non-U.S. destination markets	Share of quantity	41.4	40.4	6.3	49.6	3.7	
All destination markets	Share of quantity	100.0	100.0	100.0	100.0	100.0	100.0

Unit value in dollars per pound; share in percent

Source: Official exports statistics under HS subheading 4002.19 as reported by INEGI in the Global Trade Atlas database, accessed March 16, 2023.

Note: United States is shown at the top. All remaining top export destinations are shown in descending order of 2022 data. Quantity shown as "0" represent values greater than zero but less than 500 pounds. 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 "---".

The industry in Poland

Overview

During the final phase of the original investigations, the Commission received a foreign producer/exporter questionnaire from one firm, Synthos. This firm accounted for *** production of ESBR in Poland and its exports to the United States accounted for *** U.S. imports of ESBR from Poland during January 2014 through March 2017.¹⁷

In the current five-year reviews, the Commission issued a foreign producer/exporter questionnaire to one firm, Synthos. Despite multiple attempts by Commission staff, Synthos did not provide a questionnaire response in this proceeding. According to the IISRP, as of 2020, Synthos maintains an annual ESBR capacity of *** metric tons (approximately *** pounds) at its Oswiecim plant in Poland.¹⁸

Table IV-27 presents events in Poland's industry since January 1, 2017.

ltem	Firm	Event
Acquisition	Trinseo	Synthos S.A., Poland, acquired Trinseo's facilities at
		Schkopau, Germany in a \$491 million deal signed May 21,
		2021.The German plant produces ESBR and Solution SBR
		(SSBR). The complex is staffed by 440 employees.
Production Curtailment	Synthos	Synthos as of September 2022 announced an overall ESBR
		production cut back of 30 percent due to high gas costs.
		Synthos produces ESBR at three locations, Poland, Czechia,
		and Germany.
Closure	Synthos	Synthos in March 2023 announced the closure of 110,000
		metric ton ESBR production plant at Kralupy, Czechia,
		effective second quarter 2023.

Table IV-27 ESBR: Important industry events in Poland since January 1, 2017

Source: "Synthos S.A. acquires Trinseo's rubber business," <u>https://www.synthosgroup.com/en/who-are-we/news/</u>, retrieved September 9, 2022; and European Rubber Journal, "Synthos to cut ESBR production by 30%," <u>https://www.european-rubber-journal.com/article/2092029/synthos-to-reduce-esbr-production-by-30-amid-gas-supply-woes</u>, retrieved September 9, 2022. Synthos announced closure of ESBR production at Kralupy, Czechia, 2nd quarter 2023, <u>https://rubberworld.com/synthos-announces/</u>, March 3, 2023, retrieved March 2023.

¹⁷ Original confidential report, p. VII-22.

¹⁸ Domestic interested party's response to the notice of institution, August 30, 2022, exh. 3.

Exports

Table IV-28 presents GTA export data for styrene-butadiene rubber, a category that includes ESBR and out-of-scope products, from Poland. During 2022, India, China, and Brazil were the leading export markets for styrene-butadiene rubber from Poland, accounting for 19.5 percent, 9.8 percent, and 7.4 percent, respectively, of total exports. The United States was not among the top export markets for styrene-butadiene rubber from Poland, accounting for less than 3.0 percent of total exports in each year during 2017-22.

Table IV-28 Styrene-butadiene rubber: Exports from Poland, by destination market and period

Destination market	Measure	2017	2018	2019	2020	2021	2022
United States	Quantity	2,293	906	2,036	8,398	9,333	9,999
India	Quantity	52,226	46,734	46,740	42,500	69,336	80,172
China	Quantity	35,345	28,661	26,721	49,412	54,029	40,384
Brazil	Quantity	49,831	45,177	43,528	44,040	49,267	30,507
Germany	Quantity	2,988	13,056	16,503	15,487	22,386	24,570
France	Quantity	7,909	8,400	5,878	4,842	11,206	23,153
Turkey	Quantity	19,383	20,057	24,498	22,491	24,764	22,171
South Africa	Quantity	20,341	23,699	28,539	23,475	24,843	20,089
Thailand	Quantity	71,776	74,043	103,832	122,105	64,138	16,539
All other destination markets	Quantity	178,516	193,987	222,064	225,444	198,838	143,616
Non-U.S. destination markets	Quantity	438,315	453,815	518,303	549,796	518,807	401,201
All destination markets	Quantity	440,607	454,721	520,338	558,194	528,139	411,200
United States	Value	2,178	816	1,438	4,551	6,759	10,324
India	Value	40,190	33,492	26,293	21,624	56,610	71,954
China	Value	29,589	22,962	18,873	25,811	44,028	39,733
Brazil	Value	46,656	42,728	33,990	28,204	46,602	31,459
Germany	Value	2,298	10,065	11,133	8,234	19,281	24,310
France	Value	6,492	7,078	4,136	2,822	9,562	23,736
Turkey	Value	15,688	16,049	16,457	12,417	20,230	22,366
South Africa	Value	17,732	22,813	22,710	15,066	22,301	21,249
Thailand	Value	55,990	48,836	58,978	56,773	48,776	14,154
All other destination markets	Value	145,749	152,516	146,424	117,579	167,535	138,858
Non-U.S. destination markets	Value	360,384	356,538	338,995	288,530	434,924	387,820
All destination markets	Value	362,563	357,354	340,433	293,081	441,683	398,144

Quantity in 1,000 pounds; value in 1,000 dollars

Table IV-28 ContinuedStyrene-butadiene rubber: Exports from Poland, by destination market and period

Destination market	Measure	2017	2018	2019	2020	2021	2022
United States	Unit value	0.95	0.90	0.71	0.54	0.72	1.03
India	Unit value	0.77	0.72	0.56	0.51	0.82	0.90
China	Unit value	0.84	0.80	0.71	0.52	0.81	0.98
Brazil	Unit value	0.94	0.95	0.78	0.64	0.95	1.03
Germany	Unit value	0.77	0.77	0.67	0.53	0.86	0.99
France	Unit value	0.82	0.84	0.70	0.58	0.85	1.03
Turkey	Unit value	0.81	0.80	0.67	0.55	0.82	1.01
South Africa	Unit value	0.87	0.96	0.80	0.64	0.90	1.06
Thailand	Unit value	0.78	0.66	0.57	0.46	0.76	0.86
All other destination markets	Unit value	0.82	0.79	0.66	0.52	0.84	0.97
Non-U.S. destination markets	Unit value	0.82	0.79	0.65	0.52	0.84	0.97
All destination markets	Unit value	0.82	0.79	0.65	0.53	0.84	0.97
United States	Share of quantity	0.5	0.2	0.4	1.5	1.8	2.4
India	Share of quantity	11.9	10.3	9.0	7.6	13.1	19.5
China	Share of quantity	8.0	6.3	5.1	8.9	10.2	9.8
Brazil	Share of quantity	11.3	9.9	8.4	7.9	9.3	7.4
Germany	Share of quantity	0.7	2.9	3.2	2.8	4.2	6.0
France	Share of quantity	1.8	1.8	1.1	0.9	2.1	5.6
Turkey	Share of quantity	4.4	4.4	4.7	4.0	4.7	5.4
South Africa	Share of quantity	4.6	5.2	5.5	4.2	4.7	4.9
Thailand	Share of quantity	16.3	16.3	20.0	21.9	12.1	4.0
All other destination markets	Share of quantity	40.5	42.7	42.7	40.4	37.6	34.9
Non-U.S. destination markets	Share of quantity	99.5	99.8	99.6	98.5	98.2	97.6
All destination markets	Share of quantity	100.0	100.0	100.0	100.0	100.0	100.0

Unit value in dollars per pound; share in percent

Source: Official exports statistics under HS subheading 4002.19 reported by Eurostat in the Global Trade Atlas database, accessed April 12, 2023.

Note: United States is shown at the top. All remaining top export destinations are shown in descending order of 2022 data.

The industry in South Korea

Overview

During the final phase of the original investigations, the Commission received foreign producer/exporter questionnaires from two firms, Kumho and LG Chem. These firms estimated that they accounted for *** production of ESBR in South Korea at that time and their exports to the United States accounted for *** U.S. imports of ESBR from South Korea during January 2014 through March 2017.¹⁹

In the current five-year reviews, the Commission received a foreign producer/exporter questionnaire from one firm, Kumho.²⁰ This firm estimated that it accounted for *** production of ESBR in South Korea during 2022.

Table IV-29 presents information on the ESBR operations of the responding producer/exporter in South Korea.

Table IV-29 ESBR: Summary data for producer in South Korea, 2022

Quantity in 1,000 pounds

Firm	Production (1,000 pounds)	Share of reported production (percent)	Exports to the United States (1,000 pounds)	Share of reported exports to the United States (percent)	Total shipments (1,000 pounds)	Share of firm's total shipments exported to the United States (percent)
Kumho	***	***	***	***	***	***
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.

¹⁹ Original confidential report, p. VII-10.

²⁰ Despite multiple attempts by Commission staff, LG Chem did not provide a questionnaire response in the current five-year reviews. LG Chem announced its intention to shut down its ESBR operations in 2021 and reportedly completed this shutdown by early 2022. According to the IISRP, as of 2020 (prior to the shutdown), LG Chem maintained an annual production capacity of *** metric tons (approximately *** pounds) for ESBR at its Daesan plant in South Korea. Email from ***, April 6, 2023; and South Korean respondent interested party's response to the notice of institution, August 31, 2022, pp. 2-3 and exh. 1 and 3.

Table IV-30 presents events in South Korea's industry since January 1, 2017.

ltem	Firm	Event
Plant opening	LG Chem	In August 2022, Petronas, LG Chem, announced a \$132 million contract for a joint-venture nitrile rubber (NBR) plant in Malaysia. Many NBR plants are designed to also produce ESBR.
Expansion	Kumho	Capacity of solution styrene-butadiene rubber (SSBR) was to double at Yeosu.
Closure	LG Chem	Reported intention in July 2021 to close ESBR and NBR plant operations; NBR production line to be restarted in first half 2022.
Capacity	Kumho	ESBR capacity was reduced by nearly *** percent during 2018-21.

 Table IV-30

 ESBR: Important industry events in South Korea since January 1, 2017

Source: Business Korea: <u>http://www.businesskorea.co.kr</u>, accessed September 2022. "European Rubber Journal," March 29, 2021; "Kumho Petrochemical to double SSBR capacity," October 8, 2021, <u>https://www.european-rubber-journal.com/article/2071667/kumho-petrochemical-to-double-ssbr-capacity</u>, retrieved September 3, 2022; and South Korean respondent interested party's response to notice of institution, August 31, 2022, pp. 2-3 and exh. 1. "South Korea's LG Petrochemical plans to stop SBR and NBR production," July 25, 2021; "LG Chem to restart NBR production train soon," February 8, 2022, www.fuhtai.com/en/latest-news/, retrieved April 7, 2023.

Changes in operations

The producer in South Korea was asked to report any change in the character of its operations or organization related to the production of ESBR since January 1, 2017. Table IV-31 presents the changes identified by Kumho.

Table IV-31

ESBR: Reported cha	anges in operations in South Korea since January 1, 2017, by firm

Item	Firm name and narrative on changes in operations
Prolonged shutdowns or curtailments	***
Other	***

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

Operations on ESBR

Table IV-32 presents Kumho's installed and practical capacity, production, and capacity utilization using the same equipment/machinery as used to produce ESBR.

Table IV-32ESBR: South Korean producer's installed and practical capacity and production on the sameequipment as subject production, by period

ltem	Measure	2017	2018	2019	2020	2021	2022
Installed overall	Capacity	***	***	***	***	***	***
Installed overall	Production	***	***	***	***	***	***
Installed overall	Utilization	***	***	***	***	***	***
Practical overall	Capacity	***	***	***	***	***	***
Practical overall	Production	***	***	***	***	***	***
Practical overall	Utilization	***	***	***	***	***	***
Practical ESBR	Capacity	***	***	***	***	***	***
Practical ESBR	Production	***	***	***	***	***	***
Practical ESBR	Utilization	***	***	***	***	***	***

Quantity in 1,000 pounds; value in 1,000 dollars; utilization in percent

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

Tables IV-33 and IV-34 present information on the ESBR operations of the responding producer in South Korea, Kumho. Capacity to produce ESBR decreased by *** percent during 2017-18, remained stable during 2018-21, and increased by *** percent during 2021-22, ending *** percent lower in 2022 than in 2017. As previously mentioned in table IV-31, Kumho attributed the decrease in capacity during 2017-18 to *** and the increase in capacity during 2021-22 to ***. Kumho's ESBR production decreased by *** percent during 2017-19, increased by *** percent during 2019-21, and decreased by *** percent during 2021-22, decreasing overall by *** percent. Capacity utilization increased irregularly from *** percent in 2017 to *** percent in 2022, increasing overall by *** percent during 2017-22.²¹

Kumho's home market shipments decreased by *** percent during 2017-20 then increased by *** percent during 2020-22, decreasing overall by *** percent during 2017-22. *** of Kumho's exports were destined for *** in each year between 2017 and 2022.²² Exports to the United States fluctuated but decreased overall by

²¹ End-of-period inventories increased by *** percent during 2017-18, decreased by *** percent during 2018-20, increased by *** percent during 2020-21, and decreased by *** percent during 2021-22.

²² Kumho reported ***. Accordingly, Kumho reported ***. Kumho's foreign producer questionnaire response, section II-9.

*** percent during 2017-21 then decreased to *** in 2022. Exports to all other markets (primarily ***) decreased by *** percent during 2017-19, increased by *** percent during 2019-21, and decreased by *** percent during 2021-22, ending *** percent lower in 2022 than in 2017.²³ As a share of total shipments, home market shipments increased from *** percent in 2017 to *** percent in 2022, while export shipments decreased from *** percent in 2017 to *** percent in 2022. The AUVs of home market shipments were higher than that of export shipments in each year during 2017-22. In 2022, Kumho's total shipments consisted of *** ESBR, including the following grades: ***.

Table IV-33

ESBR: Data on industry in South Korea, by period

ltem	Measure	2017	2018	2019	2020	2021	2022
Capacity	Quantity	***	***	***	***	***	***
Production	Quantity	***	***	***	***	***	***
End-of-period inventories	Quantity	***	***	***	***	***	***
Internal consumption and transfers	Quantity	***	***	***	***	***	***
Commercial home market shipments	Quantity	***	***	***	***	***	***
Home market shipments	Quantity	***	***	***	***	***	***
Export shipments	Quantity	***	***	***	***	***	***
Total shipments	Quantity	***	***	***	***	***	***
Internal consumption and transfers	Value	***	***	***	***	***	***
Commercial home market shipments	Value	***	***	***	***	***	***
Home market shipments	Value	***	***	***	***	***	***
Export shipments	Value	***	***	***	***	***	***
Total shipments	Value	***	***	***	***	***	***

Quantity in 1,000 pounds; value in 1,000 dollars; unit value in dollars per pound; ratio and share in percent

²³ Kumho reported that ***. Kumho's foreign producer questionnaire response, sections II-8a and II-8b.

Table IV-33 Continued ESBR: Data on industry in South Korea, by period

Item	Measure	2017	2018	2019	2020	2021	2022
Internal consumption and							
transfers	Unit value	***	***	***	***	***	***
Commercial home market							
shipments	Unit value	***	***	***	***	***	***
Home market shipments	Unit value	***	***	***	***	***	***
Export shipments	Unit value	***	***	***	***	***	***
Total shipments	Unit value	***	***	***	***	***	***
Capacity utilization ratio	Ratio	***	***	***	***	***	***
Inventory ratio to							
production	Ratio	***	***	***	***	***	***
Inventory ratio to total							
shipments	Ratio	***	***	***	***	***	***
Internal consumption and							
transfers	Share	***	***	***	***	***	***
Commercial home market							
shipments	Share	***	***	***	***	***	***
Home market shipments	Share	***	***	***	***	***	***
Export shipments	Share	***	***	***	***	***	***
Total shipments	Share	100.0	100.0	100.0	100.0	100.0	100.0

Quantity in 1,000 pounds; value in 1,000 dollars; unit value in dollars per pound; ratio and share in percent

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.

