Emulsion Styrene-Butadiene Rubber from Czechia, Italy, and Russia

Investigation Nos. 731-TA-1575-1577 (Preliminary)

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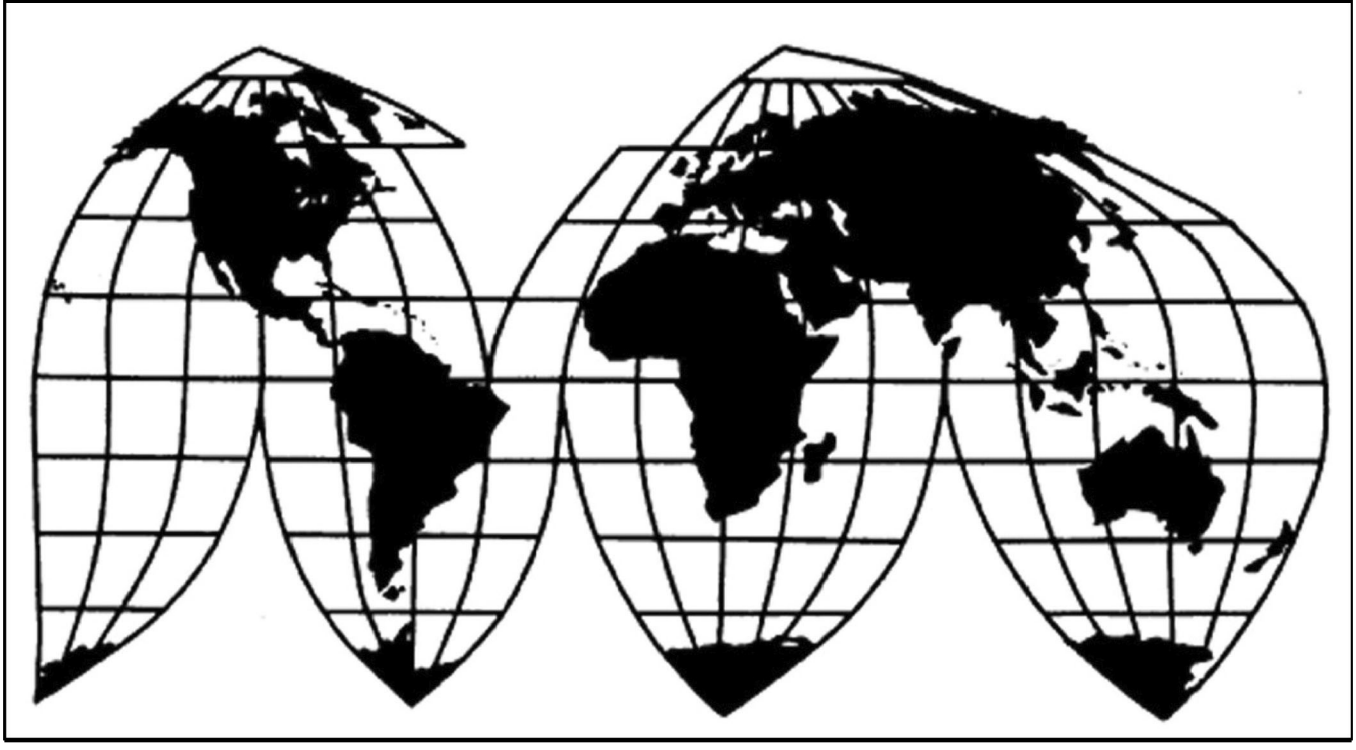
U.S. International Trade Commission



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Appendixes

Note.—Information that would reveal confidential operations of individual concerns may not be published.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-1575-1577 (Preliminary)

Emulsion Styrene-Butadiene Rubber from Czechia, Italy, and Russia

DETERMINATIONS

On the basis of the record[1] developed in the subject investigations, the United States International Trade Commission ("Commission") determines, pursuant to the Tariff Act of 1930 ("the Act"), that there is a reasonable indication that an industry in the United States is materially injured by reason of imports of emulsion styrene-butadiene rubber from Czechia, Italy, and Russia, provided for in subheading 4002.19.00 of the Harmonized Tariff Schedule of the United States, that are alleged to be sold in the United States at less than fair value ("LTFV").[2] [3]

COMMENCEMENT OF FINAL PHASE INVESTIGATIONS

Pursuant to section 207.18 of the Commission's rules, the Commission also gives notice of the commencement of the final phase of its investigations. The Commission will issue a final phase notice of scheduling, which will be published in the *Federal Register* as provided in section 207.21 of the Commission's rules, upon notice from the U.S. Department of Commerce ("Commerce") of affirmative preliminary determinations in the investigations under § 733(b) of the Act, or, if the preliminary determinations are negative, upon notice of affirmative final determinations in those investigations under § 735(a) of the Act. Parties that filed entries of appearance in the preliminary phase of the investigations need not enter a separate appearance for the final phase of the investigations. Industrial users, and, if the merchandise under investigation is sold at the retail level, representative consumer organizations have the right to appear as parties in Commission antidumping investigations. The Secretary will prepare a public service list containing the names and addresses of all persons, or their representatives, who are parties to the investigations.

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

[2] 86 FR 70447 (December 10, 2021).

[3] Vice Chair Randolph J. Stayin not participating.

BACKGROUND

Effective November 15, 2021, Lion Elastomers LLC, Port Neches, Texas filed petitions with the Commission and Commerce, alleging that an industry in the United States is materially injured or threatened with material injury by reason of LTFV imports of emulsion styrene-butadiene rubber from Czechia, Italy, and Russia. Accordingly, effective November 15, 2021, the Commission instituted antidumping duty investigation Nos. 731-TA-1575-1577 (Preliminary).

Notice of the institution of the Commission's investigations and of a public conference to be held in connection therewith was given by posting copies of the notice in the Office of the Secretary, U.S. International Trade Commission, Washington, DC, and by publishing the notice in the *Federal Register* of November 22, 2021 (86 FR 66335). In light of the restrictions on access to the Commission building due to the COVID–19 pandemic, the Commission conducted its conference through written testimony and video conference. All persons who requested the opportunity were permitted to participate.

Views of the Commission

Based on the record in the preliminary phase of these investigations, we determine that there is a reasonable indication that an industry in the United States is materially injured by reason of imports of emulsion styrene-butadiene rubber ("ESBR") from Czechia, Italy, and Russia that are allegedly sold in the United States at less than fair value.[1]

I. The Legal Standard for Preliminary Determinations

The legal standard for preliminary antidumping and countervailing duty determinations requires the Commission to determine, based upon the information available at the time of the preliminary determinations, whether there is a reasonable indication that a domestic industry is materially injured or threatened with material injury, or that the establishment of an industry is materially retarded, by reason of the allegedly unfairly traded imports.[2] In applying this standard, the Commission weighs the evidence before it and determines whether "(1) the record as a whole contains clear and convincing evidence that there is no material injury or threat of such injury; and (2) no likelihood exists that contrary evidence will arise in a final investigation."[3]

II. Background

The Petitioner, Lion Elastomers LLC ("Lion"), filed the petitions in these investigations effective November 15, 2021. Petitioner submitted written witness testimony and a postconference brief. Witnesses from Petitioner appeared at the staff conference.[4]

Two respondents, Synthos Kralupy a.s., a Czech producer and exporter of ESBR, and PJSC Tatneft, a Russian producer and exporter of ESBR ("Respondents"), participated in these

[1] Vice Chair Randolph J. Stayin did not participate in the investigations.

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

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

[4] In light of the restrictions on access to the Commission building due to the COVID-19 pandemic, the Commission conducted its staff conference by videoconference and written witness testimony as set forth in procedures provided to the parties.

preliminary phase investigations. They submitted written witness testimony, presented witnesses at the staff conference, and submitted a joint postconference brief.[5]

U.S. industry data are based on the questionnaire responses of two producers, accounting for all U.S. production of ESBR during the period of investigation ("POI") (January 2018-September 2021).[6] U.S. import data are based on information submitted by 17 importers in response to the Commission's questionnaire, accounting for *** percent of subject imports from Czechia, *** percent of subject imports from Italy, and *** percent of subject imports from Russia, imported under Harmonized Tariff Schedule ("HTS") statistical reporting numbers 4002.19.0015 and 4002.19.0019 during the POI, supplemented with official import statistics under HTS statistical reporting number 4002.19.0015 for nonsubject imports from Mexico.[7] The Commission also received responses to its foreign producer questionnaire from six producers and exporters in Czechia, Italy, and Russia that reported exports of subject merchandise to the United States.[8]

III. Domestic Like Product

In determining whether there is a reasonable indication that an industry in the United States is materially injured or threatened with material injury by reason of imports of the subject merchandise, the Commission first defines the "domestic like product" and the "industry."[9] Section 771(4)(A) of the Tariff Act of 1930, as amended ("the Tariff Act"), defines the relevant domestic industry as the "producers as a whole of a domestic like product, or those producers whose collective output of a domestic like product constitutes a major proportion of the total domestic production of the product."[10] In turn, the Tariff Act defines

[5] U.S. importer Intertex World Resources Inc. also submitted written witness testimony and presented witnesses at the conference.

[6] Confidential Staff Report, INV-TT-140 (December 22, 2021) (as revised by INV-TT-142 ("CR") at III-1, Public Report ("PR") at III-1. Lion and Goodyear Tire & Rubber Company ("Goodyear") were the only known producers of ESBR in the United States during the POI. CR/PR at III-1.

[7] CR/PR at I-4 and IV-1 and n.2. One U.S. importer also reported imports from Czechia under HTS statistical reporting number 4002.19.0016, inflating the coverage figure for subject imports from Czechia. *Id.*

[8] *See* CR/PR at I-4. Responding firms' exports to the United States were equivalent to *** percent, *** percent, and *** percent of U.S. imports of ESBR from Czechia, Italy, and Russia, respectively, during the POI. CR/PR at VII-3, VII-8, VII-15.

[9] 19 U.S.C. § 1677(4)(A).

[10] 19 U.S.C. § 1677(4)(A).

"domestic like product" as "a product which is like, or in the absence of like, most similar in characteristics and uses with, the article subject to an investigation."[11]

By statute, the Commission's "domestic like product" analysis begins with the "article subject to an investigation," *i.e.*, the subject merchandise as determined by the U.S. Department of Commerce ("Commerce").[12] Therefore, Commerce's determination as to the scope of the imported merchandise that is subsidized and/or sold at less than fair value is "necessarily the starting point of the Commission's like product analysis."[13] The Commission then defines the domestic like product in light of the imported articles Commerce has identified.[14] The decision regarding the appropriate domestic like product(s) in an investigation is a factual determination, and the Commission has applied the statutory standard of "like" or "most similar in characteristics and uses" on a case-by-case basis.[15] No single factor is dispositive, and the Commission may consider other factors it deems relevant based on the facts of a particular investigation.[16] The Commission looks for clear dividing lines among possible like products and disregards minor variations.[17] The Commission may, where

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[11] 19 U.S.C. § 1677(10).

[12] 19 U.S.C. § 1677(10). The Commission must accept Commerce's determination as to the scope of the imported merchandise that is subsidized and/or sold at less than fair value. *See*, *e.g.*, *USEC, Inc. v. United States*, 34 Fed. App'x 725, 730 (Fed. Cir. 2002) ("The ITC may not modify the class or kind of imported merchandise examined by Commerce."); *Algoma Steel Corp. v. United States,* 688 F. Supp. 639, 644 (Ct. Int'l Trade 1988), *aff'd*, 865 F.3d 240 (Fed. Cir.), *cert. denied*, 492 U.S. 919 (1989).

[13] *Cleo Inc. v. United States*, 501 F.3d 1291, 1298 (Fed. Cir. 2007); *see also Hitachi Metals, Ltd. v. United States*, 949 F.3d 710, 717 (Fed. Cir. 2020) (the statute requires the Commission to start with Commerce's subject merchandise in reaching its own like product determination).

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

[15] *See, e.g., Cleo Inc. v. United States*, 501 F.3d 1291, 1299 (Fed. Cir. 2007); N*EC Corp. v. Dep't of Commerce*, 36 F. Supp. 2d 380, 383 (Ct. Int'l Trade 1998); *Nippon Steel Corp. v. United States*, 19 CIT 450, 455 (1995); *Torrington Co. v. United States*, 747 F. Supp. 744, 749 n.3 (Ct. Int'l Trade 1990), aff'd, 938 F.2d 1278 (Fed. Cir. 1991) ("every like product determination 'must be made on the particular record at issue' and the 'unique facts of each case'"). The Commission generally considers a number of factors including the following: (1) physical characteristics and uses; (2) interchangeability; (3) channels of distribution; (4) customer and producer perceptions of the products; (5) common manufacturing facilities, production processes, and production employees; and, where appropriate, (6) price. *See Nippon*, 19 CIT at 455 n.4; *Timken Co. v. United States*, 913 F. Supp. 580, 584 (Ct. Int'l Trade 1996).

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

[17] *See*, *e.g.*, *Nippon*, 19 CIT at 455; *Torrington*, 747 F. Supp. at 748-49*; see also* S. Rep. No. 96-249 at 90-91 (Congress has indicated that the like product standard should not be interpreted in "such a (Continued…)

appropriate, include domestic articles in the domestic like product in addition to those described in the scope.[18]

A. Scope Definition

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

> cold-polymerized emulsion styrene-butadiene rubber (ESB rubber). The scope of the investigations 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 investigations 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).

(…Continued)
narrow fashion as to permit minor differences in physical characteristics or uses to lead to the conclusion that the product and article are not 'like' each other, nor should the definition of 'like product' be interpreted in such a fashion as to prevent consideration of an industry adversely affected by the imports under consideration.").

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

> The products subject to these investigations are currently classifiable under subheadings 4002.19.0015 and 4002.19.0019 of the Harmonized Tariff Schedule of the United States (HTSUS). ESB rubber is described by Chemical Abstracts Services (CAS) Registry No. 9003–55–8. This CAS number also refers to other types of styrene butadiene rubber. Although the HTSUS subheadings and CAS registry number are provided for convenience and customs purposes, the written description of the scope of these investigations is dispositive.[19]

ESBR is a copolymer synthetic rubber of styrene and butadiene petrochemical feedstocks produced by a cold emulsion process. ESBR contains approximately 25 percent styrene and 75 percent butadiene by weight.[20] It is used mostly in the production 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.[21]

The scope of the current investigations includes only two of the several series of emulsion styrene-butadiene rubbers identified in the International Institute of Synthetic Rubber Producers ("IISRP") standards: the cold-polymerized 1500 and 1700 series of products.[22] The 1500 series ESBR products are considered a "neat," or pure, light-colored form of ESBR used by producers for multiple applications, while the 1700 series ESBR products used particularly for tires and other consumer products are darker in color due to the addition of petroleum-based processing extender oil that is part of the rubber.[23]

B. Parties' Arguments

Petitioner's Arguments. Petitioner argues that the Commission should define a single domestic like product consisting of ESBR, coextensive with the scope of the investigations. Petitioner asserts that this would be consistent with the Commission's prior domestic like

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[19] *Emulsion Styrene-Butadiene Rubber From the Czech Republic, Italy, and the Russian Federation: Initiation of Less-Than-Fair-Value Investigations*, 86 Fed. Reg. 70447, 70451 (Dec. 10, 2021).

[20] CR/PR at I-7.

[21] CR/PR at I-7, II-1.

[22] We use the term "ESBR" to refer to the products described in the scope definition. Other emulsion styrene-butadiene rubber products that are outside the scope definition include the 1000 series (a hot-polymerized series of emulsion styrene-butadiene rubber), the 1900 series (a high-styrene synthetic rubber that is used in a variety of non-tire applications), the 1200 series (solution styrene-butadiene rubber), and the 1600 and 1800 series (carbon black masterbatch). CR/PR at I-9.

[23] CR/PR at I-9.

product definitions in the 1999 and 2017 original investigations which, as in these investigations, concerned imports of the 1500 and 1700 series of ESBR.[24] Petitioner argues that the Commission's traditional domestic like product factors also support defining a single domestic like product coextensive with the scope definition and not including other out-of-scope synthetic rubbers, such as carbon black master batch ("CBMB") and solution SBR ("SSBR") in the domestic like product definition.[25]

Respondents' Arguments. Respondents state that they do not dispute the domestic like product definition proposed by Petitioner.[26]

C. Analysis

Based on the record in the preliminary phase of these investigations, we define a single domestic like product consisting of ESBR, coextensive with the scope of these investigations.[27] We do not include in the domestic like product styrene-butadiene rubber products from outside the scope of the investigations, based on the following analysis.

Physical Characteristics and Uses. The record does not indicate that there have been changes in the characteristics and uses of ESBR since the prior investigations of the product.[28]

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[24] Petitioner's Brief at 4-5 (citing *Certain Emulsion Styrene-Butadiene Rubber from Brazil, Korea, and Mexico*, Inv. Nos. 731-TA-794-796 (Final), USITC Pub. 3190 (May 1999) ("ESBR from Brazil, Korea, and Mexico, USITC Pub. 3190") and *Certain Emulsion Styrene-Butadiene Rubber from Brazil, Korea, Mexico, and Poland*, Inv. Nos. 731-TA-1334-1337 (Final), USITC Pub. 4717 (Aug. 2017) ("ESBR from Brazil, Korea, Mexico, and Poland, USITC Pub. 4717")).

[25] Petitioner's Brief at 6-11.

[26] Respondents' Brief at 3.

[27] Our definition of the domestic like product in these investigations is consistent with the Commission's prior treatment of ESBR subject to the previous investigations in 1999 and 2017, which involved substantially the same scope definitions. In the preliminary phase of the 2016 investigations, *Emulsion Styrene-Butadiene Rubber from Brazil, Korea, Mexico, and Poland,* the Commission defined a single domestic like product coextensive with Commerce's scope definition. 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. It also found that the record did not support the inclusion of out-of-scope CBMB, SSBR, or natural rubber in the domestic like product. *Emulsion Styrene-Butadiene Rubber from Brazil, Korea, Mexico, and Poland*, Inv. Nos.731-TA-1334-1337 (Preliminary), (Sept. 2016) EDIS Doc. 590923 at 7-10. It adopted this like product definition in the final phase of the investigations. *ESBR from Brazil, Korea, Mexico, and Poland*, USITC Pub. 4717 at 17. In the 1999 investigations, the Commission rejected arguments that out-of-scope CBMB and SSBR should be included in the domestic like product definition, and it defined a single domestic like product coextensive with Commerce's scope definition. *ESBR from Brazil, Korea, and Mexico,* USITC Pub. 3190 at 5-10.

[28] *See* CR/PR at I-9 n.19.

All ESBR shares the same basic physical characteristics.[29] The record also indicates that ESBR differs from the other synthetic rubber products used in tire production that are outside the scope of these investigations: CBMB (1600 and 1800 series) and SSBR. CBMB contains significant amounts of carbon black. The addition of this material to CBMB imparts a black coloring to the rubber, making the rubber a harder, more solid product than ESBR; changes its handling characteristics; and makes it unsuitable in end uses for which a non-black rubber product (such as ESBR) is required.[30] SSBR has a different molecular structure and chemical composition than ESBR.[31]

Although ESBR, SSBR, and CBMB are all used in tires, there are significant differences in their attributes and consequently, the types of tires for which these synthetic rubber products are generally used.[32] Specifically, ESBR imparts hardness to tires and increases tread life, which is a selling point for replacement tires.[33] While ESBR is more often used for the production of new replacement tires, CBMB is used primarily in producing retreads from used truck tires.[34] SSBR imparts reduced rolling resistance in tires, which reduces energy loss and lowers fuel consumption. SSBR is therefore used primarily in higher-performance original equipment (OEM) tires because fuel consumption ratings are important to purchasers of new automobiles.[35]

Manufacturing Facilities, Production Processes and Employees. ESBR is produced at 41-55 degrees Fahrenheit by a continuous cold aqueous emulsion latex process, known technically as emulsion copolymerization, a free radical mechanism that joins reactive styrene and butadiene molecules together in lengthy copolymer chains. The continuous manufacturing process is accomplished using five main ingredients which are added through 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"

[29] The principal difference between the 1500 series and the 1700 series is that the 1700 series contains some added petroleum-based processing oil. Petitioner's Brief at 5.

[30] Petitioner's Brief at 6.

[31] Petitioner's Brief at 6.

[32] ESBR is also used in many non-tire applications such as conveyor belting, hoses, O-rings, and other mechanical rubber goods. Conf. Tr. at 104-105 (Nienaber).

[33] Conf. Tr. at 104-105 (Nienaber).

[34] CR/PR at I-7; Petitioner's Brief at 6; Conf. Tr. at 24 (Rikhoff).

[35] Petitioner's Brief at 6; Conf. Tr. at 16 (Rikhoff), 105 (Nienaber).

designed to drive the polymerization reaction.[36] Lion uses the same equipment, machinery, production processes, and production employees to produce all of its ESBR.[37]

While Lion also produces CBMB, it does so on designated production lines with largely distinct work forces. CBMB production is similar to ESBR production, but according to Lion, ESBR cannot easily be produced on CBMB-designated production lines.[38] SSBR, on the other hand, is produced in different facilities by an anhydrous organic solution process that is completely different from that used to produce ESBR.[39]

Channels of Distribution. The channels of distribution for ESBR are similar to those of CBMB and SSBR as all three are sold directly to tire manufacturers, although a substantial portion of ESBR production is captively consumed.[40]

Interchangeability. There is some interchangeability between the different types of ESBR,[41] and there is some interchangeability between SSBR and ESBR, though as noted, each series imparts different characteristics to tires.[42] ESBR and CBMB have limited interchangeability and any substitution that occurs is normally not complete.[43]

Producer and Customer Perceptions. Petitioner indicates that the different IISRP standards and nomenclatures for ESBR, CBMB, and SSBR, respectively, reflect perceptions in the marketplace that these are all distinct products with different characteristics.[44]

Price. The record indicates that different types of ESBR are comparably priced,[45] whereas SSBR is more expensive to produce than ESBR and sells at a higher price.[46] There is no information on the record concerning how CBMB is priced relative to ESBR.

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[36] CR/PR at I-10 to I-11. A petroleum-based processing extender oil is added to the 1700 series but not the 1500 series of ESBR. CR/PR at I-9.

[37] Petitioner's Brief at 10.

[38] Petitioner's Brief at 10; Conf. Tr. at 78-79 (Rikhoff) (describing time and expense of switching production).

[39] CR/PR at I-7; Petitioner's Brief at 11.

[40] Petitioner's Brief at 9.

[41] Petitioner states that there is a reasonable degree of interchangeability between the 1500 series and the 1700 series of ESBR and tire makers often substitute some 1500 series for some 1700 series product in their production of tires without making major adjustments to formulations, processes, or processing equipment. Petitioner's Brief at 7. There may be non-tire applications for ESBR in which the interchangeability between different types of ESBR is more limited.

[42] Conf. Tr. at 24-25 (Rikhoff), 104-105 (Nienaber).

[43] Petitioner's Brief at 7. Petitioner explains that a tire producer that uses a combination of ESBR and CBMB in a given tire component may adjust the mix, but normally would not fully substitute one for the other in components. Further, according to Petitioner, the process of switching between ESBR and CBMB in tire production is too costly and time-intensive to make the two products complete substitutes for one another. *See id.*

[44] Petitioner's Brief at 9.

Conclusion. The record indicates that while other out-of-scope synthetic rubbers, CBMB and SSBR, are similar to ESBR in some respects, namely use in tire production and channels of distribution, they differ with respect to physical characteristics; manufacturing facilities, production processes, and employees; producer and customer perceptions; level of interchangeability; and pricing with respect to SSBR. Different grades of ESBR share similar physical characteristics and uses; channels of distribution; manufacturing facilities, production processes, and employees; producer and customer perceptions; and pricing.

Based on the record of the preliminary phase of the investigations, and in the absence of any argument to the contrary, we define a single domestic like product comprised of ESBR, coextensive with the scope of these investigations.

IV. Domestic Industry

The domestic industry is defined as the domestic "producers as a whole of a domestic like product, or those producers whose collective output of a domestic like product constitutes a major proportion of the total domestic production of the product."[47] 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.

Based on the current record, there are no issues arising under the related party provision or any other domestic industry issues in the preliminary phase of these investigations.[48] In light of our domestic like product definition, we define a single domestic industry consisting of the two U.S. producers of ESBR, specifically, Lion and Goodyear.

(…Continued)

[45] All four pricing products were comparably priced by domestic producers during the POI. *See* CR/PR at Table V-8 (high and low prices for ESBR grades 1502, 1507, 1712, and 1783) and Figs. V-2 to V-5 (price movements).

[46] Conf. Tr. at 31 (Rikhoff).

[47] 19 U.S.C. § 1677(4)(A).

[48] Neither of the two domestic producers is related to producers or exporters of ESBR in subject countries or U.S. importers of ESBR from the subject countries and neither imported ESBR from subject countries during the POI. CR/PR at Table III-2 and III-13.

V. Cumulation[49]

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

(1) the degree of fungibility between subject imports from different countries and between subject imports and the domestic like product, including consideration of specific customer requirements and other quality-related questions;

(2) the presence of sales or offers to sell in the same geographic markets of subject imports from different countries and the domestic like product;

(3) the existence of common or similar channels of distribution for subject imports from different countries and the domestic like product; and

(4) whether the subject imports are simultaneously present in the market.[50]

While no single factor is necessarily determinative, and the list of factors is not exclusive, these factors are intended to provide the Commission with a framework for

[49] Pursuant to Section 771(24) of the Tariff Act, imports from a subject country of merchandise corresponding to a domestic like product that account for less than 3 percent of all such merchandise imported into the United States during the most recent 12 months for which data are available preceding the filing of the petition shall generally be deemed negligible. 19 U.S.C. §§ 1671b(a), 1673b(a), 1677(24)(A)(i), 1677(24)(B). The exceptions to the general provisions on negligibility are not applicable in these investigations.

Subject imports from each of the three subject countries individually exceeded the negligibility threshold. During the applicable 12-month period preceding the filing of the petitions (November 2020 – October 2021), subject imports from Czechia accounted for *** percent of the quantity of total imports of ESBR, subject imports from Italy accounted for *** percent of total ESBR imports, and subject imports from Russia accounted for *** percent of total ESBR imports. CR/PR at Table IV-3. Thus, we find that subject imports from Czechia, Italy, and Russia are not negligible.

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

determining whether the subject imports compete with each other and with the domestic like product.[51] Only a "reasonable overlap" of competition is required.[52]

A. Arguments of the Parties

Petitioner's Arguments. Petitioner argues that the Commission should cumulatively assess imports from all subject countries. It contends that the petitions for all three countries were filed on the same day and that a reasonable overlap in competition exists among ESBR produced in the subject countries and between ESBR from each subject country and the domestic product. It maintains imports from each of the subject countries compete with imports from the other subject countries and with the domestic like product throughout the U.S. market, are sold through the same channels of distribution to the same customers and have been simultaneously present in the U.S. market during the POI.[53] Thus, Petitioner submits that cumulation is mandatory in these investigations. It also observes that the Commission found an overlap of competition and cumulated subject imports in previous investigations of ESBR.[54]

Respondents' Arguments. Respondents do not address cumulation for purposes of present material injury.

B. Analysis and Conclusion

The statutory threshold for cumulation is satisfied in these investigations because Petitioner filed the antidumping duty petitions with respect all three countries on the same day, effective November 15, 2021.[55] As discussed below, we find a reasonable overlap of competition between the domestic like product and subject imports from each subject country and between and among subject imports from Czechia, Italy, and Russia, and the domestic product.

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[51] *See*, *e.g.*, *Wieland Werke, AG v. United State*s, 718 F. Supp. 50 (Ct. Int'l Trade 1989).

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

[53] Petitioner's Brief at 12-13.

[54] Petitioner's Brief at 12-13.

[55] CR/PR at I-1. None of the statutory exceptions to cumulation applies in these investigations.

Fungibility. ESBR, regardless of source, is made to an IISRP standard for each grade.[56] The parties agree that ESBR is a commodity product with a high degree of interchangeability between ESBR from different sources.[57] They also indicate that quality was not an important factor when comparing ESBR from different sources, as ESBR is a highly commoditized product and quality typically does not vary between sources.[58]

In their questionnaire responses, both U.S. producers reported that the domestic like product and subject imports from Czechia, Italy, and Russia were always or frequently interchangeable in all comparisons between ESBR from different sources.[59] Similarly, a majority of U.S. importers reported in their responses that the domestic like product and subject imports from Czechia, Italy, and Russia were always or frequently interchangeable in all comparisons.[60]

Moreover, the record indicates that the 1500 series and 1700 series of ESBR are available from the domestic industry and each of the subject countries.[61] Shipment data for specific grades of ESBR also indicate that the same grades were available from multiple subject sources and the domestic industry. Specifically, the record shows purchases of commercially significant volumes of the largest volume grade,[62] grade 1502 (product 1), as well as purchases of grade 1712 (product 3), from Czechia, Russia, and the United States during the POI.[63] There also were commercially significant sales of grade 1783 ESBR (product 4) from Czechia, Italy, and the United States during the POI.[64]

In response to questions concerning the significance of non-price differences between ESBR from different sources, the two U.S. producers ***; one reported there were *** important differences, and the other indicated there were *** such differences.[65] U.S. importers reported that non-price differences were always or sometimes important.[66] Non-

[56] CR/PR at I-9.
[57] CR/PR at II-11.
[58] CR/PR at II-14.
[59] CR/PR at Table II-6.
[60] CR/PR at Table II-7.
[61] *See* CR/PR at Table IV-4.
[62] Conf. Tr. at 50 (Rikhoff) ("{P}roduct 1502{ } is by far the most commercially sold ESBR across the world, and the most sold in the United States.").
[63] *See* CR/PR at V-9, Table V-8.
[64] *See* CR/PR at V-9, Table V-8.
[65] CR/PR at Table II-8.
[66] CR/PR at Table II-9.

price differences, however, appear to be primarily unrelated to the product itself and instead involve considerations such as reliability of supply, lead times, and shipping costs.[67]

Channels of Distribution. Most ESBR is used to produce tires and sales of domestically produced ESBR and subject imports are often shipped directly to tire manufacturers.[68] *** shipments of subject imports from Czechia, and a *** of the domestic producers' shipments and shipments of subject imports from Italy were to tire manufacturers.[69] On the other hand, during the 2018-2020 period, most shipments of subject imports from Russia were sold to other end users, with only a small percentage of shipments made to tire manufacturers.[70] In interim 2021 (January 2021-September 2021), however, the percentage of shipments of subject imports from Russia made to tire manufacturers increased and comprised *** percent of their total shipments.[71] In any event, the volume of the domestic industry's U.S. shipments to other end users far exceeded U.S. shipments of subject imports from Russia to other end users, and there were substantial shipments of subject imports from Italy to other end users during the POI.[72]

Geographic Overlap. Domestic producers reported selling the domestic product in all six regions of the contiguous United States.[73] Importers reported shipping imports from each subject country to multiple regions, and imports from each subject country were shipped to the Midwest and Southeast.[74] Imports from each subject country also entered at ports located in the East and North, with substantial quantities from each subject country entering at ports located in the East.[75]

Simultaneous Presence in Market. The domestic industry's U.S. shipments of ESBR, as well as importers' U.S. shipments of subject imports from Czechia and Italy, were present in the market during each month from January 2018 to September 2021.[76] Subject imports from Russia were present in 44 of 45 months over the same period.[77]

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[67] CR/PR at II-11 to II-12 and II-16.

[68] CR/PR at I-3, n.6, Table II-1. Tire manufacturers also directly import the subject merchandise. *See* CR/PR at Table IV-1

[69] CR/PR at Table II-1.

[70] CR/PR at Table II-1. Other end users include producers of "technical goods" such as conveyor belts, the soles of shoes, some hoses, and flooring. CR/PR at II-1, II-2 n.18.

[71] CR/PR at Table II-1.

[72] *See* Respondents' Brief at Exhibit 2, (Market Share Aggregation).

[73] *See* CR/PR at Table II-2.

[74] *See* CR/PR at Table II-2.

[75] *See* CR/PR at Table IV-5.

[76] CR/PR at IV-12, Table IV-6.

[77] CR/PR at IV-12, Table IV-6.

Conclusion. The record in the preliminary phase of these investigations supports a finding that there is a reasonable overlap of competition between and among subject imports and the domestic like product, and no party has argued to the contrary. Accordingly, we analyze subject imports from Czechia, Italy, and Russia on a cumulated basis for our analysis of whether the domestic industry is materially injured by reason of subject imports.

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

A. Legal Standard

In the preliminary phase of antidumping and countervailing duty investigations, the Commission determines whether there is a reasonable indication that an industry in the United States is materially injured or threatened with material injury by reason of the imports under investigation.[78] In making this determination, the Commission must consider the volume of subject imports, their effect on prices for the domestic like product, and their impact on domestic producers of the domestic like product, but only in the context of U.S. production operations.[79] The statute defines "material injury" as "harm which is not inconsequential, immaterial, or unimportant."[80] In assessing whether there is a reasonable indication that the domestic industry is materially injured by reason of subject imports, we consider all relevant economic factors that bear on the state of the industry in the United States.[81] No single factor is dispositive, and all relevant factors are considered "within the context of the business cycle and conditions of competition that are distinctive to the affected industry."[82]

Although the statute requires the Commission to determine whether there is a reasonable indication that the domestic industry is "materially injured or threatened with material injury by reason of" unfairly traded imports,[83] it does not define the phrase "by reason of," indicating that this aspect of the injury analysis is left to the Commission's reasonable

[78] 19 U.S.C. §§ 1671b(a), 1673b(a).

[79] 19 U.S.C. § 1677(7)(B). The Commission "may consider such other economic factors as are relevant to the determination" but shall "identify each {such} factor ... and explain in full its relevance to the determination." 19 U.S.C. § 1677(7)(B).

[80] 19 U.S.C. § 1677(7)(A).

[81] 19 U.S.C. § 1677(7)(C)(iii).

[82] 19 U.S.C. § 1677(7)(C)(iii).

[83] 19 U.S.C. §§ 1671b(a), 1673b(a).

exercise of its discretion.[84] In identifying a causal link, if any, between subject imports and material injury to the domestic industry, the Commission examines the facts of record that relate to the significance of the volume and price effects of the subject imports and any impact of those imports on the condition of the domestic industry. This evaluation under the "by reason of" standard must ensure that subject imports are more than a minimal or tangential cause of injury and that there is a sufficient causal, not merely a temporal, nexus between subject imports and material injury.[85]

In many investigations, there are other economic factors at work, some or all of which may also be having adverse effects on the domestic industry. Such economic factors might include nonsubject imports; changes in technology, demand, or consumer tastes; competition among domestic producers; or management decisions by domestic producers. The legislative history explains that the Commission must examine factors other than subject imports to ensure that it is not attributing injury from other factors to the subject imports, thereby inflating an otherwise tangential cause of injury into one that satisfies the statutory material injury threshold.[86] In performing its examination, however, the Commission need not isolate

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

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

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

the injury caused by other factors from injury caused by unfairly traded imports.[87] Nor does the "by reason of" standard require that unfairly traded imports be the "principal" cause of injury or contemplate that injury from unfairly traded imports be weighed against other factors, such as nonsubject imports, which may be contributing to overall injury to an industry.[88] It is clear that the existence of injury caused by other factors does not compel a negative determination.[89]

Assessment of whether material injury to the domestic industry is "by reason of" subject imports "does not require the Commission to address the causation issue in any particular way" as long as "the injury to the domestic industry can reasonably be attributed to the subject imports."[90] The Commission ensures that it has "evidence in the record" to "show that the harm occurred 'by reason of' the LTFV imports," and that it is "not attributing injury from other sources to the subject imports." [91] The Federal Circuit has examined and affirmed various Commission methodologies and has disavowed "rigid adherence to a specific formula."[92]

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

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

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

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

[91] *Mittal Steel*, 542 F.3d at 873 (quoting from *Gerald Metals*, 132 F.3d at 722), 877-79. We note that one relevant "other factor" may involve the presence of significant volumes of price-competitive

(Continued…)

The question of whether the material injury threshold for subject imports is satisfied notwithstanding any injury from other factors is factual, subject to review under the substantial evidence standard.[93] Congress has delegated this factual finding to the Commission because of the agency's institutional expertise in resolving injury issues.[94]

B. Conditions of Competition and the Business Cycle

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

C. Captive Production

The domestic industry captively consumes a portion of its production of ESBR in the manufacture of tires. We therefore consider the applicability of the statutory captive production provision, and whether to focus our analysis primarily on the merchant market when assessing market share and the factors affecting the financial performance of the domestic industry.[95]

(…Continued)
nonsubject imports in the U.S. market, particularly when a commodity product is at issue. In appropriate cases, the Commission collects information regarding nonsubject imports and producers in nonsubject countries in order to conduct its analysis.

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

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

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

[95] The captive production provision can be applied only if, as a threshold matter, significant production of the domestic like product is internally transferred and significant production is sold in the merchant market. The captive production provision, 19 U.S.C. § 1677(7)(C)(iv), as amended by the Trade Preferences Extension Act ("TPEA") of 2015, provides:

> (iv) CAPTIVE PRODUCTION – If domestic producers internally transfer significant production of the domestic like product for the production of a downstream article and sell significant production of the domestic like product in the merchant market, and the Commission finds that-
>
> > (I) the domestic like product produced that is internally transferred for processing into that downstream article does not enter the merchant market for the domestic like product, and

(Continued…)

a. Arguments of the Parties

Petitioner. Petitioner argues that the captive production provision does not apply to the ESBR industry because the domestic like product is not the predominant material input into the downstream product (tires), and therefore the second criterion is not satisfied. It points out that the Commission concluded that the provision was not applicable in the 2017 investigations because ESBR was not the predominant material input in the production of tires.[96]

Respondents. Respondents, like Petitioner, maintain that the captive production provision should not be applied in these investigations because the domestic like product is not the predominant material input in the downstream product. Accordingly, they conclude that the second criterion is not satisfied, and the provision should not be applied, although they argue that *** internal consumption of ESBR is an important condition of competition.[97]

b. Analysis and Conclusion

Threshold Criterion. The domestic industry internally consumed between *** percent and *** percent of its ESBR during the POI.[98] The domestic industry sold between *** percent and *** percent of its ESBR production on the merchant market in this period.[99] These ratios indicate that a significant portion of ESBR production is both internally transferred and sold in the merchant market. Accordingly, we find that the threshold criterion is satisfied, as a

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(…Continued)

(II) the domestic like product is the predominant material input in the production of that downstream article.

