

CONTENTS

Page

Appendixes

A. Federal Register notices.....	A-1
B. List of hearing witnesses	B-1
C. Summary data	C-1
D. Butadiene feedstock technology and analysis.....	D-1
E. U.S. producers' and U.S. importers' U.S. shipments channels detail	E-1
F. Shipment and production by styrene and additive type	F-1
G. Firm narratives on impact of COVID-19 pandemic.....	G-1
H. Nonsubject country price data	H-1
J. Financials data	J-1

Note.—Information that would reveal confidential operations of individual concerns may not be published.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.

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	<i>Emulsion Styrene-Butadiene Rubber From Czechia, Italy, and Russia; Institution of Anti-Dumping Duty Investigations and Scheduling of Preliminary Phase Investigations</i>	https://www.govinfo.gov/content/pkg/FR-2021-11-22/pdf/2021-25322.pdf
86 FR 70447, December 10, 2021	<i>Emulsion Styrene-Butadiene Rubber From the Czech Republic, Italy, and the Russian Federation: Initiation of Less-Than-Fair-Value Investigations</i>	https://www.govinfo.gov/content/pkg/FR-2021-12-10/pdf/2021-26832.pdf
87 FR 478, January 5, 2022	<i>Emulsion Styrene-Butadiene Rubber From Czechia, Italy, and Russia</i>	https://www.govinfo.gov/content/pkg/FR-2022-01-05/pdf/2021-28568.pdf
87 FR 18767, March 31, 2022	<i>Emulsion Styrene-Butadiene Rubber From the Czech Republic and the Russian Federation: Postponement of Preliminary Determinations in the Less-Than-Fair-Value Investigations</i>	https://www.govinfo.gov/content/pkg/FR-2022-03-31/pdf/2022-06828.pdf
87 FR 25447, April 29, 2022	<i>Emulsion Styrene-Butadiene Rubber From Italy: Preliminary Affirmative Determination of Sales at Less Than Fair Value</i>	https://www.govinfo.gov/content/pkg/FR-2022-04-29/pdf/2022-09246.pdf
87 FR 28807, May 11, 2022	<i>Emulsion Styrene-Butadiene Rubber From Italy: Termination of Less-Than Fair-Value Investigation</i>	https://www.govinfo.gov/content/pkg/FR-2022-05-11/pdf/2022-10121.pdf
87 FR 29877, May 17, 2022	<i>Emulsion Styrene-Butadiene Rubber (ESBR) From Italy; Termination of Investigation</i>	https://www.govinfo.gov/content/pkg/FR-2022-05-17/pdf/2022-10546.pdf

Citation	Title	Link
87 FR 38057, June 27, 2022	<i>Emulsion Styrene-Butadiene Rubber From the Russian Federation: Preliminary Affirmative Determination of Sales at Less Than Fair Value, Postponement of Final Determination, and Extension of Provisional Measures</i>	https://www.govinfo.gov/content/pkg/FR-2022-06-27/pdf/2022-13543.pdf
87 FR 38060, June 27, 2022	<i>Emulsion Styrene-Butadiene Rubber From the Czech Republic: Preliminary Affirmative Determination of Sales at Less Than Fair Value, Postponement of Final Determination, and Extension of Provisional Measures</i>	https://www.govinfo.gov/content/pkg/FR-2022-06-27/pdf/2022-13542.pdf
87 FR 42498, July 15, 2022	<i>Emulsion Styrene-Butadiene Rubber (ESBR) From Czechia and Russia; Scheduling of the Final Phase of Antidumping Duty Investigations</i>	https://www.govinfo.gov/content/pkg/FR-2022-07-15/pdf/2022-15101.pdf
87 FR 58371, September 26, 2022	<i>Emulsion Styrene-Butadiene Rubber from Czechia and Russia; Hearing update for the subject investigations</i>	https://www.govinfo.gov/content/pkg/FR-2022-09-26/pdf/2022-20690.pdf
87 FR 68998, November 17, 2022	<i>Emulsion Styrene-Butadiene Rubber From the Czech Republic: Final Affirmative Determination of Sales at Less Than Fair Value</i>	https://www.govinfo.gov/content/pkg/FR-2022-11-17/pdf/2022-25049.pdf
87 FR 69002, November 17, 2022	<i>Emulsion Styrene-Butadiene Rubber From the Russian Federation: Final Affirmative Determination of Sales at Less Than Fair Value and Classification of the Russian Federation as a Non-Market Economy</i>	https://www.govinfo.gov/content/pkg/FR-2022-11-17/pdf/2022-25050.pdf

APPENDIX B

LIST OF HEARING WITNESSES

CALENDAR OF PUBLIC HEARING

Those listed below appeared in the United States International Trade Commission's hearing:

Subject: Emulsion Styrene-Butadiene Rubber (ESBR) from Czechia and Russia
Inv. Nos.: 731-TA-1575 & 731-TA-1577 (Final)
Date and Time: November 8, 2022 - 9:30 a.m.