Table IV-34ESBR: Producer's exports from South Korea, by destination market and period

Destination market	Measure	2017	2018	2019	2020	2021	2022
United States	Quantity	***	***	***	***	***	***
European Union	Quantity	***	***	***	***	***	***
Asia	Quantity	***	***	***	***	***	***
All other destination markets	Quantity	***	***	***	***	***	***
Non-U.S. destination markets	Quantity	***	***	***	***	***	***
All destination markets	Quantity	***	***	***	***	***	***
United States	Value	***	***	***	***	***	***
European Union	Value	***	***	***	***	***	***
Asia	Value	***	***	***	***	***	***
All other destination markets	Value	***	***	***	***	***	***
Non-U.S. destination markets	Value	***	***	***	***	***	***
All destination markets	Value	***	***	***	***	***	***
United States	Unit value	***	***	***	***	***	***
European Union	Unit value	***	***	***	***	***	***
Asia	Unit value	***	***	***	***	***	***
All other destination markets	Unit value	***	***	***	***	***	***
Non-U.S. destination markets	Unit value	***	***	***	***	***	***
All destination markets	Unit value	***	***	***	***	***	***

Quantity in 1,000 pounds; value in 1,000 dollars; unit value in dollars per pound; ratio and share in percent

Table IV-34 Continued ESBR: Producer's exports from South Korea, by destination market and period

Destination market	Measure	2017	2018	2019	2020	2021	2022
United States	Share of quantity	***	***	***	***	***	***
European Union	Share of quantity	***	***	***	***	***	***
Asia	Share of quantity	***	***	***	***	***	***
All other destination markets	Share of quantity	***	***	***	***	***	***
Non-U.S. destination markets	Share of quantity	***	***	***	***	***	***
All destination markets	Share of quantity	100.0	100.0	100.0	100.0	100.0	100.0
United States	Ratio	***	***	***	***	***	***
European Union	Ratio	***	***	***	***	***	***
Asia	Ratio	***	***	***	***	***	***
All other destination markets	Ratio	***	***	***	***	***	***
Non-U.S. destination markets	Ratio	***	***	***	***	***	***
All destination markets	Ratio	***	***	***	***	***	***

Ratio and share in percent

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

Note: Ratios represent the portion of the producer's total shipments that are exported. 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 IV-35 presents the constraints identified by Kumho that set the limits on its

practical overall production capacity.

Table IV-35

ESBR: Reported capaity constraints in South Korea, by type of constraint and firm

Type of constraint	Firm name and narrative on constraints to practical overall capacity
Other constraints	***

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

Table IV-36 presents SBR (including ESBR) capacity data for producers in South Korea as reported by the Korea Petrochemical Industry Association.

Table IV-36 SBR: Capacity in South Korea, by period

ltem	Measure	2017	2018	2019	2020	2021	2022
Capacity: LG Chem	Quantity	***	***	***	***	***	***
Capacity: Kumho	Quantity	***	***	***	***	***	***
Capacity: All firms	Quantity	***	***	***	***	***	***
Capacity: LG Chem	Share	***	***	***	***	***	***
Capacity: Kumho	Share	***	***	***	***	***	***
Capacity: All firms	Share	100.0	100.0	100.0	100.0	100.0	100.0

Quantity in 1.000 pounds: share in percent

Source: 2022 Korea Petrochemical Statistics, published by the Korea Petrochemical Industry Association, pp 74-75.

Alternative products

Kumho reported that *** using the same equipment and machinery used to produce ESBR, explaining that ***.

Exports

Table IV-37 presents GTA export data for styrene-butadiene rubber, a category that includes ESBR and out-of-scope products, from South Korea. During 2022, China, the United States, and Indonesia were the top export markets for styrene-butadiene rubber from South Korea, accounting for 17.3 percent, 13.8 percent, and 10.3 percent of total exports, respectively. As a share of total exports of styrene-butadiene rubber from South Korea, exports destined for the United States increased each year during 2017-22, from 7.2 percent in 2017 to 13.8 percent in 2022.

Table IV-37

Styrene-butadiene rubber: Exports from South Korea, by destination market and period

Destination							
market	Measure	2017	2018	2019	2020	2021	2022
United States	Quantity	92,335	92,790	94,557	95,058	126,441	154,632
China	Quantity	256,863	264,883	292,771	241,415	248,881	194,445
Indonesia	Quantity	183,649	151,478	147,398	140,192	156,265	115,596
India	Quantity	136,533	129,497	94,715	114,519	137,662	109,569
Thailand	Quantity	151,697	129,291	140,200	126,208	110,993	93,061
Vietnam	Quantity	82,491	81,331	96,491	81,496	76,999	90,897
Canada	Quantity	41,597	43,902	57,114	50,849	70,611	55,896
Japan	Quantity	50,851	57,964	52,859	48,409	50,257	46,481
Poland	Quantity	13,872	16,446	19,820	22,773	28,951	29,346
All other destination markets	Quantity	274,029	304,461	275,431	270,896	287,104	232,019
Non-U.S.	Quantity	274,029	304,401	275,451	270,090	207,104	232,019
destination markets	Quantity	1,191,582	1,179,254	1,176,800	1,096,756	1,167,724	967,310
All destination				· · ·	<u> </u>		· · · · ·
markets	Quantity	1,283,917	1,272,044	1,271,357	1,191,813	1,294,165	1,121,942
United States	Value	85,927	98,219	88,785	63,408	121,227	164,994
China	Value	205,184	202,514	201,568	138,997	213,288	180,015
Indonesia	Value	151,828	117,369	98,163	79,538	125,310	100,630
India	Value	111,285	101,028	60,568	62,451	119,891	95,047
Thailand	Value	120,268	93,063	85,668	66,185	88,905	76,174
Vietnam	Value	67,973	61,441	61,091	44,460	64,903	75,720
Canada	Value	37,341	47,228	53,747	34,075	57,277	62,668
Japan	Value	46,551	55,296	47,589	36,435	45,001	45,757
Poland	Value	14,222	17,180	16,493	14,209	25,871	31,559
All other destination							
markets	Value	251,288	279,880	208,108	161,660	257,527	219,961
Non-U.S. destination markets	Value	1,005,940	975,000	832,996	638,010	997,972	887,531
All destination markets	Value	1,091,867	1,073,219	921,781	701,418	1,119,199	1,052,526
Table continued		.,,	.,010,210	021,101		.,	.,002,020

Quantity in 1,000 pounds; value in 1,000 dollars

Table IV-37 Continued Styrene-butadiene rubber: Exports from South Korea, by destination market and period

Destination market	Measure	2017	2018	2019	2020	2021	2022
United States	Unit value	0.93	1.06	0.94	0.67	0.96	1.07
China	Unit value	0.80	0.76	0.69	0.58	0.86	0.93
Indonesia	Unit value	0.83	0.77	0.67	0.57	0.80	0.87
India	Unit value	0.82	0.78	0.64	0.55	0.87	0.87
Thailand	Unit value	0.79	0.72	0.61	0.52	0.80	0.82
Vietnam	Unit value	0.82	0.76	0.63	0.55	0.84	0.83
Canada	Unit value	0.90	1.08	0.94	0.67	0.81	1.12
Japan	Unit value	0.92	0.95	0.90	0.75	0.90	0.98
Poland	Unit value	1.03	1.04	0.83	0.62	0.89	1.08
All other destination markets	Unit value	0.92	0.92	0.76	0.60	0.90	0.95
Non-U.S. destination markets	Unit value	0.84	0.83	0.71	0.58	0.85	0.92
All destination markets	Unit value	0.85	0.84	0.73	0.59	0.86	0.94
United States	Share of quantity	7.2	7.3	7.4	8.0	9.8	13.8
China	Share of quantity	20.0	20.8	23.0	20.3	19.2	17.3
Indonesia	Share of quantity	14.3	11.9	11.6	11.8	12.1	10.3
India	Share of quantity	10.6	10.2	7.4	9.6	10.6	9.8
Thailand	Share of quantity	11.8	10.2	11.0	10.6	8.6	8.3
Vietnam	Share of quantity	6.4	6.4	7.6	6.8	5.9	8.1
Canada	Share of quantity	3.2	3.5	4.5	4.3	5.5	5.0
Japan	Share of quantity	4.0	4.6	4.2	4.1	3.9	4.1
Poland	Share of quantity	1.1	1.3	1.6	1.9	2.2	2.6
All other destination markets	Share of quantity	21.3	23.9	21.7	22.7	22.2	20.7
Non-U.S. destination markets	Share of quantity	92.8	92.7	92.6	92.0	90.2	86.2
All destination markets	Share of quantity	100.0	100.0	100.0	100.0	100.0	100.0

Unit value in dollars per pound; share in percent

Source: Official exports statistics under HS subheading 4002.19 as reported by Korea Trade Statistics Promotion Institute (KTSPI) in the Global Trade Atlas database, accessed March 16, 2023.

Note: United States is shown at the top. All remaining top export destinations are shown in descending order of 2022 data.

Subject countries combined

Tables IV-38 and IV-39 and figure IV-5 present summary data on ESBR operations of the reporting subject producers in the subject countries. Subject producers' capacity decreased during 2017-20 then increased during 2020-22, decreasing overall by *** percent. Subject producers' production decreased during 2017-2020 then increased during 2020-21 and decreased during 2021-22, decreasing overall by *** percent. As a result of subject producers' capacity declining at a greater rate than production, capacity utilization increased overall by *** percent in 2022.

Export shipments accounted for more than *** of subject producers' total shipments throughout the period being examined. Subject producers' total shipments decreased during 2017-20 (decreasing by *** percent during 2017-18, *** percent during 2018-19, and *** percent during 2019-20) then increased by *** percent during 2020-21 and decreased by *** percent during 2021-22, decreasing overall by *** percent. Export shipments decreased during 2017-19 (decreasing by *** percent during 2017-18 and *** percent during 2018-19) then increased during 2019-21 (increasing by *** percent during 2019-20 and *** percent during 2020-21) then decreased by *** percent during 2021-22, decreasing overall by *** percent during 2019-20 and *** percent during 2020-21) then decreased by *** percent during 2021-22, decreasing overall by *** percent during 2019-20 and *** percent during 2020-21) then decreased by *** percent during 2021-22, decreasing overall by *** percent during 2019-20 and *** percent during 2020-21) then decreased by *** percent during 2021-22, decreasing overall by *** percent.

Subject producers' exports to the United States as a share of total export shipments generally declined during 2017-22, from *** percent in 2017 to *** percent in 2022. In contrast, subject producers' exports to Asia as a share of total export shipments generally increased during 2017-22, from *** percent in 2017 to *** percent in 2022.

Table IV-38 ESBR: Data on the industry in subject countries, by period

ltem	Measure	2017	2018	2019	2020	2021	2022
Capacity	Quantity	***	***	***	***	***	***
Production	Quantity	***	***	***	***	***	***
End-of-period							
inventories	Quantity	***	***	***	***	***	***
Internal							
consumption							
and transfers	Quantity	***	***	***	***	***	***
Commercial							
home market							
shipments	Quantity	***	***	***	***	***	***
Home market							
shipments	Quantity	***	***	***	***	***	***
Export							
shipments	Quantity	***	***	***	***	***	***
Total							
shipments	Quantity	***	***	***	***	***	***
Internal							
consumption							
and transfers	Value	***	***	***	***	***	***
Commercial							
home market							
shipments	Value	***	***	***	***	***	***
Home market							
shipments	Value	***	***	***	***	***	***
Export							
shipments	Value	***	***	***	***	***	***
Total							
shipments	Value	***	***	***	***	***	***

Quantity in 1,000 pounds; value in 1,000 dollars

Table IV-38 ContinuedESBR: Data on the industry in subject countries, by period

Item	Measure	2017	2018	2019	2020	2021	2022
Internal consumption and transfers	Unit value	***	***	***	***	***	***
Commercial home market shipments	Unit value	***	***	***	***	***	***
Home market shipments	Unit value	***	***	***	***	***	***
Export shipments	Unit value	***	***	***	***	***	***
Total shipments	Unit value	***	***	***	***	***	***
Capacity utilization ratio	Ratio	***	***	***	***	***	***
Inventory ratio to production	Ratio	***	***	***	***	***	***
Inventory ratio to total shipments	Ratio	***	***	***	***	***	***
Internal consumption and transfers	Share	***	***	***	***	***	***
Commercial home market shipments	Share	***	***	***	***	***	***
Home market shipments	Share	***	***	***	***	***	***
Export shipments	Share	***	***	***	***	***	***
Total shipments	Share	100.0	100.0	100.0	100.0	100.0	100.0

Unit value in dollars per pound; ratio and share in percent

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.

Table IV-39 ESBR: Producers' exports from subject sources, by destination market and period

Destination market	Measure	2017	2018	2019	2020	2021	2022
United States	Quantity	***	***	***	***	***	***
European Union	Quantity	***	***	***	***	***	***
Asia	Quantity	***	***	***	***	***	***
All other destination							
markets	Quantity	***	***	***	***	***	***
Non-U.S.							
destination markets	Quantity	***	***	***	***	***	***
All destination	Oursetite	***	***	***	***	***	***
markets	Quantity	***	***	***	***	***	***
United States	Value						
European Union	Value	***	***	***	***	***	***
Asia	Value	***	***	***	***	***	***
All other destination		***	***	***	***	***	***
markets Non-U.S.	Value		***	***	***		
destination markets	Value	***	***	***	***	***	***
All destination	value						
markets	Value	***	***	***	***	***	***
United States	Unit value	***	***	***	***	***	***
European Union	Unit value	***	***	***	***	***	***
Asia	Unit value	***	***	***	***	***	***
All other destination							
markets	Unit value	***	***	***	***	***	***
Non-U.S.							
destination markets	Unit value	***	***	***	***	***	***
All destination							
markets	Unit value	***	***	***	***	***	***
United States	Share of quantity	***	***	***	***	***	***
European Union	Share of quantity	***	***	***	***	***	***
Asia	Share of quantity	***	***	***	***	***	***
All other destination							
markets	Share of quantity	***	***	***	***	***	***
Non-U.S.		***	***	***	***	***	***
destination markets	Share of quantity	***	***	***	***	***	***
All destination	Share of quantity	***	***	***	***	***	***
markets		***	***	***	***	***	***
United States	Ratio	***	***	***	***	***	***
European Union	Ratio	***	***	***	***	***	***
Asia	Ratio	~~~	~ ~ ~	~ ^ *	~ ~ *	~ ^ *	~ ~ *
All other destination markets	Ratio	***	***	***	***	***	***
Non-U.S.							
destination markets	Ratio	***	***	***	***	***	***
All destination							
markets	Ratio	***	***	***	***	***	***

Quantity in 1,000 pounds; value in 1,000 dollars; unit value in dollars per pound; ratio and share in percent

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

Figure IV-5 ESBR: Average unit values of foreign producers' shipments, by destination market and period

* * * * * * *

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

Third-country trade actions

The Indian trade authority made an affirmative determination on dumping of ESBR 1500 and 1700 grades from the EU, South Korea, and Thailand on July 12, 2017.²⁴ A sunset review was subsequently conducted and concluded in July 2022, at which time it was decided to continue the orders for another 3-years.²⁵ Subsequently, however, on October 28, 2022, the proposed orders were not accepted by the Central Government of India, Ministry of Finance, Department of Revenue.²⁶ During the period 2017-18, Mexican trade authorities conducted antidumping investigations on ESBR products from Japan, Poland, South Korea, and the United States. The ESBR products subject to investigation included IISRP cold emulsion polymerized 1500 and 1700 grades, together with associated High Styrene 1900 series and off-specification grades. On January 25, 2019, affirmative final antidumping determinations were handed down on Japan, (\$0.23556/kg, 10.7¢/lb.), South Korea (\$0.11378/kg, 5.2¢/lb.), and the United States (\$0.34075/kg, 15.5¢/lb.), with Poland excluded.²⁷ ²⁸ The margins were scheduled to be effective for a period of five years.²⁹

²⁴ India Ministry of Commerce, July 12, 2017,

https://www.dgtr.gov.in/sites/default/files/SBR%20NCV%20English%20-%20Copy.pdf, retrieved October 18, 2022.

²⁵ Sunset Review Investigation concerning imports of "Styrene Butadiene Rubber" originating in or exported from European Union, Korea RP and Thailand, Case No. ADD(SSR) 25/2021, July 29, 2022, <u>https://www.dgtr.gov.in/anti-dumping-cases/styrene-butadiene-rubber-sbr-1500-series-and-1700-series-originating-or-exported</u>, retrieved August 10, 2022.

²⁶ <u>https://www.dgtr.gov.in/sites/default/files/OM%20to%20DGTR_SBR.pdf</u>, retrieved April 17, 2023.

²⁷ Official Journal of the Federation (DOF), January 25, 2019 (translatable to English), <u>https://dof.gob.mx/nota_detalle.php?codigo=5548818&fecha=25/01/2019#gsc.tab=0</u>, retrieved June 10, 2023,

²⁸ Global Trade Alert, University of St. Gallen, Switzerland, "Definitive antidumping duty on imports of emulsion styrene-butadiene rubber from the Republic of Korea, United States and Japan (Poland excluded)", <u>https://www.globaltradealert.org/intervention/57881/anti-dumping/mexico</u>, retrieved June 10, 2023. Petitioner's posthearing brief, exhibit 22, May 31, 2023.