The SAA indicates that where a domestic like product is transferred internally for the production of another article coming within the definition of the domestic like product, such transfers do not constitute internal transfers for the production of a "downstream article" for purposes of the captive production provision. SAA at 853.

The TPEA eliminated what had been the third statutory criterion of the captive production provision. Pub. L. 114-27, § 503(c).

[96] Petitioner's Brief at 19 (*citing ESBR from Brazil, Korea, Mexico, and Poland*, USITC Pub. 4717, at 17).

[97] Respondents' Brief, Exhibit 1, at 2-3. Respondents cite *** U.S. importer questionnaire response which estimates that ESBR only accounts for *** percent of the cost of tires. *Id.*

[98] CR/PR at Table III-7. ***. CR/PR at III-11. *** used the ESBR it internally consumed in the production of tires. It also transferred a small amount of ESBR to *** during interim 2021. CR/PR at VI-14 n.3 and Table III-7.

[99] CR/PR at Table III-7.

significant portion of the domestic industry's production is internally consumed, and a significant portion is sold in the merchant market.

First Statutory Criterion. The first criterion of the captive consumption provision focuses on whether any of the domestic like product that is internally transferred for further processing into downstream articles is in fact sold in the merchant market for the domestic like product.[100] No domestic producer reported diverting ESBR that was to be internally consumed to the merchant market.[101] Thus, we find that this criterion is also satisfied.

Second Statutory Criterion. In applying the second statutory criterion, we generally consider whether the domestic like product is the predominant material input into a downstream product by referring to its share of the raw material cost of the downstream product,[102] but the Commission has also construed "predominant" material input to mean the main or strongest element, and not necessarily a majority, of the inputs by value.[103]

In these investigations, *** indicated that internally consumed ESBR accounted for *** percent of the value and *** percent of the quantity of raw materials used to produce the downstream products – tires.[104] We find that these shares are insufficient to satisfy this criterion.[105]

Conclusion. Because the second criterion is not satisfied, we decline to apply the captive production provision in these investigations and will focus on the overall ESBR market in analyzing the market share and financial performance of the domestic industry. We nonetheless consider, as a relevant condition of competition, that a significant portion of domestic production is captively consumed.

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[100] *See*, *e.g.*, *Hot-Rolled Steel Products from Argentina and South Africa*, Inv. Nos. 701-TA-404, 731-TA-898, 905 (Final), USITC Pub. 3446 at 15-16 (Aug. 2001); *Certain Cold-Rolled Steel Products from Argentina, Brazil*, *China*, *Indonesia*, *Japan*, *Russia*, *Slovakia*, *South Africa*, *Taiwan*, *Turkey and Venezuela*, Inv. Nos. 701-TA-393 and 731-TA-829-40 (Final) (Remand), USITC Pub. 3691 at 2 & n.19 (May 2004).

[101] CR/PR at III-11.

[102] See generally, e.g., *Polyethylene Terephthalate Film, Sheet and Strip from Brazil, China, Thailand, and the United Arab Emirates*, Inv. Nos. 731-TA-1131-1134 (Final), USITC Pub. 4040 at 17 n.103 (Oct. 2008*); Polyethylene Terephthalate Film, Sheet, and Strip from India and Taiwan*, Inv. Nos. 701-TA-415 and 731-TA-933-934 (Final), USITC Pub. 3518 at 11 & n.51 (June 2002).

[103] *See Polyvinyl Alcohol from Germany and Japan*, Inv. Nos. 731-TA-1015-16 (Final), USITC Pub. 3604 at 15 n.69 (June 2003).

[104] CR/PR at Table III-8.

[105] This is consistent with the Commission's treatment of this issue in the previous investigations where *** also reported the *** percent figure as the percentage of total material costs accounted for by ESBR. *See ESBR from Brazil, Korea, Mexico, and Poland*, USITC Pub. 4717, at 17, Confidential Commission Views, EDIS Doc. 622158 at 23.

D. Demand Conditions

Demand for ESBR is driven by demand for the downstream products in which it is used.[106] Approximately 70 to 80 percent of domestic ESBR is used to manufacture tires, with the remainder being used to manufacture technical goods such as conveyor belts, O-rings, the soles of shoes, and other mechanical rubber goods.[107] ESBR is used more predominantly in replacement tires than in OEM tires due to the emphasis on fuel efficiency performance in OEM tires, for which SSBR is the preferred input.[108] Petitioner claims that the long-term shift to SSBR from ESBR will be reversed because the superior wear characteristics of ESBR are needed for heavier electric vehicles.[109] Respondents disagreed and argued that the shift from ESBR to SSBR will continue despite increasing production of electric automobiles.[110]

Measures in response to COVID-19 led to a large decline in apparent U.S. consumption in 2020 as auto production shut down and lockdowns reduced driving and demand for replacement tires.[111] Apparent U.S. consumption rebounded during January to September 2021 ("interim 2021") compared to January-September 2020 ("interim 2020"), but did not return to its 2019 level.[112]

Apparent U.S. consumption of ESBR declined from *** pounds in 2018 to *** pounds in 2019 and *** pounds in 2020, a level *** percent lower than in 2018.[113] Apparent U.S. consumption of ESBR was *** percent higher in interim 2021, at *** pounds, than in interim 2020, at *** pounds.[114]

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[106] CR/PR at II-9.

[107] CR/PR at I-3 n.6.

[108] CR/PR at I-7, II-1 n.3.

[109] Petitioner's Brief at 17-18 and Exhibit 12 (2020 Global Synthetic Rubber Consumption Forecast 2021-2025, International Institute of Synthetic Rubber Producers, Inc.).

[110] Respondents' Brief at 6 n.17 & Exhibit 1 at 5.

[111] *See* CR/PR at II-8 n.28. *See also* Table E-1 (Goodyear and Lion describing a demand shock and reduced demand due to COVID-19 measures). Both responding U.S. producers reported U.S. demand decreased over the POI while importers reported varying impressions of trends in U.S. demand in the period. *See* CR/PR at Table II-4.

[112] CR/PR at II-10.

[113] CR/PR at Tables IV-7 and C-1.

[114] CR/PR at Tables IV-7 and C-1. Seven of 12 importers *** indicated that the market was subject to business cycles or conditions of competition. CR/PR at II-9. Importers mentioned seasonal fluctuations related to auto sales and tire production. *Id.*

E. Supply Conditions

The domestic industry was the largest supplier of ESBR in the U.S. market during the POI.[115] Two producers, Lion and Goodyear, accounted for all domestic production of ESBR during the POI.[116] While *** accounts for *** of domestic production, as noted above, a *** of ***.[117] The domestic industry added a small amount of production capacity during the POI.[118]

The domestic industry's market share decreased from *** percent of apparent U.S. consumption in 2018 to *** percent in 2019 and *** percent in 2020; its market share was lower in interim 2021, at *** percent, than in interim 2020, at *** percent.[119]

Petitioner states that that there were two main supply disruptions in the ESBR U.S. market during the POI. First, in November 2019, an explosion at the Texas Petroleum Chemical ("TPC") butadiene plant in Port Neches, Texas, interrupted Lion's butadiene supply and closed Lion's facility for 20 days.[120] After Lion's reopening in December 2019, Lion could acquire only limited volumes of butadiene, but reported that it *** and that it was able to supply over 95 percent of its contract and spot customers' demands from December 2019 to March 2020, relying in part on inventories.[121] Second, in February 2021, Winter Storm Uri led Lion to shut down its ESBR plant from February 15, 2021 until March 4, 2021 and declare *force majeure* until April 2021 due to "curtailment of raw materials and other natural gases" and damage to the plant including frozen and broken pipes.[122] Lion reported it was typically able to supply 100 percent of its contract volumes and *** after mid-March 2021, but intermittent issues reduced its ability to supply all of its customers' requirements to approximately 80 to 90 percent of such requirements for certain months.[123] *** reported similar effects from Winter Storm Uri. It reported that it ***. *** reported placing its ***.[124]

[115] CR/PR at Tables IV-8 and C-1.

[116] CR/PR at III-1.

[117] CR/PR at Table III-4. In 2020, *** percent of Goodyear's shipments was internally consumed. *See* Goodyear's U.S. Producer Questionnaire at II-7.

[118] ***. CR/PR at Table III-4.

[119] CR/PR at Tables IV-9 and C-1.

[120] CR/PR at II-7.

[121] CR/PR at II-8; ***.

[122] CR/PR at II-8.

[123] CR/PR at II-8; ***.

[124] CR/PR at II-7.

The record indicates that the COVID-19 pandemic also affected U.S. producers' ESBR production. *** reported *** resulting from government lockdown orders, and *** reported *** due to the pandemic.[125] ***[126]

In addition, Respondents contend that other incidents, including a fire at Exxon's Baytown, Texas plant in July 2019; a fire at Exxon's butadiene pipeline in Baton Rouge, Louisiana in February 2020; and Hurricane Ida in August 2021 also affected butadiene supplies and interrupted domestic ESBR production.[127] Lion disputes that these other events affected Lion's operations and claims the TPC fire in November 2019 was the first butadiene supply disruption that it experienced during the POI.[128]

Respondents further argue that problems with domestic supply have led purchasers to source ESBR from multiple suppliers in order to ensure a reliable supply of ESBR.[129] All three purchasers responding to the Commission's lost sales lost revenue survey identified reliability of supply as one of the most important purchasing factors.[130] In any final phase of these investigations, we intend to examine the issue of supply constraints, including the availability of raw materials, the timing of supply constraints, and their impact on the domestic industry's capacity and production of ESBR.

Subject imports' market share increased continuously over each year of the POI from *** percent of apparent U.S. consumption in 2018 to *** percent in 2019 and *** percent in 2020; their market share was higher in interim 2021, at *** percent, than in interim 2020, at *** percent.[131]

Nonsubject imports' market share increased from *** percent in 2018 to *** percent in 2019, but then declined to *** percent in 2020; their market share was higher in interim 2021, at *** percent, than in interim 2020, at *** percent.[132] The largest sources of nonsubject imports during the POI were Taiwan, Germany, and Mexico, accounting for over half of nonsubject imports.[133] Nonsubject imports from Brazil, Korea, Mexico, and Poland have been subject to antidumping duty orders since September 2017.[134] ESBR from China has been

[125] CR/PR at III-3.
[126] Lion's ***; Goodyear's ***.
[127] *See* CR/PR at II-8 to II-9.
[128] CR/PR at II-8; Conf Tr. at 33-35, 38-39 (Rikhoff).
[129] Respondents' Brief at 14-17 (citing Conf. Tr. at 83 (Rikhoff)).
[130] CR/PR at Table II-5.
[131] CR/PR at Tables IV-9 and C-1.
[132] CR/PR at Tables IV-9 and C-1.
[133] CR/PR at II-7.
[134] CR/PR at I-5, II-2.

subject to duties pursuant to Section 301 of the Trade Act of 1974 ("Section 301") since September 24, 2018.[135]

F. Substitutability and Other Conditions

The record indicates that ESBR is a highly substitutable product made to IISRP standards.[136] Both responding domestic producers and a majority of U.S. importers reported that the domestic like product and subject imports were always or frequently interchangeable.[137] However, certain factors such as supply constraints affecting the availability of ESBR from domestic sources at certain times during the POI and the value purchasers placed on diversity of supply may have reduced the degree of substitutability between subject imports and the domestic like product.[138] While the evidence on the preliminary phase record was limited concerning the availability and reliability of domestic supply, in any final phase of these investigations we intend to examine further the extent to which these or other factors limited substitutability of ESBR from different sources.

The record in the preliminary phase of these investigations indicates that price is an important factor in purchasing decisions for ESBR. Two of the three purchasers responding to the lost sales and lost revenue survey cited price as among the most important factors in purchasing decisions, although they ranked reliability of supply and quality ahead of price.[139] In contrast, Petitioner and Respondents agreed that quality was not an important factor when comparing ESBR from different sources.[140] In comparing domestically produced ESBR and subject imports, the responding U.S. producers and importers provided mixed responses concerning the significance of differences other than price in purchasing decisions.[141]

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[135] CR/PR at II-2; Notice of Modification of Section 301 Action: China's Acts, Policies, and Practices Related to Technology Transfer, Intellectual Property, and Innovation, 83 Fed. Reg. 47,974 (Sept. 21, 2018). The initial duties of 10 percent increased to 25 percent as of June 1, 2019. See Petition at 6 (citing Implementing Modification to Section 301 Action: China's Acts, Policies, and Practices Related to Technology Transfer, Intellectual Property, and Innovation, 84 Fed. Reg. 21,892 (May 15, 2019).

[136] CR/PR at I-9 and II-11.

[137] CR/PR at Tables II-6 and II-7.

[138] CR/PR at II-11 to II-12 (indicating a moderate degree of substitutability between domestically produced ESBR and ESBR imported from subject sources), II-16 (Petitioner and Respondents agreed that customers multi-source their ESBR and value diversity of supply).

[139] CR/PR at Table II-5.

[140] CR/PR at II-14.

[141] CR/PR at Tables II-8 and II-9. Importers generally reported that non-price differences between ESBR from domestic and subject sources were always or sometimes important, while one (Continued…)

During the POI, the domestic like product was sold primarily to tire manufacturers, with the remainder sold to other end users and distributors.[142] Subject imports also were mostly sold to tire manufacturers throughout the POI, with the remainder almost entirely sold to other end users.[143] In 2020, U.S. producers largely (*** percent) sold ESBR using ***, with lesser quantities (*** percent) sold ***.[144] Importers sold subject merchandise mostly through contracts of varying length (*** percent) with the remaining quantities (*** percent) sold on the spot market.[145] Domestically produced ESBR and subject imports were both primarily sold from inventory.[146]

U.S. producers' contract prices for ESBR are based on an agreed upon formula comprising three components: 1) the prevailing domestic market price, or the highest price customers are willing to pay; 2) the public pricing indices for butadiene and styrene; and 3) the conversion cost.[147] Contract prices typically are tied to publicly published raw material price indices for butadiene and styrene and adjust on a monthly or quarterly basis.[148] The conversion cost component, which covers producers' other material costs, fixed overhead costs, labor costs, and a profit margin, is typically fixed for a year and is the most static component of ESBR pricing.[149]

The major raw materials used to produce ESBR are butadiene and styrene, with butadiene accounting for the majority of raw material costs.[150] Although butadiene prices fell to as low as $*** per pound in mid-2020, they increased to $*** per pound by the end of the

(…Continued)
domestic producer reported they were *** important and the other domestic producer reported they were *** important. *See* CR/PR at Tables II-8 and II-9.

[142] CR/PR at Table II-1. During the POI, the domestic industry's U.S. shipments to tire manufacturers ranged from *** percent to *** percent of U.S. shipments, with the remainder sold to other end users (*** percent to *** percent of U.S. shipments) and distributors (*** percent to *** percent of U.S. shipments). *Id*.

[143] During the POI, U.S. importers' U.S. shipments to tire manufacturers ranged from *** percent to *** percent of their U.S. shipments, with virtually all of the remainder sold to other end users. CR/PR at Table II-1.

[144] CR/PR at Table V-3.

[145] CR/PR at Table V-3.

[146] CR/PR at II-12 to II-13. Subject imports were mostly sold from foreign inventories. *Id.*

[147] CR/PR at V-6.

[148] CR/PR at V-6. *See also* Conf. Tr. at 19, 68 (Rikhoff).

[149] CR/PR at V-6.

[150] CR/PR at V-1. Butadiene accounts for just over *** of the cost of raw materials in ESBR production and is a driver of ESBR pricing. CR/PR at Table VI-6; Conf. Tr. at 111 (Kurilla) (butadiene price is driver of ESBR prices).

POI for an overall increase during the POI.[151] Raw materials accounted for *** percent of the domestic industry's total cost of goods sold ("COGS") for ESBR in 2018, *** percent in 2019, *** percent in 2020, and *** percent in interim 2021, compared to *** percent in interim 2020.[152]

G. Volume of Subject Imports

Section 771(7)(C)(i) of the Tariff Act provides that the "Commission shall consider whether the volume of imports of the merchandise, or any increase in that volume, either in absolute terms or relative to production or consumption in the United States, is significant."[153]

The volume of cumulated subject imports increased irregularly by *** percent from 2018 to 2020, increasing from *** pounds in 2018 to *** pounds in 2019, and then declining to *** pounds in 2020.[154] The volume of cumulated subject imports was *** percent higher in interim 2021, at *** pounds, than in interim 2020, at *** pounds.[155]

The market share of cumulated subject imports almost doubled from 2018 to 2020, increasing by *** percentage points over the period.[156] Their market share increased from *** percent of apparent U.S. consumption in 2018 to *** percent in 2019 and *** percent in 2020.[157] The market share of cumulated subject imports was *** percentage points higher in interim 2021, at *** percent, than in interim 2020, at *** percent.[158]

In light of the foregoing, we find that the volume of cumulated subject imports, and the increase in that volume, are significant both in absolute terms and relative to consumption in the United States.

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[151] *See* CR/PR at Fig. V-1, Table V-1. Butadiene prices initially increased to as high as $*** per pound in the second and third quarters of 2018, then generally declined to a low of $*** per pound in May-July of 2020, before increasing sharply up to $*** per pound at end of the POI.

[152] CR/PR at Table VI-1.

[153] 19 U.S.C. § 1677(7)(C)(i).

[154] CR/PR at Table IV-2. The volume of U.S. shipments of subject imports increased overall by *** percent from 2018 to 2020, increasing from *** pounds in 2018 to *** pounds in 2019 and *** pounds in 2020. CR/PR at Tables IV-7 and C-1.

[155] CR/PR at Table IV-2. The volume of U.S. shipments of subject imports was *** percent higher in interim 2021, at *** pounds, than in interim 2020, at *** pounds. CR/PR at Tables IV-7 and C-1.

[156] CR/PR at Tables IV-9 and C-1.

[157] CR/PR at Tables IV-9 and C-1.

[158] CR/PR at Tables IV-9 and C-1.

H. Price Effects of the Subject Imports

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

> (I) there has been significant price underselling by the imported merchandise as compared with the price of domestic like products of the United States, and
>
> (II) the effect of imports of such merchandise otherwise depresses prices to a significant degree or prevents price increases, which otherwise would have occurred, to a significant degree.[159]

As addressed in section VI.B.4 above, the record indicates that ESBR is a highly substitutable product made to IISRP standards, although substitutability may have been reduced at times during the POI by certain factors such as periodic constraints on the availability of domestically produced ESBR. The record also indicates that price is an important factor in purchasing decisions.

The Commission collected quarterly pricing data from the two U.S. producers and five importers for four pricing products: IISRP ESBR grades 1502, 1507, 1712, and 1783.[160] Not all firms reported pricing data for all products for all quarters, and no price data were reported by importers for product 2 from Italy or Russia, product 3 from Italy, and product 4 from Russia.[161] Pricing data reported by these firms accounted for approximately *** percent of U.S. producers' commercial shipments of ESBR and *** percent of commercial U.S. shipments of subject imports from Czechia, *** percent of commercial U.S. shipments of subject imports from Italy, and *** percent of commercial U.S. shipments of subject imports from Russia in 2020.[162]

The pricing data in the preliminary phase of these investigations show that underselling predominated during the POI, measured both by quarterly comparisons and by volume.

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[159] 19 U.S.C. § 1677(7)(C)(ii).

[160] The pricing products were defined as follows:

Product 1. -- IISRP 1502 grade of ESBR in all forms;

Product 2. -- IISRP 1507 grade of ESBR in all forms;

Product 3. -- IISRP 1712 grade of ESBR in all forms; and

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

CR/PR at V-9. Grades 1502 and 1783 are used in tire production. Respondents' Brief at 29, 33. Grades 1712 and 1705 are used to produce technical goods. Conf. Tr. at 92, 109-110 (Rybalov).

[161] CR/PR at V-9.

[162] CR/PR at V-9.

Cumulated subject imports undersold domestically produced ESBR in 65 of 100 (or 65.0 percent) of quarterly comparisons, while cumulated subject imports oversold domestically produced ESBR in 35 of 100 (or 35.0 percent) of quarterly comparisons.[163] There were 43.6 million pounds of cumulated subject imports in quarterly comparisons in which subject imports undersold the domestic like product (*** percent of the total) and 23.7 million pounds of subject imports in quarterly comparisons in which subject imports oversold the domestic like product (*** percent of the total).[164] The margins of underselling ranged from 0.6 to 36.5 percent, and averaged 10.8 percent during the POI, while the margins of overselling ranged from 0.4 to 28.0 percent, and averaged 7.8 percent.[165]

In light of the foregoing, we find, for purposes of our preliminary determinations, that cumulated subject imports significantly undersold the domestic like product during the POI. Over the course of the POI, as cumulated subject imports increased in volume, they gained market share at the direct expense of the domestic industry.[166]

We have also examined data on price trends. During the POI, domestic prices for ESBR reported for the four pricing products generally followed the trends in prices of butadiene and styrene in the North American market, increasing initially before declining from the third or fourth quarter of 2018 steadily through the third quarter of 2020 and then increasing for the remainder of 2020 and interim 2021.[167] Although domestic prices decreased over most of the POI, the increase in domestic prices that began in the third quarter of 2020 resulted in prices

[163] CR/PR at Table V-11.

[164] CR/PR at Table V-11.

[165] CR/PR at Table V-11. We have also considered responses to the Commission's lost sales/lost revenue survey received from three purchasers. Both domestic producers reported that they had to reduce prices, but they did not allege any lost sales. Staff contacted ten purchasers and received responses from three purchasers. Two purchasers reported buying subject imports instead of domestic product. No purchasers reported that U.S. producers had reduced prices in order to compete with lower-priced imports from subject countries. CR/PR at V-23 to V-24.

[166] Subject imports' share of apparent U.S. consumption increased from *** percent to *** percent from 2018 and 2020, while nonsubject imports' share increased slightly from *** percent to *** percent. During this same period, the domestic industry's share of apparent U.S. consumption decreased from *** percent to *** percent. The U.S. market share held by subject imports was *** percent in interim 2021, up from *** percent in interim 2020, while the share held by nonsubject imports was *** percent in interim 2021, up from *** percent in interim 2020. Over the same periods, the domestic industry's share of apparent U.S. consumption was *** percent in interim 2021, down from *** percent in interim 2020. CR/PR at Table IV-9.

[167] *Compare* CR/PR at Fig. V-1, *with* CR/PR at Fig. V-6. The domestic industry's net sales average unit value decreased by *** percent from $*** in 2018 to $*** in 2019 and by an additional *** percent to $*** in 2020, for an overall period decrease of *** percent, but was up *** percent across interim periods at $*** in interim 2020 and $*** in interim 2021. CR/PR at Tables VI-1, VI-2.

being higher in the third quarter of 2021 than in the first quarter of 2018 for each of the four pricing products.[168] Subject import prices generally followed the same trends as prices for the domestic like product, and were higher in the third quarter of 2021 than in the first quarter of 2018.[169]

We have considered whether subject imports prevented price increases that otherwise would have occurred. The domestic industry's net sales average unit values declined from 2018 to 2020 by $*** per pound,[170] an amount considerably greater than the declines in the industry's unit raw material costs[171] ($*** per pound) and unit COGS ($*** per pound).[172] As a result, the domestic industry's COGS to net sales ratio increased from *** percent in 2018 to *** percent in 2019 and *** in 2020.[173] Thus, despite declining costs, the domestic industry faced a cost-price squeeze, as it was unable to maintain its prices at a level sufficient for it to recover its costs. This cost-price squeeze occurred as cumulated subject imports significantly undersold domestic product. Several factors may have influenced domestic prices however, including the *** percent decline in apparent U.S. consumption, and as discussed above, declining butadiene and styrene contract prices.

In interim 2021, these trends reversed, and the domestic industry's COGS increased, driven by escalating raw material costs. The domestic industry's unit raw material costs were $*** per pound higher, and its unit COGS was $*** per pound higher, in interim 2021 than in interim 2020.[174] The industry's net sales average unit values also increased, however, and were

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[168] CR/PR at Table V-8 and Fig. V-6. During January 2018-September 2021, domestic prices increased by *** percent for Product 1, *** percent for Product 2, *** percent for Product 3, and *** percent for Product 4. CR/PR at Table V-8.

[169] CR/PR at Table V-8 and Fig. V-7. For Product 1, prices for subject imports from Czechia increased by *** percent overall, whereas prices for subject imports from Russia increased by *** percent. With respect to Product 2, prices for subject imports from Czechia increased by *** percent overall. For Product 3, prices for subject imports from Czechia increased by *** percent overall, whereas prices for subject imports from Russia increased by *** percent. With respect to Product 4, prices for subject imports from Czechia increased by *** percent overall. CR/PR at Table V-8.

[170] CR/PR at Table VI-2. Total net sales values declined from $*** per pound in 2018 to $*** per pound in 2019 and $*** per pound in 2020. CR/PR at Table VI-1.

[171] CR/PR at Table VI-2. Raw material costs fell from $*** per pound in 2018 to $*** per pound in 2019 and $*** per pound in 2020. CR/PR at Table VI-1.

[172] CR/PR at Table VI2. COGS fell from $*** per pound in 2018 to $*** per pound in 2019 and $*** per pound in 2020. CR/PR at Table VI-1.

[173] CR/PR at Table VI-1.

[174] CR/PR at Table VI-2. The domestic industry's raw materials costs were *** per pound in interim 2020 and *** per pound in interim 2021. The domestic industry's COGS was *** per pound in interim 2020 and *** per pound in interim 2021. CR/PR at Table VI-1.

*** per pound higher in interim 2021 than in interim 2020.[175] As a result, the domestic industry's ratio of COGS to net sales was lower in interim 2021, at *** percent, than in interim 2020, at *** percent, indicating the industry's prices had increased more than its costs during interim 2021 compared to interim 2020, but remained below unit COGS.[176] In any final phase of the investigations, we will further examine the extent to which subject imports may have depressed or suppressed domestic prices.[177]

In sum, the record of the preliminary phase of the investigations shows that a significant and increasing volume of cumulated subject imports, in a market where price is an important purchasing factor and ESBR from all sources is a highly substitutable product,[178] significantly undersold the domestic like product, gaining market share at the domestic industry's expense during the POI. We therefore find for purposes of the preliminary phase of these investigations that cumulated subject imports had significant price effects.

I. Impact of the Subject Imports[179]

Section 771(7)(C)(iii) of the Tariff Act provides that the Commission, in examining the impact of the subject imports on the domestic industry, "shall evaluate all relevant economic

[175] CR/PR at Table VI-2. The domestic industry's net sales were $*** per pound in interim 2020 and $*** per pound in interim 2021. CR/PR at Table VI-1. The domestic industry's commercial sales values were $*** per pound higher in interim 2021 than in interim 2020. CR/PR at Table VI-2.

[176] CR/PR at Tables VI-1 and C-1.

[177] As previously indicated, the contract price formulas were indexed to published price indices for styrene and butadiene and also contained a conversion cost component that covered other material costs, fixed overhead costs, labor, and a profit margin. Petitioner maintains that it has been forced to lower the conversion cost component of its contracts, forcing it to sell ESBR at prices that did not allow for any profit, and which did not even cover corresponding conversion costs and a profit margin. Petitioner's Brief at 23-24. In any final phase of the investigations, the parties are invited to provide data or any additional pertinent information regarding the negotiated conversion fee component of the pricing formulas. We will further examine the effects of subject imports on this conversion fee component and the industry's inability to maintain its prices at a level sufficient for it to recover its costs through contract terms as well as pricing formulas in contracts.

[178] As noted above, the Commission intends to further examine the extent to which certain factors such as supply constraints affecting the availability of domestic product may have affected the degree of substitutability of subject imports and the domestic like product and any effects these factors may have had in changing market shares.

[179] Commerce initiated its investigations based on estimated dumping margins of 11.00 percent for subject imports from Czechia, 28.97 percent for subject imports from Italy, and 263.33 percent for subject imports from Russia. *Emulsion Styrene-Butadiene Rubber From the Czech Republic, Italy, and the Russian Federation: Initiation of Less-Than-Fair-Value Investigations,* 86 *Fed. Reg.* 70447, 70450 (Dec. 10, 2021).

factors which have a bearing on the state of the industry." These factors include output, sales, inventories, capacity utilization, market share, employment, wages, productivity, gross profits, net profits, operating profits, cash flow, return on investment, return on capital, ability to raise capital, ability to service debt, research and development ("R&D"), and factors affecting domestic prices. No single factor is dispositive and all relevant factors are considered "within the context of the business cycle and conditions of competition that are distinctive to the affected industry."[180]

The domestic industry's performance significantly declined according to most measures between 2018 and 2020, and remained weak in interim 2021, as the industry lost market share to increasing volumes of low-priced subject imports.[181] Although declining demand and supply disruptions between 2018 and 2020 also impacted the industry's performance, these factors do not fully explain increasing subject import market share and the industry's deteriorating performance as discussed in more detail below.

While apparent U.S. consumption decreased overall by *** percent from 2018 to 2020,[182] the domestic industry's declines in production and U.S. shipments were even greater over the period, falling by *** percent and *** percent, respectively.[183] Apparent U.S. consumption was *** percent higher in interim 2021 than interim 2020,[184] and the domestic industry's production and U.S. shipments were higher in interim 2021 than in interim 2020, by *** percent and *** percent, respectively.[185] Capacity utilization declined *** percentage points from 2018 to 2020, but was *** percentage points higher in interim 2021 than in interim

[180] 19 U.S.C. § 1677(7)(C)(iii). This provision was amended by the Trade Preferences Extension Act ("TPEA") of 2015, Pub. L. 114-27.

[181] The domestic industry's market share declined from *** percent of apparent U.S. consumption in 2018 to *** percent in 2019 and *** percent in 2020; its market share was lower in interim 2021, at *** percent, than in interim 2020, at *** percent. CR/PR at Tables IV-9 and C-1.

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

[183] The domestic industry's production declined from *** pounds in 2018 to *** pounds in 2019 and *** pounds in 2020. The domestic industry's U.S. shipments declined from *** pounds in 2018 to *** pounds in 2019 and *** pounds in 2020. CR/PR at Tables III-4, III-6, and C-1. Export shipments also declined overall, first increasing from *** pounds in 2018 to *** pounds in 2019 and then declining to *** pounds in 2020. *Id.*

[184] CR/PR at Table C-1.

[185] The domestic industry's production was *** pounds in interim 2020 and *** pounds in interim 2021. The domestic industry's U.S. shipments were *** pounds in interim 2020 and *** pounds in interim 2021. The domestic industry's exports were *** pounds in interim 2020 and *** pounds in interim 2021. CR/PR at Tables III-4, III-6, and C-1.

2020.[186] The domestic industry's production capacity increased overall from 2018 to 2020, and was virtually unchanged in interim 2020 and interim 2021.[187] End-of-period inventories declined *** percent from 2018 to 2020,[188] and were *** percent lower in interim 2021 than in interim 2020.[189]

The domestic industry's market share decreased from *** percent of apparent U.S. consumption in 2018 to *** percent in 2019 and *** percent in 2020, for an overall decline of *** percentage points from 2018 to 2020; its market share was *** percentage points lower in interim 2021, at *** percent, than in interim 2020, at *** percent.[190] By contrast, subject imports' market share increased overall by *** percentage points from 2018 to 2020 and was *** percentage points higher in interim 2021, at *** percent, than in interim 2020, at *** percent.[191]

The domestic industry's employment indicia reflect trends consistent with the changes in its output, generally declining between 2018 and 2020 before improving in interim 2021 compared to interim 2020. Production and related workers ("PRWs"), hours worked, wages paid, and productivity declined overall from 2018 to 2020.[192] Hourly wages and unit labor costs were exceptions, increasing overall from 2018 to 2020.[193] PRWs, hours worked, wages paid,

[186] The domestic industry's capacity utilization declined from *** percent in 2018 to *** percent in 2019 and *** percent in 2020. Its capacity utilization was *** percent in interim 2020 and *** percent in interim 2021. CR/PR at Tables III-4 and C-1.

[187] The domestic industry's production capacity increased from *** pounds in 2018 to *** pounds in 2019 and *** pounds in 2020. Its production capacity was *** pounds in interim 2020 and *** pounds in interim 2021. CR/PR at Tables III-4 and C-1.

[188] The domestic industry's end-of-period inventories declined from *** pounds in 2018 to *** pounds in 2019 and *** pounds in 2020. CR/PR at Tables III-9 and C-1.

[189] The domestic industry's end-of-period inventories were *** pounds in interim 2020 and *** pounds in interim 2021. CR/PR at Tables III-9 and C-1.

[190] CR/PR at Tables IV-9 and C-1.

[191] CR/PR at Tables IV-9 and C-1.

[192] The number of PRWs declined by *** percent from 2018 to 2020, declining from *** in 2018 to *** in 2019 and *** in 2020. Total hours worked declined by *** percent from 2018 to 2020, declining from *** hours in 2018 and 2019 to *** hours in 2020. Wages paid declined by *** percent from 2018 to 2020, decreasing from $*** in 2018 to $*** in 2019 and $*** in 2020. The domestic industry's productivity declined *** percent from 2018 to 2020, falling from *** pounds per hour in 2018 to *** pounds per hour in 2019 and *** pounds per hour in 2020. CR/PR at Tables III-13 and C-1.

[193] Hourly wages initially decreased from $*** per hour in 2018 to $*** per hour in 2019, but they then increased to $*** per hour in 2020. Unit labor costs increased from $*** per pound in 2018 to $*** per pound in 2019 to $*** per pound in 2020. CR/PR at Tables III-13 and C-1.

and productivity were all higher in interim 2021 than in interim 2020, while hourly wages and unit labor costs were lower.[194]

Virtually all of the domestic industry's financial performance indicia showed large declines over the first three years of the POI as revenues and sales unit values fell by *** percent and *** percent, respectively.[195] The modest gross profits, operating income, and net income that the industry reported in 2018 all ***.[196] The domestic industry's operating income of $*** turned into ***.[197]

Although the domestic industry's revenues and sales values increased in interim 2021 compared to interim 2020,[198] the industry reported only *** compared to interim 2020.[199] Operating and net income as a share of net sales reflected the same trends as income, as an operating *** percent turned into an operating *** percent in 2020 and improved only modestly to an operating *** percent in interim 2021.[200] Capital expenditures fell from 2018 to

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[194] The number of PRWs was *** percent higher in interim 2021, at ***, than in interim 2020, at ***. Hours worked were *** percent higher in interim 2021, at *** hours, than in interim 2020, at *** hours. Wages paid were *** percent higher in interim 2021, at $***, than in interim 2020, at $***. Hourly wages were *** lower in interim 2021, at $*** per hour, than in interim 2020, at $*** per hour. Productivity was virtually unchanged in interim 2021, at *** pounds per hour, compared to *** pounds per hour in interim 2020. Unit labor costs were lower at $*** per pound in interim 2021, compared to $*** per pound in interim 2020. CR/PR at Tables III-13 and C-1.

[195] CR/PR at Tables VI-1 and C-1. Sales revenues declined from $*** in 2018 to $*** in 2019 and $*** in 2020. Net sales unit values declined from $*** per pound in 2018 to $*** per pound in 2019 and $*** per pound in 2020. CR/PR at Tables VI-1 and C-1.

[196] *See* CR/PR at Tables VI-1 and C-1. The domestic industry's gross profits *** from $*** in 2018 to a $*** in 2019 and a $*** in 2020. CR/PR at Tables VI-1 and C-1. The domestic industry's operating income declined from $*** in 2018 to a $*** in 2019 and a $*** in 2020. The domestic industry's net income declined from $*** in 2018 to a $*** in 2019 and a $*** in 2020. CR/PR at Tables VI-1 and C-1.

[197] *See* CR/PR at Tables VI-1 and C-1.

[198] Sales revenues were $*** in interim 2020 and $*** in interim 2021. Net sales unit values were $*** per pound in interim 2020 and $*** per pound in interim 2021. CR/PR at Tables VI-1 and C-1.

[199] The industry's *** was $*** in interim 2020 and $*** in interim 2021. Its operating *** was $*** in interim 2020 and $*** in interim 2021. Its net *** was $*** in interim 2020 and $*** in interim 2021. CR/PR at Tables VI-1 and C-1.

[200] The industry's operating income to net sales ratio declined from *** percent in 2018, to *** percent in 2019, and *** percent in 2020; the ratio was *** percent in interim 2020 and *** percent in interim 2021. The industry's net income to net sales ratio declined from *** percent in 2018 to *** percent in 2019 and *** percent in 2020; the ratio was *** percent in interim 2020 and *** percent in interim 2021. CR/PR at Tables VI-1 and C-1. The industry's total net assets declined from $*** in 2018 to $*** million in 2019 and $*** in 2020. CR/PR at Table VI-12. ***. CR/PR at VI-22. The industry's (Continued…)

2020 but were higher in interim 2021 than interim 2020; research and development ("R&D") spending increased overall.[201] Both domestic producers reported negative effects of the subject imports in the U.S. market.[202]

In sum, the record in the preliminary phase of these investigations shows that cumulated subject imports significantly increased in volume and undersold the domestic like product to a significant degree, gaining market share at the direct expense of the domestic industry during the POI. As the domestic industry lost market share to subject imports, the domestic industry's output, employment, and revenues declined. Although the decline in demand as a result of the COVID-19 pandemic and other supply constraints also reduced the domestic industry's output and revenues in 2020 and interim 2021, the preliminary record does not establish that these fully explain the industry's loss of output and revenues as subject imports captured market share from the industry during the POI.

In particular, we are unpersuaded by Respondents' argument that the increase in cumulated subject import volume and market share resulted solely from other factors, including the adverse weather and other events that disrupted the domestic industry's production, fluctuating raw material prices, declining demand, and the industry's alleged focus on ESBR for tire production to the exclusion of other types of ESBR.[203] First, the record indicates that cumulated subject imports began to increase well before late 2019, when at least most of the industry's production issues first occurred.[204] Indeed, subject imports' largest increase in market share over the POI occurred from 2018 to 2019.[205] Thus, the record does not show subject imports increasing only in response to domestic industry supply issues.