OPENING REMARKS:

In Support of Imposition (**Mert E. Arkan**, Buchanan Ingersoll & Rooney PC)
In Opposition to Imposition (**Ron Kendler**, White & Case LLP)

In Support of the Imposition of Antidumping Duty Orders:

Buchanan Ingersoll & Rooney PC
Washington, DC
on behalf of

Lion Elastomers LLC

Bobby Rikhoff, Vice President of SBR Operations, Lion Elastomers LLC

Sherry Ballard, Accounting Manager, Lion Elastomers LLC

Seth Kaplan, President, International Economic Research LLC

Travis Pope, Project Manager, Capital Trade, Inc.

Mert E. Arkan)
) – OF COUNSEL
Daniel B. Pickard)

**In Opposition to the Imposition of
Antidumping Duty Orders:**

White & Case LLP
Washington, DC
on behalf of

Synthos Kralupy a.s. (“Synthos”)
PJSC “TATNEFT” (“Tatneft”)

Jan Kurilla, Sales Director Synthetic Rubber, Synthos S.A.

Jon Nienaber, Synthetic Rubber Sales Manager-NAFTA, Synthos North America

Stan Rybalov, President, Intertex World Resources Inc.

Kirk Dortch, Partner and Vice President, Intertex World Resources Inc.

Darrin Layton, President, Mountville Rubber Company

Jay Campbell)
Ron Kender) – OF COUNSEL
Cristina Cornejo)

Neville Peterson LLP
Washington, DC
on behalf of

Michelin North America, Inc. (“MNA”)

Steven Prior, Purchasing Director – Raw Materials, MNA

John M. Peterson)
Richard F. O’Neill) – OF COUNSEL
Patrick B. Klein)

REBUTTAL/CLOSING REMARKS:

In Support of Imposition (**Daniel B. Pickard**, Buchanan Ingersoll & Rooney PC)

In Opposition to Imposition (**John M. Peterson**, Neville Peterson LLP)

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APPENDIX C
SUMMARY DATA

Total market

Table C-1

ESBR: Summary data concerning the U.S. total market, by item and period

Quantity=1,000 pounds; Value=1,000 dollars; Unit values, unit labor costs, and unit expenses=dollars per pound; Period changes=percent--exceptions noted

Item	Reported data					Period changes				
	Calendar year			Jan-Jun		Comparison years			Jan-Jun	
	2019	2020	2021	2021	2022	2019-21	2019-20	2020-21	2021-22	
U.S. total market consumption quantity:										
Amount.....	***	***	***	***	***	▼***	▼***	▲***	▲***	
Producers' share (fn1).....	***	***	***	***	***	▼***	▼***	▼***	▲***	
Importers' share (fn1):										
Czechia.....	***	***	***	***	***	▼***	▼***	▼***	▼***	
Russia.....	***	***	***	***	***	▲***	▲***	▲***	▲***	
Subject sources.....	***	***	***	***	***	▲***	▲***	▲***	▼***	
Italy.....	***	***	***	***	***	▲***	▲***	▼***	▲***	
All other sources.....	***	***	***	***	***	▲***	▼***	▲***	▼***	
Nonsubject sources.....	***	***	***	***	***	▲***	▲***	▲***	▼***	
All import sources.....	***	***	***	***	***	▲***	▲***	▲***	▼***	
U.S. total market consumption value:										
Amount.....	***	***	***	***	***	▲***	▼***	▲***	▲***	
Producers' share (fn1).....	***	***	***	***	***	▼***	▼***	▼***	▲***	
Importers' share (fn1):										
Czechia.....	***	***	***	***	***	▼***	▲***	▼***	▼***	
Russia.....	***	***	***	***	***	▲***	▲***	▲***	▲***	
Subject sources.....	***	***	***	***	***	▲***	▲***	▲***	▼***	
Italy.....	***	***	***	***	***	▲***	▲***	▼***	▲***	
All other sources.....	***	***	***	***	***	▲***	▼***	▲***	▼***	
Nonsubject sources.....	***	***	***	***	***	▲***	▲***	▲***	▼***	
All import sources.....	***	***	***	***	***	▲***	▲***	▲***	▼***	
U.S. importers' U.S. shipments of imports from:										
Czechia:										
Quantity.....	***	***	***	***	***	▼***	▼***	▲***	▼***	
Value.....	***	***	***	***	***	▲***	▼***	▲***	▲***	
Unit value.....	***	***	***	***	***	▲***	▼***	▲***	▲***	
Ending inventory quantity.....	***	***	***	***	***	▲***	▲***	▲***	▲***	
Russia:										
Quantity.....	***	***	***	***	***	▲***	▲***	▲***	▲***	
Value.....	***	***	***	***	***	▲***	▼***	▲***	▲***	
Unit value.....	***	***	***	***	***	▲***	▼***	▲***	▲***	
Ending inventory quantity.....	***	***	***	***	***	▲***	▲***	▲***	▼***	
Subject sources:										
Quantity.....	32,074	25,868	43,426	16,927	15,097	▲35.4	▼(19.3)	▲67.9	▼(10.8)	
Value.....	24,012	16,417	41,664	13,644	16,586	▲73.5	▼(31.6)	▲153.8	▲21.6	
Unit value.....	\$0.75	\$0.63	\$0.96	\$0.81	\$1.10	▲28.2	▼(15.2)	▲51.2	▲36.3	
Ending inventory quantity.....	***	***	***	***	***	▲***	▲***	▲***	▼***	
Italy:										
Quantity.....	***	***	***	***	***	▲***	▲***	▼***	▲***	
Value.....	***	***	***	***	***	▲***	▲***	▲***	▲***	
Unit value.....	***	***	***	***	***	▲***	▼***	▲***	▲***	
Ending inventory quantity.....	***	***	***	***	***	▼***	▼***	▲***	▲***	
All other sources:										
Quantity.....	***	***	***	***	***	▼***	▼***	▲***	▼***	
Value.....	***	***	***	***	***	▲***	▼***	▲***	▲***	
Unit value.....	***	***	***	***	***	▲***	▼***	▲***	▲***	
Ending inventory quantity.....	***	***	***	***	***	▲***	▲***	▼***	▼***	
Nonsubject sources:										
Quantity.....	27,995	22,485	27,752	13,496	12,858	▼(0.9)	▼(19.7)	▲23.4	▼(4.7)	
Value.....	23,567	15,194	29,587	13,576	15,686	▲25.5	▼(35.5)	▲94.7	▲15.5	
Unit value.....	\$0.84	\$0.68	\$1.07	\$1.01	\$1.22	▲26.6	▼(19.7)	▲57.8	▲21.3	
Ending inventory quantity.....	***	***	***	***	***	▲***	▲***	▼***	▼***	
All import sources:										
Quantity.....	60,069	48,353	71,178	30,423	27,955	▲18.5	▼(19.5)	▲47.2	▼(8.1)	
Value.....	47,579	31,611	71,251	27,220	32,272	▲49.8	▼(33.6)	▲125.4	▲18.6	
Unit value.....	\$0.79	\$0.65	\$1.00	\$0.89	\$1.15	▲26.4	▼(17.5)	▲53.1	▲29.0	
Ending inventory quantity.....	5,391	9,024	13,631	12,371	8,269	▲152.8	▲67.4	▲51.1	▼(33.2)	