²⁹ Commerce ITA Trade Remedy Compliance Staff,

https://enforcement.trade.gov/trcs/foreignadcvd/mexico.html, retrieved June 10, 2023.

Global market

Total global annual capacity comparisons for the principal synthetic rubber types and global totals over time are detailed in table IV-40. ESBR and butadiene rubber (BR) capacity dominated synthetic rubber volume during the period of review, ranging in aggregate from *** percent of the total in 2017 to *** percent in 2022. Altogether, six of nine synthetic rubber types accounted for about *** percent of total global capacity during the period.³⁰ Polyisoprene rubber (IR), nitrile rubber (NBR), and chloroprene (CR) rubbers account for the remainder. ESBR, SSBR, BR and butyl rubber (IIR) are the largest volume rubbers produced for tires.

Global ESBR capacity *** from *** percent of global synthetic rubber capacity to *** percent during the period of review, *** percentage points, while SSBR capacity during the same period *** from *** percent of the global total to *** percent, *** percentage points, indicating rising demand for high performance consumer tire applications. On an overall volume basis during the period, ESBR capacity experienced a *** of ***, basically *** by an SSBR *** of *** pounds.

Overall net volume *** for global synthetic rubber capacity in all forms during the period amounted to *** pounds, *** percent, led principally by a buoyant rise in *** rubber volume of *** pounds, *** percent. SBC thermoelastic rubbers demonstrate many of the properties of conventional vulcanized rubbers, are more easily processed, and may be recycled comparable to thermoplastic polymers, however most SBC end uses are focused on unique applications instead of replacing general-purpose rubber.³¹

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https://iisrp.com/wp-content/uploads/08SBC16Aug2012.pdf, retrieved October 13, 2022.
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 ³⁰ ESBR and SSBR, butadiene rubber (BR), styrene butadiene block copolymers (SBC), ethylene propylene diene (EPDM), and isobutene-isoprene (IIR) butyl rubbers.
 ³¹ IISRP. "Styrenic Block Copolymers" (SBC),

Table IV-40ESBR: Global synthetic rubber capacities, by product type and period

Quantity in 1,000 pounds

Product type	2017	2018	2019	2020
ESBR	***	***	***	***
SSBR	***	***	***	***
BR	***	***	***	***
SBC	***	***	***	***
EPDM	***	***	***	***
lir	***	***	***	***
IR	***	***	***	***
NBR	***	***	***	***
CR	***	***	***	***
All global capacity	***	***	***	***

Table continued.

Table IV-40 ContinuedESBR: Global synthetic rubber capacities, by product type and period

Quantity in 1,000 pounds

Product type	2021	2022	Projection 2023
ESBR	***	***	***
SSBR	***	***	***
BR	***	***	***
SBC	***	***	***
EPDM	***	***	***
IIR	***	***	***
IR	***	***	***
NBR	***	***	***
CR	***	***	***
All global capacity	***	***	***

Source: Worldwide Rubber Statistics 2020-22, IISRP.

Note: Original data is presented in metric tons. For unit measurement consistency in this report, Commission staff converted the original data from metric tons to pounds using a conversion factor of 2,204.62.

Annual global capacities of ESBR and SSBR rubber by country and region in 2022, together with other aggregate forms of synthetic rubber, are presented in table IV-41. ESBR by volume amounts to *** percent of total global synthetic rubber capacity and is produced and consumed across countries around the globe.

A global view of the overall ESBR landscape shows that more than *** percent of ESBR capacity is spread across populous Asia. China itself commands *** percent of total ESBR capacity, and together with the other Asian countries' *** percent, the region accounts for *** percent of the global total. Most other volume (*** percent) is spread primarily across Europe (*** percent), Latin America (*** percent), the United States (*** percent), Russia (*** percent), and the Middle East and Africa (*** percent). In Asia, South Korea, along with China, Japan, India, Taiwan, and Thailand are notable countries in the region with available capacity. In Europe, Czechia, Italy and Germany account for *** percent of ESBR region capacity, while Poland accounts for *** percent. In Latin America, Brazil and Mexico account for the vast majority of ESBR capacity (*** percent of capacity in the region) with Argentina representing the remaining capacity in the Latin America region.

Table IV-41ESBR: Global synthetic rubber capacities, by country and product type, 2022

Quantity in 1,000 pounds

Country	ESBR	SSBR	All other types	All types
Belgium	***	***	***	***
Czechia	***	***	***	***
France	***	***	***	***
Germany	***	***	***	***
Hungary	***	***	***	***
Italy	***	***	***	***
Netherlands	***	***	***	***
Poland	***	***	***	***
Serbia	***	***	***	***
Spain	***	***	***	***
United Kingdom	***	***	***	***
Subtotal, Europe	***	***	***	***
Russia	***	***	***	***
Iran	***	***	***	***
Saudi Arabia	***	***	***	***
Subtotal, Middle East and Africa	***	***	***	***
Canada	***	***	***	***
United States	***	***	***	***
Subtotal, North America	***	***	***	***
Argentina	***	***	***	***
Brazil	***	***	***	***
Mexico	***	***	***	***
Subtotal, Latin America	***	***	***	***
India	***	***	***	***
Indonesia	***	***	***	***
Japan	***	***	***	***
Malaysia	***	***	***	***
Singapore	***	***	***	***
South Korea	***	***	***	***
Taiwan	***	***	***	***
Thailand	***	***	***	***
Subtotal, Asia minus China	***	***	***	***
China	***	***	***	***
All global capacity	***	***	***	***

Source: Worldwide Rubber Statistics 2020-22, IISRP.

Note: Original data is presented in metric tons. For unit measurement consistency in this report, Commission staff converted the original data from metric tons to pounds using a conversion factor of 2,204.62.

Table IV-42 presents GTA export data for styrene-butadiene rubber, a category that includes ESBR and out-of-scope products, from China. During 2022, Thailand and Vietnam were the top export markets for styrene-butadiene rubber from China, accounting for 19.7 percent and 15.5 percent of total exports, respectively.

Table IV-42 Styrene-butadiene rubber: Exports from China, by destination market and period

Quantity in 1,000 pounds; value in 1,000 dollars									
Destination market	Measure	2017	2018	2019	2020	2021	2022		
United States	Quantity	3,197	10,593	15,073	9,553	10,387	13,996		
Thailand	Quantity	11,591	10,675	12,255	36,169	55,375	80,421		
Vietnam	Quantity	18,142	13,352	15,328	41,409	36,222	62,986		
Netherlands	Quantity	6,948	6,672	14,500	5,535	3,448	27,892		
India	Quantity	5,810	5,976	6,486	5,854	7,796	25,174		
Indonesia	Quantity	10,016	6,878	5,706	8,603	12,610	22,930		
South Korea	Quantity	1,914	1,914	3,059	3,362	20,006	21,845		
Pakistan	Quantity	2,644	16,209	3,402	2,809	8,548	17,296		
Malaysia	Quantity	4,144	3,704	4,321	5,700	6,987	14,553		
Mexico	Quantity	230	873	1,114	1,363	2,284	13,270		
All other destination markets	Quantity	55,747	51,877	44,642	35,858	51,227	107,229		
Non-U.S. destination markets	Quantity	117,187	118,131	110,812	146,663	204,503	393,597		
All destination markets	Quantity	120,384	128,724	125,885	156,216	214,891	407,593		
United States	Value	3,496	11,617	14,923	7,127	5,660	11,470		
Thailand	Value	10,715	9,332	10,059	21,342	46,340	62,902		
Vietnam	Value	17,220	13,176	13,175	27,935	35,578	56,034		
Netherlands	Value	7,019	6,608	12,144	3,728	2,530	27,726		
India	Value	5,420	5,601	5,749	3,517	5,852	21,528		
Indonesia	Value	9,944	6,543	4,954	6,239	10,900	19,512		
South Korea	Value	1,863	1,841	2,588	2,518	15,093	18,103		
Pakistan	Value	2,365	16,722	2,287	1,223	6,500	13,563		
Malaysia	Value	3,986	3,168	4,413	4,130	6,468	12,526		
Mexico	Value	242	904	914	899	1,816	12,033		
All other destination markets	Value	58,429	51,184	42,624	30,124	47,945	103,831		
Non-U.S. destination markets	Value	117,204	115,079	98,908	101,655	179,023	347,758		
All destination markets	Value	120,700	126,695	113,831	108,782	184,683	359,229		

Table continued.

Table IV-42 Continued Styrene-butadiene rubber: Exports from China, by destination market and period

Destination market	Measure	2017	2018	2019	2020	2021	2022
United States	Unit value	1.09	1.10	0.99	0.75	0.54	0.82
Thailand	Unit value	0.92	0.87	0.82	0.59	0.84	0.78
Vietnam	Unit value	0.95	0.99	0.86	0.67	0.98	0.89
Netherlands	Unit value	1.01	0.99	0.84	0.67	0.73	0.99
India	Unit value	0.93	0.94	0.89	0.60	0.75	0.86
Indonesia	Unit value	0.99	0.95	0.87	0.73	0.86	0.85
South Korea	Unit value	0.97	0.96	0.85	0.75	0.75	0.83
Pakistan	Unit value	0.89	1.03	0.67	0.44	0.76	0.78
Malaysia	Unit value	0.96	0.86	1.02	0.72	0.93	0.86
Mexico	Unit value	1.05	1.03	0.82	0.66	0.80	0.91
All other destination markets	Unit value	1.05	0.99	0.95	0.84	0.94	0.97
Non-U.S. destination markets	Unit value	1.00	0.97	0.89	0.69	0.88	0.88
All destination markets	Unit value	1.00	0.98	0.90	0.70	0.86	0.88
United States	Share of quantity	2.7	8.2	12.0	6.1	4.8	3.4
Thailand	Share of quantity	9.6	8.3	9.7	23.2	25.8	19.7
Vietnam	Share of quantity	15.1	10.4	12.2	26.5	16.9	15.5
Netherlands	Share of quantity	5.8	5.2	11.5	3.5	1.6	6.8
India	Share of quantity	4.8	4.6	5.2	3.7	3.6	6.2
Indonesia	Share of quantity	8.3	5.3	4.5	5.5	5.9	5.6
South Korea	Share of quantity	1.6	1.5	2.4	2.2	9.3	5.4
Pakistan	Share of quantity	2.2	12.6	2.7	1.8	4.0	4.2
Malaysia	Share of quantity	3.4	2.9	3.4	3.6	3.3	3.6
Mexico	Share of quantity	0.2	0.7	0.9	0.9	1.1	3.3
All other destination markets	Share of quantity	46.3	40.3	35.5	23.0	23.8	26.3
Non-U.S. destination markets	Share of quantity	97.3	91.8	88.0	93.9	95.2	96.6
All destination markets	Share of quantity	100.0	100.0	100.0	100.0	100.0	100.0

Unit value in dollars per pound; share in percent

Source: Official exports statistics under HS subheading 4002.19 as reported by China Customs in the Global Trade Atlas database, accessed May 25, 2023.

Note: United States is shown at the top. All remaining top export destinations are shown in descending order of 2022 data.

Table IV-43 presents GTA export data for styrene-butadiene rubber, a category that includes ESBR and out-of-scope products, from Czechia. During 2022, Australia, Austria, and Belarus were the top export markets for styrene-butadiene rubber from Czechia, accounting for 16.2 percent, 15.9 percent, and 10.7 percent of total exports, respectively.

Table IV-43
Styrene-butadiene rubber: Exports from Czechia, by destination market and period

Quantity in 1,000 pounds; value			2049	2040	2020	2024	2022
Destination market	Measure	2017	2018	2019	2020	2021	2022
United States	Quantity	1,004	2,427		126		
Australia	Quantity	7,072	8,372	26,735	31,600	26,207	23,402
Austria	Quantity	5,434	8,452	18,392	24,159	31,531	22,899
Belarus	Quantity	16,700	22,631	28,643	21,154	26,281	15,469
Belgium	Quantity	25,043	19,936	18,001	17,223	14,059	13,500
Brazil	Quantity	9,345	8,730	7,320	5,472	6,756	7,139
Bulgaria	Quantity	1,165	342		2,045	1,712	6,616
Canada	Quantity	8,286	10,937	7,017	7,879	8,014	6,563
China	Quantity	3,725	4,564	1,975	2,928	5,157	6,302
Costa Rica	Quantity	474	417	355	784	5,865	5,860
All other destination markets	Quantity	91,921	88,354	78,563	62,552	55,858	36,438
Non-U.S. destination markets	Quantity	169,165	172,734	186,999	175,796	181,440	144,189
All destination markets	Quantity	170,169	175,161	186,999	175,922	181,440	144,189
United States	Value	14,747	19,101	19,694	12,562	23,697	16,402
Australia	Value	3	16				
Austria	Value	6,804	8,843	4,522	3,887	6,868	6,576
Belarus	Value	71					
Belgium	Value	263	218	155	389	4,742	5,889
Brazil	Value	5,113	6,027	16,847	16,045	21,454	21,774
Bulgaria	Value	123	548	288	288	127	41
Canada	Value	178	896	795	264	1,356	1,595
China	Value	7,537	1,971	330	2,567	1,090	4
Costa Rica	Value		497			249	55
All other destination markets	Value	105,377	99,423	79,097	55,304	90,747	86,994
Non-U.S. destination markets	Value	125,468	118,439	102,033	78,744	126,632	122,928
All destination markets	Value	140,215	137,539	121,727	91,306	150,329	139,331

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Table continued.

Table IV-43 Continued Styrene-butadiene rubber: Exports from Czechia, by destination market and period

Destination market	Measure	2017	2018	2019	2020	2021	2022
United States	Unit value	14.69	7.87		99.77		
Australia	Unit value	0.00	0.00				
Austria	Unit value	1.25	1.05	0.25	0.16	0.22	0.29
Belarus	Unit value	0.00					
Belgium	Unit value	0.01	0.01	0.01	0.02	0.34	0.44
Brazil	Unit value	0.55	0.69	2.30	2.93	3.18	3.05
Bulgaria	Unit value	0.11	1.60		0.14	0.07	0.01
Canada	Unit value	0.02	0.08	0.11	0.03	0.17	0.24
China	Unit value	2.02	0.43	0.17	0.88	0.21	0.00
Costa Rica	Unit value		1.19			0.04	0.01
All other destination markets	Unit value	1.15	1.13	1.01	0.88	1.62	2.39
Non-U.S. destination markets	Unit value	0.74	0.69	0.55	0.45	0.70	0.85
All destination markets	Unit value	0.82	0.79	0.65	0.52	0.83	0.97
United States	Share of quantity	0.6	1.4		0.1		
Australia	Share of quantity	4.2	4.8	14.3	18.0	14.4	16.2
Austria	Share of quantity	3.2	4.8	9.8	13.7	17.4	15.9
Belarus	Share of quantity	9.8	12.9	15.3	12.0	14.5	10.7
Belgium	Share of quantity	14.7	11.4	9.6	9.8	7.7	9.4
Brazil	Share of quantity	5.5	5.0	3.9	3.1	3.7	5.0
Bulgaria	Share of quantity	0.7	0.2		1.2	0.9	4.6
Canada	Share of quantity	4.9	6.2	3.8	4.5	4.4	4.6
China	Share of quantity	2.2	2.6	1.1	1.7	2.8	4.4
Costa Rica	Share of quantity	0.3	0.2	0.2	0.4	3.2	4.1
All other destination markets	Share of quantity	54.0	50.4	42.0	35.6	30.8	25.3
Non-U.S. destination markets	Share of quantity	99.4	98.6	100.0	99.9	100.0	100.0
All destination markets	Share of quantity	100.0	100.0	100.0	100.0	100.0	100.0

Unit value in dollars per pound; share in percent

Source: Official exports statistics under HS subheading 4002.19 as reported by Eurostat in the Global Trade Atlas database, accessed May 25, 2023.

Note: United States is shown at the top. All remaining top export destinations are shown in descending order of 2022 data.

Table IV-44 presents GTA export data for styrene-butadiene rubber, a category that includes ESBR and out-of-scope products, from Russia. During 2022, China, Poland, and Turkey were the top export markets for styrene-butadiene rubber from Russia, accounting for 23.0 percent, 19.2 percent, and 13.3 percent of total exports, respectively.