The record also does not support Respondents' argument that the domestic industry is focused on supplying ESBR for tire production while subject imports supply other end users for

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(…Continued)
return on its assets also ***, falling from *** percent in 2018 to *** in 2019 and *** percent in 2020. CR/PR at Table VI-13.

[201] The domestic industry's capital expenditures declined from $*** in 2018 to $*** in 2019 to $*** in 2020. R&D spending increased from $*** in 2018 to $*** in 2019 but then declined to $*** in 2020. CR/PR at Tables VI-8, VI-10, and C-1. *** during the POI. CR/PR at Table VI-10. Capital expenditures were higher at $*** in interim 2021 compared to $*** in interim 2020 while R&D spending was virtually unchanged at $*** in interim 2021 and $*** in interim 2020. CR/PR at Tables VI-8, VI-10, and C-1.

[202] ***. CR/PR at Tables VI-15 and VI-16. Goodyear stated that ***." CR/PR at VI-23 n.17.

[203] Respondents' Brief at 36.

[204] *See* CR/PR at Fig. IV-7 (showing increasing subject imports prior to November 2019)

[205] CR/PR at Table C-1. Subject imports gained *** percentage points of market share from 2018 to 2019 and *** percentage points of market share from 2019 to 2020. From interim 2020 to interim 2021, subject imports gained *** percentage points of market share. *Id.*

production of technical goods. Subject imports captured market share from the domestic industry in both the tire and the technical portions of the market, while the domestic industry supplied nearly half of the shipments made to end users in the technical portion of the market.[206] In any final phase of the investigations, we intend to further explore the extent to which the factors argued by Respondents impacted the domestic industry.

We have also considered whether there are other factors that may have had an adverse impact on the domestic industry during the POI to ensure that we are not attributing injury from such other factors to subject imports. As noted above, trends in apparent U.S. consumption do not fully explain the domestic industry's performance. The industry became unprofitable before the sharp drop in apparent U.S. consumption in 2020.[207]

Nor do nonsubject imports explain the domestic industry's performance. Nonsubject imports, unlike the subject imports, declined in terms of absolute volume between 2018 and 2020, and gained only *** percentage points of market share over the period.[208] Although nonsubject imports gained more market share than subject imports in interim 2021 compared to interim 2020, nonsubject import market share *** than in 2018, whereas subject import market share was more than *** that in 2018. [209] Thus, the small market share gain by nonsubject imports does not explain most of the domestic industry's loss of market share during the POI, or the resulting declines in its performance indicators.[210]

In sum, based on the record of the preliminary phase of these investigations, we conclude that subject imports had a significant impact on the domestic industry.

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[206] *See* Respondents' Brief at 11, 26-27. Over two-thirds of the cumulated subject imports were shipped to tire manufacturers, and the cumulated subject imports gained market share in the tire portion of the market as well as in the portion sold to other end users. The domestic industry supplied over half of total shipments to other end users suggesting it was not focused only on sales to tire manufacturers. Respondents' Brief at Exhibit 2 (Market Share Aggregation by Segment). Respondents have also emphasized that Lion stopped producing grade 1712 ESBR, but this only occurred in June 2021, too late to account for the increases in the cumulated subject imports. Respondents' Brief at 13 and Exhibit 11.

[207] CR/PR at Tables IV-9 and C-1.

[208] CR/PR at Tables IV-7, IV-9, and C-1.

[209] CR/PR at Tables IV-7, IV-9, and C-1.

[210] Changes in U.S. industry exports also do not explain away the deterioration in the domestic industry's performance over the POI. In percentage and absolute terms, the U.S. industry's export shipments declined less than its domestic shipments by both volume and value from 2018 to 2020, while export shipments also recovered better over the interim periods. CR/PR at Table C-1.

VII. Conclusion

For the reasons stated above, we determine that there is a reasonable indication that an industry in the United States is materially injured by reason of subject imports of ESBR from Czechia, Italy, and Russia that are allegedly sold in the United States at less than fair value.

Part I: Introduction

Background

These investigations result from petitions filed with the U.S. Department of Commerce ("Commerce") and the U.S. International Trade Commission ("USITC" or "Commission") by Lion Elastomers LLC ("Lion"), Port Neches, Texas, effective November 15, 2021, alleging that an industry in the United States is materially injured and threatened with material injury by reason of less-than-fair-value ("LTFV") imports of emulsion styrene-butadiene rubber ("ESBR")[1] from Czechia, Italy, and Russia. Table I-1 presents information relating to the background of these investigations.[2] [3]

Table I-1
ESBR: Information relating to the background and schedule of this proceeding

Effective date	Action
November 15, 2021	Petitions filed with Commerce and the Commission; institution of Commission investigations (86 FR 66335, November 22, 2021)
December 6, 2021	Commission's conference
December 6, 2021	Commerce's notice of initiation (86 FR 70447, December 10, 2021)
December 29, 2021	Commission's vote
December 30, 2021	Commission's determinations
January 10, 2021	Commission's views

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

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

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

Statutory criteria

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

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

Section 771(7)(C) of the Act (19 U.S.C. § 1677(7)(C)) further provides that--[4]

> *In evaluating the volume of imports of merchandise, the Commission shall consider whether the volume of imports of the merchandise, or any increase in that volume, either in absolute terms or relative to production or consumption in the United States is significant.. . .In evaluating the effect of imports of such merchandise on prices, the Commission shall consider whether. . .(I) there has been significant price underselling by the imported merchandise as compared with the price of domestic like products of the United States, and (II) the effect of imports of such merchandise otherwise depresses prices to a significant degree or prevents price increases, which otherwise would have occurred, to a significant degree.. . . In examining the impact required to be considered under subparagraph (B)(i)(III), the Commission shall evaluate (within the context of the business cycle and conditions of competition that are distinctive to the affected industry) all relevant economic factors which have a bearing on the state of the industry in the United States, including, but not limited to. . . (I) actual and potential decline in output, sales, market share, gross profits, operating profits, net profits, ability to service debt, productivity, return on investments, return on assets, and utilization of capacity, (II) factors affecting domestic prices, (III) actual and potential negative effects on cash flow, inventories, employment, wages, growth, ability to raise capital, and investment, (IV) actual and potential negative effects on the existing development and production efforts of the domestic industry, including efforts to develop a derivative or more advanced version of the domestic like product, and (V) in {an antidumping investigation}, the magnitude of the margin of dumping.*

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

In addition, Section 771(7)(J) of the Act (19 U.S.C. § 1677(7)(J)) provides that—[5]

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

Organization of report

Part I of this report presents information on the subject merchandise, alleged dumping margins, and domestic like product. Part II of this report presents information on conditions of competition and other relevant economic factors. Part III presents information on the condition of the U.S. industry, including data on capacity, production, shipments, inventories, and employment. Parts IV and V present the volume of subject imports and pricing of domestic and imported products, respectively. Part VI presents information on the financial experience of U.S. producers. Part VII presents the statutory requirements and information obtained for use in the Commission's consideration of the question of threat of material injury as well as information regarding nonsubject countries.

Market summary

ESBR generally is used in the production of rubber tires.[6] The U.S. producers of ESBR are Lion Elastomers and The Goodyear Tire & Rubber Company ("Goodyear"). Leading producers of ESBR outside the United States include: Synthos Kralupy a.s. ("Synthos") of Czechia; Versalis S.p.A. ("Versalis") of Italy; and *** and *** of Russia. The leading U.S. importers of ESBR from Czechia are *** and ***, while the leading importer of ESBR from Italy is *** and the leading importer of ESBR from Russia is ***. Leading importers of product from nonsubject countries (primarily Argentina, Brazil, and Thailand) include *** and ***. U.S. purchasers of ESBR are firms that use ESBR to produce compounds for the

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

[6] Approximately 70-80 percent of domestic ESBR is used to manufacture tires, with the remainder being used to manufacture products such as conveyor belts, O-rings, shoes, and other mechanical rubber goods. Conference transcript, pp. 27 (Rikhoff) and 104 (Nienaber).

production of rubber goods, such as tires;[7] leading purchasers include ***.

Apparent U.S. consumption of ESBR totaled approximately *** pounds ($***) in 2020. Currently, two firms are known to produce ESBR in the United States. U.S. producers' U.S. shipments of ESBR totaled *** pounds ($***) in 2020 and accounted for *** percent of apparent U.S. consumption by quantity and *** percent by value. U.S. shipments of imports from subject sources totaled *** pounds ($***) in 2020 and accounted for *** percent of apparent U.S. consumption by quantity and *** percent by value. U.S. shipments of imports from nonsubject sources totaled *** pounds ($*** in 2020 and accounted for *** percent of apparent U.S. consumption by quantity and *** percent by value.

Summary data and data sources

A summary of data collected in these investigations is presented in appendix C, table C-1. Except as noted, U.S. industry data are based on questionnaire responses of two firms that accounted for all known U.S. production of ESBR during 2020. Except as noted, U.S. imports in this report are based on data submitted in response to the Commission's questionnaire, supplemented with official import statistics under HTS statistical number 4002.19.0015 for nonsubject Mexico data.

Previous and related investigations

ESBR has been the subject of two prior antidumping duty proceedings in the United States. Effective April 1, 1998, the Commission instituted antidumping duty investigations following receipt of a petition filed by Ameripol Synpol Corp., Akron, Ohio, and DSM Copolymer, Baton Rouge, Louisiana alleging that an industry in the United States was materially injured and threatened with material injury by reason of LTFV imports of ESBR from Brazil, Mexico, and South Korea.[8] On May 11, 1999, the Commission determined that an industry in the United States was not materially injured or threatened with material injury by reason of imports of ESBR from Brazil, Mexico, or South Korea.[9]

[7] Petition, pp. 8 and 20.

[8] Certain Emulsion Styrene-Butadiene Rubber from Brazil, Korea, and Mexico, Inv. Nos. 731-TA-749-746 (Final), USITC Publication 3190, May 1999, p. 1.

[9] 64 FR 27296, May 19, 1999.

Effective July 21, 2016, the Commission instituted antidumping duty investigations following receipt of a petition filed with the Commission and Commerce by Lion, Port Neches, Texas, and East West Copolymer, LLC, Baton Rouge, Louisiana alleging that an industry in the United States was materially injured or threatened with material injury by reason of LTFV imports of ESBR from Brazil, Mexico, Poland, and South Korea.[10] On July 10, 2017, Commerce determined that imports of ESBR from Brazil, Mexico, Poland, and South Korea were being, or were likely to be, sold in the United States at LTFV.[11] On August 25, 2017, the Commission determined that an industry in the United States was materially injured by reason of LTFV imports of ESBR from Brazil, Mexico, Poland, and South Korea.[12] Following affirmative determinations by Commerce and the Commission, effective September 12, 2017, Commerce issued antidumping duty orders on imports of ESBR from Brazil, Mexico, Poland, and South Korea, with 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.[13]

Nature and extent of alleged sales at LTFV

Alleged sales at LTFV

On December 6, 2021, Commerce published a notice in the Federal Register of the initiation of its antidumping duty investigations on ESBR from Czechia, Italy, and Russia.[14] Commerce initiated antidumping duty investigations based on estimated dumping margins of 11.00 percent for ESBR from Czechia, 28.97 percent for ESBR from Italy, and 263.33 percent for ESBR from Russia.

[10] Emulsion Styrene-Butadiene Rubber from Brazil, Korea, Mexico, and Poland, Inv. Nos. 731-TA-1334-1337 (Final), USITC Publication 4717, August 2017, p. 1.
[11] 82 FR 33061, 82 FR 33062, 82 FR 33045, and 82 FR 33048, July 19, 2017.
[12] 82 FR 43402, September 15, 2017.
[13] 82 FR 42790, September 12, 2017.
[14] 86 FR 70447, December 10, 2021.

The subject merchandise

Commerce's scope

In the current proceeding, Commerce has defined the scope as follows:[15]

> *The products covered by these investigations are cold-polymerized emulsion styrene-butadiene rubber (ESB rubber). The scope of the investigations 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 investigations 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).*

Tariff treatment

Based upon the scope set forth by Commerce, information available to the Commission indicates that the merchandise subject to these investigations 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"), an aggregate SBR category including ESBR in forms other than bales. The 2021 general rate of duty is free for HTS subheadings 4002.19.0015 and 4002.19.0019. Decisions on the tariff classification and treatment of imported goods are within the authority of U.S. Customs and Border Protection.

[15] 86 FR 70447, December 10, 2021.

The product

Description and applications

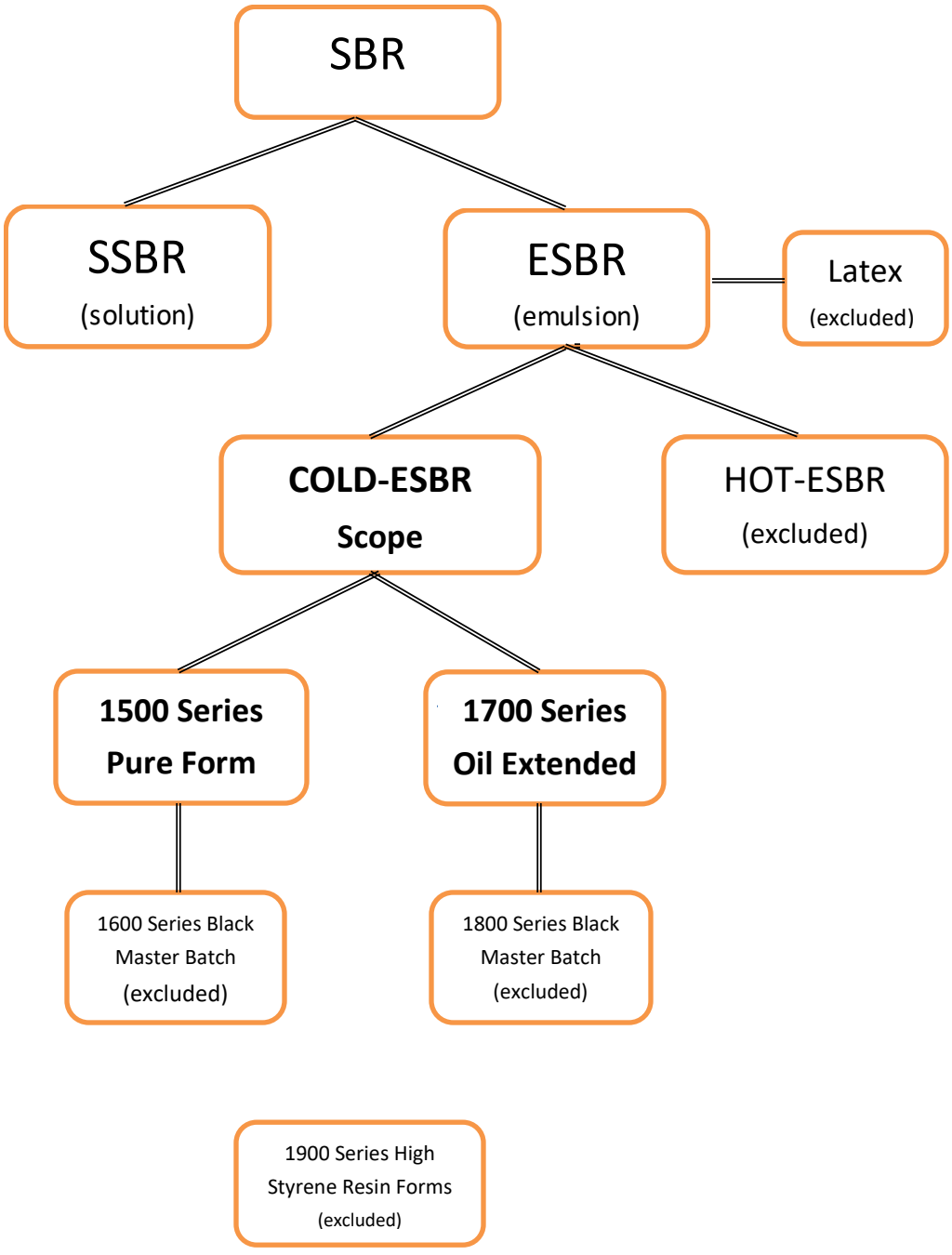
ESBR ranks as the dominant elastomer in global markets. It is a copolymer product of styrene and butadiene petrochemical feedstocks produced by a cold emulsion process. The ESBR rubber polymer contains by weight about 25 percent styrene and 75 percent butadiene. There are two major types of styrene-butadiene (SBR) elastomeric polymers, emulsion SBR (ESBR), and solution SBR (SSBR), each based on different manufacturing processes, and having different properties. Subject ESBR is produced in several grades by aqueous emulsion technology, while nonsubject solution SSBR is produced in an anhydrous organic solution process. Each form has numerous downstream end use applications, but most particularly, about 70 percent or more of in-scope ESBR is used in tire tread compounds in replacement tires for passenger car and light trucks, and truck tire retreads. ESBR is also used in diverse non-tire applications such as conveyor belting, hoses, o-rings, and other mechanical rubber goods, while the more-expensive solution SSBR is better suited for high performance original equipment (OEM) tire applications and certain other non-tire uses.[16] [17]

Figure I-1 provides a breakout of the various forms of subject and nonsubject SBR rubber grades as specified on a global basis by the International Institute of Synthetic Rubber Producers (IISRP), Houston, Texas.

[16] Emulsion Styrene-Butadiene Rubber from Brazil, Korea, Mexico, and Poland, USITC Publication 4717, August 2017.

[17] Petition, Vol. I, pp. 7-11; "The Synthetic Rubber Manual," IISRP, 2015; Conference transcript, pp. 13-17 (Rikhoff).

Figure I-1
ESBR: Styrene-butadiene rubber (SBR) flow diagram



Source: The Synthetic Rubber Manual, IISRP, 2015.

The subject scope products consist of the 1500 and 1700 series of ESBR synthetic rubber copolymers as defined by IISRP, and generally recognized by the international industry.[18] [19] Producers of ESBR sell 1500 and 1700 grades to downstream manufacturers of consumer tires and a wide variety of other consumer products. Subject ESBR elastomers produced by the cold aqueous emulsion process at 41-55 degrees Fahrenheit result in the dry 1500 grades, or oil-based 1700 grades, each primarily compressed into rectangular bales of up to about 80 pounds.[20] The 1500 series products are considered a "neat" or pure, light-colored form of ESBR popularly used by producers for multiple applications, while the 1700 series used for tires and other consumer products are darker in color because of the contained petroleum-based processing extender oil used as a homogenized component of the rubber particle.[21] The 1500 grades are lower in viscosity than the 1700s grades and favorable for use by custom-mix tire manufactures, while the 1700 grades are harder and impart favorable tire wear resistance.[22] [23] The styrene content of ESBR can be modified to provide products with special advantages and properties. [24]

There are several IISRP SBR series of products that are not covered by the petition. For example, the 1600 and 1800 series are grades of emulsion SBR carbon black masterbatch (CBMB) 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

[18] "The Synthetic Rubber Manual," IISRP, 2015.

[19] The characteristics and uses of the subject ESBR have reportedly not changed materially since the original investigation in 1998-99. Petition, p. 9.

[20] Lion, www.lionelastomers.com, retrieved November 2021.

[21] The oil content of 1700 grades may vary typically from 23 percent into the 30 percent range, and consist of naphthenic, paraffinic, and aromatic types. Lion technical and safety data sheets, www.lionelastomers.com, retrieved November 2021.

[22] Conference transcript, p. 51 (Rikhoff).

[23] Czech Republic products include 1500 and 1700 series grades, while Russian and Italian imports are predominately non-tire 1700 series grades; some 1500 was imported in late 2021. Conference transcript, p. 103 (Kurilla); p. 91 (Rybalov).

[24] Petition, Vol. 1, pp. 7-9.

noted. ESBR colloidal liquid latex is an intermediate process product used in fabric coatings, carpet backing, paper coatings, and gloves.[25]

Processing of ESBR by end users 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. Many ingredients such as carbon black, oils, antioxidants, processing aids, vulcanizing agents, silica, and zinc oxide are often added to make the various recipes. End users may also formulate compounds by blending subject ESBR with excluded polymer types, including emulsion SBR sources such as carbon black master batch ("CBMB"), and with SSBR made by the solution process. SSBR is more expensive to produce, but is used in high performance OEM tire production, primarily because it imparts a lower rolling resistance, improved grip, and good hysteresis (ability to dissipate heat) and helps meet mileage and fuel consumption standards both in the United States and Europe.[26]

Unlike natural rubber, peptides are not needed for breakdown, and less zinc oxide and fatty acid are needed to accelerate the breakdown of ESBR. 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,[27] and ESBR can be blended with all diene rubbers, including SSBR, in any proportion to adjust the final properties and economy of the finished product. Rubber tires, particularly tire treads, are the largest end use for ESBR, and may require a number of differently formulated compounds depending upon the characteristics desired in each tire component. Tire components such as tire tread, sidewall, bead and carcass generally use specialized formulations.[28] [29]

[25] Conference transcript, pp. 13-17; 78-79 (Rikhoff); Emulsion Styrene-Butadiene Rubber from Brazil, Korea, Mexico, and Poland, USITC Publication 4717, August 2017.

[26] "The Synthetic Rubber Manual," IISRP, August 2012.

[27] Conference transcript, pp. 13-17 (Rikhoff).

[28] "The Synthetic rubber Manual," IISRP, August 2012.

[29] ESBR is used in higher proportions in car and light truck tires relative to heavy-duty truck and bus tires which use higher loadings of polybutadiene rubber (BR) and natural rubber (NR) blends. ***.

Manufacturing processes

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 (C_6H_5-CH=CH_2) and butadiene (CH2=CH-CH=CH2) molecules together in lengthy copolymer chains.[30] 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.[31] [32]

The resulting ESBR latex emulsion is next purified by removing unreacted butadiene and styrene for recycle 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 for intimate homogenization.[33]

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 coagulated crumb is then washed, dewatered, dried, baled and packaged either as 1500 or 1700 series finished product.[34]

A detailed process flow diagram of the ESBR manufacturing process is presented in Figure I-2.

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[30] See appendix D for further analysis of ESBR feedstock properties and supply-demand fundaments.

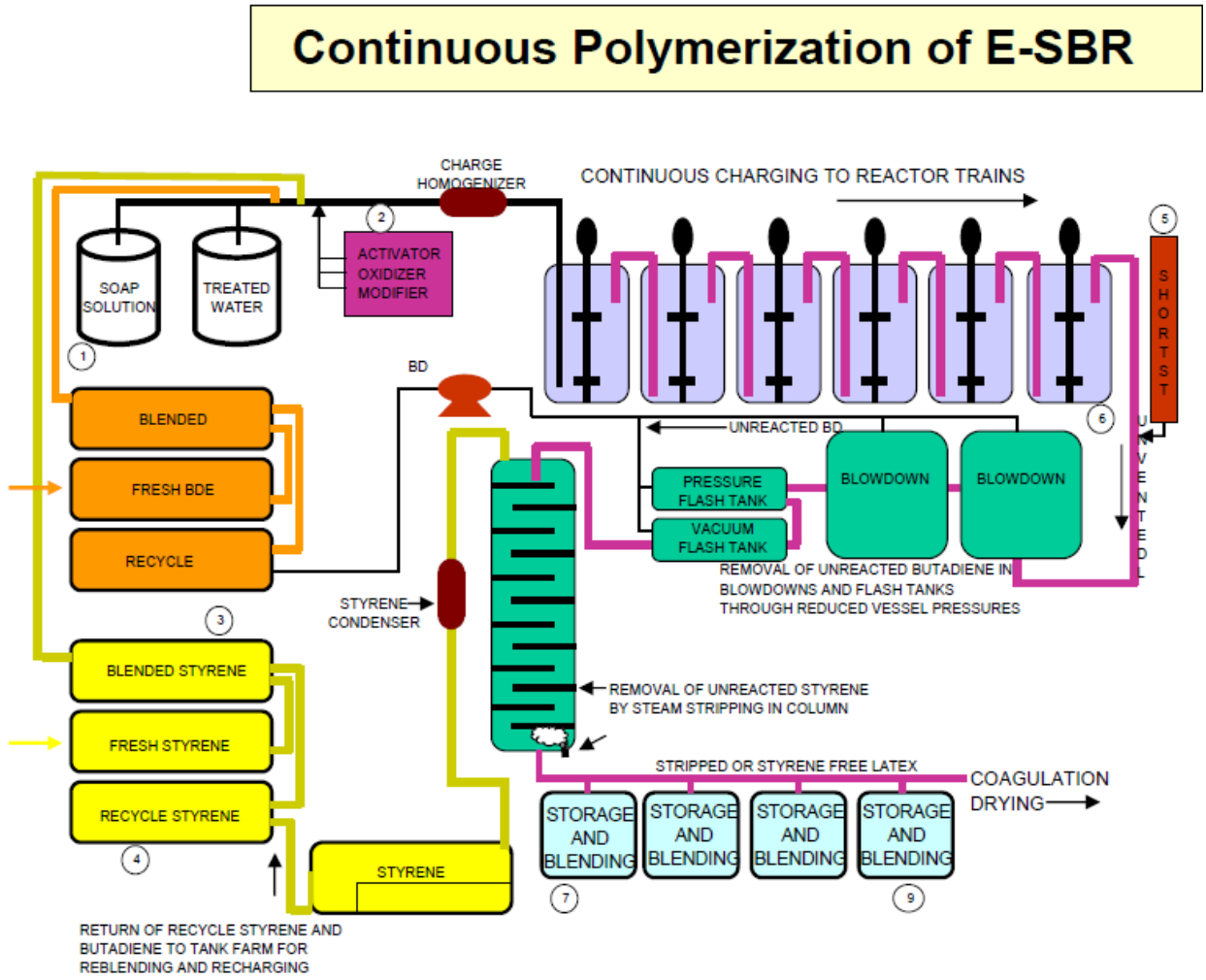
[31] Conference transcript, pp. 13-17, (Rikhoff). "The Synthetic Rubber Manual," IISRP, 2015.

[32] Petition, pp. 8-10. "The Synthetic Rubber Manual ," IISRP, 2015.

[33] "The Synthetic Rubber Manual," IISRP, 2015; Conference transcript, pp. 14-16 (Rikhoff). http://iisrp.com/WebPolymers/AboutRubber/09ESBR16Aug2012.pdf, retrieved May 22, 2017.

[34] Nitrile rubber (NBR)—acrylonitrile butadiene rubber--is sometimes produced on similar equipment in certain plants. Conference transcript, p. 16 (Rikhoff).

Figure I-2
ESBR: Continuous production process



Source: International Institute of Synthetic Rubber Producers (IISRP)

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 include the fact that emulsion polymerization gives high solids contents with low reaction viscosity and is a cost-effective process. 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.[35]

[35] "The Synthetic Rubber Manual," IISRP, 2015.

Domestic like product issues

No issues with respect to domestic like product have been raised in these investigations. The petitioner proposes that the Commission should find that the domestic like product in this proceeding is 1500 and 1700 series ESBR elastomeric rubbers of styrene and butadiene copolymers, which is substantively identical to the domestic like product adopted by the Commission in its previous ESBR proceedings.[36] Respondents do not dispute the domestic like product definition proposed by the petitioner.[37]

[36] Petitioner's postconference brief, pp. 4-5.
[37] Respondents Synthos and Tatneft's postconference brief, p. 3.

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.[1] Most (approximately 70 percent) of ESBR is used for new rubber tires for the replacement market,[2] [3] and is also used in "technical goods" such as conveyor belts, soles of shoes, some hoses, and flooring.[4] The predominant grades of ESBR are the 1500 and 1700 series,[5] and the 1502 grade is the "most commercially sold ESBR" globally.[6] [7] Demand for ESBR is primarily driven by demand from the tire manufacturing industry for use in replacement tires.[8]

There are two domestic sources of ESBR, which account for the majority of ESBR sold in the United States.[9] Petitioner Lion produces approximately 40 percent of ESBR produced in the United States, while Goodyear Chemical ("Goodyear") is responsible for the remaining 60 percent.[10] Approximately *** percent of Goodyear's ESBR production is consumed

[1] Petition, p. 7.

[2] Tire components, such as tire tread, sidewalls, and cores use "specialized" formulations. Petition, pp. 8 and 17.

[3] Solution styrene-butadiene rubber ("SSBR") is primarily used in OEM tires. SSBR has "reduced rolling resistance, which reduces energy loss and lowers fuel consumption" which OEMs prefer to meet average fuel economy standards. ESBR "finds great use" in the replacement tire market. Petition, p. 18.

[4] Petition, pp. 7-8, and conference transcript, p. 91 (Rybalov).

[5] The 1500 series is considered a "neat" or pure form of ESBR, while the 1700 series contains added petroleum-based processing oil. Petitioner's postconference brief, p. 5.

[6] Conference transcript, pp. 16 (Rikhoff) and 50 (Rikhoff).

[7] Respondent Intertex argued that ESBR for tire production and technical goods differ, especially for 1700 grade ESBR. It stated that ESBR for technical goods uses aromatic oils, which tire companies will not use. In addition, "styrene with residual aromatic extract" ("RATE") or "treated distillate aromatic extract ("TDAE") is used by tire producers. Conference transcript, pp. 91-92 (Rybalov).

[8] Emulsion Styrene-Butadiene Rubber from Brazil, Korea, Mexico, and Poland, Inv. Nos. 731-TA-1334-1337 (Final), USITC Publication 4717, August 2017 ("2017 Final Publication").

[9] Domestic producer East West went bankrupt in April 2017, and petitioner purchased a "very small amount" of East West's assets for Lion's Port Neches, Texas facility. 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. Conference transcript, pp. 40 (Rikhoff) and 62 (Rikhoff).

[10] Petition, exh. I-1, p.1.

internally for tire production.[11] [12] A substantial number of tire producers import ESBR for their tire production.[13] Respondent Intertex stated that ESBR imported from Russia is used for the non-tire markets.[14] ESBR from Brazil, Korea, Mexico, and Poland have been subject to antidumping orders since September 2017,[15] and ESBR from China has been subject to section 301 tariffs since September 2018.[16]

Apparent U.S. consumption of ESBR decreased during 2018-20. Overall, apparent U.S. consumption in 2020 was *** percent lower than in 2018, although consumption has rebounded and was *** higher in January-September 2021 compared to the same period in 2020.

Channels of distribution

U.S. producers and importers of Czechian product sold mainly to tire manufacturers,[17] and importers of Russian product sold mainly to end users. [18] Imports of Italian product were mainly sold to tire manufacturers during 2018-20, but sales to other end users were a substantial channel in 2019-20.

[11] U.S. producer Goodyear is also an importer. Its questionnaire responses are reported separately throughout this section of the report, unless otherwise noted. ***.

[12] Respondent Synthos noted that Goodyear purchased Cooper Tire, and Synthos expects that Goodyear's commercial U.S. shipments of ESBR will shift to Cooper Tires' production. Conference transcript, p. 89 (Nienaber).

[13] On a quantity basis, importers internally consumed over 25 percent of total U.S. shipments of imported ESBR from all import sources in 2020.

[14] Conference transcript, p. 91 (Rybalov).

[15] Emulsion Styrene-Butadiene Rubber From Brazil, the Republic of Korea, Mexico, and Poland: Antidumping Duty Orders, 82 FR 42790, September 12, 2017.

[16] Notice of Modification of Section 301 Action: China's Acts, Policies, and Practices Related to Technology Transfer, Intellectual Property, and Innovation, 84 FR 20459, May 9, 2019 and Notice of Modification of Section 301 Action: China's Acts, Policies, and Practices Related to Technology Transfer, Intellectual Property, and Innovation, 83 FR 47974, September 21, 2018.

[17] Tire manufacturers includes OEM and replacement tire producers.

[18] U.S. producers reported that other end users include: ***. Respondent Intertex added that its end uses include conveyor belts, flooring, mats, and rubber thread. Conference transcript, p. 91 (Rybalov).

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

Shares in percent

Source	Channel	2018	2019	2020	Jan-Sep 2020	Jan-Sep 2021
United States	Distributors	***	***	***	***	***
United States	Tire manufacturers	***	***	***	***	***
United States	End users	***	***	***	***	***
Czechia	Distributors	***	***	***	***	***
Czechia	Tire manufacturers	***	***	***	***	***
Czechia	End users	***	***	***	***	***
Italy	Distributors	***	***	***	***	***
Italy	Tire manufacturers	***	***	***	***	***
Italy	End users	***	***	***	***	***
Russia	Distributors	***	***	***	***	***
Russia	Tire manufacturers	***	***	***	***	***
Russia	End users	***	***	***	***	***
Subject sources	Distributors	***	***	***	***	***
Subject sources	Tire manufacturers	***	***	***	***	***
Subject sources	End users	***	***	***	***	***
Nonsubject sources	Distributors	***	***	***	***	***
Nonsubject sources	Tire manufacturers	***	***	***	***	***
Nonsubject sources	End users	***	***	***	***	***
All import sources	Distributors	***	***	***	***	***
All import sources	Tire manufacturers	***	***	***	***	***
All import sources	End users	***	***	***	***	***

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

Geographic distribution

U.S. producers reported selling ESBR to ***[19] (table II-2). Imports from at least one subject source were sold in all regions. For U.S. producers, *** percent of sales were within 100 miles of their production facility, *** percent were between 101 and 1,000 miles, and *** percent were over 1,000 miles. Importers sold *** percent of product within 100 miles of their U.S. point of shipment, *** percent between 101 and 1,000 miles, and *** percent over 1,000 miles. Respondent Intertex argued that customers located far from Lion's production facility in the Gulf Coast would rather import ESBR from ports closer to their location.[20]

[19] U.S. producer *** reported that it *** regions.
[20] Conference transcript, pp. 93 (Rybalov).

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

Count in number of firms reporting

Region	U.S. producers	Czechia	Italy	Russia	Subject sources
Northeast	***	1	0	2	3
Midwest	***	2	1	3	6
Southeast	***	2	2	3	7
Central Southwest	***	1	0	1	2
Mountain	***	1	0	0	1
Pacific Coast	***	1	0	2	3
Other	***	1	0	0	1
All regions (except Other)	***	1	0	0	1
Reporting firms	2	2	2	3	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 Lion and Goodyear and from foreign producers in subject countries.

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

Quantity in 1,000 pounds; ratio in percent; count is number of "yes" responses

Factor	Measure	United States	Czechia	Italy	Russia	Subject suppliers
Capacity 2018	Quantity	***	***	***	***	***
Capacity 2020	Quantity	***	***	***	***	***
Capacity utilization 2018	Ratio	***	***	***	***	***
Capacity utilization 2020	Ratio	***	***	***	***	***
Ending inventories 2018	Ratio	***	***	***	***	***
Ending inventories 2020	Ratio	***	***	***	***	***
Home market 2020	Ratio	***	***	***	***	***
Non-US export markets 2020	Ratio	***	***	***	***	***
Ability to shift production	Count	***	***	***	***	***

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 2020. Responding foreign producer/exporter firms accounted for virtually all of U.S. imports of ESBR from Czechia, all U.S. imports from Italy, and over 75 percent of U.S. imports from Russia during 2020. 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, "Summary Data and Data Sources."

Note: Subject countries' ending inventories are the foreign producers' ending inventories. Ratios for ending inventories, home market shipments, and non-US export market shipments are the factor compared to the source producers' total shipments.

Domestic production

Based on available information, 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 2018 to 2020, capacity increased by *** percent, while production decreased by *** percent, leading to a *** capacity utilization rate decline from *** percent to *** percent. Exports comprise a *** share of total shipments. Exports as a share of total shipments *** over 2018-20, with U.S. producers reporting *** as major export markets. Domestic producer *** reported *** on the same equipment as ESBR. However, it reported that ***.[21] [22]

To the extent that there is a shortage of inputs, as described below, actual production appears to be limited and producers may be unable to respond to changes in demand with increased production of ESBR.

Subject imports from Czechia

Based on available information, Synthos, the only producer of ESBR from Czechia, 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 ***

[21] *** added that ***.

[22] U.S. producer *** reported that ***.

and an ***.

From 2018-20, Synthos' capacity was *** stable, and production fluctuated but declined overall, resulting in a *** decline in capacity utilization. The Czechian producer's major export markets include ***, and its exports to non-U.S. markets were over *** times higher than its exports to the United States in 2020. Non-U.S. export markets accounted for *** of Synthos' total shipments, and it *** barriers to shifting between markets. Synthos *** on the same equipment as ESBR, noting that it would need ***.

Subject imports from Italy

Based on available information, Versalis, the only producer of ESBR from Italy, 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 a ***.

The Italian producer's capacity was stable from 2018-20, although production decreased in 2019. Capacity utilization fluctuated *** and was at a similar level in 2020 compared to 2018. Versalis' reported end-of-year inventories were *** in 2018, 2020, and September 2021. There *** reported barriers to shifting between markets. Versalis' major export markets include ***. Versalis reported it can produce *** on the same equipment as ESBR although *** limit its ability to shift production.

Subject imports from Russia

Based on available information, the four responding producers of ESBR from Russia have the ability to respond to changes in demand with large 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 the availability of some unused capacity, the ability to shift a substantial quantity of shipments from alternate markets and also from inventories. Factors mitigating the responsiveness of supply include the inability to shift production to or from alternate products.

Russian foreign producers' capacity increased by *** percent from 2018-20, and production increased at a higher rate, resulting in an increased capacity utilization rate. Russian producers' end-of-year inventory quantities were *** the amount of its export quantities to the United States in 2020 and over *** in 2018 and 2019. *** Russian producers reported they could not switch production to other products using the same machinery as ESBR.

Imports from nonsubject sources

Nonsubject imports accounted for *** of total U.S. imports in 2020. The largest sources of nonsubject imports during 2018-20 were Taiwan, Germany, and Mexico. Combined, these countries accounted for over 50 percent of nonsubject imports in 2020.

Supply constraints

*** reported that *** had experienced supply constraints since January 1, 2018, and most importers (8 of 11) reported they had not experienced supply constraints. Importer *** reported that due to limited availability and price it "declined spot sales opportunities throughout the year," and *** reported supply chain problems related to COVID-19 since the beginning of 2020.