Table continued.

Table C-1 Continued

ESBR: Summary data concerning the U.S. total market, by item and period

Quantity=1,000 pounds; Value=1,000 dollars; Unit values, unit labor costs, and unit expenses=dollars per pound; Period changes=percent--exceptions noted

Item	Reported data					Period changes			
	Calendar year		Jan-Jun			Comparison years			Jan-Jun
	2019	2020	2021	2021	2022	2019-21	2019-20	2020-21	2021-22
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) (fn2).....	***	***	***	***	***	▼***	▼***	▲***	▲***
SG&A expenses.....	***	***	***	***	***	▼***	▼***	▲***	▲***
Operating income or (loss) (fn2).....	***	***	***	***	***	▼***	▼***	▲***	▲***
Net income or (loss) (fn2).....	***	***	***	***	***	▼***	▼***	▲***	▲***
Unit COGS.....	***	***	***	***	***	▲***	▼***	▲***	▲***
Unit SG&A expenses.....	***	***	***	***	***	▲***	▲***	▼***	▼***
Unit operating income or (loss) (fn2).....	***	***	***	***	***	▼***	▼***	▲***	▲***
Unit net income or (loss) (fn2).....	***	***	***	***	***	▼***	▼***	▲***	▲***
COGS/sales (fn1).....	***	***	***	***	***	▲***	▲***	▼***	▼***
Operating income or (loss)/sales (fn1).....	***	***	***	***	***	▼***	▼***	▲***	▲***
Net income or (loss)/sales (fn1).....	***	***	***	***	***	▼***	▼***	▲***	▲***
Capital expenditures.....	***	***	***	***	***	▼***	▼***	▲***	▼***
Research and development expenses.....	***	***	***	***	***	▼***	▼***	▲***	▲***
Net assets.....	***	***	***	***	***	▲***	▼***	▲***	***

Source: Compiled from data submitted in response to Commission questionnaires. 508-compliant tables containing these data are contained in parts III, IV, VI, and VII of this report.

Note.--Shares and ratios shown as "0.0" percent represent non-zero values less than "0.05" percent (if positive) and greater than "(0.05)" percent (if negative). Zeroes, null values, and undefined calculations are suppressed and shown as "--". Period changes preceded by a "▲" represent an increase, while period changes preceded by a "▼" represent a decrease.

fn1.--Reported data are in percent and period changes are in percentage points.

fn2.--Percent changes only calculated when both comparison values represent profits; The directional change in profitability provided when one or both comparison values represent a loss.