Table IV-44
Styrene-butadiene rubber: Exports from Russia, by destination market and period

Destination market	in 1,000 do Measure	2017	2018	2019	2020	2021	2022
United States	Quantity	25,453	22,476	45,163	29,549	45,706	17,055
China	Quantity	96,186	80,044	72,831	126,610	65,148	83,560
Turkey	Quantity	24,641	23,682	19,671	31,598	58,489	69,818
Poland	Quantity	75,469	69,153	80,152	92,580	115,191	48,357
India	Quantity	8,256	8,992	2,471	7,390	36,258	18,914
Lithuania	Quantity			3,955	743	2,043	14,308
Romania	Quantity	10,968	10,962	10,697	10,159	16,340	12,625
Thailand	Quantity	14,803	28,907	28,210	28,019	25,151	11,258
Slovakia	Quantity	14,859	13,776	13,625	10,304	12,925	10,555
Czechia	Quantity	7,191	6,801	8,519	7,502	9,489	8,737
All other destination markets	Quantity	163,332	139,653	144,750	193,358	207,670	68,495
Non-U.S. destination markets	Quantity	415,705	381,969	384,882	508,262	548,705	346,628
All destination markets	Quantity	441,158	404,445	430,045	537,811	594,410	363,683
United States	Value	22,552	17,366	35,966	18,511	36,035	16,996
China	Value	78,480	52,224	43,280	54,941	44,652	51,254
Turkey	Value	20,971	17,721	11,481	15,014	49,590	60,535
Poland	Value	67,647	65,030	63,623	57,418	103,364	47,569
India	Value	7,655	6,777	1,693	3,677	28,636	15,614
Lithuania	Value			2,801	511	1,592	10,607
Romania	Value	8,524	8,206	6,774	4,904	13,074	11,844
Thailand	Value	12,144	19,951	17,726	15,142	19,663	9,175
Slovakia	Value	11,359	10,084	8,372	4,863	9,677	9,896
Czechia	Value	6,005	5,098	5,618	3,751	7,409	7,871
All other destination markets	Value	145,482	113,206	102,209	106,941	172,028	65,317
Non-U.S. destination markets	Value	358,268	298,297	263,577	267,163	449,685	289,683
All destination markets	Value	380,820	315,663	299,543	285,674	485,719	306,680

Quantity in 1,000 pounds; value in 1,000 dollars

Table continued.

Table IV-44 Continued Styrene-butadiene rubber: Exports from Russia, by destination market and period

Destination market	Measure	2017	2018	2019	2020	2021	2022
United States	Unit value	0.89	0.77	0.80	0.63	0.79	1.00
China	Unit value	0.82	0.65	0.59	0.43	0.69	0.61
Turkey	Unit value	0.85	0.75	0.58	0.48	0.85	0.87
Poland	Unit value	0.90	0.94	0.79	0.62	0.90	0.98
India	Unit value	0.93	0.75	0.69	0.50	0.79	0.83
Lithuania	Unit value			0.71	0.69	0.78	0.74
Romania	Unit value	0.78	0.75	0.63	0.48	0.80	0.94
Thailand	Unit value	0.82	0.69	0.63	0.54	0.78	0.81
Slovakia	Unit value	0.76	0.73	0.61	0.47	0.75	0.94
Czechia	Unit value	0.84	0.75	0.66	0.50	0.78	0.90
All other destination markets	Unit value	0.89	0.81	0.71	0.55	0.83	0.95
Non-U.S. destination markets	Unit value	0.86	0.78	0.68	0.53	0.82	0.84
All destination markets	Unit value	0.86	0.78	0.70	0.53	0.82	0.84
United States	Share of quantity	5.8	5.6	10.5	5.5	7.7	4.7
China	Share of quantity	21.8	19.8	16.9	23.5	11.0	23.0
Turkey	Share of quantity	5.6	5.9	4.6	5.9	9.8	19.2
Poland	Share of quantity	17.1	17.1	18.6	17.2	19.4	13.3
India	Share of quantity	1.9	2.2	0.6	1.4	6.1	5.2
Lithuania	Share of quantity			0.9	0.1	0.3	3.9
Romania	Share of quantity	2.5	2.7	2.5	1.9	2.7	3.5
Thailand	Share of quantity	3.4	7.1	6.6	5.2	4.2	3.1
Slovakia	Share of quantity	3.4	3.4	3.2	1.9	2.2	2.9
Czechia	Share of quantity	1.6	1.7	2.0	1.4	1.6	2.4
All other destination markets	Share of quantity	37.0	34.5	33.7	36.0	34.9	18.8
Non-U.S. destination markets	Share of quantity	94.2	94.4	89.5	94.5	92.3	95.3
All destination markets	Share of quantity	100.0	100.0	100.0	100.0	100.0	100.0

Unit value in dollars per pound; share in percent

Source: Official imports statistics of imports from Russia (constructed export statistics for Russia) under HS subheading 4002.19 as reported by various statistical reporting authorities in the Global Trade Atlas database, accessed May 25, 2023.

Note: United States is shown at the top. All remaining top export destinations are shown in descending order of 2022 data.

Exports of all forms of styrene-butadiene synthetic rubber (SBR) are presented in table IV-45. South Korea is both the leading global and subject country exporter of SBR, accounting for 17.4-19.7 percent of the global total export volume between 2017-22. Poland's exports were second to South Korea in terms of volume of countries subject to these reviews, ranging variably from 6.6 to 8.8 percent of the global total. Brazil and Mexico in aggregate accounted for 5.5 and 4.6 percent of the global total in 2017-18, but fell thereafter to between 1.4 to 2.0 percent of global exports for the remainder of the period of review. Altogether, the subject countries share of total global exports declined from 31.4 percent in 2017 to 25.8 percent in 2022. United States' exports during the 2017-22 period in comparison ranged from 4.2 to 6.0 percent of the global export total. Aggregate subject country exports' unit values fell progressively from \$0.85 per pound in 2017 to \$0.57 in 2020, followed by an upward trend to \$0.96 in 2022. In comparison, U.S. export unit values fell progressively from \$1.10 in 2017, to \$0.94 in 2020, but then increased to \$1.33 in 2022.

Leading nonsubject exporting countries in order of importance during 2017-22, include Germany, Taiwan, France, Japan, Russia, Singapore, and in 2021-2022, China where exports were up significantly and Russia down by a similar volume. Nonsubject countries share in aggregate of global exports ranged from 43.1 percent in 2017 to 45.8 percent in 2022. Unit values of exports from leading nonsubject countries in 2017 ranged from a low of \$0.84 per pound (Russia) to a high of \$1.13 (Singapore), while unit values in 2022 ranged from a low of \$0.84 per pound (Russia) to a high of \$1.24 (France), and were higher in 2022 than in 2017 for most leading nonsubject countries except Singapore.

Table IV-45Styrene-butadiene rubber: Global exports, by reporting country and period

Exporting country	Measure	2017	2018	2019	2020	2021	2022
United States	Quantity	356,851	316,976	315,391	266,392	365,690	389,036
Brazil	Quantity	139,394	81,140	61,976	52,249	58,435	51,335
Mexico	Quantity	226,861	213,191	43,126	35,757	85,947	80,161
Poland	Quantity	440,607	454,721	520,338	558,194	528,139	411,200
South Korea	Quantity	1,283,917	1,272,044	1,271,356	1,191,813	1,294,165	1,121,942
All subject exporters	Quantity	2,090,778	2,021,097	1,896,796	1,838,013	1,966,687	1,664,638
Germany	Quantity	608,612	607,632	570,442	518,183	600,136	597,358
Taiwan	Quantity	471,328	499,377	520,098	545,473	536,088	540,613
China	Quantity	120,384	128,724	125,885	156,216	214,891	407,593
France	Quantity	438,898	447,703	414,264	384,259	410,269	394,048
Singapore	Quantity	282,254	272,368	265,061	276,960	278,923	365,741
Russia	Quantity	441,158	404,445	430,045	537,811	594,410	363,683
Japan	Quantity	514,593	443,827	445,413	368,513	376,254	284,321
All other exporters	Quantity	1,329,705	1,311,684	1,580,816	1,466,891	1,550,061	1,433,869
All reporting exporters	Quantity	6,654,560	6,453,832	6,564,211	6,358,712	6,893,409	6,440,900
United States	Value	393,119	372,963	335,164	250,919	418,361	515,758
Brazil	Value	117,750	69,901	40,372	29,986	56,953	47,901
Mexico	Value	213,414	222,517	38,508	30,996	86,694	95,880
Poland	Value	362,563	357,354	340,433	293,081	441,683	398,144
South Korea	Value	1,091,867	1,073,219	921,781	701,418	1,119,199	1,052,526
All subject exporters	Value	1,785,594	1,722,991	1,341,093	1,055,481	1,704,528	1,594,451
Germany	Value	603,435	611,452	511,355	375,221	579,443	700,145
Taiwan	Value	442,976	491,214	469,633	378,408	457,198	509,283
China	Value	120,700	126,695	113,831	108,782	184,683	359,229
France	Value	439,055	454,211	371,696	332,144	445,120	486,962
Singapore	Value	319,794	306,904	273,477	241,045	272,167	354,668
Russia	Value	380,820	315,663	299,543	285,674	485,719	306,680
Japan	Value	546,218	483,444	428,336	311,219	393,471	330,965
All other exporters	Value	1,318,872	1,291,385	1,392,388	1,071,131	1,497,975	1,624,939
All reporting exporters	Value	6,350,583	6,176,922	5,536,516	4,410,024	6,438,666	6,783,079

Quantity in 1,000 pounds; value in 1,000 dollars

Table continued.

Table IV-45 ContinuedStyrene-butadiene rubber: Global exports, by reporting country and period

Exporting country	Measure	2017	2018	2019	2020	2021	2022
United States	Unit value	1.10	1.18	1.06	0.94	1.14	1.33
Brazil	Unit value	0.84	0.86	0.65	0.57	0.97	0.93
Mexico	Unit value	0.94	1.04	0.89	0.87	1.01	1.20
Poland	Unit value	0.82	0.79	0.65	0.53	0.84	0.97
South Korea	Unit value	0.85	0.84	0.73	0.59	0.86	0.94
All subject exporters	Unit value	0.85	0.85	0.71	0.57	0.87	0.96
Germany	Unit value	0.99	1.01	0.90	0.72	0.97	1.17
Taiwan	Unit value	0.94	0.98	0.90	0.69	0.85	0.94
China	Unit value	1.00	0.98	0.90	0.70	0.86	0.88
France	Unit value	1.00	1.01	0.90	0.86	1.08	1.24
Singapore	Unit value	1.13	1.13	1.03	0.87	0.98	0.97
Russia	Unit value	0.86	0.78	0.70	0.53	0.82	0.84
Japan	Unit value	1.06	1.09	0.96	0.84	1.05	1.16
All other exporters	Unit value	0.99	0.98	0.88	0.73	0.97	1.13
All reporting exporters	Unit value	0.95	0.96	0.84	0.69	0.93	1.05
United States	Share of quantity	5.4	4.9	4.8	4.2	5.3	6.0
Brazil	Share of quantity	2.1	1.3	0.9	0.8	0.8	0.8
Mexico	Share of quantity	3.4	3.3	0.7	0.6	1.2	1.2
Poland	Share of quantity	6.6	7.0	7.9	8.8	7.7	6.4
South Korea	Share of quantity	19.3	19.7	19.4	18.7	18.8	17.4
All subject exporters	Share of quantity	31.4	31.3	28.9	28.9	28.5	25.8
Germany	Share of quantity	9.1	9.4	8.7	8.1	8.7	9.3
Taiwan	Share of quantity	7.1	7.7	7.9	8.6	7.8	8.4
China	Share of quantity	1.8	2.0	1.9	2.5	3.1	6.3
France	Share of quantity	6.6	6.9	6.3	6.0	6.0	6.1
Singapore	Share of quantity	4.2	4.2	4.0	4.4	4.0	5.7
Russia	Share of quantity	6.6	6.3	6.6	8.5	8.6	5.6
Japan	Share of quantity	7.7	6.9	6.8	5.8	5.5	4.4
All other exporters	Share of quantity	20.0	20.3	24.1	23.1	22.5	22.3
All reporting exporters	Share of quantity	100.0	100.0	100.0	100.0	100.0	100.0

Unit values in dollars per pound; share in percent

Source: Official exports statistics under HS subheading 4002.19, as reported by various national statistical authorities in the Global Trade Atlas database, accessed April 12, 2023.

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 order, all remaining top exporting countries in descending order of 2022 data.

The Russian invasion of Ukraine on February 24, 2022, has impacted global energy and petrochemical sectors, including disruptions in synthetic rubber supply, demand, trade, and trade routes. The UK, effective June 1, 2022, imposed additional import duties of 35 percent on Russian synthetic rubbers of HTS Chapter 4002.³² Mr. Dimitri Konov, former head of the largest Russian polymer and Rubber manufacturer Sibur, referenced corresponding shifts in Russian rubber trade routes from Europe to China and other Asian countries albeit at lower profitability owing to higher logistics costs.³³ The EU in February 2023 announced sanctions on Russian synthetic rubber and carbon black imports scheduled to be enacted on July 1, 2024. During the interim period, a quota of 562,973 metric tons (1,241,142 thousand pounds) of Russian synthetic rubber imports and 752,475 metric tons (1,658,921 thousand pounds) of carbon black was established based on prorated historical Russian trade data. EU tire producers during the pre-war period had imported some 50 percent of synthetic rubber requirements from Russia, but voluntarily reduced the total to around 30 percent in 2022, through the purchase of higher priced synthetic rubber products from other countries. IISRP reported to the press that Russia was a major supplier of butadiene rubber for tire production, and also supplies other synthetic rubbers.^{34 35}

A number of tire producers and major rubber consuming firms operating in the United States have suspended or sold Russian tire operations, including sales of tire plants to local Russian entities by Michelin,³⁶ Nokian,³⁷ and Continental,³⁸ while Bridgestone³⁹ is searching for a local buyer. Pirelli, Titan, and Yokohama currently have active operations there.⁴⁰ Nokian planned to replace Russian capacity with a new plant in Romania and capacity expansions at its tire plants in Tennessee, and Finland. Additionally, Qingdao Sentry Tire Company of China has been contracted to make Nokian-brand tires in China for Nokian to sell in central Europe.⁴¹

³² UK announces further import sanctions against Russia, <u>https://www.gov.uk/government/news/uk-announces-further-import-sanctions-against-russia</u>, retrieved September 29, 2022.

³³ Rubber News, "Former Sibur CEO Konov says sanctions stunt synthetic rubber industry," <u>https://www.rubbernews.com/opinion/former-sibur-ceo-konov-says-sanctions-stunt-synthetic-rubber-industry</u>, retrieved September 29, 2022.

³⁴ Rubber News, "EU bans Russian SBR, carbon black imports," March 2, 2023.

³⁵ Russian and Chinese global trade authority data provide information on SBR shares of synthetic rubber trade and of SBR product types traded.

³⁶ Rubber News, "Michelin reaches deal to sell Russian operations," May 30, 2023.

³⁷ Tire Business, "Nokian Tyres concludes sale of Russian assets to Tatneft," March 16, 2023.

³⁸ Tire Business, "Continental sells tire production facility in Russia, May 22, 2023.

³⁹ Bridgestone, "Initiated the process to find a local buyer for its Russian assets," October 31, 2022.

⁴⁰ Rubber News, "Tire production facilities," December 26, 2022.

⁴¹ Rubber News, "Nokian strikes deal to sell Russian Tire Operations," October 28, 2022.

Part V: Pricing data

Factors affecting prices

Raw material costs

The primary raw material inputs for ESBR are styrene and butadiene. Butadiene accounts for a larger proportion of ESBR than styrene and generally drives the ESBR price.¹ Butadiene is a coproduct in the production of ethylene, and domestic producers of ESBR generally rely upon domestic production of butadiene.² U.S. producer Lion sources all of its styrene domestically.³ There are three regional butadiene markets: North America, Europe, and Asia.⁴ U.S. producer Lion typically ties its ESBR price to the North American butadiene price using data published by Chemical Market Analytics; the publication also provides region-specific 1500 and 1700 grade monthly prices.⁵

The United States is a net importer of butadiene and some domestic butadiene production has shut down multiple times since January 2018.⁶ The most significant shutdown occurred after a November 2019 explosion at the Texas Petroleum Chemical ("TPC") butadiene plant in Port Neches, Texas, resulting in a drop in butadiene production. TPC is a main supplier of butadiene to domestic producer Lion.⁷

As a share cost of goods sold ("COGS"), raw materials represented between *** and *** percent of COGS throughout 2017 to 2022.⁸ The butadiene cost as a share of COGS fluctuated from 2017-22, decreasing from *** percent in 2017 to *** percent in 2020, increasing to *** percent in 2021 and decreasing again to *** percent in 2022. The styrene

⁷ Final 2023 Publication, pp. II-9-II-10 and V-1-V-2.

¹ Butadiene and styrene are often referred to as "monomers" and their prices as "monomer prices."