Petitioner and respondents reported significant supply disruptions in the United States which impacted production of the major input butadiene[23] and ESBR production. Petitioner argued that there were two main supply disruptions in the U.S. ESBR market: the November 2019 explosion at the Texas Petroleum Chemical ("TPC") butadiene plant in Port Neches, Texas, which decreased butadiene supply and also closed Lion's facility for 20 days;[24] and Winter Storm Uri that closed Lion's facility from February 15, 2021 to March 4, 2021,[25] and caused Lion to declare a force majeure through April 1, 2021.[26] U.S. producer *** reported that it also ***. *** reported that its ***.

[23] See Part V for a discussion of raw material prices.

[24] TPC is a major supplier of butadiene for Lion and other producers. Lion was closed for 20 days after the explosion while OSHA secured the site, as TPC is "immediately next door" to the Lion facility. Conference transcript, p. 40 (Rikhoff).

[25] Conference transcript, p. 41 (Rikhoff).

[26] Respondents Synthos and Tatneft's postconference brief at p. 15.

Petitioner stated that it had no supply disruptions in 2018 through 2019 until the TPC butadiene plant explosion at the end of November.[27] After the reopening in December 2019, petitioner had "significant inventories" but was limited on the total volume of butadiene it could acquire. From December 2019 to March 2020, Lion reported supplying over 95 percent of its contract and spot customers' demands.[28] Petitioner stated that it had no other supply disruptions until Winter Storm Uri in February 2021. Lion's ESBR plant shut down from February 15 until March 4 due to "curtailment of raw materials and other natural gases" and damage to the plant including frozen and broken pipes. After mid-March 2021, petitioner reported it was typically able to supply 100 percent of its contract volumes, but there were intermittent issues that dropped its ability to supply all of its customers to approximately 80 to 90 percent of its customers for certain months.[29] Since September 2021, petitioner reported that it is back to fully supplying its customers' needs.[30]

Regarding butadiene supply, petitioner noted that domestic butadiene production has rebounded since the TPC explosion as butadiene producers expanded production and started tolling production at other facilities.[31] Petitioner also stated that by the beginning of 2022, domestic butadiene production will be greater than prior to the TPC explosion. It estimated by the end of 2022, domestic butadiene production will hit a 30-year high, and the United States will be a net producer of butadiene.[32] [33]

Respondent Intertex argued that there were more supply disruptions, which included: in July 2019 a fire at Exxon's Baytown, Texas plant which impacted butadiene production; in February 2020 a fire at Exxon's butadiene pipeline in Baton Rouge, Louisiana; in April 2021 Shell

[27] Conference transcript, pp. 33-34 (Rikhoff).

[28] After March 2020, tire and automobile producers shut down facilities due to COVID-19, and demand for ESBR dropped to 50 percent of typical demand. During this time, petitioner stated it purchased "significant amounts" of butadiene and refilled inventories of ESBR. Conference transcript, pp. 34-35 (Rikhoff).

[29] Petitioner stated it was able to supply "100 percent of the market for the majority of the year." Conference transcript, pp. 34-36 (Rikhoff) and 72 (Rikhoff).

[30] Conference transcript, pp. 34-36 (Rikhoff).

[31] An increase in ethylene and methane fracking has driven the increase in butadiene production. Conference transcript, pp. 36 (Rikhoff).

[32] Conference transcript, pp. 36 (Rikhoff).

[33] Petitioner stated that the U.S. styrene market is oversupplied, and it had no supply disruptions related to styrene. Conference transcript, pp. 37 and 74 (Rikhoff). See Part V for more information.

reduced its production of butadiene by 60 percent; and in August 2021 Hurricane Ida closed U.S. producer Lion's ESBR facility.[34]

Respondent Synthos stated that it did not experience butadiene supply disruptions, as the European butadiene market is a net exporter of butadiene, and respondent Intertex stated it did not experience supply constraints for ESBR.[35] [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 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, namely tire manufacturing, with over 70 percent of ESBR used in the production of tires.[37]

ESBR accounts for a small-to-moderate share of the cost of the end-use products in which it is used. For ESBR used in tire manufacturing, reported cost shares ranged from 1 to 12 percent.[38] [39] *** and importer *** reported cost shares of 13 percent and 60 percent, respectively, for mechanical rubber goods ("MRG").

Business cycles

Seven of 12 importers[40] indicated that the market was subject to business cycles or conditions of competition. Specifically, three importers reported that it was subject to business cycles, namely automotive sales and the seasonal fluctuation related to tire production. Importer *** added that tire production facilities shut down around major holidays.

[34] Respondents Synthos and Tatneft's postconference brief at 14-15; Conference transcript, pp. 108-109 (Rybalov). Hurricane Ida shut down chemical plant production and the area was without electricity "for approximately one month." Conference transcript, p. 95 (Rybalov).

[35] Conference transcript, pp. 112-114 (Dortch, Kurilla, Rybalov).

[36] Importer *** reported ***.

[37] 2017 Final publication, pp. II-13-14.

[38] *** reported a cost share of 7.5 percent for its tires.

[39] Importer *** also reported a cost share of 35 percent for tires, which was outside the range of other producers' and importers' reported cost share.

[40] U.S. producer ***. U.S. producer ***.

Five importers reported that the ESBR market was subject to distinct conditions of competition, with *** reporting the price of butadiene and styrene as distinct conditions of competition. Importer *** also reported that ESBR is "highly commoditized, leading to substantial ability to substitute material produced by different suppliers." Six importers also reported that these conditions of competition had changed since January 1, 2018. Importers reported reduced demand due to the COVID-19 pandemic, an increase in demand in the replacement tire market, the closure of the East West ESBR plant in April 2017, and the TPC butadiene plant explosion in November 2019.

Demand trends

Demand for ESBR is tied mainly to the demand for tires, mostly in the replacement tire market. Petitioner stated that recent changes to the automobile market, such as the adoption of electric vehicles[41] that are heavier and require more durable tires, and the demand for used cars during the COVID-19 pandemic, also increased demand for ESBR.[42] However, it noted that that overall demand for ESBR decreased from 2018-21. Petitioner added that demand for ESBR increased in 2021 relative to 2020, but is not up to 2019 levels. It estimated that current demand for ESBR is approximately 90 percent of demand in 2019, and that demand is forecasted to grow over the next 5 years.[43]

Firms reported varied responses regarding U.S. demand for ESBR since January 1, 2018 (table II-4), with U.S. producers reporting demand ***, and plurality of importers reporting that it had fluctuated, although a moderate number of importers reported demand had increased. U.S. producer *** reported there was *** while U.S. producer *** reported ***. Importers cited new tire manufacturing companies in the United States for increasing demand for ESBR,[44] and reasons for fluctuating demand included raw material price differences

[41] Electric vehicles "weigh significantly more because of the batteries" and ESBR "wears less" than SSBR, and the "life of a tire is significantly diminished with {SSBR} on electric vehicles under its current state." Conference transcript, pp. 30-31 (Rikhoff) and 58-59 (Rikhoff). *See* also, Petitioner's postconference brief, p. 18.

[42] Petitioner stated that the replacement tire market has rebounded faster than the OEM tire market. It added that one of the first things replaced on a used car are the tires. Conference transcript, pp. 56-57 (Rikhoff).

[43] Conference transcript, p. 42-43 (Rikhoff).

[44] Importer *** reported that its tire manufacturing facility ***.

between the European and U.S. markets, and crude oil price movements. Importers cited the effects of the COVID-19 pandemic as increasing and also creating fluctuating demand for ESBR.

Table II-4
ESBR: Count of firms' responses regarding overall domestic and foreign demand

Market	Firm type	Increase	No change	Decrease	Fluctuate
Domestic demand	U.S. producers	***	***	***	***
Domestic demand	Importers	4	3	2	6
Foreign demand	U.S. producers	***	***	***	***
Foreign demand	Importers	4	3	1	7

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

Substitute products

*** reported natural rubber as a substitute for ESBR in tires and engineered products, while most importers (10 of 12) reported that there are no substitutes. Two importers reported natural rubber and SSBR as substitutes for ESBR. Respondent Synthos argued that in the past 5 to 10 years auto manufacturers have moved to replacing ESBR with SSBR because ESBR's higher rolling resistance lowers gas milage.[45] Petitioner stated the OEM switch from ESBR to SSBR occurred prior to 2017.[46] It added that many OEM tires are produced with "second and higher tier" SSBRs that are "very technically produced" and ESBR is not used in those applications. However, SSBR for a non-high performance or non-technical tire that is the "lowest grade first generation" SSBR could be substitutable with ESBR.[47] SSBR is generally more expensive than ESBR.[48]

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. On a product basis, there is a high degree of interchangeability, as parties agree that ESBR is a commodity product based on a specific formula, and that ESBR does not vary based on supplier. However, given the supply disruptions which impacted the availability of domestic product, the importance of supplier diversification, different lead times from

[45] Conference transcript, p. 88 (Nienaber).
[46] Conference transcript, p. 30 (Rikhoff).
[47] Conference transcript, p. 24-25 (Rikhoff).
[48] Conference transcript, p. 31 (Rikhoff).

domestic and subject sources, and firms' varied responses regarding the interchangeability between ESBR and significant factors other than price, staff believes that there is a moderate degree of substitutability between domestically produced ESBR and ESBR imported from subject sources.[49]

Factors affecting purchasing decisions

Purchasers responding to the lost sales lost revenue survey[50] were asked to identify the three most important purchasing factors their firm considered in their purchasing decisions for ESBR, as shown in table II-5. The major purchasing factors identified by *** included quality, price, and consistency of supply/on time delivery. Purchaser *** reported technical relationships, the overall length of the supply chain, and a global sourcing strategy as important purchase factors. All three purchases cited reliability of supply, [51] although only one considered it the most important consideration. No purchaser considered price to be the most important purchasing factor.

Table II-5
ESBR: Count of ranking of factors used in purchasing decisions as reported by U.S. purchasers, by factor

Factor	First	Second	Third	Total
Reliability of supply	1	2	---	3
Quality	1	---	1	2
Price	---	1	1	2
All other factors	1	---	1	2

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 fulfilled from U.S. inventories, with lead times averaging ***. The remaining *** percent of their commercial

[49] 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.).

[50] This information is compiled from responses by purchasers identified by petitioner in its top 10 customer list as provided in Exhibit I-15 to the petition. Petitioner did not provide lost sales lost revenue allegations. See Part V for additional information.

[51] Described by *** as "on time delivery," by *** as "consistency of supply", and by *** as "overall length of supply chain."

shipments were produced-to-order, with *** lead times averaging *** days.[52] Importers reported that *** percent of their commercial shipments were from foreign inventories, with lead times averaging *** days and the remaining *** percent were from U.S. inventories, with lead times averaging *** days.

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 Czechia, Italy, and Russia, U.S. producers and importers were asked whether the products can always, frequently, sometimes, or never be used interchangeably. As shown in tables II-6 and II-7, responses varied within and across firm types. U.S. producer *** reported that domestic ESBR and ESBR from subject countries are *** interchangeable while U.S. producer *** reported that products are *** interchangeable. Importers generally reported that domestic ESBR and ESBR from subject countries are always or frequently interchangeable.

Table II-6
ESBR: Count of U.S. producers reporting the interchangeability between ESBR produced in the United States and in other countries, by country pair

Country pair	Always	Frequently	Sometimes	Never
United States vs. Czechia	***	***	***	***
United States vs. Italy	***	***	***	***
United States vs. Russia	***	***	***	***
Czechia vs. Italy	***	***	***	***
Czechia vs. Russia	***	***	***	***
Italy vs. Russia	***	***	***	***
United States vs. Other	***	***	***	***
Czechia vs. Other	***	***	***	***
Italy vs. Other	***	***	***	***
Russia vs. Other	***	***	***	***

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

[52] U.S. producer *** reported *** percent of its 2020 sales were ***.

Table II-7
ESBR: Count of importers reporting the interchangeability between ESBR produced in the United States and in other countries, by country pair

Country pair	Always	Frequently	Sometimes	Never
United States vs. Czechia	2	3	2	0
United States vs. Italy	3	3	1	1
United States vs. Russia	2	3	2	1
Czechia vs. Italy	2	2	0	0
Czechia vs. Russia	2	3	0	1
Italy vs. Russia	2	2	0	1
United States vs. Other	2	3	3	0
Czechia vs. Other	2	3	2	1
Italy vs. Other	2	2	1	1
Russia vs. Other	2	3	2	1

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

Importers reported that specific applications can limit interchangeability between sources. Importer *** added that suppliers of ESBR for its tire production must be "fully qualified via lengthy validation process" as tires are a critical safety component which precludes interchangeability amongst sources. Importer ***, which also uses ESBR for its tire production, reported that the technical properties of ESBR from different sources do not always meet required quality levels. Importer *** reported that some Russian ESBR producers use aromatic oils or alphametyl styrene that is not approved by domestic tire producers, although petitioner noted that it also produces ESBR made with aromatic oils.[53] Respondent Synthos reported that it no longer offers ESBR with high-aromatic oils, as its tire customers do not buy them.[54]

Petitioner and respondents agreed that quality was not an important factor when comparing ESBR from different source, as ESBR is a highly commoditized product and quality typically does not vary between sources.[55] Petitioner stated that while supplier qualification is an important factor, the formula for tire tread compounds does not vary between ESBR suppliers "resulting in low switching costs."[56] Petitioners also stated that it is able to produce all

[53] Petitioner recently announced it would stop producing ESBR grade 1712, which is made with a "high aromatic oil" because it could no longer sell it at a "buyable price," however it is currently producing 1712. Conference transcript, p. 26 (Rikhoff).

[54] Since 2009, high aromatic oils were restricted from ESBR for tire production because the aromatics are potentially carcinogenic. Conference transcript, pp. 128 (Kurilla).

[55] Petitioners argued: "ESBR of identical grades produced by different suppliers are manufactured in accordance with universally accepted IISRP specifications, and are largely fungible and interchangeable." Respondents agreed: "From our point of view, we don't see major differences between the ESBR produced anywhere in the world, or in U.S.A." Conference transcript, pp. 18 (Rikhoff) and 108 (Kurilla).

[56] Conference transcript, p. 18 (Rikhoff).

grades of ESBR,[57] although respondent Intertex disagreed, arguing U.S. producer Lion generally does not supply the 1712 grade ESBR made with aromatic oils.[58]

In addition, U.S. producers and importers 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-8 and II-9, firms' responses varied. U.S. producer *** reported that non-price differences are *** important while *** reported they are *** important. Importers rated non-price differences between ESBR from domestic and subject sources as always or sometimes important.

Table II-8
ESBR: Count of U.S. producers reporting the significance of differences other than price between ESBR produced in the United States and in other countries, by country pair

Country pair	Always	Frequently	Sometimes	Never
United States vs. Czechia	***	***	***	***
United States vs. Italy	***	***	***	***
United States vs. Russia	***	***	***	***
Czechia vs. Italy	***	***	***	***
Czechia vs. Russia	***	***	***	***
Italy vs. Russia	***	***	***	***
United States vs. Other	***	***	***	***
Czechia vs. Other	***	***	***	***
Italy vs. Other	***	***	***	***
Russia vs. Other	***	***	***	***

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

Table II-9
ESBR: Count of importers reporting the significance of differences other than price between ESBR produced in the United States and in other countries, by country pair

Country pair	Always	Frequently	Sometimes	Never
United States vs. Czechia	3	0	4	0
United States vs. Italy	3	2	1	0
United States vs. Russia	3	0	4	0
Czechia vs. Italy	2	0	2	0
Czechia vs. Russia	3	0	3	0
Italy vs. Russia	2	0	1	0
United States vs. Other	2	0	4	0
Czechia vs. Other	3	0	5	0
Italy vs. Other	3	0	2	0
Russia vs. Other	3	0	4	0

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

[57] Conference transcript, p. 26 (Rikhoff).
[58] Conference transcript, p. 91-92 (Rybalov).

*** reported that significant non-price factors include logistics costs, shipping times, and supply chain capabilities. It noted that tire producers "require regular and consistent product deliveries." Petitioners and respondents agreed that customers multi-source their ESBR and value diversity of supply.[59]

[59] Respondents stated that customers typically rely on domestic suppliers for most of their ESBR, but prefer to have an alternative source of supply, although different customers have different preferences. Conference transcript, pp. 83 (Rikhoff), 89-90 (Nienaber), and 121-123 (Nienaber, Kurilla, Rybalov).

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

The Commission analyzes a number of factors in making injury determinations (see 19 U.S.C. §§ 1677(7)(B) and 1677(7)(C)). Information on the dumping margins was presented in *Part I* of this report and information on the volume and pricing of imports of the subject merchandise is presented in *Part IV* and *Part V*. Information on the other factors specified is presented in this section and/or *Part VI* and (except as noted) is based on the questionnaire responses of two firms that accounted for all U.S. production of ESBR during January 2018 through September 2021.

U.S. producers

The Commission issued a U.S. producer questionnaire to three firms based on information contained in the petition and other available industry sources. Two firms provided usable data on their operations: Lion and Goodyear.[1] Staff believes that these responses represent all U.S. production of ESBR during January 2018 through September 2021.

Table III-1 lists U.S. producers of ESBR, their production locations, positions on the petition, and shares of total production.

Table III-1
ESBR: U.S. producers, their positions on the petition, production locations, and shares of reported production, 2020

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

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

Table III-2 presents information on U.S. producers' ownership, related and/or affiliated firms.

[1] The third firm (***) certified that it did not produce ESBR in the United States at any time since January 1, 2018.

Table III-2
ESBR: U.S. producers' ownership, related and/or affiliated firms

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

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

No U.S. producers are related to foreign producers of the subject merchandise or U.S. importers of the subject merchandise.

Table III-3 presents U.S. producers' reported changes in operations since January 1, 2018.

Table III-3
ESBR: U.S. producers' reported changes in operations, since January 1, 2018

Item	Firm name and narrative response on changes in operations
Prolonged shutdowns or curtailments	***
Prolonged shutdowns or curtailments	***
Revised labor agreements	***
Force majeure	***

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

Firms were asked whether the COVID-19 pandemic or related government actions taken to contain the spread of the COVID-19 virus resulted in changes to their ESBR operations.[2] *** reported *** resulting from government lockdown orders to combat COVID-19 pandemic.[3] *** reported *** due to the COVID-19 pandemic.[4]

U.S. production, capacity, and capacity utilization

Table III-4 and figure III-1 present U.S. producers' production, capacity, and capacity utilization. ***'s capacity to produce ESBR remained constant during the period for which data were collected, while ***'s capacity increased by *** percent from 2018 to 2019 and by *** percent from 2019 to 2020, increasing by *** percent overall during 2018-20. ***'s capacity was slightly lower (by *** percent) during January-September 2021 compared with January-September 2020.

U.S. producers' ESBR production decreased by *** percent during 2018-20 and was *** percent higher during January-September 2021 compared with January-September 2020. ***'s ESBR production increased by *** percent from 2018 to 2019 but then decreased by *** percent from 2019 to 2020, decreasing overall by *** percent during 2018-20.[5] ***'s ESBR production decreased by *** percent from 2018 to 2019 and by *** percent from 2019 to 2020, decreasing overall by *** percent during 2018-20. Conversely, ***'s ESBR production was *** percent higher in January-September 2021 than in January-September 2020 and ***'s ESBR production was *** percent higher over the same comparison. *** accounted for the majority (*** percent) of total domestic ESBR production during January 2018 through September 2021, with *** accounting for the balance. ***'s capacity utilization slightly increased from *** percent in 2018 to *** percent in 2019 before falling to *** percent in 2020, while ***'s capacity utilization

[2] See table E-1 in appendix E for full narratives from U.S. producers on the impact of the COVID-19 pandemic.

[3] ***'s U.S. producer questionnaire response, II-2b.

[4] ***'s U.S. producer questionnaire response, II-2b.

[5] On November 27, 2019, an explosion and fire occurred at TPC Group's chemical plant in Port Neches, Texas, prompting a supply disruption of butadiene feedstock. *** reported that ***. Staff correspondence with ***, December 16, 2021; and conference transcript, pp. 33-35 (Rikhoff).

fell sharply from *** percent in 2018 to *** percent in 2019 and then to *** percent in 2020. *** reported higher capacity utilization in January-September 2021 than in January-September 2020.

Table III-4
ESBR: U.S. producers' capacity, by firm and period

Quantity in 1,000 pounds

Firm	2018	2019	2020	Jan-Sep 2020	Jan-Sep 2021
Goodyear	***	***	***	***	***
Lion	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table III-4 Continued
ESBR: U.S. producers' production, by firm and period

Quantity in 1,000 pounds

Firm	2018	2019	2020	Jan-Sep 2020	Jan-Sep 2021
Goodyear	***	***	***	***	***
Lion	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table III-4 Continued
ESBR: U.S. producers' capacity utilization, by firm and period

Capacity utilization ratio is production to production capacity in percent

Firm	2018	2019	2020	Jan-Sep 2020	Jan-Sep 2021
Goodyear	***	***	***	***	***
Lion	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table III-4 Continued
ESBR: U.S. producers' share of production, by firm and period

Share in percent

Firm	2018	2019	2020	Jan-Sep 2020	Jan-Sep 2021
Goodyear	***	***	***	***	***
Lion	***	***	***	***	***
All firms	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. producers' production to its production capacity.

Figure III-1
ESBR: U.S. producers' production, capacity, and capacity utilization, by period

* * * * * * *

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

Alternative products

As shown in table III-5, *** percent of U.S. producers' production using the same equipment and/or labor as subject production was accounted for by ESBR during the period for which data were collected. U.S. producer *** reported the production of carbon black master batch ("CBMB"), high styrene resin master batch ("HSRMB"), and hot polymerized ESBR ("hot ESBR") using the same equipment and/or labor as used to produce subject ESBR.[6] [7] U.S. producer ***'s production of out-of-scope products accounted for *** percent of U.S. producers' total production using the same equipment and/or labor as subject production.

[6] Regarding its ability to switch production (capacity) between ESBR and other products using the same equipment and/or labor, U.S. producer *** reported that it ***. *** further explained that ***. U.S. producer *** also reported that ***. Staff correspondence with ***, December 3, 2021.

[7] U.S. producer *** reported no production of alternative products using the same equipment and/or labor as subject production. U.S. producer *** explained that ***. Staff correspondence with ***, December 3, 2021.

Table III-5
ESBR: U.S. producers' overall plant capacity and production on the same equipment as subject production, by period

Quantity in 1,000 pounds; Ratio is production to production capacity in percent; Share is share of total production in percent

Item	Measure	2018	2019	2020	Jan-Sep 2020	Jan-Sep 2021
Overall capacity	Quantity	***	***	***	***	***
ESBR production	Quantity	***	***	***	***	***
CBMB production	Quantity	***	***	***	***	***
HSRMB production	Quantity	***	***	***	***	***
Hot ESBR production	Quantity	***	***	***	***	***
Latex production	Quantity	***	***	***	***	***
SSBR production	Quantity	***	***	***	***	***
Other production	Quantity	***	***	***	***	***
All out of scope production	Quantity	***	***	***	***	***
Total production	Quantity	***	***	***	***	***
Overall capacity utilization	Ratio	***	***	***	***	***
ESBR production	Share	***	***	***	***	***
CBMB production	Share	***	***	***	***	***
HSRMB production	Share	***	***	***	***	***
Hot ESBR production	Share	***	***	***	***	***
Latex production	Share	***	***	***	***	***
SSBR production	Share	***	***	***	***	***
Other production	Share	***	***	***	***	***
All out of scope production	Share	***	***	***	***	***
Total production	Share	100.0	100.0	100.0	100.0	100.0

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

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

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

Table III-6 presents U.S. producers' U.S. shipments, export shipments, and total shipments. U.S. shipments, by quantity and value, consistently accounted for the vast majority of U.S. producers' total shipments of ESBR during the period for which data were collected.[8] U.S. producers' U.S. shipments decreased *** percent by quantity and *** percent by value during 2018-20, while U.S producers' export shipments fluctuated but decreased *** percent by quantity and *** percent by value over the same period. U.S. producers' U.S. shipments were *** percent higher by quantity during January-September 2021 than in January-September 2020 and were *** percent higher by value over the same comparison period. Following a similar trend, U.S. producers' export shipments were *** percent higher by quantity during January-September 2021 than in January-September 2020 and were *** percent higher by value over the same comparison period.

Unit values for U.S. producers' U.S. shipments and export shipments fell by *** percent and *** percent, respectively, during 2018-20. Conversely, unit values for U.S. shipments and export shipments were *** percent and *** percent higher, respectively, during January-September 2021 compared with January-September 2020.

[8] Approximately 70-80 percent of shipments of domestically produced ESBR is used to manufacture tires, with the remainder being used to manufacture products such as conveyor belts, O-rings, shoes, and other mechanical rubber goods. Conference transcript, pp. 27 (Rikhoff) and 104 (Nienaber).

Table III-6
ESBR: U.S. producers' shipments, by destination and period

Quantity in 1,000 pounds; Value in 1,000 dollars; Unit value in dollars per pound; Share of quantity is the share of total shipments by quantity in percent; Share of value is the share of total shipments by value in percent

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

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

Table III-7 presents U.S. producers' U.S. shipments by type. *** internally consumes ESBR for the production of tires. ***'s internal consumption accounted for *** percent of U.S. producers' total U.S. shipments of ESBR. *** also reported transfers of ESBR *** to ***.[9]

[9] ***'s U.S. producer questionnaire response, II-12.

Table III-7
ESBR: U.S. producers' U.S. shipments, by type and period

Quantity in 1,000 pounds; Value in 1,000 dollars; Unit value in dollars per pound; Share of quantity is the share of U.S. shipments by quantity in percent; Share of value is the share of U.S. shipments by value in percent

Item	Measure	2018	2019	2020	Jan-Sep 2020	Jan-Sep 2021
Commercial U.S. shipments	Quantity	***	***	***	***	***
Internal consumption	Quantity	***	***	***	***	***
Transfers to related firms	Quantity	***	***	***	***	***
U.S. shipments	Quantity	***	***	***	***	***
Commercial U.S. shipments	Value	***	***	***	***	***
Internal consumption	Value	***	***	***	***	***
Transfers to related firms	Value	***	***	***	***	***
U.S. shipments	Value	***	***	***	***	***
Commercial U.S. shipments	Unit value	***	***	***	***	***
Internal consumption	Unit value	***	***	***	***	***
Transfers to related firms	Unit value	***	***	***	***	***
U.S. shipments	Unit value	***	***	***	***	***
Commercial U.S. shipments	Share of quantity	***	***	***	***	***
Internal consumption	Share of quantity	***	***	***	***	***
Transfers to related firms	Share of quantity	***	***	***	***	***
U.S. shipments	Share of quantity	100.0	100.0	100.0	100.0	100.0
Commercial U.S. shipments	Share of value	***	***	***	***	***
Internal consumption	Share of value	***	***	***	***	***
Transfers to related firms	Share of value	***	***	***	***	***
U.S. shipments	Share of value	100.0	100.0	100.0	100.0	100.0

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

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

Captive consumption

Section 771(7)(C)(iv) of the Act states that–[10]

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

Transfers and sales

As reported in table III-7 above, internal consumption accounted for between *** and *** percent of U.S. producers' U.S. shipments of ESBR during January 2018 through September 2021.

First statutory criterion in captive consumption

The first requirement for application of the captive consumption provision is that the domestic like product that is internally transferred for processing into that downstream article not enter the merchant market for the domestic like product. U.S. producer *** reported internal consumption of ESBR for the production of tires. No U.S. producer reported diverting ESBR intended for internal consumption to the merchant market.

Second statutory criterion in captive consumption

The second criterion of the captive consumption provision concerns whether the domestic like product is the predominant material input in the production of the downstream article that is captively produced. With respect to the downstream articles resulting from captive production, as presented in table III-8, ESBR reportedly comprises *** percent of the finished value/cost of tires.

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

Table III-8
ESBR: U.S. producer *'s share of materials in production of downstream products**

Shares in percent

Downstream product	Material input	Share of value/cost	Share of quantity
Tires	ESBR	***	***
Tires	Other inputs	***	***
Tires	All material inputs	100.0	100.0

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

Note: ***.

U.S. producers' inventories

Table III-9 presents U.S. producers' end-of-period inventories and the ratio of these inventories to U.S. producers' production, U.S. shipments, and total shipments**.** U.S. producers' end-of-period inventories decreased by *** percent during 2018-19 before decreasing by *** percent during 2019-20, ending overall *** percent lower in 2020 than in 2018. Similarly, U.S. producers' end-of-period inventories were *** percent lower in January-September 2021 than in January-September 2020. The ratios of U.S. producers' end-of-period inventories to U.S. production, U.S. shipments, and total shipments all decreased from 2018 to 2020 and were all lower in January-September 2021 compared with January-September 2020.

Table III-9
ESBR: U.S. producers' inventories and their ratio to select items, by period

Quantity in 1,000 pounds; ratio are inventories to production and shipments

Item	2018	2019	2020	Jan-Sep 2020	Jan-Sep 2021
End-of-period inventory quantity	***	***	***	***	***
Inventory ratio to U.S. production	***	***	***	***	***
Inventory ratio to U.S. shipments	***	***	***	***	***
Inventory ratio to total shipments	***	***	***	***	***

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

U.S. producers' imports and purchases

U.S. producers' imports of ESBR and reasons for importing are presented in tables III-10 and III-11. *** imported *** pounds of ESBR from *** during January-September 2021 ***.[11]

Table III-10
ESBR: *'s U.S. production, imports, and purchases, by period**

Quantity in 1,000 pounds; Ratio is ratio of imports to U.S. production in percent

Item	Measure	2018	2019	2020	Jan-Sep 2020	Jan-Sep 2021
U.S. production	Quantity	***	***	***	***	***
Imports from nonsubject sources ***	Quantity	***	***	***	***	***
Imports from nonsubject sources to U.S. production	Ratio	***	***	***	***	***

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

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

Table III-11
ESBR: U.S. producers' reasons for importing

Item	Narrative response on reasons for importing
***'s reason for importing	***

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

U.S. producers' purchases of ESBR are presented in table III-12. *** reported purchases from U.S. importers of ESBR from *** of the following quantities: *** pounds in 2018, *** pounds in 2019, *** pounds in 2020, *** pounds in January-September 2020, and *** pounds in January-September 2021. *** reported that it purchases ESBR ***.[12]

[11] ***'s U.S. importer questionnaire response, II-4.

[12] ***'s U.S. producer questionnaire response, II-13.

Table III-12
ESBR: *'s U.S. production, purchases and ratio of purchases to production, by period**

Quantity in 1,000 pounds; Ratio is ratio of purchases to U.S. production in percent

Item	Measure	2018	2019	2020	Jan-Sep 2020	Jan-Sep 2021
U.S. production	Quantity	***	***	***	***	***
Purchases from nonsubject sources ***	Quantity	***	***	***	***	***
Purchases from nonsubject sources to U.S. production	Ratio	***	***	***	***	***

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

U.S. employment, wages, and productivity

Table III-13 shows U.S. producers' employment-related data. U.S. producers' production and related workers ("PRWs") decreased by *** percent during 2018-20 and were *** percent higher during January-September 2021 compared with January-September 2020. Similarly, total hours worked decreased by *** percent during 2018-20 and were *** percent higher in January-September 2021 than in January-September 2020. Wages paid and productivity decreased by *** percent and *** percent, respectively, during 2018-20, while unit labor costs increased by *** percent over the same period. U.S. producers' wages paid and productivity were *** percent and *** percent higher, respectively, during January-September 2021 than in January-September 2020, while unit labor costs were *** percent lower. Hourly wages were *** percent lower in January-September 2021 than in January-September 2020.

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

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

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

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

U.S. importers

The Commission issued importer questionnaires to 41 firms believed to be importers of subject ESBR, as well as to all U.S. producers of ESBR.[1] Usable questionnaire responses were received from 17 firms.[2] [3] Table IV-1 lists all responding U.S. importers of ESBR from Czechia, Italy, Russia, and all other sources, their locations, and their shares of U.S. imports, in 2020.

[1] The Commission issued questionnaires to those firms identified in the petition, along with firms that, based on a review of data from third-party sources, may have accounted for more than one percent of total imports under HTS statistical reporting numbers 4002.19.0015 and 4002.19.0019 in 2020.

[2] As discussed in Part I, subject ESBR is imported under HTS statistical reporting number 4002.19.0015, which specifically includes ESBR in bales, as well as under HTS statistical reporting number 4002.19.0019, an aggregate "basket" styrene-butadiene rubber category which includes ESBR in forms other than bales and out-of-scope products.

Firms responding to the Commission's questionnaire accounted for the following shares of imports by source under HTS statistical reporting numbers 4002.19.0015 and 4002.19.0019 during January 2018 through September 2021: Czechia, *** percent; Italy, *** percent; Russia, *** percent; and all other sources, *** percent.

The majority of U.S. imports from Czechia and Russia reported in U.S. importers' questionnaire responses were under HTS statistical reporting number 4002.19.0019, while *** U.S. imports from Italy and the vast majority from nonsubject sources were reported under HTS statistical reporting number 4002.19.0015. One U.S. importer (***) also reported imports from Czechia under HTS statistical reporting number 4002.19.0016 due to a misclassification of subject merchandise by its broker. Staff correspondence with ***, December 6, 2021.

[3] The Commission also received U.S. importer questionnaire responses from ***. These firms confirmed that they were not the importer of record and thus are not included in the importer dataset. ***'s U.S. importer questionnaire response, I-6; and staff correspondence with ***, December 8, 2021 and ***, December 10, 2021.

Eight firms (***) certified that they had not imported ESBR from any country at any time since January 1, 2018.

Table IV-1
ESBR: U.S. importers, their headquarters, and share of total imports by source, 2020

Share in percent

Firm	Headquarters	Czechia	Italy	Russia	Subject sources	Nonsubject sources	All import sources
Arlanxeo	Pittsburgh, PA	***	***	***	***	***	***
Channel Prime	Des Moines, IA	***	***	***	***	***	***
Continental	Fort Mill, SC	***	***	***	***	***	***
Giti	Richburg, SC	***	***	***	***	***	***
Goodyear	Akron, OH	***	***	***	***	***	***
GPC	Woodbridge, VA	***	***	***	***	***	***
HB Chemical	Twinsburg, OH	***	***	***	***	***	***
Intertex	Carrollton, GA	***	***	***	***	***	***
Joss Elastomers	Alkmaar, NL	***	***	***	***	***	***
Kumho	Macon, GA	***	***	***	***	***	***
Michelin	Greenville, SC	***	***	***	***	***	***
Nokian	Dayton, TN	***	***	***	***	***	***
Pirelli	Rome, GA	***	***	***	***	***	***
Synthos	Kralupy nad Vltavou, CZ	***	***	***	***	***	***
Toyo	White, GA	***	***	***	***	***	***
Vesalis Americas	Houston, TX	***	***	***	***	***	***
Yokohama MS	West Point, MS	***	***	***	***	***	***
All firms	Various	100.0	100.0	100.0	100.0	100.0	100.0

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

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

Firms were asked whether the COVID-19 pandemic or related government actions taken to contain the spread of the COVID-19 virus resulted in changes to their ESBR operations. The majority of responding U.S. importers indicated that there had been changes, with the most commonly cited changes being temporary plant shutdowns and supply chain disruptions that resulted in major shipping delays.[4]

[4] See table E-2 in appendix E for full narratives from U.S. importers on the impacts of the COVID-19 pandemic.

U.S. imports

Table IV-2 and figure IV-1 present data for U.S. imports of ESBR from Czechia, Italy, Russia, and all other sources during January 2018 through September 2021. By quantity, U.S. imports of ESBR from Czechia, Italy, and Russia fluctuated but increased *** percent, *** percent, and *** percent, respectively, during 2018-20. Imports of ESBR from Czechia and Russia were *** percent and *** percent higher, respectively, by quantity in January-September 2021 than in January-September 2020, while subject imports from Italy were *** percent lower. U.S. imports by quantity from subject sources fluctuated but increased *** percent during 2018-20, increasing *** percent from 2018 to 2019 before falling *** percent from 2019 to 2020. Conversely, U.S. imports by quantity from nonsubject sources decreased *** percent during 2018-19 and further decreased *** percent during 2019-20, ending *** percent lower in 2020 than in 2018. Subject imports and nonsubject imports were *** percent and *** percent higher, respectively, during January-September 2021 compared with January-September 2020. Average unit values ("AUVs") of U.S. imports from subject and nonsubject sources decreased *** percent and *** percent, respectively, during 2018-20. AUVs of U.S. imports from subject and nonsubject sources were *** percent and *** percent higher, respectively, in January-September 2021 than in January-September 2020.

U.S. imports of ESBR from nonsubject sources, by quantity and value, accounted for the majority of total imports during the period for which data were collected, except for in 2020 when U.S. imports from subject sources accounted for the majority by quantity only. The share of imports by quantity from Czechia and Russia fluctuated but increased *** percentage points and *** percentage points, respectively, during 2018-20, while the share of imports from Italy increased *** percentage points. Subject imports as a share of the total quantity of imports increased from *** percent in 2018 to *** percent in 2019 and further increased to their highest share at *** percent in 2020, and were higher in January-September 2021 (*** percent) compared with January-September 2020 (*** percent). The ratio of subject imports to U.S. production increased *** percentage points during 2018-20 and were *** percentage points higher during January-September 2021 compared to January-September 2020.

Table IV-2
ESBR: U.S. imports by source and period

Quantity in 1,000 pounds; Value in 1,000 dollars; Unit value in dollars per pound

Source	Measure	2018	2019	2020	Jan-Sep 2020	Jan-Sep 2021
Czechia	Quantity	***	***	***	***	***
Italy	Quantity	***	***	***	***	***
Russia	Quantity	***	***	***	***	***
Subject sources	Quantity	***	***	***	***	***
Nonsubject sources	Quantity	***	***	***	***	***
All import sources	Quantity	***	***	***	***	***
Czechia	Value	***	***	***	***	***
Italy	Value	***	***	***	***	***
Russia	Value	***	***	***	***	***
Subject sources	Value	***	***	***	***	***
Nonsubject sources	Value	***	***	***	***	***
All import sources	Value	***	***	***	***	***
Czechia	Unit value	***	***	***	***	***
Italy	Unit value	***	***	***	***	***
Russia	Unit value	***	***	***	***	***
Subject sources	Unit value	***	***	***	***	***
Nonsubject sources	Unit value	***	***	***	***	***
All import sources	Unit value	***	***	***	***	***

Table continued.