Merchant market

Table C-2

ESBR: Summary data concerning the U.S. merchant market, by item and period

Quantity=1,000 pounds; Value=1,000 dollars; Unit values, unit labor costs, and unit expenses=dollars per pound; Period changes=percent--exceptions noted

Item	Reported data					Period changes			
	2019	Calendar year 2020	2021	Jan-Jun 2021	2022	2019-21	2019-20	2020-21	Jan-Jun 2021-22
U.S. merchant market consumption quantity:									
Amount.....	***	***	***	***	***	▼***	▼***	▲***	▼***
Producers' share (fn1).....	***	***	***	***	***	▼***	▲***	▼***	▲***
Importers' share (fn1):									
Czechia.....	***	***	***	***	***	▼***	▼***	▼***	▼***
Russia.....	***	***	***	***	***	▲***	▲***	▲***	▲***
Subject sources.....	***	***	***	***	***	▲***	▲***	▲***	▼***
Italy.....	***	***	***	***	***	▲***	▲***	▼***	▲***
All other sources.....	***	***	***	***	***	▲***	▼***	▲***	▼***
Nonsubject sources.....	***	***	***	***	***	▲***	▼***	▲***	▼***
All import sources.....	***	***	***	***	***	▲***	▼***	▲***	▼***
U.S. merchant market consumption value:									
Amount.....	***	***	***	***	***	▲***	▼***	▲***	▲***
Producers' share (fn1).....	***	***	***	***	***	▼***	▼***	▼***	▲***
Importers' share (fn1):									
Czechia.....	***	***	***	***	***	▼***	▼***	▼***	▼***
Russia.....	***	***	***	***	***	▲***	▲***	▲***	▲***
Subject sources.....	***	***	***	***	***	▲***	▲***	▲***	▼***
Italy.....	***	***	***	***	***	▲***	▲***	▼***	▲***
All other sources.....	***	***	***	***	***	▲***	▼***	▲***	▼***
Nonsubject sources.....	***	***	***	***	***	▲***	▼***	▲***	▼***
All import sources.....	***	***	***	***	***	▲***	▲***	▲***	▼***
U.S. importers' U.S. shipments of imports from:									
Czechia:									
Quantity.....	***	***	***	***	***	▼***	▼***	▲***	▼***
Value.....	***	***	***	***	***	▲***	▼***	▲***	▲***
Unit value.....	***	***	***	***	***	▲***	▼***	▲***	▲***
Ending inventory quantity.....	***	***	***	***	***	▲***	▲***	▲***	▲***
Russia:									
Quantity.....	***	***	***	***	***	▲***	▲***	▲***	▲***
Value.....	***	***	***	***	***	▲***	▼***	▲***	▲***
Unit value.....	***	***	***	***	***	▲***	▼***	▲***	▲***
Ending inventory quantity.....	***	***	***	***	***	▲***	▲***	▲***	▼***
Subject sources:									
Quantity.....	32,074	25,868	43,426	16,927	15,097	▲35.4	▼(19.3)	▲67.9	▼(10.8)
Value.....	24,012	16,417	41,664	13,644	16,586	▲73.5	▼(31.6)	▲153.8	▲21.6
Unit value.....	\$0.75	\$0.63	\$0.96	\$0.81	\$1.10	▲28.2	▼(15.2)	▲51.2	▲36.3
Ending inventory quantity.....	***	***	***	***	***	▲***	▲***	▲***	▼***
Italy:									
Quantity.....	***	***	***	***	***	▲***	▲***	▼***	▲***
Value.....	***	***	***	***	***	▲***	▲***	▲***	▲***
Unit value.....	***	***	***	***	***	▲***	▼***	▲***	▲***
Ending inventory quantity.....	***	***	***	***	***	▼***	▼***	▲***	▲***
All other sources:									
Quantity.....	***	***	***	***	***	▼***	▼***	▲***	▼***
Value.....	***	***	***	***	***	▲***	▼***	▲***	▲***
Unit value.....	***	***	***	***	***	▲***	▼***	▲***	▲***
Ending inventory quantity.....	***	***	***	***	***	▲***	▲***	▼***	▼***
Nonsubject sources:									
Quantity.....	27,995	22,485	27,752	13,496	12,858	▼(0.9)	▼(19.7)	▲23.4	▼(4.7)
Value.....	23,567	15,194	29,587	13,576	15,686	▲25.5	▼(35.5)	▲94.7	▲15.5
Unit value.....	\$0.84	\$0.68	\$1.07	\$1.01	\$1.22	▲26.6	▼(19.7)	▲57.8	▲21.3
Ending inventory quantity.....	***	***	***	***	***	▲***	▲***	▼***	▼***
All import sources:									
Quantity.....	60,069	48,353	71,178	30,423	27,955	▲18.5	▼(19.5)	▲47.2	▼(8.1)
Value.....	47,579	31,611	71,251	27,220	32,272	▲49.8	▼(33.6)	▲125.4	▲18.6
Unit value.....	\$0.79	\$0.65	\$1.00	\$0.89	\$1.15	▲26.4	▼(17.5)	▲53.1	▲29.0
Ending inventory quantity.....	5,391	9,024	13,631	12,371	8,269	▲152.8	▲67.4	▲51.1	▼(33.2)

Table continued.