² Butadiene accounts for approximately 75 percent of ESBR, by weight, while styrene accounts for approximately 25 percent. Original publication, pp. I-9-I-11 and II-1. See Part I for more information on the ESBR production process and Part III for more information on U.S. producers' raw materials costs.

³ Final 2023 Publication, p. V-1.

⁴ While there are regional price differences, the monomer market is a global market. The volatility in the U.S. market is consistent with global volatility. Final 2023 Publication, p. V-1.

⁵ U.S. producer Lion's posthearing brief, p. 3 and exh. 1.

⁶ Other butadiene supply disruptions occurred in February 2020 (fire at Exxon's Baton Rouge, Louisiana, pipeline), and April 2021 (Shell reduced supply of butadiene). Final 2023 Publication, p. II-11.

⁸ Raw material costs as a share of COGS was lowest in ***. Without the outlier in ***, raw materials as a share of COGS ranged from *** percent to *** percent.

cost as a share of COGS decreased from *** percent in 2017 to *** percent in 2020, increasing to *** percent in 2021 and *** percent in 2022.

As seen in table V-1 and figure V-1, prices of 1500 and 1700 series ESBR closely tracked butadiene prices. The domestic contract price of butadiene fluctuated between January 2017 and December 2022, and decreased by *** percent overall in this period. Butadiene prices increased by *** percent from January 2017 to March 2017, a period high,⁹ and then decreased through August 2017, and increased sharply again in March 2018. Butadiene prices were generally stable through October 2018 and then generally decreased through July 2020, with some fluctuations.¹⁰ Butadiene prices increased sharply after Winter Storm Uri in the first quarter of 2021,¹¹ reaching a peak in September 2021, and have generally decreased through December 2022. Styrene prices fluctuated during 2017-22 but not to the same degree as butadiene prices. Styrene prices were relatively stable to October 2018, decreased slightly in the third and fourth quarter of 2018 and stabilized until March 2020. Styrene prices decreased in April 2020 and then began to increase, reaching a period high in March 2021, before generally decreasing through December 2022.

⁹ Price increases were related to butadiene supply issues including a declared force majeure because of "some production issues." Tracy Dang and Helen Yan, *News Focus: US Butadiene Spikes 15.5 Cents/lb to 5-year High," Independent Commodity Intelligence Services,* March 3, 2017, <u>https://www.icis.com/explore/resources/news/2017/03/02/10084420/news-focus-us-butadiene-spikes-</u> 15-5-cents-lb-to-5-year-high/, retrieved April 26, 2023.

¹⁰ Butadiene prices increased in the third and fourth quarters of 2020 due to a hurricane in the Lake Charles, Louisiana, area that shut down a number of refineries that produce the feed stock for butadiene. Final 2023 Publication, p. V-2.

¹¹ Winter Storm Uri hit Texas in February 2021 and had "significant impacts" on butadiene supply availability, pricing, and led to force majeure and sales allocations. Winter Storm Uri also impacted styrene production, and "79 percent of U.S. capacity was either down or running at minimum rates." *S&P Global, Impact of Winter Storm Uri on Chemical Markets,*

https://www.spglobal.com/commodityinsights/en/ci/topic/impact-of-winter-storm-uri-on-chemicalmarkets.html, retrieved April 26, 2023.

Figure V-1 Raw materials: U.S. prices of butadiene, styrene, ESBR 1500 and 1700 series, by month

* * * * * * *

Source: ***.

Table V-1Raw materials: U.S. prices of butadiene, styrene, ESBR 1500 and 1700 series, by year and month

Year	Month	Butadiene	Styrene	SBR 1500- Polymer	SBR 1700- Polymer
2017	January	***	***	***	***
2017	February	***	***	***	***
2017	March	***	***	***	***
2017	April	***	***	***	***
2017	May	***	***	***	***
2017	June	***	***	***	***
2017	July	***	***	***	***
2017	August	***	***	***	***
2017	September	***	***	***	***
2017	October	***	***	***	***
2017	November	***	***	***	***
2017	December	***	***	***	***
2018	January	***	***	***	***
2018	February	***	***	***	***
2018	March	***	***	***	***
2018	April	***	***	***	***
2018	May	***	***	***	***
2018	June	***	***	***	***
2018	July	***	***	***	***
2018	August	***	***	***	***
2018	September	***	***	***	***
2018	October	***	***	***	***
2018	November	***	***	***	***
2018	December	***	***	***	***

Contract prices in dollars per pound

Table continued

Table V-1 continuedRaw materials: U.S. prices of butadiene, styrene, ESBR 1500 and 1700 series, by year and month

Year	Month	Butadiene	Styrene	SBR 1500- Polymer	SBR 1700- Polymer
2019	January	***	***	***	***
2019	February	***	***	***	***
2019	March	***	***	***	***
2019	April	***	***	***	***
2019	May	***	***	***	***
2019	June	***	***	***	***
2019	July	***	***	***	***
2019	August	***	***	***	***
2019	September	***	***	***	***
2019	October	***	***	***	***
2019	November	***	***	***	***
2019	December	***	***	***	***
2020	January	***	***	***	***
2020	February	***	***	***	***
2020	March	***	***	***	***
2020	April	***	***	***	***
2020	May	***	***	***	***
2020	June	***	***	***	***
2020	July	***	***	***	***
2020	August	***	***	***	***
2020	September	***	***	***	***
2020	October	***	***	***	***
2020	November	***	***	***	***
2020	December	***	***	***	***

Contract prices in dollars per pound

Table continued.

Table V-1 continuedRaw materials: U.S. prices of butadiene, styrene, ESBR 1500 and 1700 series, by year and month

Veer	Manth	Dutadiana	Churrente	SBR 1500-	SBR 1700-
Year	Month	Butadiene	Styrene	Polymer	Polymer
2021	January	***	***	***	***
2021	February	***	***	***	***
2021	March	***	***	***	***
2021	April	***	***	***	***
2021	May	***	***	***	***
2021	June	***	***	***	***
2021	July	***	***	***	***
2021	August	***	***	***	***
2021	September	***	***	***	***
2021	October	***	***	***	***
2021	November	***	***	***	***
2021	December	***	***	***	***
2022	January	***	***	***	***
2022	February	***	***	***	***
2022	March	***	***	***	***
2022	April	***	***	***	***
2022	May	***	***	***	***
2022	June	***	***	***	***
2022	July	***	***	***	***
2022	August	***	***	***	***
2022	September	***	***	***	***
2022	October	***	***	***	***
2022	November	***	***	***	***
2022	December	***	***	***	***
ZUZZ				1	

Contract prices in dollars per pound

Source: ***.

U.S. producers reported that their raw material prices *** from 2017-22, and Goodyear expected prices to *** while Lion expected prices to ***. U.S. producer Lion noted that ***. U.S. producer Goodyear reported that ***. *** of 20 responding importers reported that raw material prices fluctuated during 2017-22, *** reported prices increased, and *** reported no change in prices. Reasons for fluctuating price changes included changes in butadiene prices and domestic supply chain disruptions. Importer *** reported that it passes on raw material price increases to the customer price.

Most purchasers (18 of 23) reported that they were familiar with raw material prices and 10 purchasers reported that raw material prices affected their contracts.¹² Purchasers reported that ESBR prices are tied to a formula which includes raw material markers, particularly for butadiene and styrene. Purchaser *** reported that it had "moved some contracts from domestic sources due to the competitiveness of ESBR raw materials (butadiene and styrene) in the European and Asian markets."¹³ Purchaser *** reported that it receives a weekly report on butadiene pricing which can "help inform purchasing decisions and impact negotiations."

Transportation costs to the U.S. market

Transportation costs for ESBR shipped from subject countries to the United States averaged 1.3 percent for Brazil, 1.8 percent for Mexico, 17.4 percent for Poland, and 33.3 percent for South Korea during 2022. These estimates were derived from official import data and represent the transportation and other charges on imports.¹⁴

Respondent Negromex stated that the availability of ground transportation between its home market, Mexico, and the United States allows it to quickly enter and exit the U.S. market.

¹² Importers *** are also purchasers. Their questionnaire responses are reported separately throughout this section of the report, unless otherwise noted.

¹³ It added that raw material prices play a "major role in our decision-making process as we look at annual agreements."

¹⁴ The estimated transportation costs were obtained by subtracting the customs value from the c.i.f. value of the imports for 2022 and then dividing by the customs value based on the HTS statistical reporting numbers 4002.19.0015 and 4002.19.0019 which may include out-of-scope products.

It added that the low transportation costs also allow Negromex to re-export product from a U.S. warehouse back to Mexico.¹⁵

U.S. inland transportation costs

***. *** of 13 importers reported that they typically arrange transportation to their customers and 6 reported that the customer typically arranges transportation. U.S. producers reported that their U.S. inland transportation costs averaged *** percent and importers reported costs of 2 to 5 percent.

Pricing practices

Pricing methods

ESBR sales are generally made through annual contracts and through the spot market.¹⁶ Respondent Negromex stated that after 2017 ESBR from Mexico was exclusively sold via the spot market, which generally commands a higher price than contract sales, and that Negromex can enter and exit the U.S. market easily due to its spot-sales strategy.¹⁷

*** most importers reported setting prices using transaction-by-transaction negotiations, although all types of price setting mechanisms were reported by *** importers (table V-2).

Table V-2 ESBR: Count of U.S. producers' and importers' reported price setting methods

Method	U.S. producers	Importers
Transaction-by-transaction	***	***
Contract	***	***
Set price list	***	***
Other	***	***
Responding firms	2	16

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.

¹⁵ Respondent Negromex's posthearing brief, pp. 7-8.

¹⁶ Hearing transcript, pp. 23-24 (Ballard).

¹⁷ Hearing transcript, pp. 95-96 (Quintero) and 106-107 (Sjoberg).

U.S. producers reported selling mostly on an *** whereas importers reported selling ESBR in the spot market in 2022 (table V-3). U.S. producers' *** did ***.¹⁸

Table V-3 ESBR: U.S. producers' and importers' shares of commercial U.S. shipments by type of sale, 2022

Share in percent

Type of sale	U.S. producers	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.

Most responding purchasers reported that they purchase ESBR either monthly (11 of 22 purchasers) or weekly (6 firms). Most purchasers reporting contacting 1 to 5 suppliers before making a purchase, although a few firms reported that they may contact 10 or more suppliers.

Domestic producer Lion stated that U.S. purchasers use multiple suppliers to leverage pricing and that purchasers use the price offering of competitors to drive down prices.¹⁹ Respondent Kumho stated that purchasers source from non-domestic suppliers because it is "necessary," particularly given domestic supply disruptions.²⁰

Conversion prices

The price of ESBR sold to tire manufacturers set through annual contracts are determined by agreed upon formulas made up of three components: 1) the domestic market price, or the highest price customers are willing to pay; 2) the public pricing indices for the monomers butadiene and styrene; and 3) the conversion price. The conversion price is the

¹⁸ Importer *** reported it also sold ESBR via annual contracts and long-term contracts of 2 years, though not necessarily in 2022. Its contracts did not allow for price renegotiation, had a fixed quantity provision, and were indexed to raw material costs. Importer *** also reported it sold via annual contracts, though not necessarily in 2022, and that its annual contracts did not allow for price renegotiation and were indexed to raw material costs.

¹⁹ U.S. producer Lion's prehearing brief, p. 39.

²⁰ Respondent Kumho's prehearing brief, p. 21, and hearing transcript, p. 123 (Kendler).

"most static portion" of pricing, it can be adjusted on an annual basis, and does not differ significantly between grades of ESBR. Conversion prices are typically fixed for the year,²¹ but they can be negotiated on an annual or quarterly basis. ²² The conversion price "is intended to cover other material costs, fixed overhead costs, labor costs, and a profit margin."

Both U.S. producers and two of the 17 responding importers reported having contracts that are indexed to the price of butadiene and styrene with a fixed conversion price. U.S. producer Lion argued that its contracts do not allow for a one-to-one passthrough of all costs, and that customers "simply resist {its} efforts to push through {its} increase to input costs."²³ Both U.S. producers and one importer provided their annual conversion prices (table V-4).²⁴

Table V-4 ESBR: Conversion prices, by series, reported by U.S. producers

Year contract was agreed to	Goodyear: 1500 series	Lion: 1500 series	Goodyear: 1700 series	Lion: 1700 series
2017	***	***	***	***
2018	***	***	***	***
2019	***	***	***	***
2020	***	***	***	***
2021	***	***	***	***
2022	***	***	***	***

Dollars per pound

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

Only U.S. producer *** explained the trends in its conversion prices. It reported that the ***. It added that, in 2022, ***.

Sales terms and discounts

U.S. producers typically quote prices on *** basis. *** of nine importers quote prices on an f.o.b. basis, including *** firms which reported quoting prices on both a

²¹ Final 2023 Publication, pp. V-6-V-7.

²² Hearing transcript, pp. 23-24 (Ballard).

²³ Hearing transcript, p. 24 (Ballard).

²⁴ Importer *** also provided a conversion price of *** cents per pound for the 1700 series in 2017.

delivered and an f.o.b. basis, and *** firms reported quoting prices on a delivered basis only. ***. Most responding importers (*** of 14) reported having no discount policy. Of the importers that reported having discounts, two reported quantity discounts, one reported total volume discounts, and one importer reported early payment discounts.

Price leadership

Most responding purchasers (18 of 23) did not name any ESBR suppliers as price leaders in the U.S. market. Five purchasers reported one or more price leaders.²⁵ Lion and SIBUR were each listed as a price leader by two purchasers and five other suppliers (Goodyear, Kumho, LG Chem, Sinopec, and Synthos) were each listed by one purchaser. Purchasers listing price leaders reported that Sinopec and SIBUR were price leaders because they were fully integrated petrochemical companies that gave the best indication of current market conditions, and that Lion frequently added surcharges and has a large share of the market. Purchaser *** reported that Lion initiated price increases in 2018 and 2022 and has requested another surcharge. In addition, purchaser ***, reported that LG Chem and Kumho affect the Asian market by changing their base price, that Synthos often leads the European market, and that Goodyear typically is the price leader in the domestic market although in the past year Lion "drastically" increased its prices.

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 ESBR products shipped to unrelated U.S. customers during January 2017 – December 2022.

Product 1.-- IISRP 1502 grade of ESBR in all forms; sales made under a contract agreement

Product 2.-- IISRP 1783 grade of ESBR in all forms; sales made under a contract agreement

²⁵ In addition, purchaser *** reported, ***.

Product 3.-- IISRP 1502 grade of ESBR in all forms; spot sales

Product 4.-- IISRP 1783 grade of ESBR in all forms; spot sales

Two U.S. producers and five importers provided usable pricing data for sales of the requested products, although not all firms reported pricing for all products for all quarters.^{26 27 28} Pricing data reported by these firms accounted for approximately *** percent of U.S. producers' U.S. shipments of ESBR and *** percent of U.S. shipments of subject imports from Mexico in 2022.²⁹ No pricing data for Brazil were reported in 2022; pricing data were only reported in 2017 through 2020. No pricing data for Poland were reported in 2022; pricing data were only reported in 2017 and 2018. No pricing data were reported for subject imports from South Korea in 2021-22.

Price data for products 1-4 are presented in tables V-5 to V-8 and figures V-2 to V-5.

²⁶ 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.

²⁷ U.S. producer *** stated that ***. Its price data *** have not been included in the tables and figures below. Email to staff from ***.

²⁸ Importer *** reported a price of *** dollars per pound for *** pounds in the first quarter of 2021 for product 3. It did not respond to Staff's emails to explain this *** price which was *** higher than the price it reported in other quarters for the same product. The price and associated quantity in the first quarter of 2021 for product 3 are not included in the tables and graphs below. Emails from staff to ***.

²⁹ Pricing coverage is based on U.S. shipments reported in questionnaires.

Table V-5

ESBR: Weighted-average f.o.b. prices and quantities of domestic and imported product 1 and margins of underselling/(overselling), by source and quarter

	U.S.	U.S.	Brazil	Brazil	Brazil	Mexico	Mexico	Mexico
Period	price	quantity	price	quantity	margin	price	quantity	margin
2017 Q1	***	***	***	***	***	***	***	***
2017 Q2	***	***	***	***	***	***	***	***
2017 Q3	***	***	***	***	***	***	***	***
2017 Q4	***	***	***	***	***	***	***	***
2018 Q1	***	***	***	***	***	***	***	***
2018 Q2	***	***	***	***	***	***	***	***
2018 Q3	***	***	***	***	***	***	***	***
2018 Q4	***	***	***	***	***	***	***	***
2019 Q1	***	***	***	***	***	***	***	***
2019 Q2	***	***	***	***	***	***	***	***
2019 Q3	***	***	***	***	***	***	***	***
2019 Q4	***	***	***	***	***	***	***	***
2020 Q1	***	***	***	***	***	***	***	***
2020 Q2	***	***	***	***	***	***	***	***
2020 Q3	***	***	***	***	***	***	***	***
2020 Q4	***	***	***	***	***	***	***	***
2021 Q1	***	***	***	***	***	***	***	***
2021 Q2	***	***	***	***	***	***	***	***
2021 Q3	***	***	***	***	***	***	***	***
2021 Q4	***	***	***	***	***	***	***	***
2022 Q1	***	***	***	***	***	***	***	***
2022 Q2	***	***	***	***	***	***	***	***
2022 Q3	***	***	***	***	***	***	***	***
2022 Q4	***	***	***	***	***	***	***	***

Price in dollars per pound, quantity in 1,000 pounds, margin in percent.