Table IV-2 Continued
ESBR: Share of U.S. imports by source and period

Share of quantity is the share of U.S. imports by quantity in percent; Share of value is the share of U.S. imports by value in percent; Ratios are U.S. imports to production in percent

Source	Measure	2018	2019	2020	Jan-Sep 2020	Jan-Sep 2021
Czechia	Share of quantity	***	***	***	***	***
Italy	Share of quantity	***	***	***	***	***
Russia	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
Czechia	Share of value	***	***	***	***	***
Italy	Share of value	***	***	***	***	***
Russia	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
Czechia	Ratio	***	***	***	***	***
Italy	Ratio	***	***	***	***	***
Russia	Ratio	***	***	***	***	***
Subject sources	Ratio	***	***	***	***	***
Nonsubject sources	Ratio	***	***	***	***	***
All import sources	Ratio	***	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires and from official U.S. import statistics of the U.S. Department of Commerce Census Bureau for Mexico using statistical reporting number 4002.19.0015 accessed December 6, 2021.

Figure IV-1
ESBR: U.S. import quantities and average unit values, by source and period

* * * * * * *

Source: Compiled from data submitted in response to Commission questionnaires and from official U.S. import statistics of the U.S. Department of Commerce Census Bureau for Mexico using statistical reporting number 4002.19.0015 accessed December 6, 2021.

Negligibility

The statute requires that an investigation be terminated without an injury determination if imports of the subject merchandise are found to be negligible.[5] Negligible imports are generally defined in the Act, as amended, as imports from a country of merchandise corresponding to a domestic like product where such imports account for less than 3 percent of the volume of all such merchandise imported into the United States in the most recent 12-month period for which data are available that precedes the filing of the petition or the initiation of the investigation. However, if there are imports of such merchandise from a number of countries subject to investigations initiated on the same day that individually account for less than 3 percent of the total volume of the subject merchandise, and if the imports from those countries collectively account for more than 7 percent of the volume of all such merchandise imported into the United States during the applicable 12-month period, then imports from such countries are deemed not to be negligible.[6] Table IV-3 presents the individual shares of total imports by source during November 2020 through October 2021. During this period, imports from Czechia accounted for *** percent of total imports of ESBR by quantity, Italy accounted for *** percent, and Russia accounted for *** percent.

Table IV-3
ESBR: U.S. imports in the twelve-month period preceding the filing of the petition, November 2020 through October 2021

Quantity in 1,000 pounds; Share of quantity is the share of total imports by quantity in percent

Source of imports	Quantity	Share of quantity
Czechia	***	***
Italy	***	***
Russia	***	***
Subject sources	***	***
Nonsubject sources	***	***
All import sources	***	100.0

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

[5] Sections 703(a)(1), 705(b)(1), 733(a)(1), and 735(b)(1) of the Act (19 U.S.C. §§ 1671b(a)(1), 1671d(b)(1), 1673b(a)(1), and 1673d(b)(1)).

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

Cumulation considerations

In assessing whether imports should be cumulated, the Commission determines whether U.S. imports from the subject countries compete with each other and with the domestic like product and has generally considered four factors: (1) fungibility, (2) presence of sales or offers to sell in the same geographical markets, (3) common or similar channels of distribution, and (4) simultaneous presence in the market. Information regarding channels of distribution, market areas, and interchangeability appear in Part II. Additional information concerning fungibility, geographical markets, and simultaneous presence in the market is presented below.

Fungibility

Table IV-4 and figure IV-2 present U.S. producers' and U.S. importers' U.S. shipments of ESBR by source and series during January 2020 through September 2021. The majority of U.S. producers' U.S. shipments were of 1500 series ESBR, with the balance accounted for by 1700 series ESBR. 1500 series ESBR accounted for the majority of U.S. importers' U.S. shipments of imports from Czechia, Russia, and nonsubject sources, while 1700 series ESBR accounted for the majority of their U.S. shipments of imports from Italy.

Table IV-4
ESBR: U.S. producers' and U.S. importers' U.S. shipments, by source and series, January 2020 through September 2021

Quantity in 1,000 pounds

Source	1500 series	1700 series	All in-scope series
U.S. producers	***	***	***
Czechia	***	***	***
Italy	***	***	***
Russia	***	***	***
Subject sources	***	***	***
Nonsubject sources	***	***	***
All import sources	***	***	***
All sources	***	***	***

Table continued.

Table IV-4 Continued
ESBR: U.S. producers' and U.S. importers' U.S. shipments, by source and series, January 2020 through September 2021

Shares across in percent

Source	1500 series	1700 series	All in-scope series
U.S. producers	***	***	100.0
Czechia	***	***	100.0
Italy	***	***	100.0
Russia	***	***	100.0
Subject sources	***	***	100.0
Nonsubject sources	***	***	100.0
All import sources	***	***	100.0
All sources	***	***	100.0

Table continued.

Table IV-4 Continued
ESBR: U.S. producers' and U.S. importers' U.S. shipments, by source and series, January 2020 through September 2021

Shares down in percent

Source	1500 series	1700 series	All in-scope series
U.S. producers	***	***	***
Czechia	***	***	***
Italy	***	***	***
Russia	***	***	***
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.

Figure IV-2
ESBR: U.S. producers' and U.S. importers' U.S. shipments, by source and series, January 2020 through September 2021

* * * * * * *

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

Geographical markets

Table IV-5 presents U.S. imports of ESBR, by source and border of entry in 2020, based on official Commerce import statistics. U.S. imports of ESBR from Czechia mainly entered through the Eastern border of entry, while U.S. imports of ESBR from Italy entered through both the Eastern and Northern borders of entry. The majority of U.S. imports of ESBR from Russia entered through the Northern border of entry, with a sizable quantity also entering through the Eastern border of entry. No U.S. imports of ESBR from subject sources entered through the Western border of entry in 2020 and only small quantities (1.2 percent) of imports from subject sources entered through the Southern border of entry. U.S. imports of ESBR from nonsubject sources entered through all borders of entry during 2020, but primarily through the Eastern and Southern borders of entry.

Table IV-5
ESBR: Quantity of U.S. imports, by source and border of entry, 2020

Quantity in 1,000 pounds

Source	East	North	South	West	All borders
Czechia	9,937	1,824	556	---	12,317
Italy	4,739	5,777	---	---	10,517
Russia	11,525	16,542	56	---	28,124
Subject sources	26,202	24,143	612	---	50,957
Nonsubject sources	35,042	9,284	25,877	12,794	82,998
All import sources	61,244	33,427	26,489	12,794	133,954

Table continued.

Table IV-5 Continued
ESBR: Share of quantity of U.S. imports, by source and border of entry, 2020

Share across in percent

Source	East	North	South	West	All borders
Czechia	80.7	14.8	4.5	---	100.0
Italy	45.1	54.9	---	---	100.0
Russia	41.0	58.8	0.2	---	100.0
Subject sources	51.4	47.4	1.2	---	100.0
Nonsubject sources	42.2	11.2	31.2	15.4	100.0
All import sources	45.7	25.0	19.8	9.6	100.0

Table continued.

Table IV-5 Continued
ESBR: Share of quantity of U.S. imports, by source and border of entry, 2020

Share down in percent

Source	East	North	South	West	All borders
Czechia	16.2	5.5	2.1	---	9.2
Italy	7.7	17.3	---	---	7.9
Russia	18.8	49.5	0.2	---	21.0
Subject sources	42.8	72.2	2.3	---	38.0
Nonsubject sources	57.2	27.8	97.7	100.0	62.0
All import sources	100.0	100.0	100.0	100.0	100.0

Source: Compiled from official U.S. import statistics of the U.S. Department of Commerce Census Bureau using statistical reporting numbers 4002.19.0015 and 4002.19.0019 accessed December 6, 2021.

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

Presence in the market

Table IV-6, figure IV-3, and figure IV-4 present monthly data for U.S. producers' U.S. shipments and U.S. importers' U.S. imports during January 2018 through September 2021. U.S. producers' U.S. shipments of ESBR, as well as subject imports of ESBR from Czechia and Italy, were present in the market during each month between January 2018 and September 2021, while subject imports of ESBR from Russia were present in 44 of 45 months during the same period.

Table IV-6
ESBR: U.S. producers' U.S. shipments and U.S. importers' U.S. imports, by month

Quantity in 1,000 pounds

Year	Month	U.S. producers	Czechia	Italy	Russia	Subject sources	Nonsubject sources	All import sources	All sources
2018	January	***	***	***	***	***	***	***	***
2018	February	***	***	***	***	***	***	***	***
2018	March	***	***	***	***	***	***	***	***
2018	April	***	***	***	***	***	***	***	***
2018	May	***	***	***	***	***	***	***	***
2018	June	***	***	***	***	***	***	***	***
2018	July	***	***	***	***	***	***	***	***
2018	August	***	***	***	***	***	***	***	***
2018	September	***	***	***	***	***	***	***	***
2018	October	***	***	***	***	***	***	***	***
2018	November	***	***	***	***	***	***	***	***
2018	December	***	***	***	***	***	***	***	***
2019	January	***	***	***	***	***	***	***	***
2019	February	***	***	***	***	***	***	***	***
2019	March	***	***	***	***	***	***	***	***
2019	April	***	***	***	***	***	***	***	***
2019	May	***	***	***	***	***	***	***	***
2019	June	***	***	***	***	***	***	***	***
2019	July	***	***	***	***	***	***	***	***
2019	August	***	***	***	***	***	***	***	***
2019	September	***	***	***	***	***	***	***	***
2019	October	***	***	***	***	***	***	***	***
2019	November	***	***	***	***	***	***	***	***
2019	December	***	***	***	***	***	***	***	***

Table continued.

Table IV-6 Continued
ESBR: U.S. producers' U.S. shipments and U.S. importers' U.S. imports, by month

Quantity in 1,000 pounds

Year	Month	U.S. producer	Czechia	Italy	Russia	Subject sources	Nonsubject sources	All import sources	All sources
2020	January	***	***	***	***	***	***	***	***
2020	February	***	***	***	***	***	***	***	***
2020	March	***	***	***	***	***	***	***	***
2020	April	***	***	***	***	***	***	***	***
2020	May	***	***	***	***	***	***	***	***
2020	June	***	***	***	***	***	***	***	***
2020	July	***	***	***	***	***	***	***	***
2020	August	***	***	***	***	***	***	***	***
2020	September	***	***	***	***	***	***	***	***
2020	October	***	***	***	***	***	***	***	***
2020	November	***	***	***	***	***	***	***	***
2020	December	***	***	***	***	***	***	***	***
2021	January	***	***	***	***	***	***	***	***
2021	February	***	***	***	***	***	***	***	***
2021	March	***	***	***	***	***	***	***	***
2021	April	***	***	***	***	***	***	***	***
2021	May	***	***	***	***	***	***	***	***
2021	June	***	***	***	***	***	***	***	***
2021	July	***	***	***	***	***	***	***	***
2021	August	***	***	***	***	***	***	***	***
2021	September	***	***	***	***	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires and from official U.S. import statistics of the U.S. Department of Commerce Census Bureau for Mexico using statistical reporting number 4002.19.0015 accessed December 6, 2021.

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

Figure IV-3
ESBR: U.S. imports from individual subject sources, by source and month

* * * * * * *

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

Figure IV-4
ESBR: U.S. producers' U.S. shipments and U.S. importers' U.S. imports from aggregated subject and nonsubject sources, by month

* * * * * * *

Source: Compiled from data submitted in response to Commission questionnaires and from official U.S. import statistics of the U.S. Department of Commerce Census Bureau for Mexico using statistical reporting number 4002.19.0015 accessed December 6, 2021.

Apparent U.S. consumption

Table IV-7 and figure IV-5 present data on apparent U.S. consumption for the total market for ESBR. Apparent U.S. consumption for the total market by quantity decreased by *** percent during 2018-19 and decreased further by *** percent during 2019-20, decreasing overall by *** percent. Correspondingly, apparent U.S. consumption for the total market by value decreased by *** percent during 2018-19 and decreased further by *** percent during 2019-20, decreasing overall by *** percent. Apparent U.S. consumption for the total market was *** percent higher by quantity and *** percent higher by value during January-September 2021 compared with January-September 2020.

Table IV-7
ESBR: Apparent U.S. consumption for the total market, by source and period

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

Source	Measure	2018	2019	2020	Jan-Sep 2020	Jan-Sep 2021
U.S. producers	Quantity	***	***	***	***	***
Czechia	Quantity	***	***	***	***	***
Italy	Quantity	***	***	***	***	***
Russia	Quantity	***	***	***	***	***
Subject sources	Quantity	***	***	***	***	***
Nonsubject sources	Quantity	***	***	***	***	***
All import sources	Quantity	***	***	***	***	***
All sources	Quantity	***	***	***	***	***
U.S. producers	Value	***	***	***	***	***
Czechia	Value	***	***	***	***	***
Italy	Value	***	***	***	***	***
Russia	Value	***	***	***	***	***
Subject sources	Value	***	***	***	***	***
Nonsubject sources	Value	***	***	***	***	***
All import sources	Value	***	***	***	***	***
All sources	Value	***	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires and from official U.S. import statistics of the U.S. Department of Commerce Census Bureau for Mexico using statistical reporting number 4002.19.0015 accessed December 6, 2021.

Figure IV-5
ESBR: Apparent U.S. consumption for the total market, by source and period

* * * * * * *

Source: Compiled from data submitted in response to Commission questionnaires and from official U.S. import statistics of the U.S. Department of Commerce Census Bureau for Mexico using statistical reporting number 4002.19.0015 accessed December 6, 2021.

Table IV-8 and figure IV-6 present data on apparent U.S. consumption for the merchant market for ESBR. Following a similar trend as the total market, apparent U.S. consumption for the merchant market by quantity decreased by *** percent from 2018 to 2019 and then decreased further by *** percent from 2019 to 2020, decreasing overall by *** percent during 2018-20. Apparent U.S. consumption for the merchant market by value decreased by *** percent during 2018-19 and then decreased further by *** percent during 2019-20, ending overall *** percent lower in 2020 compared with 2018. Apparent U.S. consumption for the merchant market was *** percent higher (by quantity) and *** percent higher (by value) in January-September 2021 than in January-September 2020.

Table IV-8
ESBR: Apparent U.S. consumption for the merchant market, by source and period

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

Source	Measure	2018	2019	2020	Jan-Sep 2020	Jan-Sep 2021
U.S. producers	Quantity	***	***	***	***	***
Czechia	Quantity	***	***	***	***	***
Italy	Quantity	***	***	***	***	***
Russia	Quantity	***	***	***	***	***
Subject sources	Quantity	***	***	***	***	***
Nonsubject sources	Quantity	***	***	***	***	***
All import sources	Quantity	***	***	***	***	***
All sources	Quantity	***	***	***	***	***
U.S. producers	Value	***	***	***	***	***
Czechia	Value	***	***	***	***	***
Italy	Value	***	***	***	***	***
Russia	Value	***	***	***	***	***
Subject sources	Value	***	***	***	***	***
Nonsubject sources	Value	***	***	***	***	***
All import sources	Value	***	***	***	***	***
All sources	Value	***	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires and from official U.S. import statistics of the U.S. Department of Commerce Census Bureau for Mexico using statistical reporting number 4002.19.0015 accessed December 6, 2021.

Figure IV-6
ESBR: Apparent U.S. consumption for the merchant market, by source and period

* * * * * * *

Source: Compiled from data submitted in response to Commission questionnaires and from official U.S. import statistics of the U.S. Department of Commerce Census Bureau for Mexico using statistical reporting number 4002.19.0015 accessed December 6, 2021.

U.S. market shares

U.S. market share data for the total market are presented in table IV-9. U.S. producers' market share of the total market decreased *** percentage points by quantity and *** percentage points by value during 2018-20, while subject import market share increased *** percentage points by quantity and *** percentage points by value over the same period. U.S. producers' market share of the total market was *** percentage points lower by quantity during January-September 2021 compared with January-September 2020, while subject import market share was *** percentage points higher.

Table IV-9
ESBR: Market shares for the total market, by source and period

Share of quantity is the share of apparent U.S. consumption by quantity in percent; Share of value is the share of apparent U.S. consumption by value in percent

Source	Measure	2018	2019	2020	Jan-Sep 2020	Jan-Sep 2021
U.S. producers	Share of quantity	***	***	***	***	***
Czechia	Share of quantity	***	***	***	***	***
Italy	Share of quantity	***	***	***	***	***
Russia	Share of quantity	***	***	***	***	***
Subject sources	Share of quantity	***	***	***	***	***
Nonsubject sources	Share of quantity	***	***	***	***	***
All import sources	Share of quantity	***	***	***	***	***
All sources	Share of quantity	100.0	100.0	100.0	100.0	100.0
U.S. producers	Share of value	***	***	***	***	***
Czechia	Share of value	***	***	***	***	***
Italy	Share of value	***	***	***	***	***
Russia	Share of value	***	***	***	***	***
Subject sources	Share of value	***	***	***	***	***
Nonsubject sources	Share of value	***	***	***	***	***
All import sources	Share of value	***	***	***	***	***
All sources	Share of value	100.0	100.0	100.0	100.0	100.0

Source: Compiled from data submitted in response to Commission questionnaires and from official U.S. import statistics of the U.S. Department of Commerce Census Bureau for Mexico using statistical reporting number 4002.19.0015 accessed December 6, 2021.

U.S. market share data for the merchant market are presented in table IV-10. U.S. producers' market share of the merchant market fluctuated but decreased *** percentage points by quantity during 2018-20, while subject import market share increased *** percentage points. U.S. producers' market share of the merchant market decreased *** percentage points by value during 2018-20, while subject import market share increased by *** percentage points. U.S. producers' market share of the merchant market was *** percentage points lower by quantity during January-September 2021 compared with January-September 2020, while subject import market share was *** percentage points higher.

Table IV-10
ESBR: Market shares for the merchant market, by source and period

Share of quantity is the share of apparent U.S. consumption by quantity in percent; Share of value is the share of apparent U.S. consumption by value in percent

Source	Measure	2018	2019	2020	Jan-Sep 2020	Jan-Sep 2021
U.S. producers	Share of quantity	***	***	***	***	***
Czechia	Share of quantity	***	***	***	***	***
Italy	Share of quantity	***	***	***	***	***
Russia	Share of quantity	***	***	***	***	***
Subject sources	Share of quantity	***	***	***	***	***
Nonsubject sources	Share of quantity	***	***	***	***	***
All import sources	Share of quantity	***	***	***	***	***
All sources	Share of quantity	100.0	100.0	100.0	100.0	100.0
U.S. producers	Share of value	***	***	***	***	***
Czechia	Share of value	***	***	***	***	***
Italy	Share of value	***	***	***	***	***
Russia	Share of value	***	***	***	***	***
Subject sources	Share of value	***	***	***	***	***
Nonsubject sources	Share of value	***	***	***	***	***
All import sources	Share of value	***	***	***	***	***
All sources	Share of value	100.0	100.0	100.0	100.0	100.0

Source: Compiled from data submitted in response to Commission questionnaires and from official U.S. import statistics of the U.S. Department of Commerce Census Bureau for Mexico using statistical reporting number 4002.19.0015 accessed December 6, 2021.

Table IV-11 and figure IV-7 present monthly market shares for U.S. producers' U.S. shipments and U.S. importers' U.S. imports from Czechia, Italy, Russia, and all other sources. U.S. producers' market share was highest in September 2018 (*** percent) and lowest in April 2020 (*** percent), while subject import market share was highest in April 2020 (*** percent) and lowest in May 2018 and June 2020 (*** percent).

Table IV-11
ESBR: Market shares for U.S. producers' U.S. shipments and U.S. importers' U.S. imports, by month

Share in percent

Year	Month	U.S. producers	Czechia	Italy	Russia	Subject sources	Nonsubject sources	All import sources	All sources
2018	January	***	***	***	***	***	***	***	100.0
2018	February	***	***	***	***	***	***	***	100.0
2018	March	***	***	***	***	***	***	***	100.0
2018	April	***	***	***	***	***	***	***	100.0
2018	May	***	***	***	***	***	***	***	100.0
2018	June	***	***	***	***	***	***	***	100.0
2018	July	***	***	***	***	***	***	***	100.0
2018	August	***	***	***	***	***	***	***	100.0
2018	September	***	***	***	***	***	***	***	100.0
2018	October	***	***	***	***	***	***	***	100.0
2018	November	***	***	***	***	***	***	***	100.0
2018	December	***	***	***	***	***	***	***	100.0
2019	January	***	***	***	***	***	***	***	100.0
2019	February	***	***	***	***	***	***	***	100.0
2019	March	***	***	***	***	***	***	***	100.0
2019	April	***	***	***	***	***	***	***	100.0
2019	May	***	***	***	***	***	***	***	100.0
2019	June	***	***	***	***	***	***	***	100.0
2019	July	***	***	***	***	***	***	***	100.0
2019	August	***	***	***	***	***	***	***	100.0
2019	September	***	***	***	***	***	***	***	100.0
2019	October	***	***	***	***	***	***	***	100.0
2019	November	***	***	***	***	***	***	***	100.0
2019	December	***	***	***	***	***	***	***	100.0

Table continued.

Table IV-11 Continued
ESBR: Market shares for U.S. producers' U.S. shipments and U.S. importers' U.S. imports, by month

Share in percent

Year	Month	U.S. producer	Czechia	Italy	Russia	Subject sources	Nonsubject sources	All import sources	All sources
2020	January	***	***	***	***	***	***	***	100.0
2020	February	***	***	***	***	***	***	***	100.0
2020	March	***	***	***	***	***	***	***	100.0
2020	April	***	***	***	***	***	***	***	100.0
2020	May	***	***	***	***	***	***	***	100.0
2020	June	***	***	***	***	***	***	***	100.0
2020	July	***	***	***	***	***	***	***	100.0
2020	August	***	***	***	***	***	***	***	100.0
2020	September	***	***	***	***	***	***	***	100.0
2020	October	***	***	***	***	***	***	***	100.0
2020	November	***	***	***	***	***	***	***	100.0
2020	December	***	***	***	***	***	***	***	100.0
2021	January	***	***	***	***	***	***	***	100.0
2021	February	***	***	***	***	***	***	***	100.0
2021	March	***	***	***	***	***	***	***	100.0
2021	April	***	***	***	***	***	***	***	100.0
2021	May	***	***	***	***	***	***	***	100.0
2021	June	***	***	***	***	***	***	***	100.0
2021	July	***	***	***	***	***	***	***	100.0
2021	August	***	***	***	***	***	***	***	100.0
2021	September	***	***	***	***	***	***	***	100.0

Source: Compiled from data submitted in response to Commission questionnaires and from official U.S. import statistics of the U.S. Department of Commerce Census Bureau for Mexico using statistical reporting number 4002.19.0015 accessed December 6, 2021.

Figure IV-7
ESBR: Monthly market shares of U.S. producers' U.S. shipments and U.S. importers' U.S. imports, by source and period

* * * * * * *

Source: Compiled from data submitted in response to Commission questionnaires and from official U.S. import statistics of the U.S. Department of Commerce Census Bureau for Mexico using statistical reporting number 4002.19.0015 accessed December 6, 2021.

Part V: Pricing data

Factors affecting prices

Raw material costs

The primary raw material inputs to ESBR are styrene and butadiene,[1] with butadiene accounting for a larger proportion of ESBR than styrene.[2] Butadiene is a coproduct in the production of ethylene, and domestic producers of ESBR generally rely upon domestic production of butadiene. There are three regional butadiene markets: North America, Europe, and Asia.[3] Petitioner and respondents agree that butadiene prices drive ESBR prices, although petitioner ties its ESBR price to the North American butadiene price, while subject producers generally use the European market butadiene price.[4] [5] The styrene market is "significantly oversupplied" in the United States, unlike the butadiene market.[6] Petitioner sources all of its styrene domestically.[7]

The United States is a net importer of butadiene[8] and domestic butadiene production has shut down multiple times since January 2018. The most significant shutdown occurred after a November 2019 explosion at the Texas Petroleum Chemical ("TPC") butadiene plant in Port

[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, compared to styrene's 25 percent. *Emulsion Styrene-Butadiene Rubber from Brazil, Korea, Mexico, and Poland, Inv. Nos. 731-TA-1334-1337* (Final), USITC Publication 4717, August 2017 ("2017 Final Publication"), pp. I-11 and II-1. *See* Part I for more information on the ESBR production process and Part VI for more information on U.S. producers' raw materials costs.

[3] While there are regional price differences, the monomer market is a global market. The volatility in the U.S. market is consistent with global price volatility. Conference transcript, p. 135 (Kendler). Petitioner stated that at the peak of the domestic butadiene supply disruptions, the U.S. price differential was 15 to 20 percent higher than European raw material costs. Conference transcript, p. 39 (Arkan).

[4] As described by respondent and importer Synthos, its prices in the spot market are set using the U.S. butadiene price index, while its long-term contract sales are set to the European butadiene price index. Conference transcript, p. 87 (Nienaber).

[5] Respondent Synthos characterized the North American butadiene market as the "least competitive" of the three markets. It added that the European market is "structurally long" on butadiene and is a net exporter of butadiene. It also noted that the European and U.S. price indices move similarly. Conference transcript, pp. 111-112, 113(Kurilla), and Respondent Synthos and Tatneft's postconference briefs, exh. 1, pp. 3-4 and exh. 24. *See* also, conference transcript, p. 47 (Rikhoff).

[6] Conference transcript, p. 37 (Rikhoff).

[7] Conference transcript, pp. 38 (Rikhoff).

[8] Petitioner stated that the United States has been a net importer of butadiene for the last 20 years. Conference transcript, p. 36 (Rikhoff).

Neches, Texas. TPC is a main supplier of butadiene for petitioner Lion, resulting in a 16 percent drop in butadiene production.[9] [10] Petitioner estimated that domestic butadiene production will hit a 30-year high in by the end of 2022, and the United States will be a "net producer" of butadiene.[11]

As a share of cost of goods sold ("COGS"), raw materials represented *** and *** percent of COGS in 2018 and 2020, respectively, and increased to *** percent in January to September 2021. As seen in table V-1 and figure V-1, the domestic contract price of butadiene increased by *** percent between January 2018 and August 2021, and the cost of styrene decreased by *** percent over the same period. 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. Butadiene prices declined after January 2021 until Winter Storm Uri in February 2021 which impacted "the majority of butadiene producers." Petitioner stated that butadiene prices have started to fall since August 2021, as the "butadiene market is fully supplied again in the United States."[12]

[9] As described in Part II, other butadiene supply disruptions occurred in February 2020 (fire at Exxon's Baton Rouge, Louisiana, pipeline), and April 2021 (Shell reduced supply of butadiene).

[10] Petitioner Lion reported that during this butadiene shut down, it was able to supply approximately 95 percent of its customers' needs. Conference transcript, pp. 33-34. See Part II for more discussion on the butadiene supply disruptions and their impact on domestic producers' ESBR production.

[11] Conference transcript, pp. 36 (Rikhoff).

[12] Conference transcript, pp. 39 (Rikhoff).

Figure V-1
Raw materials: U.S. contract prices of butadiene and styrene by month

* * * * * * *

Source: ***.

Table V-1
Raw materials: U.S. contract prices of butadiene and styrene by month, January 2018-August 2021

Contract prices in dollars per pound

Year	Month	Butadiene	Styrene
2018	January	***	***
2018	February	***	***
2018	March	***	***
2018	April	***	***
2018	May	***	***
2018	June	***	***
2018	July	***	***
2018	August	***	***
2018	September	***	***
2018	October	***	***
2018	November	***	***
2018	December	***	***
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	***	***
2021	January	***	***
2021	February	***	***
2021	March	***	***
2021	April	***	***
2021	May	***	***
2021	June	***	***
2021	July	***	***
2021	August	***	***

Source: ***.

U.S. producer *** reported that raw material prices have *** while U.S. producer *** reported that raw material prices have *** since January 1, 2018.[13] *** added that most raw material prices ***. Six of 13 responding importers reported that raw materials had increased, 5 importers reported they had fluctuated, 1 reported they had decreased, and 1 reported they had increased and fluctuated since January 1, 2018. Most importers noted that raw material price increases are generally passed on to customers. Importer *** reported that raw material prices increased due to strong demand as well as supply chain disruptions related to COVID-19.

Transportation costs to the U.S. market

Transportation costs for ESBR shipped from subject countries to the United States averaged 8.0 percent for Czechia during 2020, 10.2 percent for Italy, and 11.2 percent for Russia. These estimates were derived from official import data and represent the transportation and other charges on imports.[14] Respondent Intertex, which imports Russian ESBR, noted that in the last 12 months freight rates from Europe and Russia to the United States have increased four-fold, and the time it takes the material to arrive has at least doubled.[15]

U.S. inland transportation costs

Most importers and *** typically arrange transportation to their customers, while *** reported that the purchaser typically arranges transportation. Most importers and *** reported costs of 1 to 10 percent.

[13] U.S. producer Goodyear is also an importer. Its questionnaire responses are reported separately throughout this section of the report, unless otherwise noted. ***.

[14] The estimated transportation costs were obtained by subtracting the customs value from the c.i.f. value of the imports for 2020 and then dividing by the customs value based on the HTS statistical reporting numbers 4002.19.0015 and 4002.19.0019.

[15] Conference transcript, pp. 126-127 (Rybalov).

Pricing practices

Pricing methods

Generally, ESBR sales to tire manufacturers are set through annual contracts and 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 monomers butadiene and styrene;[16] and 3) the conversion cost.[17] [18] [19] The conversion cost is the "most static portion" of pricing, it can be adjusted on an annual basis, and does not differ significantly between grades of ESBR.[20] [21] In addition, the conversion costs are typically fixed for the year to cover other inputs, including other raw material costs, fixed overhead, labor costs, and profit margins.[22] The price formulas are tied to publicly published raw material price indices, and the ESBR price is adjusted on a monthly or quarterly basis.[23] Respondents also noted that because firms mainly sell from inventories, there is a price difference between the monomer price at the time of ESBR production and the monomer price when the ESBR is ultimately sold.[24]

Respondent Intertex added that non-tire customers are not subject to the three pricing components and that its sales are made via short-term contracts or spot sales. It added that its

[16] Petitioner reported it uses the IHS monthly contract price for butadiene, and the IHS price for styrene "goes back two months in arrears because styrene does not settle the previous month." Conference transcript, pp. 68 (Rikhoff).

[17] Conference transcript, pp. 21 (Ballard), 45 (Rikhoff), and 68 (Rikhoff).

[18] Petitioner argued that the prices for butadiene and styrene are the "most dynamic portions of pricing." Conference transcript, pp. 21 (Ballard).

[19] Respondent Synthos explained that for most tire customers its prices are set on ***. Respondents Synthos and Tatneft's postconference brief, exh. 1, p. 4.

[20] Petitioner's average conversion costs for ESBR grade 1502 have ***. Petitioner's postconference brief, pp. 23-24. Synthos' conversion cost ***. Respondents Synthos and Tafneft's postconference brief, exh. 1, p. 6, and exh. 28.

[21] Respondent Synthos argued that Lion has higher conversion costs that are passed on to customers, resulting in higher ESBR prices. Conference transcript, p. 87-88 (Nienaber).

[22] Conference transcript, p. 19 (Rikhoff).

[23] Conference transcript, p. 19 (Rikhoff).

[24] Respondents added that "there's going to be a certain lag in the market reaction and in pricing depending not only on the type of contract but when the ESBR is sold relative to when it was produced and how long it was held in inventory." Conference transcript, p. 117 (Kendler).

pricing is based on the market price and the change in the monomer prices.[25] Respondent Synthos noted that its sales to non-tire customers are made via spot market, and that ***. Synthos' spot price follows ***.[26]

Spot sales are not tied to a formula. Domestic producers set prices for spot sales through issued monthly price lists.[27] While monomer prices are a "guiding factor" for spot sales prices, they are not "the ultimate factor."[28] Petitioner argued that subject import prices have "meaningfully decoupled" from monomer pricing, adding that average butadiene costs increased from 2018-20, but domestic ESBR prices decreased overall.[29]

U.S. producers reported setting prices using *** reported in the table below, and most responding importers reported using transaction-by-transaction negotiations (table V-2). Other price setting methods included contracts priced monthly using a "raw material plus basis" price (***) and a "bidding policy" (***).

Table V-2
ESBR: U.S. producers' and importers' reported price setting methods, count

Method	U.S. producers	Importers
Transaction-by-transaction	***	8
Contract	***	4
Set price list	***	2
Other	***	2
Responding firms	2	10

Source: Compiled from data submitted in response to Commission questionnaires.
Note: The sum of responses down may not add up to the total number of responding firms as each firm was instructed to check all applicable price setting methods employed.

U.S. producers reported selling the vast majority of their ESBR under ***, with some sales in the ***. The responding importers' 2020 commercial shipments were sold equally though long-term contracts and spot sales, with meaningful sales made through short-term contracts and a smaller share of sales though annual contracts (table V-3).

[25] Conference transcript, p. 117 (Dortch).
[26] Synthos added, ***. Respondent Synthos and Tatneft's postconference brief, exh. 1, p. 4.
[27] Conference transcript, p. 41 (Rikhoff).
[28] Conference transcript, p. 43 (Rikhoff).
[29] Petitioner's postconference brief, p. 22.

Table V-3
ESBR: U.S. producers' and importers' shares of U.S. commercial shipments by type of sale, 2020

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.

U.S. producers' *** contracts typically *** and *** reported that prices were *** to raw materials.[30] In addition, U.S. producer Goodyear had a *** provision. *** reported contract provisions for annual contracts and *** for short-term contracts.[31] Importer *** annual contracts did not allow for price renegotiation, had fixed quantities, and its prices were indexed to raw materials. Importer *** short-term contracts averaged 90 days, did not allow for price renegotiations, fixed prices and quantities, and were not indexed to raw materials.

Sales terms and discounts

U.S. producers typically quote prices on *** basis. Five of 10 importers quote prices on a delivered basis, 3 on an f.o.b. basis, and 2 on delivered and f.o.b. bases. *** most (9 of 10) importers do not offer discounts.

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 2018 – September 2021.

[30] U.S. producer ***. Conference transcript, p. 7 (McGrath).

[31] Importer *** reported that its annual contracts were indexed to raw materials, but did not report any other contract provisions, regardless of contract length. It reported its 2020 commercial shipments were sold through long-term contracts and spot sales. It added that its specific price formula was ***.

Product 1.-- IISRP 1502 grade of ESBR in all forms.

Product 2.-- IISRP 1507 grade of ESBR in all forms.

Product 3.-- IISRP 1712 grade of ESBR in all forms.

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

Both 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.[32] Pricing data reported by these firms accounted for approximately *** percent of U.S. producers' commercial shipments of ESBR and *** percent of commercial U.S. shipments of subject imports from Czechia, *** percent from Italy, and *** percent from Russia in 2020.[33] No price data was reported by importers for: product 2 from Italy or Russia, product 3 from Italy, and product 4 from Russia.

Price data for products 1-4 are presented in tables V-4 to V-7 and figures V-2 to V-5.[34]

[32] 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.

[33] Pricing coverage is based on U.S. commercial shipments reported in questionnaires. As a share of total U.S. shipments, pricing data accounted for *** percent of U.S. producers' U.S. shipments, *** percent of U.S. shipments of imported product from Czechia, *** percent from Italy, and *** percent from Russia in 2020.

[34] Multiple firms reported large price fluctuations of ESBR in 2020 and 2021, most notably in the third quarter of 2020 and the first quarter of 2021. Most firms reported that increases in butadiene prices caused an increase in ESBR price. Importer *** explained that ESBR prices prior to 2021 were a "typical normal market." Increasing raw material costs of butadiene, increased replacement tire demand from the COVID-19 economic recovery, and domestic production issues led to ESBR price increases. *See* also email from ***, December 2, 2021; email from ***, December 3, 2021; email from ***, December 2, 2021.

Table V-4
ESBR: Weighted-average f.o.b. prices and quantities of domestic and imported product 1 and margins of underselling/(overselling), by quarter

Price in dollars per pound, quantity in 1,000 pounds, margin in percent.

Period	US price	US quantity	Czechia price	Czechia quantity	Czechia margin	Italy price	Italy quantity	Italy margin
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	***	***	***	***	***	***	***	***

Period	Russia price	Russia quantity	Russia margin	Subject sources price	Subject sources quantity	Subject sources margin
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	***	***	***	***	***	***

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

Note: Product 1: IISRP 1502 grade of ESBR in all forms.

Table V-5
ESBR: Weighted-average f.o.b. prices and quantities of domestic and imported product 2 and margins of underselling/(overselling), by quarter

Price in dollars per pound, quantity in 1,000 pounds, margin in percent.

Period	US price	US quantity	Czechia price	Czechia quantity	Czechia margin
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	***	***	***	***	***

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

Note: Product 2: IISRP 1507 grade of ESBR in all forms.

Note: No importer reported price data for imports from Italy or Russia of product 2.

Table V-6
ESBR: Weighted-average f.o.b. prices and quantities of domestic and imported product 3 and margins of underselling/(overselling), by quarter

Price in dollars per pound, quantity in 1,000 pounds, margin in percent.

Period	US price	US quantity	Czechia price	Czechia quantity	Czechia margin
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	***	***	***	***	***

Period	Russia price	Russia quantity	Russia margin	Subject sources price	Subject sources quantity	Subject sources margin
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	***	***	***	***	***	***

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

Note: Product 3: IISRP 1712 grade of ESBR in all forms.

Note: No importer reported price data from for imports from Italy of product 3.

Table V-7
ESBR: Weighted-average f.o.b. prices and quantities of domestic and imported product 4 and margins of underselling/(overselling), by quarter

Price in dollars per pound, quantity in 1,000 pounds, margin in percent.