Table C-2 Continued

ESBR: Summary data concerning the U.S. merchant market, by item and period

Quantity=1,000 pounds; Value=1,000 dollars; Unit values, unit labor costs, and unit expenses=dollars per pound; Period changes=percent--exceptions noted

Item	Reported data					Period changes			
	Calendar year			Jan-Jun		Comparison years			Jan-Jun
	2019	2020	2021	2021	2022	2019-21	2019-20	2020-21	2021-22
U.S. producers':									
Commerical U.S. shipments:									
Quantity.....	***	***	***	***	***	▼***	▼***	▲***	▲***
Value.....	***	***	***	***	***	▲***	▼***	▲***	▲***
Unit value.....	***	***	***	***	***	▲***	▼***	▲***	▲***
Commerical sales:									
Quantity.....	***	***	***	***	***	▼***	▼***	▲***	▲***
Value.....	***	***	***	***	***	▲***	▼***	▲***	▲***
Unit value.....	***	***	***	***	***	▲***	▼***	▲***	▲***
Cost of goods sold (COGS).....	***	***	***	***	***	▲***	▼***	▲***	▲***
Gross profit or (loss) (fn2).....	***	***	***	***	***	▼***	▼***	▲***	▲***
SG&A expenses.....	***	***	***	***	***	▼***	▼***	▲***	▼***
Operating income or (loss) (fn2).....	***	***	***	***	***	▼***	▼***	▲***	▲***
Net income or (loss) (fn2).....	***	***	***	***	***	▼***	▼***	▲***	▲***
Unit COGS.....	***	***	***	***	***	▲***	▼***	▲***	▲***
Unit SG&A expenses.....	***	***	***	***	***	▲***	▲***	▼***	▼***
Unit operating income or (loss) (fn2).....	***	***	***	***	***	▼***	▼***	▲***	▲***
Unit net income or (loss) (fn2).....	***	***	***	***	***	▼***	▼***	▲***	▲***
COGS/sales (fn1).....	***	***	***	***	***	▲***	▲***	▼***	▼***
Operating income or (loss)/sales (fn1).....	***	***	***	***	***	▼***	▼***	▲***	▲***
Net income or (loss)/sales (fn1).....	***	***	***	***	***	▼***	▼***	▲***	▲***

Source: Compiled from data submitted in response to Commission questionnaires. 508-compliant tables containing these data are contained in parts III, IV, VI, and VII of this report.

Note.--Shares and ratios shown as "0.0" percent represent non-zero values less than "0.05" percent (if positive) and greater than "(0.05)" percent (if negative). Zeroes, null values, and undefined calculations are suppressed and shown as "--". Period changes preceded by a "▲" represent an increase, while period changes preceded by a "▼" represent a decrease.

fn1.--Reported data are in percent and period changes are in percentage points.

fn2.--Percent changes only calculated when both comparison values represent profits; The directional change in profitability provided when one or both comparison values represent a loss.

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 $\text{CH}_2=\text{CH}-\text{CH}=\text{CH}_2$. The intentional chemical synthesis of butadiene is minor with most produced 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, ESBR, SSBR, polybutadiene ("BR") rubber, styrene block copolymer rubbers (SBC), acrylonitrile-butadiene rubbers (nitrile rubbers), and polychloroprene (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 (C₈) 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

¹ Styrene is a product of the petrochemical industry; it is produced principally from ethylene and benzene which when reacted results in ethyl benzene (C₆H₅-CH₂-CH₃), which in turn is dehydrogenated to produce reactive styrene (C₆H₅-CH=CH₂) and hydrogen (H₂). Certain Russian producers use alphasethyl styrene (C₆H₅C(CH₃)=CH₂), a styrene derivative resulting as a byproduct of phenol and acetone production by cumene oxidation. "Petrochemicals in Nontechnical Language," pp. 95-97.

² IHS Markit, ***.

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, Texas.

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.

with air (oxygen), flammable butadiene forms peroxides which pose explosion hazards and 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, $\text{H}_2\text{C}=\text{CH}_2$ (C_2H_4), as the dominant end-use product¹¹ 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

⁸ IHS Markit, ***.

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, $\text{CH}_3\text{-CH}_3$ (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, ***.

¹³ Conference transcript, (Rikhoff), p. 48.

onstream during the past few years based on attractive prices for U.S. shale gas ethane feedstocks.

Butadiene in the United States is recovered from C4 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 C4 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 C4 feedstocks from ethylene crackers around the world. Prior to November 2019, it operated two world-scale C4 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 C4 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 and multiple ship docks that can accommodate both barges and ocean-going vessels.¹⁸

In November 2019, an explosion at the TPC butadiene extraction plant adjacent to the Lion ESRB plant at Port Neches, Texas, destroyed the 425,000 metric ton plant and disrupted butadiene supply capability to the surrounding SBR plants in the southeast Gulf Coast area. TPC following a subsequent study and report on the incident by the Chemical Safety Board, continued to use the site as a storage and supply terminal. Some of the TPC Port Neches butadiene supply loss was recovered through a tolling agreement with a C4 extractor in the vicinity. Recently, TPC has sought protection under Chapter 11, and been cited by EPA for violations at its Houston, Texas, butadiene facility thought similar to those leading up to the Port Neches explosion.¹⁹

¹⁴ C4 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,***.