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

Note: Product 1: IISRP 1502 grade of ESBR in all forms; sales made under a contract agreement.

Note: No data for product 1 were reported for Poland and South Korea.

Table V-6 ESBR: Weighted-average f.o.b. prices and quantities of domestic and imported product 2 and margins of underselling/(overselling), by source and quarter

Period	U.S. price	U.S. quantity	Brazil price	Brazil quantity	Brazil margin
2017 Q1	***	***	***	***	***
2017 Q2	***	***	***	***	***
2017 Q3	***	***	***	***	***
2017 Q4	***	***	***	***	***
2018 Q1	***	***	***	***	***
2018 Q2	***	***	***	***	***
2018 Q3	***	***	***	***	***
2018 Q4	***	***	***	***	***
2019 Q1	***	***	***	***	***
2019 Q2	***	***	***	***	***
2019 Q3	***	***	***	***	***
2019 Q4	***	***	***	***	***
2020 Q1	***	***	***	***	***
2020 Q2	***	***	***	***	***
2020 Q3	***	***	***	***	***
2020 Q4	***	***	***	***	***
2021 Q1	***	***	***	***	***
2021 Q2	***	***	***	***	***
2021 Q3	***	***	***	***	***
2021 Q4	***	***	***	***	***
2022 Q1	***	***	***	***	***
2022 Q2	***	***	***	***	***
2022 Q3	***	***	***	***	***
2022 Q4	***	***	***	***	***

Price in dollars per pound, quantity in 1,000 pounds, margin in percent.

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

Note: Product 2: IISRP 1783 grade of ESBR in all forms; sales made under a contract agreement.

Note: U.S. producer ***. No data for product 2 were reported for Mexico, Poland, and South Korea.

Table V-7

ESBR: Weighted-average f.o.b. prices and quantities of domestic and imported product 3 and margins of underselling/(overselling), by source and quarter

	U.S.	U.S.	Brazil	Brazil	Brazil	Mexico	Mexico	Mexico
Period	price	quantity	price	quantity	margin	price	quantity	margin
2017 Q1	***	***	***	***	***	***	***	***
2017 Q2	***	***	***	***	***	***	***	***
2017 Q3	***	***	***	***	***	***	***	***
2017 Q4	***	***	***	***	***	***	***	***
2018 Q1	***	***	***	***	***	***	***	***
2018 Q2	***	***	***	***	***	***	***	***
2018 Q3	***	***	***	***	***	***	***	***
2018 Q4	***	***	***	***	***	***	***	***
2019 Q1	***	***	***	***	***	***	***	***
2019 Q2	***	***	***	***	***	***	***	***
2019 Q3	***	***	***	***	***	***	***	***
2019 Q4	***	***	***	***	***	***	***	***
2020 Q1	***	***	***	***	***	***	***	***
2020 Q2	***	***	***	***	***	***	***	***
2020 Q3	***	***	***	***	***	***	***	***
2020 Q4	***	***	***	***	***	***	***	***
2021 Q1	***	***	***	***	***	***	***	***
2021 Q2	***	***	***	***	***	***	***	***
2021 Q3	***	***	***	***	***	***	***	***
2021 Q4	***	***	***	***	***	***	***	***
2022 Q1	***	***	***	***	***	***	***	***
2022 Q2	***	***	***	***	***	***	***	***
2022 Q3	***	***	***	***	***	***	***	***
2022 Q4	***	***	***	***	***	***	***	***

Price in dollars per pound, quantity in 1,000 pounds, margin in percent.

Table continued.

Table V-7 continued

ESBR: Weighted-average f.o.b. prices and quantities of domestic and imported product 3 and margins of underselling/(overselling), by source and quarter

Period	U.S. price	U.S. quantity	Poland price	Poland quantity	Poland margin	South Korea price	South Korea quantity	South Korea margin
2017 Q1	***	***	***	***	***	***	***	***
2017 Q2	***	***	***	***	***	***	***	***
2017 Q3	***	***	***	***	***	***	***	***
2017 Q4	***	***	***	***	***	***	***	***
2018 Q1	***	***	***	***	***	***	***	***
2018 Q2	***	***	***	***	***	***	***	***
2018 Q3	***	***	***	***	***	***	***	***
2018 Q4	***	***	***	***	***	***	***	***
2019 Q1	***	***	***	***	***	***	***	***
2019 Q2	***	***	***	***	***	***	***	***
2019 Q3	***	***	***	***	***	***	***	***
2019 Q4	***	***	***	***	***	***	***	***
2020 Q1	***	***	***	***	***	***	***	***
2020 Q2	***	***	***	***	***	***	***	***
2020 Q3	***	***	***	***	***	***	***	***
2020 Q4	***	***	***	***	***	***	***	***
2021 Q1	***	***	***	***	***	***	***	***
2021 Q2	***	***	***	***	***	***	***	***
2021 Q3	***	***	***	***	***	***	***	***
2021 Q4	***	***	***	***	***	***	***	***
2022 Q1	***	***	***	***	***	***	***	***
2022 Q2	***	***	***	***	***	***	***	***
2022 Q3	***	***	***	***	***	***	***	***
2022 Q4	***	***	***	***	***	***	***	***

Price in dollars per pound, quantity in 1,000 pounds, margin in percent.

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

Note: Product 3: IISRP 1502 grade of ESBR in all forms; spot sales.

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Quantity shown as "0" is quantity greater than 0, but less than 500 pounds.

Table V-8

ESBR: Weighted-average f.o.b. prices and quantities of domestic and imported product 4 and margins of underselling/(overselling), by source and quarter

	U.S.	U.S.	Brazil	Brazil	Brazil	Mexico	Mexico	Mexico
Period	price	quantity	price	quantity	margin	price	quantity	margin
2017 Q1	***	***	***	***	***	***	***	***
2017 Q2	***	***	***	***	***	***	***	***
2017 Q3	***	***	***	***	***	***	***	***
2017 Q4	***	***	***	***	***	***	***	***
2018 Q1	***	***	***	***	***	***	***	***
2018 Q2	***	***	***	***	***	***	***	***
2018 Q3	***	***	***	***	***	***	***	***
2018 Q4	***	***	***	***	***	***	***	***
2019 Q1	***	***	***	***	***	***	***	***
2019 Q2	***	***	***	***	***	***	***	***
2019 Q3	***	***	***	***	***	***	***	***
2019 Q4	***	***	***	***	***	***	***	***
2020 Q1	***	***	***	***	***	***	***	***
2020 Q2	***	***	***	***	***	***	***	***
2020 Q3	***	***	***	***	***	***	***	***
2020 Q4	***	***	***	***	***	***	***	***
2021 Q1	***	***	***	***	***	***	***	***
2021 Q2	***	***	***	***	***	***	***	***
2021 Q3	***	***	***	***	***	***	***	***
2021 Q4	***	***	***	***	***	***	***	***
2022 Q1	***	***	***	***	***	***	***	***
2022 Q2	***	***	***	***	***	***	***	***
2022 Q3	***	***	***	***	***	***	***	***
2022 Q4	***	***	***	***	***	***	***	***

Price in dollars per pound, quantity in 1,000 pounds, margin in percent.

Table continued.

Table V-8 Continued ESBR: Weighted-average f.o.b. prices and quantities of domestic and imported product 4 and margins of underselling/(overselling), by source and quarter

Period	U.S. price	U.S. quantity	South Korea price	South Korea quantity	South Korea margin
2017 Q1	***	***	***	***	***
2017 Q2	***	***	***	***	***
2017 Q3	***	***	***	***	***
2017 Q4	***	***	***	***	***
2018 Q1	***	***	***	***	***
2018 Q2	***	***	***	***	***
2018 Q3	***	***	***	***	***
2018 Q4	***	***	***	***	***
2019 Q1	***	***	***	***	***
2019 Q2	***	***	***	***	***
2019 Q3	***	***	***	***	***
2019 Q4	***	***	***	***	***
2020 Q1	***	***	***	***	***
2020 Q2	***	***	***	***	***
2020 Q3	***	***	***	***	***
2020 Q4	***	***	***	***	***
2021 Q1	***	***	***	***	***
2021 Q2	***	***	***	***	***
2021 Q3	***	***	***	***	***
2021 Q4	***	***	***	***	***
2022 Q1	***	***	***	***	***
2022 Q2	***	***	***	***	***
2022 Q3	***	***	***	***	***
2022 Q4	***	***	***	***	***

Price in dollars per pound, quantity in 1,000 pounds, margin in percent.

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

Note: Product 4: IISRP 1783 grade of ESBR in all forms; spot sales.

Note: U.S. producer ***. Importer *** reported that its sale in ***. No data for product 4 were reported for Poland.

Figure V-2 ESBR: Weighted-average 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: IISRP 1502 grade of ESBR in all forms; sales made under a contract agreement.

Figure V-3 ESBR: Weighted-average 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: IISRP 1783 grade of ESBR in all forms; sales made under a contract agreement.

Figure V-4 ESBR: Weighted-average 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: IISRP 1502 grade of ESBR in all forms; spot sales.

*

*

*

Figure V-5 ESBR: Weighted-average prices and quantities of domestic and imported product 4, by source and quarter

Price of product 4

* * * * * * *

Volume of product 4

*

*

*

*

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

*

Note: Product 4: IISRP 1783 grade of ESBR in all forms; spot sales.

*

*

Price trends

In general, prices decreased during 2017-22. Table V-9 summarizes the price trends, by country and by product. As shown in the table, during 2017-22 domestic price decreases ranged from *** percent to *** percent with the exception of product 4, which increased by *** percent. Prices of product 3 from Mexico decreased by *** percent.³⁰ Prices of products sold via spot sales (products 3 and 4) fluctuated throughout the period, and firms reported that price movements for these products tracked raw material price movements.³¹

As shown in figure V-6, prices for domestic product fluctuated but generally decreased from 2017 through the third quarter of 2020, and have generally increased with some fluctuation through 2022. U.S. producer *** noted that ***. It added that changes in products 3 and 4 ***.

³⁰ There was not enough data reported for other products from subject sources to conduct a meaningful analysis of price changes.

³¹ Emails to staff from ***.

Table V-9ESBR: Summary of price data, by product and source, January 2017-December 2022

Product	Source	Number of quarters	Quantity	Low price	High price	First quarter price	Last quarter price	Change over period
Product 1	United States	***	***	***	***	***	***	***
Product 1	Brazil	***	***	***	***	***	***	***
Product 1	Mexico	***	***	***	***	***	***	***
Product 1	Poland	***	***	***	***	***	***	***
Product 1	South Korea	***	***	***	***	***	***	***
Product 2	United States	***	***	***	***	***	***	***
Product 2	Brazil	***	***	***	***	***	***	***
Product 2	Mexico	***	***	***	***	***	***	***
Product 2	Poland	***	***	***	***	***	***	***
Product 2	South Korea	***	***	***	***	***	***	***
Product 3	United States	***	***	***	***	***	***	***
Product 3	Brazil	***	***	***	***	***	***	***
Product 3	Mexico	***	***	***	***	***	***	***
Product 3	Poland	***	***	***	***	***	***	***
Product 3	South Korea	***	***	***	***	***	***	***
Product 4	United States	***	***	***	***	***	***	***
Product 4	Brazil	***	***	***	***	***	***	***
Product 4	Mexico	***	***	***	***	***	***	***
Product 4	Poland	***	***	***	***	***	***	***
Product 4	South Korea	***	***	***	***	***	***	***

Quantity in 1,000 pounds, price in dollars per pound

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

Note: Change over period is percentage change from the first quarter in 2017 to the fourth quarter in 2022.

Figure V-6 ESBR: Indexed U.S. producer prices, January 2017 through December 2022

*

* * * * *

*

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

Table V-10ESBR: Indexed U.S. producer prices, January 2017 through December 2022

Period	Product 1	Product 2	Product 3	Product 4
2017 Q1	***	***	***	***
2017 Q2	***	***	***	***
2017 Q3	***	***	***	***
2017 Q4	***	***	***	***
2018 Q1	***	***	***	***
2018 Q2	***	***	***	***
2018 Q3	***	***	***	***
2018 Q4	***	***	***	***
2019 Q1	***	***	***	***
2019 Q2	***	***	***	***
2019 Q3	***	***	***	***
2019 Q4	***	***	***	***
2020 Q1	***	***	***	***
2020 Q2	***	***	***	***
2020 Q3	***	***	***	***
2020 Q4	***	***	***	***
2021 Q1	***	***	***	***
2021 Q2	***	***	***	***
2021 Q3	***	***	***	***
2021 Q4	***	***	***	***
2022 Q1	***	***	***	***
2022 Q2	***	***	***	***
2022 Q3	***	***	***	***
2022 Q4	***	***	***	***

Indexed prices in percent

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

Price comparisons³²

As shown in tables V-11 and V-12, prices for ESBR imported from Brazil were below those for U.S.-produced product in 14 of 21 instances; margins of underselling ranged from *** to *** percent. In the remaining 7 instances, prices for ESBR from Brazil were between *** and *** percent above prices for the domestic product. Prices for ESBR imported from Mexico were above those for U.S.-produced product in all 33 instances; margins of overselling ranged from *** to *** percent. Prices for ESBR imported from Poland were below those for U.S.-produced product in 1 of 5 instances with a margin of *** percent, and in the remaining 4 instances overselling margins ranged from *** to *** percent. Prices for ESBR imported from South Korea were below those for U.S.-produced product in 2 of 17 instances with margins ranging from *** to *** percent, and in the remaining 15 instances overselling margins ranged from *** to *** percent.

³² In the original investigations, subject imports from Brazil were priced lower than domestic product in 30 of 32 comparisons, with underselling margins ranging from 0.6 to 20.6 percent; subject imports from Mexico were priced lower than domestic product in 37 of 71 comparisons, with underselling margins ranging from 0.1 to 16.3 percent; subject imports from Poland were priced lower than domestic product in 27 of 42 comparisons, with underselling margins ranging from 0.1 to 53.2 percent, and subject imports from South Korea were priced lower than domestic product in 56 of 73 comparisons, with underselling margins ranging from 0.3 to 30.8 percent. Original publication, pp. V-6-7.

Table V-11 ESBR: Instances of underselling and overselling and the range and average of margins, by product

Item	Туре	Number of quarters	Quantity	Average margin	Minimum margin	Maximum margin
Product 1	Underselling	13	***	***	***	***
Product 2	Underselling		***	***	***	***
Product 3	Underselling	3	***	***	***	***
Product 4	Underselling	1	***	***	***	***
All products	Underselling	17	***	***	***	***
Product 1	Overselling	5	***	***	***	***
Product 2	Overselling	1	***	***	***	***
Product 3	Overselling	45	***	***	***	***
Product 4	Overselling	8	***	***	***	***
All products	Overselling	59	***	***	***	***

Quantity in 1,000 pounds; margin in percent

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

Note: These data include only quarters in which there is a comparison between the U.S. and subject product.

Table V-12 ESBR: Instances of underselling and overselling and the range and average of margins, by source

Quantity in 1,000 pounds; margin in percent

ltem	Туре	Number of quarters	Quantity	Average margin	Minimum margin	Maximum margin
Brazil	Underselling	14	***	***	***	***
Mexico	Underselling		***	***	***	***
Poland	Underselling	1	***	***	***	***
South Korea	Underselling	2	***	***	***	***
All subject countries	Underselling	17	***	***	***	***
Brazil	Overselling	7	***	***	***	***
Mexico	Overselling	33	***	***	***	***
Poland	Overselling	4	***	***	***	***
South Korea	Overselling	15	***	***	***	***
All subject countries	Overselling	59	***	***	***	***

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

Note: These data include only quarters in which there is a comparison between the U.S. and subject product.