Period	US price	US quantity	Czechia price	Czechia quantity	Czechia margin
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	***	***	***	***	***

Period	Italy price	Italy quantity	Italy margin	Subject sources price	Subject sources quantity	Subject sources margin
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	***	***	***	***	***	***

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

Note: Product 4: IISRP 1783 grade of ESBR in all forms.

Note: No importer reported price data for imports from Russia of product 4.

Figure V-2
ESBR: Weighted-average prices and quantities of domestic and imported product 1, by 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.

Figure V-3
ESBR: Weighted-average prices and quantities of domestic and imported product 2, by quarter

Price of product 2

* * * * * * *

Volume of product 2

* * * * * * *

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

Note: Product 2: IISRP 1507 grade of ESBR in all forms.

Figure V-4
ESBR: Weighted-average prices and quantities of domestic and imported product 3, by quarter

Price of product 3

* * * * * * *

Volume of product 3

* * * * * * *

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

Note: Product 3: IISRP 1712 grade of ESBR in all forms.

Figure V-5
ESBR: Weighted-average prices and quantities of domestic and imported product 4, by 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.

Price trends

In general, domestic and subject prices fluctuated during January 2018-September 2021, but ended at a higher price in September 2021 compared with January 2018. Table V-8 summarizes the price trends, by country and by product. As shown in the table, domestic price increases ranged from *** percent to *** percent during January 2018-September 2021 while import price increases from Czechia ranged from *** percent to *** percent, and price increases from Russia ranged from *** percent to *** percent.[35]

Table V-8
ESBR: Summary of price data, by product and source

Prices in dollars per pound; Quantity in 1,000 pounds; Change in percent

Product	Source	Number of quarters	Quantity	Low price	High price	First quarter price	Last quarter price	Percent Change over period
Product 1	United States	***	***	***	***	***	***	***
Product 1	Czechia	***	***	***	***	***	***	***
Product 1	Italy	***	***	***	***	***	***	***
Product 1	Russia	***	***	***	***	***	***	***
Product 2	United States	***	***	***	***	***	***	***
Product 2	Czechia	***	***	***	***	***	***	***
Product 2	Italy	***	***	***	***	***	***	***
Product 2	Russia	***	***	***	***	***	***	***
Product 3	United States	***	***	***	***	***	***	***
Product 3	Czechia	***	***	***	***	***	***	***
Product 3	Italy	***	***	***	***	***	***	***
Product 3	Russia	***	***	***	***	***	***	***
Product 4	United States	***	***	***	***	***	***	***
Product 4	Czechia	***	***	***	***	***	***	***
Product 4	Italy	***	***	***	***	***	***	***
Product 4	Russia	***	***	***	***	***	***	***

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

Note: Percent change column is percentage change from the first quarter 2018 to the third quarter 2021.

[35] The percent change from the first quarter of 2018 to the third quarter of 2021 was not calculated for price data for product from Italy for *** and from Russia for products *** as no data was reported in the first and last quarter of the periods. No data was reported for product 2 from Italy or Russia.

As shown in the indexed price graphs, domestic prices generally decreased from the second quarter of 2018 until the third quarter of 2020, before increasing sharply over 2021, ending at the highest price of the period (figure V-6). Subject prices moved in similar directions, with prices declining after the fourth quarter of 2018, before increasing again in the fourth quarter of 2020 and increasing sharply over 2021 (figure V-7).

Figure V-6
ESBR: Indexed U.S. producer prices, by quarter

* * * * * * *

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

Figure V-7
ESBR: Indexed subject importer prices, by quarter

* * * * * * *

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

Table V-9
ESBR: Indexed U.S. producer prices, by quarter, January-March 2018 = 100

Period	Product 1	Product 2	Product 3	Product 4
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	***	***	***	***

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

Table V-10
ESBR: Indexed subject importer prices, by quarter, January-March 2018 = 100

Period	Product 1	Product 2	Product 3	Product 4
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	***	***	***	***

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

Price comparisons

As shown in tables V-11 and V-12, prices for product imported from all subject countries were below those for U.S.-produced product in 65 instances (43.6 million pounds); margins of underselling ranged from 0.6 percent to 36.5 percent. In the remaining 35 instances (23.7 million pounds), prices from all subject countries were between 0.4 and 28.0 percent above domestic prices.

By subject country, prices for product imported from Czechia were below those for U.S.-produced product in 38 of 57 instances (***); margins of underselling ranged from *** percent to *** percent. In the remaining 19 instances (***), prices for product from Czechia were between *** percent above prices for the domestic product. Prices for product imported from Italy were priced below domestic product in 11 of 13 instances (***) with underselling margins of *** percent to *** percent. In the remaining 2 instances (***), prices of product from Italy were *** percent and *** percent higher than domestic product. Prices for product imported from Russia were below domestic prices in 16 of 30 instances (***); margins of underselling ranged from *** percent to *** percent. In the remaining 14 instances (***) margins of overselling ranged from *** percent to *** percent.

Table V-11
ESBR: Instances of underselling and overselling and the range and average of margins, by product

Quantity in 1,000 pounds; margin in percent

Product	Type	Number of quarters	Quantity	Average margin	Min margin	Max margin
Product 1	Underselling	25	***	***	***	***
Product 2	Underselling	14	***	***	***	***
Product 3	Underselling	14	***	***	***	***
Product 4	Underselling	12	***	***	***	***
All products	Underselling	65	43,645	10.8	0.6	36.5
Product 1	Overselling	7	***	***	***	***
Product 2	Overselling	1	***	***	***	***
Product 3	Overselling	14	***	***	***	***
Product 4	Overselling	13	***	***	***	***
All products	Overselling	35	23,672	(7.8)	(0.4)	(28.0)

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 country

Quantity in 1,000 pounds; margin in percent

Source	Type	Number of quarters	Quantity	Average margin	Min margin	Max margin
Czechia	Underselling	38	***	***	***	***
Italy	Underselling	11	***	***	***	***
Russia	Underselling	16	***	***	***	***
All subject sources	Underselling	65	43,645	10.8	0.6	36.5
Czechia	Overselling	19	***	***	***	***
Italy	Overselling	2	***	***	***	***
Russia	Overselling	14	***	***	***	***
All subject sources	Overselling	35	23,672	(7.8)	(0.4)	(28.0)

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

Note: These data include only quarters in which there is a comparison between the U.S. and subject product.

Lost sales and lost revenue

The Commission requested that U.S. producers of ESBR report purchasers with which they experienced instances of lost sales or revenue due to competition from imports of ESBR from Czechia, Italy, or Russia during 2018-20. Of the two responding U.S. producers, ***

reported that they had to reduce prices, and *** firms reported that they had lost sales. *** reported *** roll back announced price increases. No U.S. producers submitted lost sales or lost revenue allegations.[36]

Staff contacted 10 purchasers and received responses from 3 purchasers, ***. Responding purchasers reported purchasing and importing 263.6 million pounds of ESBR during 2018-20 (table V-13).

During 2020, responding purchasers purchased and imported *** percent from U.S. producers, *** percent from Czechia and *** percent from nonsubject countries. No purchaser reported purchasing or importing from Italy or Russia during 2018-20.[37] Purchasers were asked about changes in their purchasing patterns from different sources since 2020. Purchaser *** reported decreasing purchases from domestic producers and Czechia, noting that it moved from ESBR to SSBR. Purchaser *** reported constant purchases of domestic product.[38]

Of the three responding purchasers, *** reported that, since 2018, it had purchased imported ESBR from Czechia, and *** reported it had purchased Russian product instead of U.S.-produced product. Neither of these purchasers reported that subject import prices were lower than U.S.-produced product, and neither of these purchasers reported that price was a primary reason for the decision to purchase imported product rather than U.S.-produced product (table V-14).[39] No purchasers reported that U.S. producers had reduced prices in order to compete with lower-priced imports from subject countries.

[36] Staff contacted Petitioner's top 10 customers in 2020 as provided in petition exhibit I-15 in lieu of lost sales and lost revenue allegations.

[37] Purchaser *** purchased ESBR from Russia in 2021 which is beyond the data collection period for purchasers' purchases and imports.

[38] Purchaser *** did not respond to the question, but its purchases of domestic product *** from 2018-20.

[39] Purchaser *** reported that it had purchased *** pounds of ESBR from Russia in 2021 instead of domestic product, but that the product was not priced lower nor was price the primary reason for importing product. Its quantity is not included in the table below.

Table V-13
ESBR: Purchasers' reported purchases and imports, 2018-20

Quantity in 1,000 pounds, share in percent

Purchaser	Domestic quantity	Subject quantity	All other quantity	Change in domestic share	Change in subject country share
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
All firms	233,959	14,383	15,290	(2.8)	(0.9)

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

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

Table V-14
ESBR: Purchasers' responses to purchasing subject imports instead of domestic product

Quantity in 1,000 pounds

Purchaser	Purchased subject imports instead of domestic	Imports priced lower	Choice based on price	Quantity	Explanation
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
All firms	Yes--2; No—1	Yes--0; No--2	Yes--0; No--1	***	

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

Part VI: Financial experience of U.S. producers

Background[1]

Two U.S. producers, accounting for all known U.S. production of ESBR, provided usable financial results on their ESBR operations. Both U.S. producers reported financial data on a GAAP and calendar-year basis. Figure VI-1 presents each responding firm's share of the total reported net sales quantity in 2020.

Figure VI-1
ESBR: Share of net sales quantity in 2020, by firm

* * * * * * *

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

[1] 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"), commercial sales ("CS"), cost of goods sold ("COGS"), selling, general, and administrative expenses ("SG&A expenses"), average unit values ("AUVs"), research and development expenses ("R&D expenses"), and return on assets ("ROA").

Operations on ESBR

Table VI-1 presents aggregated data on U.S. producers' total market operations in relation to ESBR, while table VI-2 presents corresponding changes in AUVs. Table VI-3 presents the results of the U.S. producers' merchant market operations, while table VI-4 presents the corresponding changes in AUVs.[2] Table VI-5 presents selected company-specific financial data.

Table VI-1
ESBR: Results of total market operations of U.S. producers, by item and period

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

Item	Measure	2018	2019	2020	Jan-Sep 2020	Jan-Sep 2021
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	***	***	***	***	***
Raw material costs	Value	***	***	***	***	***
Direct labor costs	Value	***	***	***	***	***
Other factory costs	Value	***	***	***	***	***
COGS	Value	***	***	***	***	***
Gross profit or (loss)	Value	***	***	***	***	***
SG&A expenses	Value	***	***	***	***	***
Operating income or (loss)	Value	***	***	***	***	***
Interest expense	Value	***	***	***	***	***
All other expenses and income, net	Value	***	***	***	***	***
Net income or (loss)	Value	***	***	***	***	***
Depreciation/amortization	Value	***	***	***	***	***
Cash flow	Value	***	***	***	***	***
Raw material costs	Ratio to NS	***	***	***	***	***
Direct labor costs	Ratio to NS	***	***	***	***	***
Other factory costs	Ratio to NS	***	***	***	***	***
COGS	Ratio to NS	***	***	***	***	***
Gross profit	Ratio to NS	***	***	***	***	***
SG&A expense	Ratio to NS	***	***	***	***	***
Operating income or (loss)	Ratio to NS	***	***	***	***	***
Net income or (loss)	Ratio to NS	***	***	***	***	***

Table continued on next page.

[2] The written analysis in this section will mostly focus on total market operations.

Table VI-1 Continued
ESBR: Results of total market operations of U.S. producers, by item and period

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

Item	Measure	2018	2019	2020	Jan-Sep 2020	Jan-Sep 2021
Raw material costs	Share	***	***	***	***	***
Direct labor costs	Share	***	***	***	***	***
Other factory costs	Share	***	***	***	***	***
COGS	Share	***	***	***	***	***
Commercial sales	Unit value	***	***	***	***	***
Internal consumption	Unit value	***	***	***	***	***
Transfers to related firms	Unit value	***	***	***	***	***
Total net sales	Unit value	***	***	***	***	***
Raw material costs	Unit value	***	***	***	***	***
Direct labor costs	Unit value	***	***	***	***	***
Other factory costs	Unit value	***	***	***	***	***
Cost of goods sold	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	***	***	***	***	***

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

Note: Shares represent the share of COGS.

Table VI-2
ESBR: Changes in total market AUVs between comparison periods

Changes in percent

Item	2018-20	2018-19	2019-20	Jan-Sep 2020-21
Commercial sales	***	***	***	***
Internal consumption	***	***	***	***
Transfers to related firms	***	***	***	***
Total net sales	***	***	***	***
Raw material costs	***	***	***	***
Direct labor costs	***	***	***	***
Other factory costs	***	***	***	***
COGS	***	***	***	***

Table continued.

Table VI-2 Continued
ESBR: Changes in total market AUVs between comparison periods

Changes in dollars per pound

Item	2018-20	2018-19	2019-20	Jan-Sep 2020-21
Commercial sales	***	***	***	***
Internal consumption	***	***	***	***
Transfers to related firms	***	***	***	***
Total net sales	***	***	***	***
Raw material costs	***	***	***	***
Direct labor costs	***	***	***	***
Other factory costs	***	***	***	***
COGS	***	***	***	***
Gross profit or (loss)	***	***	***	***
SG&A expense	***	***	***	***
Operating income or (loss)	***	***	***	***
Net income or (loss)	***	***	***	***

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

Note: Changes reported as 0.00 or (0.00) represent nonzero values that are an increase or a decrease of less than 0.005, respectively.

Table VI-3
ESBR: Results of merchant market operations of U.S. producers, by item and period

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

Item	Measure	2018	2019	2020	Jan-Sep 2020	Jan-Sep 2021
Commercial sales	Quantity	***	***	***	***	***
Commercial sales	Value	***	***	***	***	***
Raw material costs	Value	***	***	***	***	***
Direct labor cost	Value	***	***	***	***	***
Other factory costs	Value	***	***	***	***	***
Total COGS	Value	***	***	***	***	***
Gross profit or (loss)	Value	***	***	***	***	***
SG&A expenses	Value	***	***	***	***	***
Operating income or (loss)	Value	***	***	***	***	***
Interest expense	Value	***	***	***	***	***
All other expenses and income, net	Value	***	***	***	***	***
Net income or (loss)	Value	***	***	***	***	***
Depreciation/ amortization	Value	***	***	***	***	***
Cash flow	Value	***	***	***	***	***
Raw material costs	Ratio to CS	***	***	***	***	***
Direct labor costs	Ratio to CS	***	***	***	***	***
Other factory costs	Ratio to CS	***	***	***	***	***
Cost of goods sold	Ratio to CS	***	***	***	***	***
Gross profit	Ratio to CS	***	***	***	***	***
SG&A expense	Ratio to CS	***	***	***	***	***
Operating income or (loss)	Ratio to CS	***	***	***	***	***
Net income or (loss)	Ratio to CS	***	***	***	***	***

Table continued on next page.

Table VI-3 Continued
ESBR: Results of merchant market operations of U.S. producers, by item and period

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

Item	Measure	2018	2019	2020	Jan-Sep 2020	Jan-Sep 2021
Raw material costs	Share	***	***	***	***	***
Direct labor costs	Share	***	***	***	***	***
Other factory costs	Share	***	***	***	***	***
Cost of goods sold	Share	***	***	***	***	***
Commercial sales	Unit value	***	***	***	***	***
Raw material costs	Unit value	***	***	***	***	***
Direct labor cost	Unit value	***	***	***	***	***
Other factory costs	Unit value	***	***	***	***	***
Total COGS	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	***	***	***	***	***

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

Note: Shares represent the share of COGS. Unit values reported as 0.00 represent nonzero values that are less than $0.005.

Table VI-4
ESBR: Changes in merchant market AUVs between comparison periods

Changes in percent

Item	2018-20	2018-19	2019-20	Jan-Sep 2020-21
Commercial sales	***	***	***	***
Raw material costs	***	***	***	***
Direct labor costs	***	***	***	***
Other factory costs	***	***	***	***
COGS	***	***	***	***

Table continued.

Table VI-4 Continued
ESBR: Changes in merchant market AUVs between comparison periods

Changes in dollars per pound

Item	2018-20	2018-19	2019-20	Jan-Sep 2020-21
Commercial sales	***	***	***	***
Raw material costs	***	***	***	***
Direct labor costs	***	***	***	***
Other factory costs	***	***	***	***
COGS	***	***	***	***
Gross profit or (loss)	***	***	***	***
SG&A expense	***	***	***	***
Operating income or (loss)	***	***	***	***
Net income or (loss)	***	***	***	***

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

Note: Changes reported as 0.00 or (0.00) represent nonzero values that are an increase or a decrease of less than 0.005, respectively.

Table VI-5
ESBR: Firm-by-firm total net sales quantity, by period

Net sales quantity

Quantity in 1,000 pounds

Firm	2018	2019	2020	Jan-Sep 2020	Jan-Sep 2021
Goodyear	***	***	***	***	***
Lion	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table VI-5 Continued
ESBR: Firm-by-firm total net sales value, by period

Net sales value

Value in 1,000 dollars

Firm	2018	2019	2020	Jan-Sep 2020	Jan-Sep 2021
Goodyear	***	***	***	***	***
Lion	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table VI-5 Continued
ESBR: Firm-by-firm cost of goods sold ("COGS"), by period

COGS

Value in 1,000 dollars

Firm	2018	2019	2020	Jan-Sep 2020	Jan-Sep 2021
Goodyear	***	***	***	***	***
Lion	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table VI-5 Continued
ESBR: Firm-by-firm gross profit or (loss), by period

Gross profit or (loss)

Value in 1,000 dollars

Firm	2018	2019	2020	Jan-Sep 2020	Jan-Sep 2021
Goodyear	***	***	***	***	***
Lion	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table VI-5 Continued
ESBR: Firm-by-firm selling, general, and administrative ("SG&A") expenses, by period

SG&A expenses

Value in 1,000 dollars

Firm	2018	2019	2020	Jan-Sep 2020	Jan-Sep 2021
Goodyear	***	***	***	***	***
Lion	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table VI-5 Continued
ESBR: Firm-by-firm operating income or (loss), by period

Operating income or (loss)

Value in 1,000 dollars

Firm	2018	2019	2020	Jan-Sep 2020	Jan-Sep 2021
Goodyear	***	***	***	***	***
Lion	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table VI-5 Continued
ESBR: Firm-by-firm net income or (loss), by period

Net income or (loss)

Value in 1,000 dollars

Firm	2018	2019	2020	Jan-Sep 2020	Jan-Sep 2021
Goodyear	***	***	***	***	***
Lion	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table VI-5 Continued
ESBR: Firm-by-firm ratio of COGS to net sales value, by period

COGS to net sales ratio

Ratios in percent

Firm	2018	2019	2020	Jan-Sep 2020	Jan-Sep 2021
Goodyear	***	***	***	***	***
Lion	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table VI-5 Continued
ESBR: Firm-by-firm ratio of gross profit or (loss) to net sales value, by period

Gross profit or (loss) to net sales ratio

Ratios in percent

Firm	2018	2019	2020	Jan-Sep 2020	Jan-Sep 2021
Goodyear	***	***	***	***	***
Lion	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table VI-5 Continued
ESBR: Firm-by-firm ratio of SG&A expenses to net sales value, by period

SG&A expenses to net sales ratio

Ratios in percent

Firm	2018	2019	2020	Jan-Sep 2020	Jan-Sep 2021
Goodyear	***	***	***	***	***
Lion	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table VI-5 Continued
ESBR: Firm-by-firm ratio of operating income or (loss) to net sales value, by period

Operating income or (loss) to net sales ratio

Ratios in percent

Firm	2018	2019	2020	Jan-Sep 2020	Jan-Sep 2021
Goodyear	***	***	***	***	***
Lion	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table VI-5 Continued
ESBR: Firm-by-firm ratio of net income or (loss) to net sales value, by period

Net income or (loss) to net sales ratio

Ratios in percent

Firm	2018	2019	2020	Jan-Sep 2020	Jan-Sep 2021
Goodyear	***	***	***	***	***
Lion	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table VI-5 Continued
ESBR: Firm-by-firm unit net sales value, by period

Unit net sales value

Unit values in dollars per pound

Firm	2018	2019	2020	Jan-Sep 2020	Jan-Sep 2021
Goodyear	***	***	***	***	***
Lion	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table VI-5 Continued
ESBR: Firm-by-firm unit raw material cost, by period

Unit raw material costs

Unit values in dollars per pound

Firm	2018	2019	2020	Jan-Sep 2020	Jan-Sep 2021
Goodyear	***	***	***	***	***
Lion	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table VI-5 Continued
ESBR: Firm-by-firm unit direct labor cost, by period

Unit direct labor costs

Unit values in dollars per pound

Firm	2018	2019	2020	Jan-Sep 2020	Jan-Sep 2021
Goodyear	***	***	***	***	***
Lion	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table VI-5 Continued
ESBR: Firm-by-firm unit other factory costs, by period

Unit other factory costs

Unit values in dollars per pound

Firm	2018	2019	2020	Jan-Sep 2020	Jan-Sep 2021
Goodyear	***	***	***	***	***
Lion	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table VI-5 Continued
ESBR: Firm-by-firm unit COGS, by period

Unit COGS

Unit values in dollars per pound

Firm	2018	2019	2020	Jan-Sep 2020	Jan-Sep 2021
Goodyear	***	***	***	***	***
Lion	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table VI-5 Continued
ESBR: Firm-by-firm unit gross profit or (loss), by period

Unit gross profit or (loss)

Unit values in dollars per pound

Firm	2018	2019	2020	Jan-Sep 2020	Jan-Sep 2021
Goodyear	***	***	***	***	***
Lion	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table VI-5 Continued
ESBR: Firm-by-firm unit SG&A expenses, by period

Unit SG&A expenses

Unit values in dollars per pound

Firm	2018	2019	2020	Jan-Sep 2020	Jan-Sep 2021
Goodyear	***	***	***	***	***
Lion	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table VI-5 Continued
ESBR: Firm-by-firm unit operating income or (loss), by period

Unit operating income or (loss)

Unit values in dollars per pound

Firm	2018	2019	2020	Jan-Sep 2020	Jan-Sep 2021
Goodyear	***	***	***	***	***
Lion	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table VI-5 Continued
ESBR: Firm-by-firm unit net income or (loss), by period

Unit net income or (loss)

Unit values in dollars per pound

Firm	2018	2019	2020	Jan-Sep 2020	Jan-Sep 2021
Goodyear	***	***	***	***	***
Lion	***	***	***	***	***
All firms	***	***	***	***	***

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

Note: Unit values reported as 0.00 represent nonzero values that are less than $0.005.

Net sales

During the period examined, net sales of ESBR consisted of commercial sales, internal consumption, and transfers to related firms, representing *** percent, *** percent, and *** percent of 2020 net sales quantity, respectively.[3] [4] *** accounted for the larger, ***, share of total net sales of ESBR, with the company's share of total net sales volume decreasing from *** percent in 2018 to *** percent in 2020. This decrease was the result of ***.[5]

As shown in table VI-1, aggregate ESBR sales quantity and value decreased from 2018 to 2020, but were higher in January-September 2021 than in January-September 2020. The net sales AUV for ESBR decreased from $*** per pound in 2018 to $*** per pound in 2020, a decrease of *** percent, but it was higher in interim 2021 (at $*** per pound) than in interim 2020 (at $*** per pound).[6]

[3] All internal consumption and transfers to related firms ***. ***. *** U.S. producer questionnaire response, sections II-12 and II-15.

[4] ***.

[5] While ***.

[6] ***. Email from ***, December 7, 2021.

Cost of goods sold and gross profit or loss

Raw materials represented the largest component of total COGS, accounting for between *** percent (2020) and *** percent (interim 2021) of total COGS during the period examined. On a per-pound basis, raw material costs decreased by $*** between 2018 and 2020 (from $*** to $***), but were higher in interim 2021 (at $***) than in interim 2020 (at $***). Table VI-6 presents raw materials, by type.

Table VI-6
ESBR: Raw material costs in 2020

Value in 1,000 dollars; unit values in dollars per pound; share of value in percent

Item	Value	Unit value	Share of value
Butadiene	***	***	***
Styrene	***	***	***
Other material inputs	***	***	***
All raw materials	***	***	***

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

Other factory costs, which are comprised of both variable and fixed facility overhead costs, were the second largest component of total COGS. They accounted for between *** (interim 2021) and *** percent (interim 2020) of total COGS during the period examined. On an actual basis, these costs increased from 2018 to 2019, but decreased in 2020, for an overall decrease from 2018 to 2020.[7] They were higher in interim 2021 than in interim 2020.[8] On a per-pound basis and as a ratio to net sales, other factory costs increased between 2018 and 2020 as net sales decreased. Conversely, other factory costs were lower on a per-pound basis and as a ratio to net sales in interim 2021 compared with interim 2020 which is consistent with the higher net sales.

[7] The increase in other factory costs between 2018 and 2019 was attributable to ***.

[8] While the industry's total other factory costs were higher in interim 2021 than in interim 2020, ***. Email from ***, December 7, 2021.

The smallest component of COGS, direct labor, decreased from 2018 to 2020, but was higher in January-September 2021 compared to January-September 2020. As a share of COGS, direct labor was between *** percent (in 2018) and *** percent (January-September 2020).

The COGS to sales ratio increased from *** percent in 2018 to *** percent in 2020, and was lower in January-September 2021, at *** percent, than in January- September 2020 at *** percent. As seen in table VI-2, on a per-pound basis, total COGS decreased by $*** between 2018 and 2020, while it was $*** higher in interim 2021 than in interim 2020.

The decrease in total COGS between 2018 and 2020 was less than the decrease in net sales value, which caused gross profit to decrease from $*** million in 2018 to *** million in 2020. Conversely, gross profit was somewhat improved in interim 2021 (***) compared to interim 2020 (***) as the increase in net sales value outpaced the increase in COGS.[9]

SG&A expenses and operating income or loss

As shown in table VI-1, the industry's SG&A expense ratio (i.e., total SG&A expenses divided by total revenue) increased from *** percent in 2018 to *** percent in 2020, but was lower in interim 2021 (at *** percent) than in interim 2020 (at *** percent). The increase in the industry's SG&A expense ratio between 2018 and 2020 was the result of net sales values decreasing at a faster pace than SG&A expenses. Between the comparable interim periods, the lower SG&A expense ratio in interim 2021 was the result of net sales values increasing at a greater rate than SG&A expenses.

The industry's operating income decreased from $*** in 2018 to *** in 2020, but was slightly improved in interim 2021 (at ***) relative to interim 2020 (at ***).

[9] ***. Email from ***, December 7, 2021 and *** U.S. producer questionnaire response, section III-10. ***.

Interest expense, all other expenses/income, and net income or loss

Below operating income, interest expense and all other expenses/(income) are shown.[10] Reported interest expense decreased overall between 2018 and 2020, but was higher in interim 2021 than in interim 2020. ***. The net *** increased from $*** in 2018 to $*** in 2020, and was higher in interim 2021 ($***) than in interim 2020 ($***).[11] [12]

The industry's net income decreased from $*** in 2018 to *** in 2020, but was improved in January-September 2021 (***) relative to January-September 2020 (***).

[10] ***.

[11] As discussed, these values ***.

[12] ***. Email from ***, December 17, 2021.

Variance analysis

A variance analysis for the operations of U.S. producers of ESBR is presented in table VI-7.[13] The information for this variance analysis is derived from table VI-1. The analysis shows that the operating income total variance (i.e., the change in operating income) between 2018 and 2020 was mainly the result of a negative price variance despite a positive cost variance (i.e., net sales AUVs decreased more than costs). Between the comparable interim periods, the variance analysis shows that the improvement in operating income in interim 2021 (i.e., ***) was mainly the result of a positive price variance despite a negative cost/expense and volume variance.[14]

[13] The Commission's variance analysis is calculated in three parts: Sales variance, cost of sales variance (COGS variance), and SG&A expense 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 expense variance), and a volume variance. 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. Summarized at the bottom of the table, the price variance is from sales; the cost/expense variance is the sum of those items from COGS and SG&A expense variances, respectively, and the volume variance is the sum of the volume components of the net sales, COGS, and SG&A expense variances. The overall volume component of the variance analysis is generally small.

[14] While net sales volumes were higher in interim 2021 compared to interim 2020, the volume variance was negative because the industry ***.

Table VI-7
ESBR: Variance analysis on the operations of U.S. producers between comparison periods

Value in 1,000 dollars

Item	2018-20	2018-19	2019-20	Jan-Sep 2020-21
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 variance	***	***	***	***
Operating income cost variance	***	***	***	***
Operating income volume variance	***	***	***	***
Operating income total variance	***	***	***	***

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

Capital expenditures and research and development expenses

Tables VI-8 and VI-10 present capital expenditures and R&D expenses, respectively, by firm. Tables VI-9 and VI-11 present the firms' narrative explanations of the nature, focus, and significance of their capital expenditures and R&D expenses, respectively. Aggregate capital expenditures decreased between 2018 and 2020, which was ***. As seen in table VI-9, ***. Capital expenditures were higher in interim 2021 than in interim 2020. R&D expenses, which were ***, increased irregularly between 2018 and 2020, and were essentially unchanged between the comparable interim periods.

Table VI-8
ESBR: U.S. producers' capital expenditures, by firm and period

Value in 1,000 dollars

Firm	2018	2019	2020	Jan-Sep 2020	Jan-Sep 2021
Goodyear	***	***	***	***	***
Lion	***	***	***	***	***
All firms	***	***	***	***	***

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

Table VI-9
ESBR: Narrative descriptions of U.S. producers' capital expenditures, by firm

Firm	Narrative on capital expenditures
Goodyear	***
Lion	***

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

Table VI-10
ESBR: U.S. producers' R&D expenses, by firm and period

Value in 1,000 dollars

Firm	2018	2019	2020	Jan-Sep 2020	Jan-Sep 2021
Goodyear	***	***	***	***	***
Lion	***	***	***	***	***
All firms	***	***	***	***	***

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

Table VI-11
ESBR: Narrative descriptions of U.S. producers' R&D expenses, by firm

Firm	Narrative on R&D expenses
Goodyear	***
Lion	***

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

Assets and return on assets

Table VI-12 presents data on the U.S. producers' total assets while table VI-13 presents their operating ROA.[15] Table VI-14 presents U.S. producers' narrative responses explaining their major asset categories and any significant changes in asset levels over time. Total assets decreased between 2018 to 2020. ***.[16]

Table VI-12
ESBR: U.S. producers' total net assets, by firm and period

Value in 1,000 dollars

Firm	2018	2019	2020
Goodyear	***	***	***
Lion	***	***	***
All firms	***	***	***

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

Table VI-13
ESBR: U.S. producers' ROA, by firm and period

Ratio in percent

Firm	2018	2019	2020
Goodyear	***	***	***
Lion	***	***	***
All firms	***	***	***

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

Table VI-14
ESBR: Narrative descriptions of U.S. producers' total net assets, by firm

Firm	Narrative on assets
Goodyear	***
Lion	***

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

[15] 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 for a specific product.

[16] Email from ***, December 7, 2021.

Capital and investment

The Commission requested U.S. producers of ESBR to describe any actual or potential negative effects of imports of ESBR from Czechia, Italy, and Russia on their firms' growth, investment, ability to raise capital, development and production efforts, or the scale of capital investments. Table VI-15 presents the number of firms reporting an impact in each category and table VI-16 provides the U.S. producers' narrative responses.[17]

Table VI-15
ESBR: Count of firms indicating actual and anticipated negative effects of imports from subject sources on investment, growth, and development since January 1, 2018, by effect

Number of firms reporting

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

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

[17] ***. *** U.S. producer questionnaire response, section III-19.

Table VI-16
ESBR: Narratives relating to actual and anticipated negative effects of imports on investment, growth, and development, since January 1, 2018

Item	Firm name and narrative on impact of imports
***	***
***	***
***	***
***	***
***	***
***	***
***	***
***	***
***	***

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

Part VII: Threat considerations and information on nonsubject countries

Section 771(7)(F)(i) of the Act (19 U.S.C. § 1677(7)(F)(i)) provides that—

> *In determining whether an industry in the United States is threatened with material injury by reason of imports (or sales for importation) of the subject merchandise, the Commission shall consider, among other relevant economic factors*[1]*--*
>
> *(I) if a countervailable subsidy is involved, such information as may be presented to it by the administering authority as to the nature of the subsidy (particularly as to whether the countervailable subsidy is a subsidy described in Article 3 or 6.1 of the Subsidies Agreement), and whether imports of the subject merchandise are likely to increase,*
>
> *(II) any existing unused production capacity or imminent, substantial increase in production capacity in the exporting country indicating the likelihood of substantially increased imports of the subject merchandise into the United States, taking into account the availability of other export markets to absorb any additional exports,*
>
> *(III) a significant rate of increase of the volume or market penetration of imports of the subject merchandise indicating the likelihood of substantially increased imports,*
>
> *(IV) whether imports of the subject merchandise are entering at prices that are likely to have a significant depressing or suppressing effect on domestic prices, and are likely to increase demand for further imports,*
>
> *(V) inventories of the subject merchandise,*

[1] Section 771(7)(F)(ii) of the Act (19 U.S.C. § 1677(7)(F)(ii)) provides that "The Commission shall consider {these factors} . . . as a whole in making a determination of whether further dumped or subsidized imports are imminent and whether material injury by reason of imports would occur unless an order is issued or a suspension agreement is accepted under this title. The presence or absence of any factor which the Commission is required to consider . . . shall not necessarily give decisive guidance with respect to the determination. Such a determination may not be made on the basis of mere conjecture or supposition."

(VI) the potential for product-shifting if production facilities in the foreign country, which can be used to produce the subject merchandise, are currently being used to produce other products,

(VII) in any investigation under this title which involves imports of both a raw agricultural product (within the meaning of paragraph (4)(E)(iv)) and any product processed from such raw agricultural product, the likelihood that there will be increased imports, by reason of product shifting, if there is an affirmative determination by the Commission under section 705(b)(1) or 735(b)(1) with respect to either the raw agricultural product or the processed agricultural product (but not both),

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

(IX) any other demonstrable adverse trends that indicate the probability that there is likely to be material injury by reason of imports (or sale for importation) of the subject merchandise (whether or not it is actually being imported at the time).[2]

Information on the volume and pricing of imports of the subject merchandise is presented in *Parts IV* and *V*; and information on the effects of imports of the subject merchandise on U.S. producers' existing development and production efforts is presented in *Part VI*. Information on inventories of the subject merchandise; foreign producers' operations, including the potential for "product-shifting;" any other threat indicators, if applicable; and any dumping in third-country markets, follows. Also presented in this section of the report is information obtained for consideration by the Commission on nonsubject countries.

[2] Section 771(7)(F)(iii) of the Act (19 U.S.C. § 1677(7)(F)(iii)) further provides that, in antidumping investigations, ". . . the Commission shall consider whether dumping in the markets of foreign countries (as evidenced by dumping findings or antidumping remedies in other WTO member markets against the same class or kind of merchandise manufactured or exported by the same party as under investigation) suggests a threat of material injury to the domestic industry."

The industry in Czechia

The Commission issued a foreign producers' or exporters' questionnaire to one firm believed to produce and/or export ESBR from Czechia.[3] The Commission received a usable questionnaire response from one firm: Synthos Kralupy a.s. ("Synthos"). According to an estimate requested of Synthos, the production of ESBR reported in its questionnaire response accounts for all production of ESBR in Cezchia. This firm's exports to the United States accounted for approximately *** percent of U.S. imports of ESBR reported in U.S. importers' questionnaire responses during 2020. Table VII-1 presents information on the ESBR operations of Synthos in Czechia.

Table VII-1
ESBR: Summary data for producer Synthos in Czechia, 2020

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)
Synthos	***	100.0	***	100.0	***	***
All firms	***	100.0	***	100.0	***	***

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

Changes in operations

Synthos reported *** since January 1, 2018.

[3] This firm was identified through a review of information submitted in the petition and presented in third-party sources.

Operations on ESBR

Table VII-2 presents information on the ESBR operations of the responding producer Synthos in Czechia. Synthos' reported capacity remained constant from 2018 to 2019 and increased by *** percent from 2019 to 2020.[4] Capacity was slightly lower in January-September 2021 compared with January-September 2020. Synthos' production increased by *** percent during 2018-19 before decreasing by *** percent during 2019-20, ending *** percent lower in 2020 than in 2018. Production was *** percent higher during January-September 2021 compared with January-September 2020. Synthos' ESBR production is projected to increase by *** percent during 2020-21, but then decrease by *** percent during 2021-22. Capacity utilization increased from *** percent in 2018 to its highest point at *** percent in 2019 before decreasing to *** percent in 2020, decreasing overall by *** percentage points during 2018-20. Conversely, Synthos' capacity utilization was *** percentage points higher during January-September 2021 than in January-September 2020.

Exports to all other markets accounted for the majority (*** percent) of Synthos' total shipments of ESBR during the period for which data were collected, followed by home market shipments (*** percent) and exports to the United States (*** percent). Synthos' exports to all other markets decreased slightly by *** percent during 2018-20 and were *** percent higher during January-September 2021 compared with January-September 2020. Other export markets identified by Synthos include ***.[5] Synthos' home market shipments (***) decreased by *** percent during 2018-20 and were *** percent higher in January-September 2021 than in January-September 2020. Synthos' exports of ESBR to the United States increased by *** percent from 2018 to 2019 but then decreased by *** percent from 2019 to 2020, ending *** percent lower in 2020 than in 2018. Exports to the United States were *** percent higher during January-September 2021 compared with January-September 2020.[6]

[4] Synthos reported ***. Synthos' foreign producer questionnaire response, II-8.

[5] Synthos' foreign producer questionnaire response, II-8.

[6] Synthos' home market shipments and exports to the United States are projected to increase during 2020-22, while its exports to all other markets are projected to fluctuate but decrease slightly during the same projection period.

Table VII-2
ESBR: Data for Czech producer Synthos, by period

Quantity in 1,000 pounds

Item	2018	2019	2020	Jan-Sep 2020	Jan-Sep 2021	Projection 2021	Projection 2022
Capacity	***	***	***	***	***	***	***
Production	***	***	***	***	***	***	***
End-of-period inventories	***	***	***	***	***	***	***
Internal consumption	***	***	***	***	***	***	***
Commercial home market shipments	***	***	***	***	***	***	***
Home market shipments	***	***	***	***	***	***	***
Exports to the United States	***	***	***	***	***	***	***
Exports to all other markets	***	***	***	***	***	***	***
Export shipments	***	***	***	***	***	***	***
Total shipments	***	***	***	***	***	***	***

Table continued.