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, Texas, 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 Deleveraging and Capitalization, <https://www.tpcgrp.com/news>, June 1, 2022; EPA, <https://www.epa.gov/newsreleases/search/press-office/region-06-226171>, September 12, 2022.

European supplies of butadiene are traditionally “long” and prices lower than in the United States and Asia,²⁰ because of a substantial surplus of butadiene from naphtha cracking; thus, Europe is typically a net exporter of the chemical, principally to ***.²¹ 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.²² The added butadiene output from new low-cost U.S. shale gas derivative ethylene plants was expected to conceptually balance supply and demand during 2022.²³

North American Butadiene Market Fundamentals

With developments in the North American nonconventional oil and gas markets, significant changes have been *** after more than a decade of ***. Significant differences in *** between North American natural gas-based raw materials (natural gas liquids) and those derived from crude oil (primarily naphtha) ***, and many global chemical companies have *** petrochemical facilities in the region.

In the context of high energy market volatility, the lingering COVID-19 pandemic, and the Russia-Ukraine conflict, the global petrochemical industry is forecast to *** in Northeast Asia and North America. The COVID-19 pandemic and the Russia-Ukraine conflict and their economic implications are ***, as most of ***. Nevertheless, with fast-rising inflation, economic growth faces a *** for the months to come. The chemical industry is expected to experience a *** eventually slows.²⁴

²⁰ Conference transcript, (Kurilla), p. 113.

²¹ The ongoing energy crisis in the EU was further compounded by the Russian Invasion of Ukraine in February 2022 and accompanying petroleum sanctions have created a clouded outlook. European Union Imposes Partial Ban on Russian Oil, <https://www.csis.org/analysis/european-union-imposes-partial-ban-russian-oil>, June 8, 2022.

²² IHS Markit, ***.

²³ Conference transcript, (Rikhoff), p. 36.

²⁴ IHS Markit,***.

In 2022, butadiene annual capacity by region is reported as Northeast Asia ***, *** million metric tons; West Europe, *** million; North America, *** million; Southwest Asia *** million, and total World, 17.8 million metric tons. During the forecast period 2022-2017, average annual North American capacity is projected to *** in virtually all petrochemicals markets, leading to a *** in most industry-wide operating rates, thus *** the oversupply situation. In 2021–22, operating rates have *** thanks to the economic recovery, but they remain under ***. This situation is not expected to *** as the pace of newly built plants *** and as the recent Russia-Ukraine conflict further weighs on the global economy. The industry is projected to initiate its *** onward, when the pace of *** finally slows.

Butadiene petrochemical byproduct is produced as a consequence of ethane steam cracking to the primary product ethylene, or ethylene from naphtha feed, so it is highly dependent upon ethylene supply and demand fundamentals. In 2022 for example, butadiene production *** percent of the global primary petrochemicals output compared to a leading 32.1 percent for on-purpose ethylene.

North American ethylene capacity, production, and consumption volume are projected to be second only to Northeast Asia between 2022-27. Capacity in North America during the 2022-17 period is projected to grow at an average annual rate of 1.1 percent, 51.3 million to 54.1 million tons, and consumption from 43.0 million to 47.9 million tons, representing 2.2 percent average annual demand growth, so butadiene output would be expected to follow projected ethylene demand growth trends. Global growth is pegged at 3.4 percent.²⁵

²⁵ IHS Markit, ***.

Global Butadiene Situation and Outlook²⁶

In 2021, despite the persistence of pandemic-related shipping bottlenecks, markets benefited from a broad recovery across all major manufacturing sectors. The Russia-Ukraine conflict that began in early 2022 has nevertheless fueled prevailing global energy markets, adding significantly to volatility in the world economy and a feedstock *** for the chemical industry. During the height of the COVID-19 pandemic in 2020, petrochemical derivatives such as methanol and butadiene *** owing to their dependence on cyclical markets such as the fuel, tire, automotive, and construction markets, while ethylene, propylene, and para-xylene showed *** such as online shopping, work-from-home, a shift of consumer spending away from services toward consumer goods, and *** for medical protective equipment and individual packaging requirements. Overall, global consumption of the primary petrochemical feedstocks posted moderate growth in 2020.²⁷

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 of 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 chemical companies ***, and international oil companies ***.

Butadiene demand was dominated by the production of several synthetic commodity rubbers such as styrene-butadiene rubber (SBR), polybutadiene 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

²⁶ Descriptions, outlook and estimates, based on IHS Markit ***, including certain modifications to IHS Markit, ***.

²⁷ IHS Markit, ***.

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 ***.

Overall, world butadiene consumption was estimated to have *** percent between 2019 and 2020, with *** being the most affected derivatives.²⁸ *** rubber latex disposable gloves for healthcare and *** demand increased. In 2021, however, demand rebounded despite the persistence of some shipping bottlenecks, and markets benefited from a broad recovery across all major manufacturing sectors. The Russian invasion of Ukraine in February 2022, however, and its global reverberations to date, create many uncertainties in market fundamentals moving forward into 2023. The conflict to date has created inordinate volatility in global energy markets, significant downside aspects to the world economy and a feedstock price uncertainty for the chemical industry.