APPENDIX A

FEDERAL REGISTER NOTICES

The Commission makes available notices relevant to its investigations and reviews on its website, <u>www.usitc.gov</u>. 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
87 FR 46943, August 1, 2022	Initiation of Five-Year (Sunset) Reviews	https://www.govinfo.gov/c ontent/pkg/FR-2022-08- 01/pdf/2022-16430.pdf
87 FR 47001, August 1, 2022	Emulsion Styrene-Butadiene Rubber From Brazil, Mexico, Poland, and South Korea; Institution of Five-Year Reviews	https://www.govinfo.gov/c ontent/pkg/FR-2022-08- 01/pdf/2022-16364.pdf
87 FR 73286, November 29, 2022	Emulsion Styrene-Butadiene Rubber From Brazil, the Republic of Korea, Mexico, and Poland: Final Results of the Expedited First Sunset Reviews of the Antidumping Duty Orders	https://www.govinfo.gov/c ontent/pkg/FR-2022-11- 29/pdf/2022-26021.pdf
87 FR 76509, December 14, 2022	Emulsion Styrene-Butadiene Rubber From Brazil, Mexico, Poland, and South Korea; Notice of Commission Determination To Conduct Full Five- Year Reviews	https://www.govinfo.gov/c ontent/pkg/FR-2022-12- 14/pdf/2022-27116.pdf
87 FR 79905, December 28, 2022	Emulsion Styrene-Butadiene Rubber From Brazil, Mexico, Poland, and South Korea; Scheduling of Full Five- Year Reviews	https://www.govinfo.gov/c ontent/pkg/FR-2022-12- 28/pdf/2022-28244.pdf

APPENDIX B

LIST OF HEARING WITNESSES

CALENDAR OF PUBLIC HEARING

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

Subject:	Emulsion Styrene-Butadiene Rubber from Brazil, Mexico, Poland, and South Korea
Inv. Nos.:	731-TA-1334-1337 (Review)
Date and Time:	May 23, 2023 - 9:30 a.m.

Sessions were held in connection with these investigations in the Main Hearing Room (Room 101), 500 E Street, SW., Washington, DC.

OPENING REMARKS:

In Support of Continuation (**Mert. E. Arkan**, Buchanan Ingersoll & Rooney PC) In Opposition to Continuation (**Kelsey J. Christensen**, Clark Hill PLC)

In Support of the Continuation of the Antidumping Duty Orders:

Buchanan Ingersoll & Rooney PC Washington, DC <u>on behalf of</u>

Lion Elastomers LLC

Bobby Rikhoff, Vice President of Venture Projects, Lion Elastomers LLC

Sherry Ballard, Accounting Manager, Lion Elastomers LLC

Mert. E. Arkan

Daniel B. Pickard

)) – OF COUNSEL)

In Opposition to the Continuation of the <u>Antidumping Duty Orders:</u>

White & Case LLP Washington, DC on behalf of

Kumho Petrochemical Co., Ltd.

Hyunmin (Justin) Jo, Assistant Manager, Sales Planning & Marketing Team, Kumho Petrochemical Co., Ltd.

Hakgeun (Henry) Shin, Regional Export Manager, Kumho Petrochemical Co., Ltd.

William J. Moran

Ron Kendler

)) – OF COUNSEL

Clark Hill PLC Washington, DC

on behalf of

Negromex, S.A. de C.V. Dynasol, LLC (collectively, "Negromex")

Daniela Quintero, Global Commercial Intelligence Manager, Dynasol, LLC

Cesar Perez, Global Sales Manager/ESBR, NBR & Rubber Chemicals

William C. Sjoberg

)) – OF COUNSEL)

Kelsey J. Christensen

REBUTTAL/CLOSING REMARKS:

In Support of Continuation (**Daniel B. Pickard**, Buchanan Ingersoll & Rooney PC) In Opposition to Continuation (**Ron Kendler**, White & Case LLP and **William C. Sjoberg**, Clark Hill PLC)

-END-

APPENDIX C

SUMMARY DATA

Table C-1

ESBR: Summary data concerning the U.S. market, by item and period Quantity=1,000 pounds; Value=1,000 dollars; Unit values, unit labor costs, and unit expenses=dollars per pound; Period changes=percent--exceptions noted

			Reported	d data		
			Calenda	r year		
Item	2017	2018	2019	2020	2021	2022
U.S. consumption quantity:						
Amount	***	***	***	***	***	**
Producers' share (fn1)	***	***	***	***	***	**
Importers' share (fn1):						
Brazil	***	***	***	***	***	**
Mexico	***	***	***	***	***	**
Poland	***	***	***	***	***	**
South Korea	***	***	***	***	***	**
Subject sources	***	***	***	***	***	**
Nonsubject sources	***	***	***	***	***	**
All import sources	***	***	***	***	***	**
U.S. consumption value:						
Amount	***	***	***	***	***	**
Producers' share (fn1)	***	***	***	***	***	**
Importers' share (fn1):						
Brazil	***	***	***	***	***	**
Mexico	***	***	***	***	***	**
Poland	***	***	***	***	***	**
South Korea	***	***	***	***	***	**
Subject sources	***	***	***	***	***	**
Nonsubject sources	***	***	***	***	***	**
All import sources	***	***	***	***	***	**
U.S. importers' U.S. shipments of imports f	rom:					
Brazil:	IOIII.					
	***	***	***	***	***	**
Quantity	***	***	***	***	***	**
Value	***	***	***	***	***	**
Unit value	***	***	***	***	***	**
Ending inventory quantity	~~~	***	***	***	***	**
Mexico:	***	***	***	***	***	**
Quantity						
Value	***	***	***	***	***	**
Unit value	***	***	***	***	***	**
Ending inventory quantity	***	***	***	***	***	**
Poland:						
Quantity	***	***	***	***	***	**
Value	***	***	***	***	***	**
Unit value	***	***	***	***	***	**
Ending inventory quantity	***	***	***	***	***	**
South Korea:						
	***	***	***	***	***	**
Quantity						
	***	***	***	***	***	**
Quantity Value Unit value	***	***	***	***	***	**

ESBR: Summary data concerning the U.S. market, by item and period Quantity=1,000 pounds; Value=1,000 dollars; Unit values, unit labor costs, and unit expenses=dollars per pound; Period changes=percent--exceptions noted

_	Period changes							
-			Comparis	on years				
Item	2017-22	2017-18	2018-19	2019-20	2020-21	2021-22		
U.S. consumption quantity:								
Amount	***	▼***	▼***	▼***	***	** *		
Producers' share (fn1)	***	***	***	***	***	**		
Importers' share (fn1):	_	_		_		_		
Brazil	***	▼***	▼***	▼***	***	** *		
Mexico	***	***	***	***	***	** *		
Poland	***	***	▼***	***	▼***	** **		
South Korea	***	***	***	* **	***	* **		
Subject sources	***	***	***	***	***	** *		
Nonsubject sources	***	***	***	***	***	** *		
All import sources	▼***	▼ ***	▲***	▼ ***	▲***	* **		
U.S. consumption value:								
Amount	***	***	▼***	▼***	***	**		
Producers' share (fn1)	***	***	***	***	* **	**		
Importers' share (fn1):		-	•	•	•	-		
Brazil	***	***	***	***	***	** *		
Mexico	***	***	***	***	***	***		
Poland	***	***	▲ ***	***	×**	***		
South Korea	***	***	×**	×**	×**	***		
Subject sources	***	***	***	***	▲ ***	***		
-	***	***	***	***	▲ ★***	***		
Nonsubject sources All import sources	▼***	▼***	▲***	▲ ***	▲ ★***	***		
U.S. importers' U.S. shipments of imports	from:							
Brazil:								
Quantity	***	***	***	***	***	** **		
Value	***	▼*** 	▼*** 	▼*** 	***	** **		
Unit value	▲ ***	▼*** — ***	▼ ***	▼ ***	▲ ***	A ***		
Ending inventory quantity Mexico:	▼***	***	▲ ***	▲ ***	▼***	** *		
Quantity	***	▼***	▼***	▼***	***	** *		
Value	* ***	***	¥***	***	▲ ***	¥**		
Unit value	***	¥***	¥***	¥***	▲ ***	**		
Ending inventory quantity	* **	¥***	¥***	¥***	***	* **		
Poland:	•	•	•	•	-	-		
Quantity	***	▼***	▼***	▼***	***	** *		
Value	***	¥***	¥***	***	***	**		
Unit value	***	***	***	***	×**	* **		
Ending inventory quantity	▲ ★***	▲ ▲ ***	***	***	×**	▲ ***		
South Korea:	-	-	•	•	-	-		
	***	***	***	***	▼***	** *		
Quantity	***	***	***	* ***	***	***		
Value Unit value	▼ ***	* ***	* ***	***	▲ ***	▼***		
	V (1)	▼ ¹	▼	V	A	V		

ESBR: Summary data concerning the U.S. market, by item and period Quantity=1,000 pounds; Value=1,000 dollars; Unit values, unit labor costs, and unit expenses=dollars per pound; Period changes=percent--exceptions noted

			Reporte			
			Calenda	•		
Item	2017	2018	2019	2020	2021	2022
U.S. importers' U.S. shipments of imports f	rom: Continue	ed				
Subject sources:		-				
Quantity	***	***	***	***	***	**
Value	***	***	***	***	***	**
Unit value	***	***	***	***	***	*:
Ending inventory quantity	***	***	***	***	***	*:
Nonsubject sources:						
Quantity	***	***	***	***	***	*:
Value	***	***	***	***	***	**
Unit value	***	***	***	***	***	**
Ending inventory quantity	***	***	***	***	***	**
All import sources:						
Quantity	98,848	60,258	58,263	42,148	65,500	44,78
Value	95,758	55,408	48,067	31,309	66,606	53,07
Unit value	\$0.97	\$0.92	\$0.83	\$0.74	\$1.02	\$1.1
Ending inventory quantity	5,810	8,202	6,677	9,783	11,790	7,29
U.S. producers':	0,010	0,202	0,011	0,100	11,700	,
Practical capacity quantity	***	***	***	***	***	*
Production quantity	***	***	***	***	***	*
Capacity utilization (fn1)	***	***	***	***	***	*
U.S. shipments:						
Quantity	***	***	***	***	***	*
Value	***	***	***	***	***	*
Unit value	***	***	***	***	***	*
Export shipments:						
Quantity	***	***	***	***	***	*
Value	***	***	***	***	***	*
Unit value	***	***	***	***	***	*
Ending inventory quantity	***	***	***	***	***	*
Inventories/total shipments (fn1)	***	***	***	***	***	*
Production workers	***	***	***	***	***	*
Hours worked (1,000s)	***	***	***	***	***	*
Wages paid (\$1,000)	***	***	***	***	***	*
Hourly wages (dollars per hour)	***	***	***	***	***	*
Productivity (pounds per hour)	***	***	***	***	***	*
Unit labor costs	***	***	***	***	***	*

ESBR: Summary data concerning the U.S. market, by item and period Quantity=1,000 pounds; Value=1,000 dollars; Unit values, unit labor costs, and unit expenses=dollars per pound; Period changes=percent--exceptions noted

			Period cl	nanges		
_			Comparise	on years		
Item	2017-22	2017-18	2018-19	2019-20	2020-21	2021-22
U.S. importers' U.S. shipments of imports	from: Continu	ed				
Subject sources:		cu				
Quantity	▼***	***	***	***	▲ ***	** *
Value	***	***	***	***	▲ ★***	***
Unit value	***	***	***	***	▲ ★***	** *
Ending inventory quantity	* ***	***	***	×**	* **	***
Nonsubject sources:	•	•	-	-	•	-
Quantity	***	***	***	***	▲ ***	** *
Value	***	***	***	***	***	***
Unit value	▲ ***	×**	▼***	***	▲ ★***	***
Ending inventory quantity	▲ ▲ ***	***	***	***	▲ ***	▼ ***
			•			•
All import sources:	▼(54.7)	(20.0)	▼(3.3)	▼(27.7)	▲55.4	▼(21 6
Quantity		▼(39.0)				▼(31.6
Value	▼(44.6)	▼(42.1)	▼(13.2)	▼(34.9)	▲112.7	▼(20.3
Unit value	▲22.3	▼(5.1)	▼(10.3)	▼(10.0)	▲ 36.9	▲ 16.5
Ending inventory quantity	▲25.5	▲41.2	▼(18.6)	▲46.5	▲20.5	▼(38.2
U.S. producers':	▼***	***			▼***	. ***
Practical capacity quantity			***	***		▲ ***
Production quantity	***	***	***	***	▲ ***	▼*** — data
Capacity utilization (fn1)	▼***	***	▼***	▼***	▲ ***	▼***
U.S. shipments:						
Quantity	▼***	▲ ***	***	▼***	▲ ***	▲ ***
Value	▼***	▲ ***	▼***	▼***	▲ ***	▲ ***
Unit value	▲ ***	▲ ***	▼***	▼***	▲ ***	▲ ***
Export shipments:						
Quantity	▲ ***	***	A ***	***	▲ ***	▲ ***
Value	***	▼***	▲ ***	▼***	▲ ***	▲ ***
Unit value	A ***	▲ ***	▼***	▼***	***	***
Ending inventory quantity	A ***	***	▼***	▼***	▲ ***	▼***
Inventories/total shipments (fn1)	***	***	***	▼***	▲ ***	▼***
Production workers	***	***	***	▼***	▲ ***	▲ ***
Hours worked (1,000s)	▲ ***	▲ ***	***	▼***	▲ ***	▲ ***
Wages paid (\$1,000)	***	▲ ***	▼***	▼***	A ***	▲ ***
Hourly wages (dollars per hour)	▲ ***	▲ ***	***	▲ ***	***	▲ ***
Productivity (pounds per hour)	* **	***	***	***	 ▲ ***	* **
Unit labor costs	***	***	▲ ***	***	▼ ***	***

ESBR: Summary data concerning the U.S. market, by item and period Quantity=1,000 pounds; Value=1,000 dollars; Unit values, unit labor costs, and unit expenses=dollars per pound; Period changes=percent--exceptions noted

			Reported	d data		
			Calenda	r year		
Item	2017	2018	2019	2020	2021	2022
J.S. producers': Continued						
Net sales:						
Quantity	***	***	***	***	***	*
Value	***	***	***	***	***	*
Unit value	***	***	***	***	***	*
Cost of goods sold (COGS)	***	***	***	***	***	*
Gross profit or (loss) (fn2)	***	***	***	***	***	*
SG&A expenses	***	***	***	***	***	ł
Operating income or (loss) (fn2)	***	***	***	***	***	ł
Net income or (loss) (fn2)	***	***	***	***	***	ł
Unit COGS	***	***	***	***	***	ŕ
Unit SG&A expenses	***	***	***	***	***	ŕ
Unit operating income or (loss) (fn2)	***	***	***	***	***	ł
Unit net income or (loss) (fn2)	***	***	***	***	***	ł
COGS/sales (fn1)	***	***	***	***	***	÷
Operating income or (loss)/sales (fn1)	***	***	***	***	***	
Net income or (loss)/sales (fn1)	***	***	***	***	***	,
Capital expenditures	***	***	***	***	***	,
Research and development expenses	***	***	***	***	***	,
Net assets	***	***	***	***	***	ł

ESBR: Summary data concerning the U.S. market, by item and period

Quantity=1,000 pounds; Value=1,000 dollars; Unit values, unit labor costs, and unit expenses=dollars per pound; Period changes=percent--exceptions noted

			Period c	hanges		
_			Comparis	on years		
Item	2017-22	2017-18	2018-19	2019-20	2020-21	2021-22
J.S. producers': Continued						
Net sales:						
Quantity	▼***	▼***	▼***	▼***	▲ ***	▲ **
Value	▼***	▼***	▼***	▼***	***	▲ *'
Unit value	***	***	▼***	▼***	***	* **
Cost of goods sold (COGS)	***	▼***	▼***	▼***	***	▲ **
Gross profit or (loss) (fn2)	▼***	***	▼***	▼***	***	▼*
SG&A expenses	***	***	▼***	▼***	***	▲*
Operating income or (loss) (fn2)	▼***	▲ ***	▼***	▼***	***	▼*
Net income or (loss) (fn2)	▼***	▼***	▼***	▼***	***	▼*
Unit COGS	▲ ***	▲ ***	▼***	▼***	***	▲*
Unit SG&A expenses	▲ ***	▲ ***	***	▲ ***	▼***	▲*
Unit operating income or (loss) (fn2)	▼***	▲ ***	▼***	▼***	***	▼*
Unit net income or (loss) (fn2)	▼***	▼***	▼***	▼***	***	▼*
COGS/sales (fn1)	▲ ***	▼***	▲ ***	▲ ***	▼***	▼*
Operating income or (loss)/sales (fn1)	▼***	▲ ***	▼***	▼***	***	▲*
Net income or (loss)/sales (fn1)	▼***	▼***	▼***	▼***	***	▼*
Capital expenditures	▼***	▲ ***	▼***	▼***	***	▲*
Research and development expenses	▲ ***	▼***	▲ ***	▼***	▲ ***	▲*
Net assets	▲ ***	***	▼***	▼***	***	▼*

Source: Compiled from data submitted in response to Commission questionnaires. 508 compliant tables containing these data are contained in parts I, III, and IV 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 " \blacktriangle " represent an increase, while period changes preceded by a " \checkmark " 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.