Table VII-2 Continued
ESBR: Data for Czech producer Synthos, by period

Ratios and shares in percent

Item	2018	2019	2020	Jan-Sep 2020	Jan-Sep 2021	Projection 2021	Projection 2022
Capacity utilization ratio	***	***	***	***	***	***	***
Inventory ratio to production	***	***	***	***	***	***	***
Inventory ratio to total shipments	***	***	***	***	***	***	***
Internal consumption share	***	***	***	***	***	***	***
Commercial home market shipments share	***	***	***	***	***	***	***
Home market shipments share	***	***	***	***	***	***	***
Exports to the United States share	***	***	***	***	***	***	***
Exports to all other markets share	***	***	***	***	***	***	***
Export shipments share	***	***	***	***	***	***	***
Total shipments share	100.0	100.0	100.0	100.0	100.0	100.0	100.0

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 “---“.

Alternative products

Synthos reported *** on the same equipment and machinery used to produce ESBR.

Exports

According to Global Trade Atlas ("GTA"), the leading export markets for styrene-butadiene rubber (in primary forms or in plates, sheets, or strip, excluding latex) from Czechia are Brazil, Poland, South Korea, and the United States (table VII-3). During 2020, the United States was the third largest export market, by quantity, for styrene-butadiene rubber from Czechia, accounting for 12.0 percent, preceded by Brazil and South Korea, accounting for 18.0 percent and 13.7 percent, respectively.

Table VII-3
Styrene-butadiene rubber: Exports from Czechia, by destination market and period

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

Destination market	Measure	2018	2019	2020
United States	Quantity	22,631	28,643	21,154
Brazil	Quantity	8,372	26,735	31,600
South Korea	Quantity	8,452	18,392	24,159
Poland	Quantity	19,936	18,001	17,223
Germany	Quantity	10,238	9,852	8,792
Austria	Quantity	10,937	7,017	7,879
Spain	Quantity	11,790	11,025	7,554
Netherlands	Quantity	8,945	7,110	6,643
France	Quantity	8,730	7,320	5,472
Other destination	Quantity	65,132	52,905	45,446
All destination markets	Quantity	175,161	186,999	175,922
United States	Value	19,101	19,694	12,562
Brazil	Value	6,027	16,847	16,045
South Korea	Value	5,466	10,239	11,360
Poland	Value	16,057	11,936	8,806
Germany	Value	8,334	6,625	4,479
Austria	Value	8,843	4,522	3,887
Spain	Value	9,784	7,654	4,140
Netherlands	Value	7,168	4,693	3,403
France	Value	7,155	5,009	2,924
Other destination	Value	49,604	34,510	23,700
All destination markets	Value	137,539	121,727	91,306

Table Continued.

Table VII-3 Continued
Styrene-butadiene rubber: Exports from Czechia, by destination market and period

Unit values in dollars per pound; Shares in percent

Destination market	Measure	2018	2019	2020
United States	Unit value	0.84	0.69	0.59
Brazil	Unit value	0.72	0.63	0.51
South Korea	Unit value	0.65	0.56	0.47
Poland	Unit value	0.81	0.66	0.51
Germany	Unit value	0.81	0.67	0.51
Austria	Unit value	0.81	0.64	0.49
Spain	Unit value	0.83	0.69	0.55
Netherlands	Unit value	0.80	0.66	0.51
France	Unit value	0.82	0.68	0.53
Other destination	Unit value	0.76	0.65	0.52
All destination markets	Unit value	0.79	0.65	0.52
United States	Share of quantity	12.9	15.3	12.0
Brazil	Share of quantity	4.8	14.3	18.0
South Korea	Share of quantity	4.8	9.8	13.7
Poland	Share of quantity	11.4	9.6	9.8
Germany	Share of quantity	5.8	5.3	5.0
Austria	Share of quantity	6.2	3.8	4.5
Spain	Share of quantity	6.7	5.9	4.3
Netherlands	Share of quantity	5.1	3.8	3.8
France	Share of quantity	5.0	3.9	3.1
Other destination	Share of quantity	37.2	28.3	25.8
All destination markets	Share of quantity	100.0	100.0	100.0
United States	Share of value	13.9	16.2	13.8
Brazil	Share of value	4.4	13.8	17.6
South Korea	Share of value	4.0	8.4	12.4
Poland	Share of value	11.7	9.8	9.6
Germany	Share of value	6.1	5.4	4.9
Austria	Share of value	6.4	3.7	4.3
Spain	Share of value	7.1	6.3	4.5
Netherlands	Share of value	5.2	3.9	3.7
France	Share of value	5.2	4.1	3.2
Other destination	Share of value	36.1	28.4	26.0
All destination markets	Share of value	100.0	100.0	100.0

Source: Official exports statistics under HS subheading 4002.19 as reported by Eurostat in the Global Trade Atlas database, accessed December 4, 2021.

Note: HS subheading 4002.19 contains products outside the scope of these investigations.

Note: United States is shown at the top, all remaining top export destinations shown in descending order of 2020 data.

The industry in Italy

The Commission issued a foreign producers' or exporters' questionnaire to one firm believed to produce and/or export ESBR from Italy.[7] The Commission received a usable questionnaire response from one firm: Versalis S.p.A. ("Versalis"). According to an estimate requested of Versalis, the production of ESBR reported in its questionnaire response accounts for all production of ESBR in Italy. Versalis' exports to the United States accounted for approximately *** percent of U.S. imports of ESBR from Italy reported in U.S. importers' questionnaire responses. In its response to the Commission's questionnaire, Versalis estimated that its production of ESBR accounts for all production of ESBR in Italy. Table VII-4 presents information on the ESBR operations of Versalis in Italy.

Table VII-4
ESBR: Summary data for producer Versalis in Italy, 2020

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)
Versalis	***	100.0	***	100.0	***	***
All firms	***	100.0	***	100.0	***	***

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

Changes in operations

Versalis reported *** since January 1, 2018.

[7] This firm was identified through a review of information submitted in the petition and presented in third-party sources.

Operations on ESBR

Table VII-5 presents information on the ESBR operations of the responding producer/exporter Versalis in Italy. Versalis' capacity to produce ESBR decreased from *** pounds in 2018 to *** pounds in 2019 but then increased back to *** pounds in 2020 and was lower during January-September 2021 compared with January-September 2020. Versalis' production of ESBR decreased by *** percent from 2018 to 2019 but then increased by *** percent from 2019 to 2020, ending slightly higher in 2020 than in 2018. Production was *** percent higher during January-September 2021 compared to January-September 2020. Versalis' capacity utilization decreased by *** percentage points from 2018 to 2019 but then increased by *** percentage points from 2019 to 2020, ending slightly higher in 2020 than in 2018. Capacity utilization was *** percentage points higher during January-September 2021 compared with January-September 2020.[8]

Exports to all other markets accounted for the majority (*** percent) of Versalis' total shipments of ESBR during the period for which data were collected, followed by commercial home market shipments (*** percent) and exports to the United States (*** percent). Versalis' exports to all other markets fluctuated but slightly increased by *** percent during 2018-20 and were *** percent higher during January-September 2021 than in January-September 2020. Other export markets identified by Versalis include ***.[9] Commercial home market shipments of ESBR decreased by *** percent during 2018-20 and were slightly higher (*** percent) during January-September 2021 compared with January-September 2020. Versalis' exports of ESBR to the United States increased by *** percent during 2018-19 but then decreased by *** percent during 2019-20, ending overall *** percent higher in 2020 than in 2018. Exports to the United States were *** percent lower during January-September 2021 compared with January-September 2020.[10]

[8] Versalis' capacity is projected to decrease during 2020-22, while its production is projected to increase irregularly. Capacity utilization is projected to increase during the same period.

[9] Versalis' foreign producer questionnaire response, II-8.

[10] Versalis' exports to the United States are projected to decrease irregularly during 2020-22, while commercial home market shipments are projected to steadily increase. Exports to all other markets are projected to fluctuate but remain above 2020 levels.

Table VII-5
ESBR: Data for producer Versalis in Italy, by period

Quantity in 1,000 pounds

Item	2018	2019	2020	Jan-Sep 2020	Jan-Sep 2021	Projection 2021	Projection 2022
Capacity	***	***	***	***	***	***	***
Production	***	***	***	***	***	***	***
End-of-period inventories	***	***	***	***	***	***	***
Internal consumption	***	***	***	***	***	***	***
Commercial home market shipments	***	***	***	***	***	***	***
Home market shipments	***	***	***	***	***	***	***
Exports to the United States	***	***	***	***	***	***	***
Exports to all other markets	***	***	***	***	***	***	***
Export shipments	***	***	***	***	***	***	***
Total shipments	***	***	***	***	***	***	***

Table continued.

Table VII-5 Continued
ESBR: Data for producer Versalis in Italy, by period

Shares and ratios in percent

Item	2018	2019	2020	Jan-Sep 2020	Jan-Sep 2021	Projection 2021	Projection 2022
Capacity utilization ratio	***	***	***	***	***	***	***
Inventory ratio to production	***	***	***	***	***	***	***
Inventory ratio to total shipments	***	***	***	***	***	***	***
Internal consumption share	***	***	***	***	***	***	***
Commercial home market shipments share	***	***	***	***	***	***	***
Home market shipments share	***	***	***	***	***	***	***
Exports to the United States share	***	***	***	***	***	***	***
Exports to all other markets share	***	***	***	***	***	***	***
Export shipments share	***	***	***	***	***	***	***
Total shipments share	100.0	100.0	100.0	100.0	100.0	100.0	100.0

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

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

Alternative products

As shown in table VII-6, Versalis produced *** on the same equipment and machinery used to produce ESBR. During January 2018 through September 2021, Versalis' production of *** accounted for less than *** percent of its overall production on the same equipment and machinery used to produce ESBR.

Table VII-6
ESBR: Italian producer Versalis' overall capacity and production on the same equipment as subject production, by period

Quantity in 1,000 pounds; Ratio is production to capacity in percent; Share is the share of total production in percent

Item	Measure	2018	2019	2020	Jan-Sep 2020	Jan-Sep 2021
Overall capacity	Quantity	***	***	***	***	***
ESBR production	Quantity	***	***	***	***	***
CBMB production	Quantity	***	***	***	***	***
HSRMB production	Quantity	***	***	***	***	***
Hot ESBR production	Quantity	***	***	***	***	***
Latex production	Quantity	***	***	***	***	***
SSBR production	Quantity	***	***	***	***	***
Other production	Quantity	***	***	***	***	***
All out of scope production	Quantity	***	***	***	***	***
Total production	Quantity	***	***	***	***	***
Overall capacity utilization	Ratio	***	***	***	***	***
ESBR production	Share	***	***	***	***	***
CBMB production	Share	***	***	***	***	***
HSRMB production	Share	***	***	***	***	***
Hot ESBR production	Share	***	***	***	***	***
Latex production	Share	***	***	***	***	***
SSBR production	Share	***	***	***	***	***
Other production	Share	***	***	***	***	***
All out of scope production	Share	***	***	***	***	***
Total production	Share	100.0	100.0	100.0	100.0	100.0

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

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

Exports

According to GTA, the leading export markets for styrene-butadiene rubber (in primary forms or in plates, sheets, or strip, excluding latex) from Italy are Spain, the United States, and Turkey (table VII-7). During 2020, the United States was the second largest export market, by quantity, for styrene-butadiene rubber from Italy, accounting for 8.1 percent, preceded by Spain, accounting for 12.6 percent.

Table VII-7
Styrene-butadiene rubber: Exports from Italy, by period

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

Destination market	Measure	2018	2019	2020
United States	Quantity	6,563	21,012	13,638
Spain	Quantity	23,273	25,144	21,108
Turkey	Quantity	9,703	10,887	12,692
Germany	Quantity	12,806	11,459	9,492
Belgium	Quantity	10,231	8,558	8,608
Portugal	Quantity	8,829	6,681	7,479
United Kingdom	Quantity	8,089	6,586	6,684
France	Quantity	8,972	8,647	5,961
Poland	Quantity	6,082	5,796	5,798
Other destination	Quantity	77,285	68,518	76,484
All destination markets	Quantity	171,833	173,287	167,943
United States	Value	5,295	13,917	7,357
Spain	Value	19,374	18,183	12,929
Turkey	Value	9,262	8,947	8,422
Germany	Value	12,136	9,519	6,962
Belgium	Value	11,209	7,776	5,817
Portugal	Value	9,364	7,835	6,883
United Kingdom	Value	7,117	5,110	4,092
France	Value	9,694	8,111	4,296
Poland	Value	7,181	6,047	4,926
Other destination	Value	77,475	59,985	49,729
All destination markets	Value	168,108	145,428	111,413

Table continued.

Table VII-7 Continued
Styrene-butadiene rubber: Exports from Italy, by period

Unit values in dollars per pound; Shares in percent

Destination market	Measure	2018	2019	2020
United States	Unit value	0.81	0.66	0.54
Spain	Unit value	0.83	0.72	0.61
Turkey	Unit value	0.95	0.82	0.66
Germany	Unit value	0.95	0.83	0.73
Belgium	Unit value	1.10	0.91	0.68
Portugal	Unit value	1.06	1.17	0.92
United Kingdom	Unit value	0.88	0.78	0.61
France	Unit value	1.08	0.94	0.72
Poland	Unit value	1.18	1.04	0.85
Other destination	Unit value	1.00	0.88	0.65
All destination markets	Unit value	0.98	0.84	0.66
United States	Share of quantity	3.8	12.1	8.1
Spain	Share of quantity	13.5	14.5	12.6
Turkey	Share of quantity	5.6	6.3	7.6
Germany	Share of quantity	7.5	6.6	5.7
Belgium	Share of quantity	6.0	4.9	5.1
Portugal	Share of quantity	5.1	3.9	4.5
United Kingdom	Share of quantity	4.7	3.8	4.0
France	Share of quantity	5.2	5.0	3.5
Poland	Share of quantity	3.5	3.3	3.5
Other destination	Share of quantity	45.0	39.5	45.5
All destination markets	Share of quantity	100.0	100.0	100.0
United States	Share of value	3.2	9.6	6.6
Spain	Share of value	11.5	12.5	11.6
Turkey	Share of value	5.5	6.2	7.6
Germany	Share of value	7.2	6.5	6.2
Belgium	Share of value	6.7	5.3	5.2
Portugal	Share of value	5.6	5.4	6.2
United Kingdom	Share of value	4.2	3.5	3.7
France	Share of value	5.8	5.6	3.9
Poland	Share of value	4.3	4.2	4.4
Other destination	Share of value	46.1	41.2	44.6
All destination markets	Share of value	100.0	100.0	100.0

Source: Official exports statistics under HS subheading 4002.19 as reported by Eurostat in the Global Trade Atlas database, accessed December 4, 2021.

Note: HS subheading 4002.19 contains products outside the scope of these investigations.

Note: United States is shown at the top. All remaining top export destinations are shown in descending order of 2020 data.

The industry in Russia

The Commission issued foreign producers' or exporters' questionnaires to four firms believed to produce and/or export ESBR from Russia.[11] Usable responses to the Commission's questionnaire were received from four firms: JSC Sterlitamak Petrochemical Plant ("Sterlitamak"); Omsky Kauchuk; Public Joint Stock Company Sibur Holding ("Sibur"); and PJSC Tatneft named after V.D.Shashin ("Tatneft"). These firms' exports to the United States accounted for approximately *** percent of U.S. imports of ESBR from Russia in 2020 reported in U.S. importers' questionnaire responses. According to estimates requested of the responding producers in Russia, the production of ESBR reported in their combined questionnaire responses accounts for *** production of ESBR in Russia. Table VII-8 presents information on the ESBR operations of the responding producers and exporters in Russia.

Table VII-8
ESBR: Summary data for producers in Russia, 2020

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)
Omsky Kauchuk	***	***	***	***	***	***
Sibur	***	***	***	***	***	***
Sterlitamak	***	***	***	***	***	***
Tatneft	***	***	***	***	***	***
All firms	***	100.0	***	100.0	***	***

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

[11] These firms were identified through a review of information submitted in the petition and presented in third-party sources.

Changes in operations

As presented in table VII-9 producers in Russia reported operational and organizational changes since January 1, 2018.

Table VII-9
ESBR: Reported changes in operations by producers in Russia, since January 1, 2018

Item	Firm name and accompanying narrative response
Acquisitions	***

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

Operations on ESBR

Table VII-10 presents information on the ESBR operations of the responding producers and exporters in Russia. Russian producers' capacity increased by *** percent during 2018-19 and by *** during 2019-20, increasing overall by *** percent from 2018 to 2020. Russian producers' production of ESBR decreased by *** percent from 2018 to 2019 but then increased by *** percent from 2019 to 2020, increasing overall by *** percent during 2018-20. Russian producers' capacity was virtually the same during January-September 2021 compared with January-September 2020, while production was *** percent higher. Capacity utilization fluctuated but increased by *** percentage points during 2018-20 and was *** percentage points higher during January-September 2021 than in January-September 2020.[12]

Exports to all other markets accounted for the majority (*** percent) of Russian producers' total shipments of ESBR, followed by home market shipments (*** percent) and exports to the United States (*** percent). Russian producers' exports to all other markets decreased by *** percent from 2018 to 2019 but then increased by *** percent from 2019 to 2020, increasing overall by *** percent during 2018-20. Other export

[12] Russian producers' capacity is projected to increase during 2020-22, while production and capacity utilization are projected to fluctuate but increase.

markets identified by Russian producers include: ***.[13] Russian producers' home market shipments of ESBR decreased by *** percent during 2018-19 but then increased by *** percent during 2019-20, ending *** percent lower in 2020 than in 2018. Exports to all other markets were *** percent lower during January-September 2021 than in January-September 2020, while home market shipments were *** percent higher. Russian producers' exports of ESBR to the United States increased from *** pounds in 2018 to *** pounds in 2019 (*** percent) and then increased to *** pounds in 2020 (*** percent). Exports to the United States were *** percent higher during January-September 2021 compared with January-September 2020.[14]

Table VII-10
ESBR: Data for producers in Russia, by period

Quantity in 1,000 pounds

Item	2018	2019	2020	Jan-Sep 2020	Jan-Sep 2021	Projection 2021	Projection 2022
Capacity	***	***	***	***	***	***	***
Production	***	***	***	***	***	***	***
End-of-period inventories	***	***	***	***	***	***	***
Internal consumption	***	***	***	***	***	***	***
Commercial home market shipments	***	***	***	***	***	***	***
Home market shipments	***	***	***	***	***	***	***
Exports to the United States	***	***	***	***	***	***	***
Exports to all other markets	***	***	***	***	***	***	***
Export shipments	***	***	***	***	***	***	***
Total shipments	***	***	***	***	***	***	***

Table continued.

[13] ***'s foreign producer questionnaire response, II-8.

[14] Russian producers' home market shipments and exports to the United States are projected to increase during 2020-22, while exports to all other markets are projected to fluctuate but increase during the same period.

Table VII-10 Continued
ESBR: Data for producers in Russia, by period

Shares and ratios in percent

Item	2018	2019	2020	Jan-Sep 2020	Jan-Sep 2021	Projection 2021	Projection 2022
Capacity utilization ratio	***	***	***	***	***	***	***
Inventory ratio to production	***	***	***	***	***	***	***
Inventory ratio to total shipments	***	***	***	***	***	***	***
Internal consumption share	***	***	***	***	***	***	***
Commercial home market shipments share	***	***	***	***	***	***	***
Home market shipments share	***	***	***	***	***	***	***
Exports to the United States share	***	***	***	***	***	***	***
Exports to all other markets share	***	***	***	***	***	***	***
Export shipments share	***	***	***	***	***	***	***
Total shipments share	100.0	100.0	100.0	100.0	100.0	100.0	100.0

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.

Alternative products

As shown in table VII-11, *** of four responding Russian producers produced other products on the same equipment and machinery used to produce ESBR. *** reported modest production of *** on the same equipment and machinery used to produce ESBR, accounting for less than *** percent of Russian producers' overall production during January 2018 through September 2021.

Table VII-11
ESBR: Russian producers' overall capacity and production on the same equipment as subject production, by period

Quantity in 1,000 pounds; Shares and ratios in percent

Item	Measure	2018	2019	2020	Jan-Sep 2020	Jan-Sep 2021
Overall capacity	Quantity	***	***	***	***	***
ESBR production	Quantity	***	***	***	***	***
CBMB production	Quantity	***	***	***	***	***
HSRMB production	Quantity	***	***	***	***	***
Hot ESBR production	Quantity	***	***	***	***	***
Latex production	Quantity	***	***	***	***	***
SSBR production	Quantity	***	***	***	***	***
Other production	Quantity	***	***	***	***	***
All out of scope production	Quantity	***	***	***	***	***
Total production	Quantity	***	***	***	***	***
Overall capacity utilization	Ratio	***	***	***	***	***
ESBR production	Share	***	***	***	***	***
CBMB production	Share	***	***	***	***	***
HSRMB production	Share	***	***	***	***	***
Hot ESBR production	Share	***	***	***	***	***
Latex production	Share	***	***	***	***	***
SSBR production	Share	***	***	***	***	***
Other production	Share	***	***	***	***	***
All out of scope production	Share	***	***	***	***	***
Total production	Share	100.0	100.0	100.0	100.0	100.0

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

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

Exports

According to GTA, the leading export markets for styrene-butadiene rubber (in primary forms or in plates, sheets, or strip, excluding latex) from Russia are China, Poland, and Turkey (table VII-12). During 2020, the United States was not among the top export markets for styrene-butadiene rubber from Russia, accounting for 1.4 percent of Russian exports by quantity. During the same period, China and Poland accounted for 27.3 percent and 13.1 percent, respectively, of Russian exports by quantity.

Table VII-12
Styrene-butadiene rubber: Exports from Russia, by period

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

Destination market	Measure	2018	2019	2020
United States	Quantity	6,225	5,133	7,098
China	Quantity	90,516	82,202	141,891
Poland	Quantity	58,081	67,623	68,166
Turkey	Quantity	22,726	21,099	31,691
Belarus	Quantity	18,557	15,613	26,307
Vietnam	Quantity	4,942	24,278	23,265
Germany	Quantity	14,712	16,300	21,910
Ukraine	Quantity	14,047	12,589	16,823
Thailand	Quantity	24,798	25,919	16,743
Other destination	Quantity	119,094	111,736	166,041
All destination markets	Quantity	373,698	382,492	519,935
United States	Value	3,783	2,733	3,265
China	Value	52,094	44,140	57,317
Poland	Value	53,374	52,265	41,147
Turkey	Value	15,401	10,975	13,117
Belarus	Value	16,320	11,883	13,184
Vietnam	Value	3,022	13,104	10,305
Germany	Value	12,911	11,717	11,855
Ukraine	Value	10,562	8,190	7,888
Thailand	Value	15,315	14,273	7,924
Other destination	Value	86,645	70,252	80,579
All destination markets	Value	269,427	239,533	246,581

Table continued.

Table VII-12 Continued
Styrene-butadiene rubber: Exports from Russia, by period

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

Destination market	Measure	2018	2019	2020
United States	Unit value	0.61	0.53	0.46
China	Unit value	0.58	0.54	0.40
Poland	Unit value	0.92	0.77	0.60
Turkey	Unit value	0.68	0.52	0.41
Belarus	Unit value	0.88	0.76	0.50
Vietnam	Unit value	0.61	0.54	0.44
Germany	Unit value	0.88	0.72	0.54
Ukraine	Unit value	0.75	0.65	0.47
Thailand	Unit value	0.62	0.55	0.47
Other destination	Unit value	0.73	0.63	0.49
All destination markets	Unit value	0.72	0.63	0.47
United States	Share of quantity	1.7	1.3	1.4
China	Share of quantity	24.2	21.5	27.3
Poland	Share of quantity	15.5	17.7	13.1
Turkey	Share of quantity	6.1	5.5	6.1
Belarus	Share of quantity	5.0	4.1	5.1
Vietnam	Share of quantity	1.3	6.3	4.5
Germany	Share of quantity	3.9	4.3	4.2
Ukraine	Share of quantity	3.8	3.3	3.2
Thailand	Share of quantity	6.6	6.8	3.2
Other destination	Share of quantity	31.9	29.2	31.9
All destination markets	Share of quantity	100.0	100.0	100.0
United States	Share of value	1.4	1.1	1.3
China	Share of value	19.3	18.4	23.2
Poland	Share of value	19.8	21.8	16.7
Turkey	Share of value	5.7	4.6	5.3
Belarus	Share of value	6.1	5.0	5.3
Vietnam	Share of value	1.1	5.5	4.2
Germany	Share of value	4.8	4.9	4.8
Ukraine	Share of value	3.9	3.4	3.2
Thailand	Share of value	5.7	6.0	3.2
Other destination	Share of value	32.2	29.3	32.7
All destination markets	Share of value	100.0	100.0	100.0

Source: Official exports statistics under HS subheading 4002.19 as reported by Customs Committee of Russia in the Global Trade Atlas database, accessed December 4, 2021.

Note: HS subheading 4002.19 contains products outside the scope of these investigations.

Note: United States is shown at the top. All remaining top export destinations are shown in descending order of 2020 data.

Subject countries combined

Table VII-13 presents summary data on ESBR operations of the reporting subject producers in the subject countries.

Table VII-13
ESBR: Data on the industries in subject countries, by period

Quantity in 1,000 pounds

Item	2018	2019	2020	Jan-Sep 2020	Jan-Sep 2021	Projection 2021	Projection 2022
Capacity	***	***	***	***	***	***	***
Production	***	***	***	***	***	***	***
End-of-period inventories	***	***	***	***	***	***	***
Internal consumption	***	***	***	***	***	***	***
Commercial home market shipments	***	***	***	***	***	***	***
Home market shipments	***	***	***	***	***	***	***
Exports to the United States	***	***	***	***	***	***	***
Exports to all other markets	***	***	***	***	***	***	***
Export shipments	***	***	***	***	***	***	***
Total shipments	***	***	***	***	***	***	***

Table continued.

Table VII-13 Continued
ESBR: Data on the industry in subject countries, by period

Shares and ratios in percent

Item	2018	2019	2020	Jan-Sep 2020	Jan-Sep 2021	Projection 2021	Projection 2022
Capacity utilization ratio	***	***	***	***	***	***	***
Inventory ratio to production	***	***	***	***	***	***	***
Inventory ratio to total shipments	***	***	***	***	***	***	***
Internal consumption share	***	***	***	***	***	***	***
Commercial home market shipments share	***	***	***	***	***	***	***
Home market shipments share	***	***	***	***	***	***	***
Exports to the United States share	***	***	***	***	***	***	***
Exports to all other markets share	***	***	***	***	***	***	***
Export shipments share	***	***	***	***	***	***	***
Total shipments share	100.0	100.0	100.0	100.0	100.0	100.0	100.0

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. inventories of imported merchandise

Table VII-14 presents data on U.S. importers' reported end-of-period inventories of ESBR. U.S. importers' end-of-period inventories from Czechia and Russia fluctuated but increased by *** percent and *** percent, respectively, during 2018-20, while their end-of-period inventories from Italy steadily increased by *** percent over the same period. Conversely, U.S. importers' end-of-period inventories from nonsubject sources decreased by *** percent during 2018-20. End-of-period inventories of imports from Czechia and Russia were higher during January-September 2021 compared with January-September 2020, while end-of-period inventories of imports from Italy and nonsubject sources were lower. U.S. importers' ratios of end-of-period inventories of imports from Czechia, Italy, and Russia to U.S. shipments of imports were lowest in 2019 during 2018-20.

Table VII-14
ESBR: U.S. importers' end-of-period inventories, by source and period

Quantity in 1,000 pounds; Ratio is inventories to U.S. imports, U.S. shipments, or total shipments

Measure	Source	2018	2019	2020	Jan-Sep 2020	Jan-Sep 2021
Inventories quantity	Czechia	***	***	***	***	***
Ratio to imports	Czechia	***	***	***	***	***
Ratio to U.S. shipments of imports	Czechia	***	***	***	***	***
Ratio to total shipments of imports	Czechia	***	***	***	***	***
Inventories quantity	Italy	***	***	***	***	***
Ratio to imports	Italy	***	***	***	***	***
Ratio to U.S. shipments of imports	Italy	***	***	***	***	***
Ratio to total shipments of imports	Italy	***	***	***	***	***
Inventories quantity	Russia	***	***	***	***	***
Ratio to imports	Russia	***	***	***	***	***
Ratio to U.S. shipments of imports	Russia	***	***	***	***	***
Ratio to total shipments of imports	Russia	***	***	***	***	***
Inventories quantity	Subject	***	***	***	***	***
Ratio to imports	Subject	***	***	***	***	***
Ratio to U.S. shipments of imports	Subject	***	***	***	***	***
Ratio to total shipments of imports	Subject	***	***	***	***	***
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	***	***	***	***	***

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

U.S. importers' outstanding orders

The Commission requested importers to indicate whether they imported or arranged for the importation of ESBR from Czechia, Italy, Russia, and all other sources after September 30, 2021. These data are presented in table VII-15. Twelve U.S. importers reported arranged imports from subject sources. Arranged imports from subject sources account for *** percent of total arranged imports during October 2021 through September 2022.

Table VII-15
ESBR: Quantity of U.S. importers' arranged imports, by source and period

Quantity in 1,000 pounds

Source	Oct-Dec 2021	Jan-Mar 2021	Apr-Jun 2021	Jul-Sept 2021	Total
Czechia	***	***	***	***	***
Italy	***	***	***	***	***
Russia	***	***	***	***	***
Subject sources	***	***	***	***	***
Nonsubect sources	***	***	***	***	***
All import sources	***	***	***	***	***

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

Third-country trade actions

India is the only third-country market entity known to have an active trade action on ESBR. The Indian trade authority made an affirmative determination on dumping of ESBR from the EU, South Korea, and Thailand on July 12, 2017. This Indian antidumping duty order on 1500 and 1700 grades of ESBR remains in force.[15] [16]

The Brazilian trade authority imposed dumping orders on ESBR from the EU in November 2015, suspended in October 2017. The Chinese trade authority extended dumping orders on ESBR from Japan, Russia, and South Korea in September 2009, terminated in September 2014.[17] China has also imposed dumping orders on styrene from several countries.[18]

[15] India Ministry of Commerce, July 12, 2017, https://www.dgtr.gov.in/sites/default/files/SBR%20NCV%20English%20-%20Copy.pdf, retrieved December 10, 2021.

[16] Petitioner's postconference brief, pp. 15-16 and exhibit 7. Respondents' Synthos and Tatneft postconference brief, exhibit 1, p. 7, December 9, 2021.

[17] Petitioner's postconference brief, pp. 15-16, and exhibits 5-6, December 9, 2021.

[18] China in 2018 imposed dumping actions on styrene from ***. The action reportedly caused trade patterns to swing the affected countries' trade *** to China. ***, October 2021

Information on nonsubject countries

Total global ESBR annual capacity comparisons relative to principal synthetic rubber types and global totals are detailed in Table VII-16. In 2020, ESBR and butadiene rubber (BR) capacity dominated all other synthetic rubbers, ESBR with a capacity of *** million metric tons or *** percent of the global total of *** million metric tons, together with butadiene rubber (BR), *** percent of the global total. Altogether, six of nine synthetic rubber types accounted for about *** percent of total global capacity in 2020.[19] Polyisoprene rubber (IR), nitrile rubber (NBR), and chloroprene (CR) rubbers account for the remainder. ESBR, SSBR, and BR are the largest volume rubbers produced for tires. ESBR capacity *** roughly *** percent during the 2018-20 period as large volume Asian producers, ***, adjusted capacity to more closely align with demand.

Projected global ESBR annual capacity growth during the 2021-23 period amounts to *** percent, indicative of *** at the global level. SSBR capacity during the 2018-20 period, however, *** roughly *** percent likely because of growing demand for use in high performance tire applications. Projections for all synthetic rubber elastomers in aggregate indicate growth of about *** percent during the 2020-23 period. The thermoelastic SBC block copolymer rubbers have shown the *** during the 2018-20 period, especially in ***, and are projected to *** patterns during the forecast period. SBC thermoelastic rubbers demonstrate many of the properties of conventional vulcanized rubbers, are more easily processed, and may be recycled comparable to thermoplastic polymers. SBCs are used in a large variety of consumer goods outside of tire applications.

[19] ESBR and Solution SBR (SSBR), butadiene rubber (BR), styrene butadiene block copolymers (SBC), ethylene propylene diene (EPDM), and isobutene-isoprene (IIR) butyl rubbers.

Table VII-16
ESBR: Global synthetic rubber capacities, by product type and period

Quantity in 1,000 metric tons

Item	2018	2019	2020	Projection 2021	Projection 2022	Projection 2023
ESBR	***	***	***	***	***	***
SSBR	***	***	***	***	***	***
BR	***	***	***	***	***	***
SBC	***	***	***	***	***	***
EPDM	***	***	***	***	***	***
IIR	***	***	***	***	***	***
IR	***	***	***	***	***	***
NBR	***	***	***	***	***	***
CR	***	***	***	***	***	***
All global capacity	***	***	***	***	***	***

Source: Worldwide Rubber Statistics 2020, IISRP.

IISRP points to some notable global capacity trends in the synthetic rubber industry. First, *** has been more normalized and helped to temper the *** in global markets. China is the *** of ESBR with an annual capacity of *** million metric tons, or about *** percent of global ESBR rubber capacity.[20]

[20] Worldwide Rubber Statistics 2020, pp. 24-26.

Annual capacities of ESBR and SSBR by country in 2020 are presented in table VII-17.

Table VII-17
ESBR: Global synthetic rubber capacities, by country and product type, 2020

Quantity in 1,000 metric tons

Producer	ESBR	SSBR	All other types	All types
Armenia	***	***	***	***
Belgium	***	***	***	***
Czechia	***	***	***	***
France	***	***	***	***
Germany	***	***	***	***
Hungary	***	***	***	***
Italy	***	***	***	***
Netherlands	***	***	***	***
Poland	***	***	***	***
Serbia	***	***	***	***
Spain	***	***	***	***
United Kingdom	***	***	***	***
Subtotal, Europe	***	***	***	***
Iran	***	***	***	***
Saudi Arabia	***	***	***	***
South Africa	***	***	***	***
Subtotal, Middle East and Africa	***	***	***	***
Russia	***	***	***	***
Canada	***	***	***	***
United States	***	***	***	***
Subtotal, North America	***	***	***	***
Argentina	***	***	***	***
Brazil	***	***	***	***
Mexico	***	***	***	***
Subtotal, Latin America	***	***	***	***
India	***	***	***	***
Indonesia	***	***	***	***
Japan	***	***	***	***
South Korea	***	***	***	***
Malaysia	***	***	***	***
Singapore	***	***	***	***
Taiwan	***	***	***	***
Thailand	***	***	***	***
Subtotal, Asia minus China	***	***	***	***
China	***	***	***	***
All global capacity	***	***	***	***

Source: Worldwide Rubber Statistics 2020, International Institute of Synthetic Rubber Producers (IISRP).

Global ESBR capacity is dominated by Asian countries and China, which in aggregate commanded about *** million metric tons or some *** percent of total capacity, while all other global countries accounted for *** percent of the total. South Korea is the dominant producer in Asia, excluding China, which together with Japan and India, account for *** million tons, or *** percent of global capacity. Europe is the next leading region with about *** million tons of ESBR capacity, or some *** percent of global capacity. Poland, Germany, and Italy are the dominant producers. Latin American countries also account for about *** million tons of capacity, or another *** percent of global capacity. The principal country is Brazil, followed by Mexico. The U.S. follows with about *** million tons, or some *** percent of global ESBR capacity. Russia has about *** million tons of capacity, or *** percent of the global total. The Mideast and Africa together account for the remainder of global ESBR capacity, roughly *** percent.

Countries currently subject to domestic ESBR orders, Brazil, Mexico, Poland, and South Korea, have an aggregate ESBR capacity of about *** million tons, *** percent of global capacity, and those currently under investigation, Czechia, Italy, and Russia, *** million tons, *** percent, representing an aggregate *** percent of global ESBR capacity. The remaining countries potentially available to supply ESBR tonnage are centered in the large Asian capacity countries of China, Japan, India and Taiwan in order of capacity importance, together with Germany in Europe. Altogether, the cited Asian countries account for about *** million tons or some *** percent of global capacity, and Germany, *** percent of the global ESBR capacity.[21] SSBR rubber accounts for about *** percent of ESBR and SSBR global aggregate capacity, led by the United States, South Korea, China, Singapore, Japan, Germany and France, in rank.

Global styrene-butadiene synthetic rubber export volume in all forms, subject and nonsubject, as reported at the 6-digit HTS 4002.19 level, was relatively constant during the period investigated, amounting to about 6.3 billion pounds in 2020 compared to 6.4-6.5 billion pounds reported during 2018-19 (table VII-18). Export volume from the countries subject to this investigation, however, increased some 19.8 percent, from 721 million pounds in 2018 to 864 million pounds in 2020, while unit values fell sequentially during the period, from 80 cents per pound in 2018, to 68 cents in 2019 (a 15.0 percent decline), and further to 52 cents (a 23.5 percent decline) during the 2019-20 period. Export unit value prices from nonsubject countries followed similar patterns, falling from 98 cents per pound in 2018, to 89 cents in 2019 (a 9.2 percent decline), and further to 75 cents in 2020, a 15.7 percent decline relative to 2019. South

[21] Worldwide Rubber Statistics 2020, IISRP.

Korea was the largest global export volume source during the period (roughly 19.8 percent of total volume), accounting for 1.3 billion pounds in 2018-19, and 1.2 billion pounds in 2020. South Korean exports also experienced a similar sequential downward unit value pricing trend during the 2018-20 period. Poland and Taiwan were the only nonsubject countries experiencing any noticeable upward volume trends during the period of investigation. All global reporting exporting countries together reported sequential declines in unit value pricing, from 95 cents per pound in 2018 to 84 cents per pound in 2019 (a 11.6 percent decline), to 69 cents per pound in 2020 relative to 2019 (a 17.9 percent decline).