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, ***.²⁹ 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

²⁸ In 2020, global pandemic had a significant effect on travel and transportation because of stay-at-home orders or countrywide lockdowns, and travel bans. Passenger vehicle use decreased leading to lower tire replacement. Automotive and tire manufacturing was affected by temporary plant closures and computer chip shortages, leading to declines in new vehicle production and OEM tire demand.

²⁹ As the COVID pandemic gradually came under control and vaccine programs further rolled out, recovery funds and stimulus packages supported economic activity across major world economies but projected second half 2021 into 2022 were nevertheless likely to ***.

leading up to 2025. Northeast Asia is expected to ***, accounting for about *** percent of the total by 2025.

Mainland China Butadiene Supply and Demand³⁰

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.³¹ 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 was 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 C4 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

³⁰ IHS Markit, ***.

³¹ Wood MacKenzie, <https://www.woodmac.com/news/editorial/how-are-olefins-made-from-cto-mto/>, retrieved December 9, 2021.

of the world's total. Demand for BR, especially for mainland China's BR synthetic rubber industry, continues to drive BR for butadiene. In 2020, the COVID-19 pandemic had a relatively small impact on mainland China's BR for butadiene, which posted a small year-on-year increase. An early and efficient control of the pandemic led to a recovery of the mainland Chinese BR before mid-year. Overall, mainland China constituted the sole major economy that managed to grow during 2020.

With a fast-rising domestic BR, mainland China has remained a major consumer of butadiene. However, the region's reliance on BR will be reduced in 2021 as domestic production increases along with BR capacity. Consequently, the territory is forecast to turn to a net exporter of butadiene as early as in 2021.

In 2020, the total butadiene consumption was 1.5 million metric tons in mainland China. Mainland China produces all major butadiene products except for BR rubber. Mainland China and its economic zone has constituted a major market for the global butadiene market during the past decade. Polybutadiene rubber (BR) production is the largest for butadiene in mainland China, accounting for about 60 percent of butadiene production in 2020. BR of butadiene for styrene-butadiene rubber (SBR) is the second, accounting for nearly 30 percent of the total. Demand for BR production has increased over the last five years, driven by an expanding BR market. Ultimately, the improvement in living standards, a rising average disposable income across mainland China, as well as the development of road infrastructure are key drivers for the local BR. Moreover, with its BR, mainland China has been in a position to export to several markets in the world, further increasing BR. Major BR producers include BR. During 2020-25, with the global economic recovery anticipated and the further growth of the mainland Chinese BR market, production of BR are forecast to increase, leading to increased butadiene requirements.

In 2020, BR resins were the largest BR application for butadiene in mainland China, accounting for some 20 percent of the total. The region is the largest BR globally. The appliance market accounts for about 10 percent in the region, followed by the BR market, 5 percent. In 2015-20, butadiene demand for BR production increased at an average rate of 5 percent per year, and during 2020-25, BR resin capacity is forecast to increase.

In 2020, *** accounted for almost *** percent of the butadiene consumed in mainland China including *** resins. Steady demand has also come from ***, which are the largest and most mature end-use applications. Overall, demand for this application will *** 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 ***, and 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 ***.

APPENDIX E

U.S. PRODUCERS' AND U.S. IMPORTERS' U.S. SHIPMENTS CHANNELS DETAIL

Table E-1
ESBR: U.S. producers' U.S. shipments, by series, channel, and period

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

Series / Channel	Measure	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
1500 series to distributors	Quantity	***	***	***	***	***
1500 series to tire manufacturers	Quantity	***	***	***	***	***
1500 series to other end users	Quantity	***	***	***	***	***
1500 series to all channels	Quantity	***	***	***	***	***
1700 series to distributors	Quantity	***	***	***	***	***
1700 series to tire manufacturers	Quantity	***	***	***	***	***
1700 series to other end users	Quantity	***	***	***	***	***
1700 series to all channels	Quantity	***	***	***	***	***
All U.S. shipments to distributors	Quantity	***	***	***	***	***
All U.S. shipments to tire manufacturers	Quantity	***	***	***	***	***
All U.S. shipments to other end users	Quantity	***	***	***	***	***
All U.S. shipments	Quantity	***	***	***	***	***
1500 series to distributors	Value	***	***	***	***	***
1500 series to tire manufacturers	Value	***	***	***	***	***
1500 series to other end users	Value	***	***	***	***	***
1500 series to all channels	Value	***	***	***	***	***
1700 series to distributors	Value	***	***	***	***	***
1700 series to tire manufacturers	Value	***	***	***	***	***
1700 series to other end users	Value	***	***	***	***	***
1700 series to all channels	Value	***	***	***	***	***
All U.S. shipments to distributors	Value	***	***	***	***	***
All U.S. shipments to tire manufacturers	Value	***	***	***	***	***
All U.S. shipments to other end users	Value	***	***	***	***	***
All U.S. shipments	Value	***	***	***	***	***

Table continued.