SUMMARY DATA COMPILED IN PRIOR PROCEEDING

Table C-1 ESBR: Summary data concerning the total U.S. market, 2014-16, January to March 2016, and January to March 2017

* * * * * * *

Table C-2

ESBR: Summary data concerning the merchant U.S. market, 2014-16, January to March 2016, and January to March 2017

* * * * * * *

APPENDIX D

EFFECTS OF THE ORDERS AND LIKELY IMPACT OF REVOCATION

Table D-1
ESBR: Firms' narratives on the effect of the orders and the likely impact of revocation

Response type	Firm type	Firm name and narrative on impact or likely impact
Effect of orders	U.S. producers	***
Effect of orders	U.S. producers	***
Likely impact of revocation	U.S. producers	***
Likely impact of revocation	U.S. producers	***
Effect of orders	Importers	***
Effect of orders	Importers	***
Effect of orders	Importers	***
Effect of orders	Importers	***
Effect of orders	Importers	***

Response type	Firm type	Firm name and narrative on impact or likely impact
Effect of orders	Importers	***
Effect of orders	Importers	***
Effect of orders	Importers	***
Effect of orders	Importers	***
Effect of orders	Importers	***
Effect of orders	Importers	***
Effect of orders	Importers	***
Effect of orders	Importers	***
Effect of orders	Importers	***
Effect of orders	Importers	***
Effect of orders	Importers	***
Effect of orders	Importers	***
Effect of orders	Importers	***
Effect of orders	Importers	***
Likely impact of	Importers	***
revocation		
Likely impact of	Importers	***
revocation		

Response type	Firm type	Firm name and narrative on impact or likely impact
Likely impact of	Importers	***
revocation		
Likely impact of	Importers	***
revocation		
Likely impact of	Importers	***
revocation		
Likely impact of	Importers	***
revocation		
Likely impact of	Importers	***
revocation		
Effect of orders	Purchasers	***
Effect of orders	Purchasers	***
Effect of orders	Purchasers	***
Effect of orders	Purchasers	***
Effect of orders	Purchasers	***
Effect of orders	Purchasers	***
Effect of orders	Purchasers	***
Effect of orders	Purchasers	***

Response type	Firm type	Firm name and narrative on impact or likely impact
Effect of orders	Purchasers	***
Effect of orders	Purchasers	***
Effect of orders	Purchasers	***
Effect of orders	Purchasers	***
Effect of orders	Purchasers	***
Effect of orders	Purchasers	***
Effect of orders	Purchasers	***
Effect of orders	Purchasers	***
Effect of orders	Purchasers	***
Effect of orders	Purchasers	***
Effect of orders	Purchasers	***
Likely impact of	Purchasers	***
revocation		
Likely impact of	Purchasers	***
revocation		
Likely impact of	Purchasers	***
revocation		
Likely impact of	Purchasers	***
revocation		
Likely impact of	Purchasers	***
revocation		
Likely impact of	Purchasers	***
revocation		
Likely impact of	Purchasers	***
revocation		

Response type	Firm type	Firm name and narrative on impact or likely impact
Likely impact of	Purchasers	***
revocation		
Likely impact of	Purchasers	***
revocation		
Likely impact of	Purchasers	***
revocation		
Likely impact of	Purchasers	***
revocation		
Likely impact of	Purchasers	***
revocation		
Likely impact of	Purchasers	***
revocation		
Likely impact of	Purchasers	***
revocation		
Likely impact of	Purchasers	***
revocation		***
Likely impact of	Purchasers	***
revocation		***
Likely impact of	Purchasers	***
revocation		***
Likely impact of	Purchasers	***
revocation		***
Likely impact of	Purchasers	^^^
revocation		***
Effect of orders	Foreign producers	
Effect of orders	Foreign producers	***

Response type	Firm type	Firm name and narrative on impact or likely impact
Effect of orders	Foreign producers	***
Likely impact of revocation	Foreign producers	***

Response type	Firm type	Firm name and narrative on impact or likely impact
Likely impact of	Foreign producers	***
revocation		

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

APPENDIX E

APPENDIX FOR FINANCIAL SECTION OF PART III

Table E-1 ESBR: U.S. producers' sales, costs/expenses, and profitability, by firm and period

Net sales quantity

Quantity in 1,000 pounds

Firm	2017	2018	2019	2020	2021	2022
Goodyear	***	***	***	***	***	***
Lion	***	***	***	***	***	***
All firms	***	***	***	***	***	***

Table continued.

Table E-1 ContinuedESBR: U.S. producers' sales, costs/expenses, and profitability, by firm and period

Net sales value

Value in 1,000 dollars

Firm	2017	2018	2019	2020	2021	2022
Goodyear	***	***	***	***	***	***
Lion	***	***	***	***	***	***
All firms	***	***	***	***	***	***

Table continued.

Table E-1 Continued

ESBR: U.S. producers' sales, costs/expenses, and profitability, by firm and period

COGS

Value in 1,000 dollars

Firm	2017	2018	2019	2020	2021	2022
Goodyear	***	***	***	***	***	***
Lion	***	***	***	***	***	***
All firms	***	***	***	***	***	***

Table continued.

Table E-1 Continued

ESBR: U.S. producers' sales, costs/expenses, and profitability, by firm and period

Gross profit or (loss)

Value in 1,000 dollars

Firm	2017	2018	2019	2020	2021	2022
Goodyear	***	***	***	***	***	***
Lion	***	***	***	***	***	***
All firms	***	***	***	***	***	***

Table continued.

Table E-1 Continued ESBR: U.S. producers' sales, costs/expenses, and profitability, by firm and period

SG&A expenses

Value in 1,000 dollars

Firm	2017	2018	2019	2020	2021	2022
Goodyear	***	***	***	***	***	***
Lion	***	***	***	***	***	***
All firms	***	***	***	***	***	***

Table E-1 ContinuedESBR: U.S. producers' sales, costs/expenses, and profitability, by firm and period

Operating income or (loss)

Value in 1,000 dollars

Firm	2017	2018	2019	2020	2021	2022
Goodyear	***	***	***	***	***	***
Lion	***	***	***	***	***	***
All firms	***	***	***	***	***	***

Table continued.

Table E-1 Continued ESBR: U.S. producers' sales, costs/expenses, and profitability, by firm and period

Net income or (loss)

Value in 1,000 dollars

Firm	2017	2018	2019	2020	2021	2022
Goodyear	***	***	***	***	***	***
Lion	***	***	***	***	***	***
All firms	***	***	***	***	***	***

Table continued.

Table E-1 Continued

ESBR: U.S. producers' sales, costs/expenses, and profitability, by firm and period

COGS to net sales ratio

Ratio in percent

Firm	2017	2018	2019	2020	2021	2022
Goodyear	***	***	***	***	***	***
Lion	***	***	***	***	***	***
All firms	***	***	***	***	***	***

Table continued.

Table E-1 Continued

ESBR: U.S. producers' sales, costs/expenses, and profitability, by firm and period

Gross profit or (loss) to net sales ratio

Ratio in percent

Firm	2017	2018	2019	2020	2021	2022
Goodyear	***	***	***	***	***	***
Lion	***	***	***	***	***	***
All firms	***	***	***	***	***	***

Table continued.

Table E-1 Continued ESBR: U.S. producers' sales, costs/expenses, and profitability, by firm and period

SG&A expenses to net sales ratio

Ratio in percent

Firm	2017	2018	2019	2020	2021	2022
Goodyear	***	***	***	***	***	***
Lion	***	***	***	***	***	***
All firms	***	***	***	***	***	***

Table E-1 ContinuedESBR: U.S. producers' sales, costs/expenses, and profitability, by firm and period

Operating income or (loss) to net sales ratio

Ratio	in	percent

Firm	2017	2018	2019	2020	2021	2022
Goodyear	***	***	***	***	***	***
Lion	***	***	***	***	***	***
All firms	***	***	***	***	***	***

Table continued.

Table E-1 Continued ESBR: U.S. producers' sales, costs/expenses, and profitability, by firm and period

Net income or (loss) to net sales ratio

Ratio in percent

Firm	2017	2018	2019	2020	2021	2022
Goodyear	***	***	***	***	***	***
Lion	***	***	***	***	***	***
All firms	***	***	***	***	***	***

Table continued.

Table E-1 Continued

ESBR: U.S. producers' sales, costs/expenses, and profitability, by firm and period

Unit net sales value

Unit value in dollars per pound

Firm	2017	2018	2019	2020	2021	2022
Goodyear	***	***	***	***	***	***
Lion	***	***	***	***	***	***
All firms	***	***	***	***	***	***

Table continued.

Table E-1 Continued

ESBR: U.S. producers' sales, costs/expenses, and profitability, by firm and period

Unit estimated "effective conversion price"

Unit value in dollars per pound

Firm	2017	2018	2019	2020	2021	2022
Goodyear	***	***	***	***	***	***
Lion	***	***	***	***	***	***
All firms	***	***	***	***	***	***

Table continued.

Table E-1 ContinuedESBR: U.S. producers' sales, costs/expenses, and profitability, by firm and period

Unit butadiene cost

Unit value in dollars per pound

Firm	2017	2018	2019	2020	2021	2022
Goodyear	***	***	***	***	***	***
Lion	***	***	***	***	***	***
All firms	***	***	***	***	***	***
- 11 <i>0</i> 1						

Table E-1 Continued ESBR: U.S. producers' sales, costs/expenses, and profitability, by firm and period

Unit styrene cost

Firm	2017	2018	2019	2020	2021	2022
Goodyear	***	***	***	***	***	***
Lion	***	***	***	***	***	***
All firms	***	***	***	***	***	***

Table continued.

Table E-1 Continued ESBR: U.S. producers' sales, costs/expenses, and profitability, by firm and period

Unit other raw material cost

Unit value in dollars per pound

Firm	2017	2018	2019	2020	2021	2022
Goodyear	***	***	***	***	***	***
Lion	***	***	***	***	***	***
All firms	***	***	***	***	***	***

Table continued.

Table E-1 Continued

ESBR: U.S. producers' sales, costs/expenses, and profitability, by firm and period

Unit total raw materials cost

Unit value in dollars per pound

Firm	2017	2018	2019	2020	2021	2022
Goodyear	***	***	***	***	***	***
Lion	***	***	***	***	***	***
All firms	***	***	***	***	***	***

Table continued.

Table E-1 Continued ESBR: U.S. producers' sales, costs/expenses, and profitability, by firm and period

Unit direct labor cost

Unit value in dollars per pound

Firm	2017	2018	2019	2020	2021	2022
Goodyear	***	***	***	***	***	***
Lion	***	***	***	***	***	***
All firms	***	***	***	***	***	***

Table continued.

Table E-1 Continued ESBR: U.S. producers' sales, costs/expenses, and profitability, by firm and period

Unit other factory costs

Unit value in dollars per pound

Firm	2017	2018	2019	2020	2021	2022
Goodyear	***	***	***	***	***	***
Lion	***	***	***	***	***	***
All firms	***	***	***	***	***	***
		-		-	-	-

Table E-1 Continued ESBR: U.S. producers' sales, costs/expenses, and profitability, by firm and period

Unit conversion cost

Unit value in dollars per pound

Firm	2017	2018	2019	2020	2021	2022
Goodyear	***	***	***	***	***	***
Lion	***	***	***	***	***	***
All firms	***	***	***	***	***	***

Table continued.

Table E-1 Continued ESBR: U.S. producers' sales, costs/expenses, and profitability, by firm and period

Unit COGS

Unit value in dollars per pound

Firm	2017	2018	2019	2020	2021	2022
Goodyear	***	***	***	***	***	***
Lion	***	***	***	***	***	***
All firms	***	***	***	***	***	***

Table continued.

Table E-1 Continued

ESBR: U.S. producers' sales, costs/expenses, and profitability, by firm and period

Unit gross profit or (loss)

Unit value in dollars per pound

Firm	2017	2018	2019	2020	2021	2022
Goodyear	***	***	***	***	***	***
Lion	***	***	***	***	***	***
All firms	***	***	***	***	***	***

Table continued.

Table E-1 Continued ESBR: U.S. producers' sales, costs/expenses, and profitability, by firm and period

Unit SG&A expenses

Unit value in dollars per pound

Firm	2017	2018	2019	2020	2021	2022
Goodyear	***	***	***	***	***	***
Lion	***	***	***	***	***	***
All firms	***	***	***	***	***	***

Table continued.

Table E-1 Continued ESBR: U.S. producers' sales, costs/expenses, and profitability, by firm and period

Unit operating income or (loss)

Unit value in dollars per pound

Firm	2017	2018	2019	2020	2021	2022
Goodyear	***	***	***	***	***	***
Lion	***	***	***	***	***	***
All firms	***	***	***	***	***	***

Table E-1 Continued ESBR: U.S. producers' sales, costs/expenses, and profitability, by firm and period

Unit net income or (loss)

Unit value in dollars per pound						
Firm	2017	2018	2019	2020	2021	2022
Goodyear	***	***	***	***	***	***
Lion	***	***	***	***	***	***
All firms	***	***	***	***	***	***

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

Note: Ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. As presented in this table "effective conversion price" is an estimate of the overall conversion price achieved in each year and equals average sales value minus the sum of average butadiene and styrene costs. As noted in Part III of the staff report, while negotiated conversion prices apply to the majority of commercial sales (annual contracts), they do not apply to all sales; i.e., *** a separately identified conversion price component (see Part III footnote 26) and the valuation basis of *** reflect negotiated conversion prices (see Part III footnote 28). Additionally, while butadiene and styrene are the primary raw material passthrough components included in conversion price sales contracts, additional firm-specific inputs are also included in the passthrough (see Part III footnotes 26 and 27). Given the level of detail requested by the Commission, the estimation of effective conversion price is limited to the primary passthrough components (butadiene and styrene). Unit conversion cost equals the sum of direct labor cost and unit other factory costs. While the naming convention is similar to conversion price, conversion cost relates solely to manufacturing costs.

APPENDIX F

U.S. PRODUCERS' U.S. SHIPMENTS AND FOREIGN PRODUCERS' TOTAL SHIPMENTS BY SERIES TYPE AND PRODUCT GRADE

Table F-1 and figure F-1 present U.S. producers' U.S. shipments and foreign producers' total shipments by series (1500 series vs. 1700 series) in 2022. Additionally, firms were asked to indicate which specific grade(s) of 1500 and 1700 series ESBR were included in their shipments in 2022; table F-2 presents a tabulation of their responses.

Table F-1 ESBR: U.S. producers' U.S. shipments and foreign producers' total shipments by series type, 2022

Quantity in 1,000 pounds

1500 series	1700 series	All series	
***	***	***	
***	***	***	
***	***	***	
***	***	***	
***	***	***	
***	***	***	
	*** *** *** ***	*** *** *** *** *** *** *** *** *** *** *** *** *** ***	

Table continued.

Table F-1 Continued

ESBR: U.S. producers' U.S. shipments and foreign producers' total shipments by series type, 2022

Share across in percent

Source	1500 series	1700 series	All series	
U.S. producers	***	***	***	
Brazil	***	***	***	
Mexico	***	***	***	
Poland	***	***	***	
South Korea	***	***	***	
Subject sources	***	***	***	

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

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

Figure F-1 ESBR: U.S. producers' U.S. shipments and foreign producers' total shipments by series type, 2022

* * * * *

*

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

*

Table F-2 ESBR: Count of U.S. producers' U.S. shipments and foreign producers' total shipments by product grade, 2022

Product Type	U.S producers	Brazil	Mexico	Poland	South Korea	Subject sources
1500	***	***	***	***	***	***
1502	***	***	***	***	***	***
1507	***	***	***	***	***	***
1509	***	***	***	***	***	***
Other 1500 series	***	***	***	***	***	***
1712	***	***	***	***	***	***
1721	***	***	***	***	***	***
1723	***	***	***	***	***	***
1732	***	***	***	***	***	***
1739	***	***	***	***	***	***
1745	***	***	***	***	***	***
1763	***	***	***	***	***	***
1769	***	***	***	***	***	***
1778	***	***	***	***	***	***
1783	***	***	***	***	***	***
1789	***	***	***	***	***	***
1793	***	***	***	***	***	***
1799	***	***	***	***	***	***
Other 1700 series	***	***	***	***	***	***

Count in number of firms

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