Table VII-18
Styrene-butadiene rubber: Global exports, by exporter and period

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

Exporting country	Measure	2018	2019	2020
United States	Quantity	316,976	315,392	266,392
Czechia	Quantity	175,161	186,999	175,922
Italy	Quantity	171,833	173,287	167,943
Russia	Quantity	373,698	382,492	519,935
All subject sources	Quantity	720,692	742,778	863,801
South Korea	Quantity	1,272,044	1,271,357	1,191,813
Poland	Quantity	454,721	520,338	558,194
Taiwan	Quantity	499,377	520,098	545,473
Germany	Quantity	607,632	570,442	518,183
France	Quantity	447,703	414,264	384,259
Japan	Quantity	443,827	445,413	368,513
Singapore	Quantity	272,368	265,061	276,960
Spain	Quantity	208,829	217,253	213,503
All other exporters	Quantity	1,179,473	1,234,815	1,154,984
All reporting exporters	Quantity	6,423,642	6,517,210	6,342,075
United States	Value	372,963	335,164	250,921
Czechia	Value	137,539	121,727	91,306
Italy	Value	168,108	145,428	111,413
Russia	Value	269,427	239,533	246,581
All subject sources	Value	575,074	506,689	449,300
South Korea	Value	1,073,219	921,781	701,418
Poland	Value	357,354	340,433	293,081
Taiwan	Value	491,214	469,633	378,408
Germany	Value	611,452	511,355	375,221
France	Value	454,211	371,696	332,144
Japan	Value	483,444	428,336	311,219
Singapore	Value	306,904	273,477	241,045
Spain	Value	253,116	220,825	175,127
All other exporters	Value	1,152,232	1,097,569	863,637
All reporting exporters	Value	6,131,183	5,476,957	4,371,521

Table continued.

Table VII-18 Continued
Styrene-butadiene rubber: Global exports, by exporter and period

Unit values in dollars per pound; Shares in percent

Exporting country	Measure	2018	2019	2020
United States	Unit value	1.18	1.06	0.94
Czechia	Unit value	0.79	0.65	0.52
Italy	Unit value	0.98	0.84	0.66
Russia	Unit value	0.72	0.63	0.47
All subject sources	Unit value	0.80	0.68	0.52
South Korea	Unit value	0.84	0.73	0.59
Poland	Unit value	0.79	0.65	0.53
Taiwan	Unit value	0.98	0.90	0.69
Germany	Unit value	1.01	0.90	0.72
France	Unit value	1.01	0.90	0.86
Japan	Unit value	1.09	0.96	0.84
Singapore	Unit value	1.13	1.03	0.87
Spain	Unit value	1.21	1.02	0.82
All other exporters	Unit value	0.98	0.89	0.75
All reporting exporters	Unit value	0.95	0.84	0.69
United States	Share of quantity	4.9	4.8	4.2
Czechia	Share of quantity	2.7	2.9	2.8
Italy	Share of quantity	2.7	2.7	2.6
Russia	Share of quantity	5.8	5.9	8.2
All subject sources	Share of quantity	11.2	11.4	13.6
South Korea	Share of quantity	19.8	19.5	18.8
Poland	Share of quantity	7.1	8.0	8.8
Taiwan	Share of quantity	7.8	8.0	8.6
Germany	Share of quantity	9.5	8.8	8.2
France	Share of quantity	7.0	6.4	6.1
Japan	Share of quantity	6.9	6.8	5.8
Singapore	Share of quantity	4.2	4.1	4.4
Spain	Share of quantity	3.3	3.3	3.4
All other exporters	Share of quantity	18.4	18.9	18.2
All reporting exporters	Share of quantity	100.0	100.0	100.0

Table continued.

Table VII-18 Continued
Styrene-butadiene rubber: Global exports, by exporter and period

Shares in percent

Exporting country	Measure	2018	2019	2020
United States	Share of value	6.1	6.1	5.7
Czechia	Share of value	2.2	2.2	2.1
Italy	Share of value	2.7	2.7	2.5
Russia	Share of value	4.4	4.4	5.6
All subject sources	Share of value	9.4	9.3	10.3
South Korea	Share of value	17.5	16.8	16.0
Poland	Share of value	5.8	6.2	6.7
Taiwan	Share of value	8.0	8.6	8.7
Germany	Share of value	10.0	9.3	8.6
France	Share of value	7.4	6.8	7.6
Japan	Share of value	7.9	7.8	7.1
Singapore	Share of value	5.0	5.0	5.5
Spain	Share of value	4.1	4.0	4.0
All other exporters	Share of value	18.8	20.0	19.8
All reporting exporters	Share of value	100.0	100.0	100.0

Source: Official exports statistics under HS subheading 4002.19 as reported by various national statistical authorities in the Global Trade Atlas database, accessed December 4, 2021.

Note: HS subheading 4002.19 contains products outside the scope of these investigations.

Table VII-19 presents the global ESBR supply and demand fundamentals and capacity utilization rates over time, together with near-term projections. As indicated by the data reported, ESBR capacity has shown a modest *** percent decline during the 2018-20 period and is expected to remain relatively level during the forward years 2021-2023. ESBR production, however, has shown a modest *** percent increase over time. Thus, while global ESBR consumption has modestly outpaced capacity over time, capacity utilization rates have sequentially increased from *** percent in 2018 to *** percent in 2020. This trend is projected to result in a further increase of capacity utilization to *** percent by 2023. These trends, while relative, are indicative of gradual *** global supply-demand fundaments, into the reasonably foreseeable future.

Table VII-19
ESBR: World supply and demand for emulsion SBR

Quantity in 1,000 metric tons; Ratio in percent

Producer	Measure	2018	2019	2020	Projection 2021	Projection 2022	Projection 2023
Annual Capacity	Quantity	***	***	***	***	***	***
Production	Quantity	***	***	***	***	***	***
Imports	Quantity	***	***	***	***	***	***
Exports	Quantity	***	***	***	***	***	***
Actual consumption	Quantity	***	***	***	***	***	***
Operating rate	Ratio	***	***	***	***	***	***

Source: IHS Markit Styrene-Butadiene Elastomers (SBR) Report, p. 27.

APPENDIX A

FEDERAL REGISTER NOTICES

The Commission makes available notices relevant to its investigations and reviews on its website, www.usitc.gov. In addition, the following tabulation presents, in chronological order, Federal Register notices issued by the Commission and Commerce during the current proceeding.

Citation	Title	Link
86 FR 66335, November 22, 2021	*Emulsion Styrene-Butadiene Rubber From Czechia, Italy, and Russia; Institution of Anti-Dumping Duty Investigations and Scheduling of Preliminary Phase Investigations*	https://www.govinfo.gov/content/pkg/FR-2021-11-22/pdf/2021-25322.pdf
86 FR 70447, December 10, 2021	*Emulsion Styrene-Butadiene Rubber From the Czech Republic, Italy, and the Russian Federation: Initiation of Less-Than-Fair-Value Investigations*	https://www.govinfo.gov/content/pkg/FR-2021-12-10/pdf/2021-26832.pdf

APPENDIX B

LIST OF STAFF CONFERENCE WITNESSES

In Opposition to the Imposition of
Antidumping Duty Orders:

White & Case LLP
Washington, DC
on behalf of

Synthos Kralupy a.s.
PJSC Tatneft

Jon Nienaber, Synthetic Rubber Sales Manager-NAFTA, Synthos North America

Matteo Marchisio, Business Unit Director Rubbers & Tyre Material, Synthos S.A.

Jan Kurilla, Sales Director Synthetic Rubber, Synthos S.A.

Stan Rybalov, President, Intertex World Resources Inc.

Kirk Dortch, Vice President, Intertex World Resources Inc.

Ron Kendler)
) – OF COUNSEL
Richard G. King)

REBUTTAL/CLOSING REMARKS:

In Support of Imposition (**Matthew T. McGrath** and **Mert E. Arkan**, Barnes, Richardson & Colburn, LLP)
In Opposition to Imposition (**Ron Kendler**, White & Case LLP)

-END-

CALENDAR OF PUBLIC PRELIMINARY CONFERENCE

Those listed below appeared in the United States International Trade Commission's preliminary conference via videoconference:

Subject: Emulsion Styrene-Butadiene Rubber from Czechia, Italy, and Russia

Inv. Nos.: 731-TA-1575-1577 (Preliminary)

Date and Time: December 6, 2021 - 9:30 a.m.

OPENING REMARKS:

In Support of Imposition (**Matthew T. McGrath**, Barnes, Richardson & Colburn LLP)

In Opposition to Imposition (**Ron Kendler**, White & Case LLP)

In Support of the Imposition of Antidumping Duty Orders:

Barnes, Richardson & Colburn, LLP
Washington, DC
on behalf of

Lion Elastomers LLC

Robert Rikhoff, Vice President of Operations, Lion Copolymer Elastomers LLC

Sherry Ballard, Accounting Manager, Lion Copolymer Elastomers LLC

Mert E. Arkan)
) – OF COUNSEL
Matthew T. McGrath)

APPENDIX C

SUMMARY DATA

CONTENTS

Total market

Table C-1
ESBR: Summary data concerning the U.S. total market, 2018-20, January to September 2020, and January to September 2021
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 data					Period changes			
	Calendar year			Jan-Sep		Comparison years			Jan-Sep
	2018	2019	2020	2020	2021	2018-20	2018-19	2019-20	2020-21
U.S. total market consumption quantity:									
Amount	***	***	***	***	***	▼***	▼***	▼***	▲***
Producers' share (fn1)	***	***	***	***	***	▼***	▼***	▼***	▼***
Importers' share (fn1):									
Czechia	***	***	***	***	***	▲***	▲***	▼***	▼***
Italy	***	***	***	***	***	▲***	▲***	▲***	▼***
Russia	***	***	***	***	***	▲***	▲***	▲***	▲***
Subject sources	***	***	***	***	***	▲***	▲***	▲***	▲***
Nonsubject sources	***	***	***	***	***	▲***	▲***	▼***	▲***
All import sources	***	***	***	***	***	▲***	▲***	▲***	▲***
U.S. total market consumption value:									
Amount	***	***	***	***	***	▼***	▼***	▼***	▲***
Producers' share (fn1)	***	***	***	***	***	▼***	▼***	▼***	▼***
Importers' share (fn1):									
Czechia	***	***	***	***	***	▲***	▲***	▲***	▼***
Italy	***	***	***	***	***	▲***	▲***	▲***	▼***
Russia	***	***	***	***	***	▲***	▲***	▲***	▲***
Subject sources	***	***	***	***	***	▲***	▲***	▲***	▲***
Nonsubject sources	***	***	***	***	***	▲***	▲***	▲***	▲***
All import sources	***	***	***	***	***	▲***	▲***	▲***	▲***
U.S. importers' U.S. shipments of imports from (fn2):									
Czechia:									
Quantity	***	***	***	***	***	▲***	▲***	▼***	▲***
Value	***	***	***	***	***	▼***	▲***	▼***	▲***
Unit value	***	***	***	***	***	▼***	▼***	▼***	▲***
Ending inventory quantity	***	***	***	***	***	▲***	▼***	▲***	▲***
Italy:									
Quantity	***	***	***	***	***	▲***	▲***	▼***	▼***
Value	***	***	***	***	***	▲***	▲***	▼***	▼***
Unit value	***	***	***	***	***	▼***	▼***	▼***	▲***
Ending inventory quantity	***	***	***	***	***	▲***	▲***	▲***	▼***
Russia:									
Quantity	***	***	***	***	***	▲***	▲***	▲***	▲***
Value	***	***	***	***	***	▼***	▲***	▼***	▲***
Unit value	***	***	***	***	***	▼***	▼***	▼***	▲***
Ending inventory quantity	***	***	***	***	***	▲***	▼***	▲***	▲***
Subject sources:									
Quantity	***	***	***	***	***	▲***	▲***	▼***	▲***
Value	***	***	***	***	***	▲***	▲***	▼***	▲***
Unit value	***	***	***	***	***	▼***	▼***	▼***	▲***
Ending inventory quantity	***	***	***	***	***	▲***	▼***	▲***	▲***
Nonsubject sources:									
Quantity	***	***	***	***	***	▼***	▼***	▼***	▲***
Value	***	***	***	***	***	▼***	▼***	▼***	▲***
Unit value	***	***	***	***	***	▼***	▼***	▼***	▲***
Ending inventory quantity	***	***	***	***	***	▼***	▼***	▼***	▼***
All import sources:									
Quantity	***	***	***	***	***	▼***	▲***	▼***	▲***
Value	***	***	***	***	***	▼***	▲***	▼***	▲***
Unit value	***	***	***	***	***	▼***	▼***	▼***	▲***
Ending inventory quantity	***	***	***	***	***	▼***	▼***	▲***	▲***

Table continued on next page.

Table C-1 continued
ESBR: Summary data concerning the U.S. total market, 2018-20, January to September 2020, and January to September 2021
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 data					Period changes			
	Calendar year			Jan-Sep		Comparison years			Jan-Sep
	2018	2019	2020	2020	2021	2018-20	2018-19	2019-20	2020-21
U.S. producers':									
Average 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	***	***	***	***	***	▲***	▲***	▲***	▼***
Net sales:									
Quantity	***	***	***	***	***	▼***	▼***	▼***	▲***
Value	***	***	***	***	***	▼***	▼***	▼***	▲***
Unit value	***	***	***	***	***	▼***	▼***	▼***	▲***
Cost of goods sold (COGS)	***	***	***	***	***	▼***	▼***	▼***	▲***
Gross profit or (loss) (fn3)	***	***	***	***	***	▼***	▼***	▼***	▲***
SG&A expenses	***	***	***	***	***	▼***	▼***	▼***	▲***
Operating income or (loss) (fn3)	***	***	***	***	***	▼***	▼***	▼***	▲***
Net income or (loss) (fn3)	***	***	***	***	***	▼***	▼***	▼***	▲***
Unit COGS	***	***	***	***	***	▼***	▼***	▼***	▲***
Unit SG&A expenses	***	***	***	***	***	▲***	▲***	▲***	▼***
Unit operating income or (loss) (fn3)	***	***	***	***	***	▼***	▼***	▼***	▲***
Unit net income or (loss) (fn3)	***	***	***	***	***	▼***	▼***	▼***	▲***
COGS/sales (fn1)	***	***	***	***	***	▲***	▲***	▲***	▼***
Operating income or (loss)/sales (fn1)	***	***	***	***	***	▼***	▼***	▼***	▲***
Net income or (loss)/sales (fn1)	***	***	***	***	***	▼***	▼***	▼***	▲***
Capital expenditures	***	***	***	***	***	▼***	▼***	▼***	▲***
Research and development expenses	***	***	***	***	***	▲***	▲***	▼***	▲***
Net assets	***	***	***	***	***	▼***	▼***	▼***	***

Note.--Shares and ratios shown as "0.0" percent represent non-zero values less than "0.05" percent (if positive) and greater than "(0.05)" percent (if negative). Zeroes, null values, and undefined calculations are suppressed and shown as "---". Period changes preceded by a "▲" represent an increase, while period changes preceded by a "▼" represent a decrease.

fn1.--Reported data are in percent and period changes are in percentage points.
fn2.--Import source data are based on U.S. importers' U.S. shipment of imports except for Mexico data (embodied as part of "nonsubject sources") which is based on official U.S. import statistics.
fn3.--Percent changes only calculated when both comparison values represent profits, the directional change in profitability provided when one or both comparison values represent a loss.

Source: Compiled from data submitted in response to Commission questionnaires and from official U.S. import statistics of the U.S. Department of Commerce Census Bureau using statistical reporting number 4002.19.0015 accessed December 6, 2021 for Mexico nonsubject data.

Merchant market

Table C-2
ESBR: Summary data concerning the U.S. merchant market, 2018-20, January to September 2020, and January to September 2021
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 data					Period changes			
	Calendar year			Jan-Sep		Comparison years			Jan-Sep
	2018	2019	2020	2020	2021	2018-20	2018-19	2019-20	2020-21
U.S. merchant market consumption quantity:									
Amount	***	***	***	***	***	▼***	▼***	▼***	▲***
Producers' share (fn1)	***	***	***	***	***	▼***	▼***	▲***	▼***
Importers' share (fn1):									
Czechia	***	***	***	***	***	▲***	▲***	▼***	▼***
Italy	***	***	***	***	***	▲***	▲***	▲***	▼***
Russia	***	***	***	***	***	▲***	▲***	▲***	▲***
Subject sources	***	***	***	***	***	▲***	▲***	▲***	▲***
Nonsubject sources	***	***	***	***	***	▼***	▼***	▼***	▲***
All import sources	***	***	***	***	***	▲***	▲***	▼***	▲***
U.S. merchant market consumption value:									
Amount	***	***	***	***	***	▼***	▼***	▼***	▲***
Producers' share (fn1)	***	***	***	***	***	▼***	▼***	▼***	▼***
Importers' share (fn1):									
Czechia	***	***	***	***	***	▲***	▲***	▼***	▼***
Italy	***	***	***	***	***	▲***	▲***	▲***	▼***
Russia	***	***	***	***	***	▲***	▲***	▲***	▲***
Subject sources	***	***	***	***	***	▲***	▲***	▲***	▲***
Nonsubject sources	***	***	***	***	***	▼***	▲***	▼***	▲***
All import sources	***	***	***	***	***	▲***	▲***	▲***	▲***
U.S. importers' U.S. shipments of imports from (fn2):									
Czechia:									
Quantity	***	***	***	***	***	▲***	▲***	▼***	▲***
Value	***	***	***	***	***	▼***	▲***	▼***	▲***
Unit value	***	***	***	***	***	▼***	▼***	▼***	▲***
Ending inventory quantity	***	***	***	***	***	▲***	▼***	▲***	▲***
Italy:									
Quantity	***	***	***	***	***	▲***	▲***	▼***	▼***
Value	***	***	***	***	***	▲***	▲***	▼***	▼***
Unit value	***	***	***	***	***	▼***	▼***	▼***	▲***
Ending inventory quantity	***	***	***	***	***	▲***	▲***	▲***	▼***
Russia:									
Quantity	***	***	***	***	***	▲***	▲***	▲***	▲***
Value	***	***	***	***	***	▼***	▲***	▼***	▲***
Unit value	***	***	***	***	***	▼***	▼***	▼***	▲***
Ending inventory quantity	***	***	***	***	***	▲***	▼***	▲***	▲***
Subject sources:									
Quantity	***	***	***	***	***	▲***	▲***	▼***	▲***
Value	***	***	***	***	***	▲***	▲***	▼***	▲***
Unit value	***	***	***	***	***	▼***	▼***	▼***	▲***
Ending inventory quantity	***	***	***	***	***	▲***	▼***	▲***	▲***
Nonsubject sources:									
Quantity	***	***	***	***	***	▼***	▼***	▼***	▲***
Value	***	***	***	***	***	▼***	▼***	▼***	▲***
Unit value	***	***	***	***	***	▼***	▼***	▼***	▲***
Ending inventory quantity	***	***	***	***	***	▼***	▼***	▼***	▼***
All import sources:									
Quantity	***	***	***	***	***	▼***	▲***	▼***	▲***
Value	***	***	***	***	***	▼***	▲***	▼***	▲***
Unit value	***	***	***	***	***	▼***	▼***	▼***	▲***
Ending inventory quantity	***	***	***	***	***	▼***	▼***	▲***	▲***

Table continued on next page.

Table C-2 continued
ESBR: Summary data concerning the U.S. merchant market, 2018-20, January to September 2020, and January to September 2021
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 data					Period changes			
	Calendar year			Jan-Sep		Comparison years			Jan-Sep
	2018	2019	2020	2020	2021	2018-20	2018-19	2019-20	2020-21
U.S. producers':									
Commercial U.S. shipments:									
Quantity	***	***	***	***	***	▼***	▼***	▼***	▲***
Value	***	***	***	***	***	▼***	▼***	▼***	▲***
Unit value	***	***	***	***	***	▼***	▼***	▼***	▲***
Commercial sales:									
Quantity	***	***	***	***	***	▼***	▼***	▼***	▲***
Value	***	***	***	***	***	▼***	▼***	▼***	▲***
Unit value	***	***	***	***	***	▼***	▼***	▼***	▲***
Cost of goods sold (COGS)	***	***	***	***	***	▼***	▼***	▼***	▲***
Gross profit or (loss) (fn3)	***	***	***	***	***	▼***	▼***	▼***	▲***
SG&A expenses	***	***	***	***	***	▼***	▼***	▼***	▲***
Operating income or (loss) (fn3)	***	***	***	***	***	▼***	▼***	▼***	▲***
Net income or (loss) (fn3)	***	***	***	***	***	▼***	▼***	▼***	▲***
Unit COGS	***	***	***	***	***	▼***	▼***	▼***	▲***
Unit SG&A expenses	***	***	***	***	***	▲***	▼***	▲***	▼***
Unit operating income or (loss) (fn3)	***	***	***	***	***	▼***	▼***	▼***	▲***
Unit net income or (loss) (fn3)	***	***	***	***	***	▼***	▼***	▼***	▲***
COGS/sales (fn1)	***	***	***	***	***	▲***	▲***	▲***	▼***
Operating income or (loss)/sales (fn1)	***	***	***	***	***	▼***	▼***	▼***	▲***
Net income or (loss)/sales (fn1)	***	***	***	***	***	▼***	▼***	▼***	▲***

Note.--Shares and ratios shown as "0.0" percent represent non-zero values less than "0.05" percent (if positive) and greater than "(0.05)" percent (if negative). Zeroes, null values, and undefined calculations are suppressed and shown as "---". Period changes preceded by a "▲" represent an increase, while period changes preceded by a "▼" represent a decrease.

fn1.--Reported data are in percent and period changes are in percentage points.
fn2.--Import source data are based on U.S. importers' U.S. shipment of imports except for Mexico data (embodied as part of "nonsubject sources") which is based on official U.S. import statistics.
fn3.--Percent changes only calculated when both comparison values represent profits, the directional change in profitability provided when one or both comparison values represent a loss.

Source: Compiled from data submitted in response to Commission questionnaires and from official U.S. import statistics of the U.S. Department of Commerce Census Bureau using statistical reporting number 4002.19.0015 accessed December 6, 2021 for Mexico nonsubject data.

APPENDIX D

BUTADIENE FEEDSTOCK TECHNOLOGY AND ANALYSIS

Butadiene

Description and Uses

ESBR elastomeric polymer is made up predominately of butadiene, 75 percent, and to a lesser extent by styrene, 25 percent.[1] Butadiene is a highly reactive volatile organic chemical compound composed of four carbon (C) atoms, six hydrogen (H) atoms, and two reactive double bond (=) sites, as indicated by the chemical structure CH_2=CH–CH=CH_2. The on-purpose direct chemical synthesis of butadiene is minor compared to its major source as a byproduct of the petroleum and petrochemical industries, most particularly from naphtha, an oil refinery derivative, and ethane, a natural gas derivative. Butadiene is a flammable gas at ordinary temperatures and pressure, but is more commonly transported and used as a pressured liquid via barge, rail, truck, and pipeline, although refrigeration may be used for ocean vessel transport and larger-scale storage.[2] [3] It is used in the production of a large number of synthetic rubbers, including subject and nonsubject styrene-butadiene rubbers (SBR), polybutadiene (BR) rubber, styrene block copolymer rubbers (SBC), acrylonitrile-butadiene rubbers (nitrile rubbers), and polychlorprene (Neoprene) rubber. Butadiene is also used in the production of acrylonitrile butadiene styrene (ABS) plastics and nylon 66 polymer.[4] [5]

Butadiene is typically stored as a pressurized liquid in spheres at plants, and incremental shipments may be typically received to balance supply and demand, but liquified storage under pressure without refrigeration for more than two to three months maximum would appear to exceed limits.[6] It is not advisable to store butadiene for extended periods as there is a possibility of butadiene dimer formation during transportation and storage which produces carbon-8 (C_8) formation during transfer and storage, leading to off-specification material.[7] Although there is no known dimer inhibitor for this problem, refrigeration has been shown to be effective. Larger volume butadiene storage at terminals is typically refrigerated. When mixed with air (oxygen), flammable butadiene forms peroxides which pose explosion hazards and

---

[1] Styrene is a product of the petrochemical industry; it is produced principally from ethylene and benzene which when reacted results in ethyl benzene (C_6H_5-CH_2-CH_3), which in turn is dehydrogenated to produce reactive styrene (C_6H_5-CH=CH_2) and hydrogen (H_2).
[2] IHS Markit, "Butadiene," August 2021, Executive Summary; p. 15.
[3] Staff phone notes, Edgar L. Mohundro, PhD, Petrochemicals Engineering Consultant, December 2021.
[4] TPC website, https://www.tpcgrp.com/products/butadiene, retrieved December 12, 2021.
[5] IISRP, "Worldwide Rubber Statistics," Houston, TX.
[6] In November 2019 during normal operations, petitioner had 30 days of butadiene storage onsite, Conference transcript (Rikhoff), p. 34.
[7] Staff phone notes, Edgar L. Mohundro, PhD, Petrochemicals Engineering Consultant, December 2021.

promote polymerization of the monomer. For this reason, peroxide formation in butadiene must be inhibited during transportation and storage. Among some of the commonly known inhibitors are tertiarybutylcatechol (TBC), di-n-butylamine, phenyl-beta-naphthylamine, and phenyl-alpha-naphthylamine. Commercial butadiene is 99.5–99.9 percent pure and contains 0.010–0.015 percent tert-butylcatechol as a peroxide inhibitor, depending on the exposure of the product to oxygen during transportation and storage.[8]

Butadiene Production Process Technology and Market Fundamentals

Butadiene is typically produced as a byproduct of the steam cracking of naphtha derived from crude oil refining, and ethane, a gaseous chemical component extracted from natural gas liquids (NGLs) by cryogenic fractionation.[9] [10] Steam cracking processes are conducted at extremely high temperatures with short residence times wherein complex chemical reactions break down or "crack" the heavy and light fraction carbon bonds (C-C) to reactive unsaturated double bonds (C=C). The cracking process is designed principally to target production of the reactive compound ethylene, $H_2C=CH_2$ (C_2H_4), as the dominant end-use product[11] because of its large-scale use globally as the principal feedstock for polyethylene plastics, the largest volume thermoplastic plastic polymer resin demanded worldwide, together with a plethora of other downstream products, while butadiene is produced as a byproduct of ethylene production in relatively smaller amounts.[12] [13]

Butadiene yield from the light feed ethane cracking process in the United States amounts to some 2 to 3 percent of the ethylene output, but the desired ethylene output is significantly higher than naphtha cracked feedstock, while butadiene from naphtha amounts to a larger 13 to 15 percent relative to lower ethylene output. Naphtha feedstock cracking processes dominate in Asia and Europe, while ethane cracking has trended higher in the United States relative to naphtha cracking due to the large number of ethane cracker plants brought onstream during the past few years based on attractive prices for U.S. shale gas ethane

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[8] IHS Markit, ***, August 2021, p. 15.
[9] Naphtha is a "heavy" component of crude oil refining containing large numbers of organic carbon compounds having five or more carbon atoms (C_5 and up).
[10] Ethane is the largest non-methane NGL component of natural gas. It is a "light" fraction organic chemical, a saturated hydrocarbon compound absent of reactive double bonds which contains two carbon atoms and six hydrogen atoms, CH_3-CH_3 (C_2H_6).
[11] AFPM, "Ethylene, the World's Most Important Chemical," https://www.afpm.org/newsroom/blog/ethylene, retrieved December 19, 2021.
[12] IHS Markit, ***, August 2021, pp. 11-12.
[13] Conference transcript, (Rikhoff), p. 48.

feedstocks. Butadiene in the United States is recovered from C_4 streams (principally butenes, isobutene, and butadiene) by selective solvent fractionation, whereby a high boiling solvent is employed to selectively extract and recover butadiene.[14] *** are the major captive extraction producers in the United States,[15] while a substantial volume of C_4 streams exiting crackers in the United States is shipped to dedicated extractors such as Texas Petroleum, TPC,[16] for butadiene recovery.[17] TPC Group secures its crude C_4 feedstocks from ethylene crackers around the world. Prior to the Port Neches, Texas, outage, it operated two world-scale C_4 processing plants designed to extract and produce butadiene at Houston and Port Neches, Texas, where approximately 35 percent of the butadiene in North America was produced by extraction. Crude C_4 raw materials and products are delivered by pipeline, ship, rail tank car, and tank truck. TPC Group has storage facilities, more than 200 miles of pipeline, together with dock and rail facilities. Its supply chain infrastructure includes access to multiple ship docks that can accommodate both barges and ocean-going vessels.[18]

European supplies of butadiene are traditionally "long" and prices lower than in the United States and Asia,[19] because of a substantial surplus of butadiene from naphtha cracking; thus, Europe is a net exporter of the chemical, principally to ***. The United States and Asian prices generally trend directionally, but during the tight 2016-18 supply period, Asian ***. The U.S. to date has traditionally been a *** of butadiene.[20] The added butadiene output from new low-cost U.S. shale gas derivative ethylene plants is expected to conceptually balance supply and demand during 2022.[21]

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[14] C_4 streams recovered from ethylene crackers prior to extraction, typically contain up to 42 percent butadiene, Burdock Donald L, and William L. Leffler,"Petrochemicals in Nontechnical Language," PennWell, 1990, pp. 59; 76.
[15] IHS Markit, ***, August 2021, pp. 30;34.
[16] TPC website, https://www.tpcgrp.com/, retrieved December 1, 2021.
[17] The long-term multi-year outage at TPC's large dedicated extraction plant in Port Neches, TX, in November 2019, resulted from irreparable damage to one of the two plants there, and disrupted U.S. extraction capability. Chemical Safety Board, "Fires and Explosion at TPC Group Port Neches, Texas,"October 29, 2020, https://www.csb.gov/assets/1/17/tpc_factual_update_10-29-2020.pdf?16614, retrieved December 8, 2021.
[18] TPC website, https://www.tpcgrp.com/, retrieved December 1, 2021.
[19] Conference transcript, (Kurilla), p. 113.
[20] IHS Markit, ***, August 2021, pp. 28-29.
[21] Conference transcript, (Rikhoff), p. 36.

Global Butadiene Situation and Outlook[22]

In 2020, the annual global production of butadiene amounted to about *** million metric tons. Butadiene was sourced principally as a byproduct of ethylene production which accounted for some *** percent of the total, while on-purpose butadiene production accounted for about *** percent of the world total. Global production for butadiene was dominated by Northeast Asia, principally China, estimated at some ***, Western Europe ***, and North America ***. About *** percent of butadiene production was traded globally, with Western Europe being the *** and Northeast Asia the ***. The butadiene production landscape is dominated by large integrated oil and gas companies as well as chemical corporations. The 10 largest producers account for some *** percent of global capacity and include ***, international *** companies ***, and international *** companies ***.

Butadiene demand was dominated by the production of several synthetic commodity rubbers such as styrene-butadiene rubber (SBR), polybutadine rubber (BR), styrene block copolymer rubbers (SBC), and butyl rubber (IIR), which altogether accounted for about *** percent of the overall global market in 2020. There are many other nonrubber chemical applications for butadiene such as ***, the largest end use sector outside of rubber markets. Tire manufacturing is the *** consumer of butadiene and its demand is therefore *** influenced by mobility and the automotive industry. In 2020, Northeast Asia accounted for about *** percent of global butadiene demand with *** the largest market owing to its *** footprint. *** growth are fundamentally driving the consumption for *** in the region, with *** extraction capacity being ***.

In 2020, the COVID-19 pandemic had a significant effect on travel and transportation across the world because of stay-at-home orders, travel bans, and regional or countrywide lockdowns. Consequently, car use decreased in many regions, leading to lower tire replacement. Automotive manufacturing was also affected by temporary plant closures, leading to declines in new car production and OEM tire demand. Overall, world butadiene consumption was estimated to have *** percent between 2019 and 2020, with *** being the most affected derivatives. *** rubber latex disposable gloves for

[22] Descriptions, outlook and estimates, based on IHS Markit forecasts for the period encompassing 2020-25, including certain modifications to *** Executive Summary, August 2021, pp. 6-7.

healthcare and *** demand increased. Globally, most all regions experienced a decrease in butadiene demand in 2020.

Between 2015 and 2018, global butadiene markets *** owing to butadiene production capacity ***. A large portion of the *** ethylene capacity has been based on ***, most particularly based on *** shale gas feedstock in North America (U.S.), serving to *** global capacity utilization rates and create a somewhat *** market. During the forecast period (2020-25), however, *** as the COVID pandemic gradually comes under control and vaccine programs are further rolled out. Recovery funds and stimulus packages are forecast to support economic activity across major world economies, but second half 2021 into 2022 will nevertheless likely ***. A new round of *** during the forecast period leading up to 2025. Most *** butadiene capacity is projected to come from the ***, as key importing markets and regions are forecast to enhance their ***, as trade at the global level for butadiene is currently projected to *** during the period leading up to 2025. Northeast Asia is expected to ***, accounting for about *** percent of the total by 2025.

Mainland China Butadiene Supply and Demand[23]

Mainland China has been the *** butadiene-producing country *** since 2011. In 2020, mainland Chinese butadiene capacity was about *** metric tons, accounting for some *** percent of global capacity. Since the early 2000s, strong economic growth in mainland China has *** in *** steam cracking units. Butadiene extraction capacity has *** at an average rate of *** percent per year over the past 10 years, supported by the *** of several *** units as well as *** units.[24] In addition, several *** units have also been commissioned, accounting for about *** percent of the territory's overall butadiene capacity in 2020. Operations of *** are nevertheless more limited because of a *** position.

In 2020, mainland China's largest butadiene producers were *** and ***, which combined accounted for some *** percent of the territory's overall capacity. *** are also the world's *** butadiene producers and mainland China's leading petrochemical producers, including stakes in several companies.

During the forecast period, mainland China is expected to *** more than *** metric tons of *** ethylene capacity. A considerable portion of this *** capacity is expected to come from *** using conventional *** with a more limited influence of ***. Consequently, crude C_4 availability is expected to *** and *** butadiene extraction units will be ***. Overall, mainland China is projected to *** its butadiene capacity by nearly *** metric tons ***. This *** is expected to have a major effect on global butadiene ***, as mainland Chinese *** requirements gradually ***.

Mainland China is the *** of butadiene in the ***, with about *** percent of global production and more than *** production in 2020. Mainland China is also the *** of butadiene, accounting for *** percent of the world's total. Demand for ***, especially for mainland China's *** synthetic rubber industry, continues to drive *** for butadiene. In 2020, the COVID-19 pandemic had a relatively *** on mainland China's *** for

[23] IHS Markit, "Butadiene," August 2021, pp. 76-81.
[24] Wood MacKenzie, https://www.woodmac.com/news/editorial/how-are-olefins-made-from-cto-mto/, retrieved December 9, 2021.

butadiene, which posted a small year-on-year ***. An early and efficient control of the pandemic led to a *** of the mainland Chinese *** before mid-year. Overall, mainland China constituted the sole major economy that managed to *** during 2020.

With a fast-rising domestic ***, mainland China has remained a *** of butadiene. However, the region's reliance on *** will be reduced in *** as domestic production *** along with *** capacity. Consequently, the territory is forecast to turn to a *** of butadiene as early as in 2021.

In 2020, the total butadiene consumption was *** metric tons in mainland China. Mainland China produces all major butadiene *** except for *** rubber. Mainland China and its economic *** has constituted a *** for the global butadiene market during the past decade. Polybutadiene rubber (BR) production is the *** for butadiene in mainland China, accounting for about *** percent of butadiene *** in 2020. *** of butadiene for styrene-butadiene rubber (SBR) is the ***, accounting for nearly *** percent of the total. Demand for *** production have *** over the last five years, driven by an expanding *** market. Ultimately, the improvement in living standards, a rising average disposable income across mainland China, as well as the development of road infrastructure are *** for the local ***. Moreover, with its ***, mainland China has been in a position to *** to several markets in the world, further ***. Major *** producers include ***. During 2020-25, with the global economic *** anticipated and the further *** of the mainland Chinese *** market, production of *** are forecast to ***, leading to *** butadiene requirements.

In 2020, *** resins were the largest *** application for butadiene in mainland China, accounting for some *** percent of the total. The region is the largest *** globally and is presently the location of some of the ***, for example. The appliance market accounts for about *** in the region, followed by the *** market, which accounts for about *** percent. In 2015–20, butadiene demand for *** production *** at an average rate of *** percent per year owing to the further development of mainland China's *** capacity. During 2020–25, *** resin capacity is forecast to ***, which is expected to *** butadiene demand in mainland China.

In 2020, *** accounted for almost *** percent of the butadiene consumed in mainland China including *** resins. *** resins are a class of *** consumed in several different applications. In recent years, demand in *** modification received a boost following ***, resulting in increased infrastructure projects ***. Steady demand has also come from ***, which are the largest and most mature end-use applications. Overall, demand for this application will *** at approximately *** percent annually during the forecast period, and is expected to account for approximately *** metric tons of butadiene demand by 2025. Other major butadiene applications include *** and ***. Production of *** in mainland China commenced in 2020 with the commissioning of the *** domestic plant by the ***. As other plants will follow, butadiene demand for *** is forecast to *** through 2025.

In 2020-25, mainland Chinese demand for butadiene is *** at an average rate of *** percent per year, driven by ***. Mainland China is expected to remain the *** butadiene market over the near future.

Historically an *** of finished goods, mainland China has so far remained a *** of butadiene to meet ***. During 2020- 25, with the coming of *** capacity expected to be ***, mainland Chinese ***, leading to a greater level of ***. The territory is expected to become a *** as early as in 2021.

APPENDIX E

FIRM NARRATIVES ON IMPACTS OF COVID-19 PANDEMIC

Table E-1
ESBR: U.S. producers' narratives regarding impact of COVID-19

Firm	Narrative response
Goodyear	***
Lion	***

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

Table E-2
ESBR: U.S. importers' narratives regarding impact of COVID-19

Firm	Narrative response
***	***
***	***
***	***
***	***
***	***
***	***
***	***
***	***
***	***

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