Table E-1 Continued
ESBR: U.S. producers' U.S. shipments, by series, channel, and period

Unit values in dollars per pound; Share in percent

Series / Channel	Measure	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
1500 series to distributors	Unit value	***	***	***	***	***
1500 series to tire manufacturers	Unit value	***	***	***	***	***
1500 series to other end users	Unit value	***	***	***	***	***
1500 series to all channels	Unit value	***	***	***	***	***
1700 series to distributors	Unit value	***	***	***	***	***
1700 series to tire manufacturers	Unit value	***	***	***	***	***
1700 series to other end users	Unit value	***	***	***	***	***
1700 series to all channels	Unit value	***	***	***	***	***
All U.S. shipments to distributors	Unit value	***	***	***	***	***
All U.S. shipments to tire manufacturers	Unit value	***	***	***	***	***
All U.S. shipments to other end users	Unit value	***	***	***	***	***
All U.S. shipments	Unit value	***	***	***	***	***
1500 series to distributors	Share of quantity	***	***	***	***	***
1500 series to tire manufacturers	Share of quantity	***	***	***	***	***
1500 series to other end users	Share of quantity	***	***	***	***	***
1500 series to all channels	Share of quantity	***	***	***	***	***
1700 series to distributors	Share of quantity	***	***	***	***	***
1700 series to tire manufacturers	Share of quantity	***	***	***	***	***
1700 series to other end users	Share of quantity	***	***	***	***	***
1700 series to all channels	Share of quantity	***	***	***	***	***
All U.S. shipments to distributors	Share of quantity	***	***	***	***	***
All U.S. shipments to tire manufacturers	Share of quantity	***	***	***	***	***
All U.S. shipments to other end users	Share of quantity	***	***	***	***	***
All U.S. shipments	Share of quantity	100.0	100.0	100.0	100.0	100.0

Table continued.

Table E-1 Continued
ESBR: U.S. producers' U.S. shipments, by series, channel, and period

Shares in percent

Series / Channel	Measure	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
1500 series to distributors	Share of value	***	***	***	***	***
1500 series to tire manufacturers	Share of value	***	***	***	***	***
1500 series to other end users	Share of value	***	***	***	***	***
1500 series to all channels	Share of value	***	***	***	***	***
1700 series to distributors	Share of value	***	***	***	***	***
1700 series to tire manufacturers	Share of value	***	***	***	***	***
1700 series to other end users	Share of value	***	***	***	***	***
1700 series to all channels	Share of value	***	***	***	***	***
All U.S. shipments to distributors	Share of value	***	***	***	***	***
All U.S. shipments to tire manufacturers	Share of value	***	***	***	***	***
All U.S. shipments to other end users	Share of value	***	***	***	***	***
All U.S. shipments	Share of value	100.0	100.0	100.0	100.0	100.0

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

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

Table E-2
ESBR: U.S. importers' U.S. shipments of imports from Czechia, by series, channel, and period

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

Series / Channel	Measure	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
1500 series to distributors	Quantity	***	***	***	***	***
1500 series to tire manufacturers	Quantity	***	***	***	***	***
1500 series to other end users	Quantity	***	***	***	***	***
1500 series to all channels	Quantity	***	***	***	***	***
1700 series to distributors	Quantity	***	***	***	***	***
1700 series to tire manufacturers	Quantity	***	***	***	***	***
1700 series to other end users	Quantity	***	***	***	***	***
1700 series to all channels	Quantity	***	***	***	***	***
All U.S. shipments to distributors	Quantity	***	***	***	***	***
All U.S. shipments to tire manufacturers	Quantity	***	***	***	***	***
All U.S. shipments to other end users	Quantity	***	***	***	***	***
All U.S. shipments	Quantity	***	***	***	***	***
1500 series to distributors	Value	***	***	***	***	***
1500 series to tire manufacturers	Value	***	***	***	***	***
1500 series to other end users	Value	***	***	***	***	***
1500 series to all channels	Value	***	***	***	***	***
1700 series to distributors	Value	***	***	***	***	***
1700 series to tire manufacturers	Value	***	***	***	***	***
1700 series to other end users	Value	***	***	***	***	***
1700 series to all channels	Value	***	***	***	***	***
All U.S. shipments to distributors	Value	***	***	***	***	***
All U.S. shipments to tire manufacturers	Value	***	***	***	***	***
All U.S. shipments to other end users	Value	***	***	***	***	***
All U.S. shipments	Value	***	***	***	***	***

Table continued.

Table E-2 Continued
ESBR: U.S. importers' U.S. shipments of imports from Czechia, by series, channel, and period

Unit values in dollars per pound; Share in percent

Series / Channel	Measure	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
1500 series to distributors	Unit value	***	***	***	***	***
1500 series to tire manufacturers	Unit value	***	***	***	***	***
1500 series to other end users	Unit value	***	***	***	***	***
1500 series to all channels	Unit value	***	***	***	***	***
1700 series to distributors	Unit value	***	***	***	***	***
1700 series to tire manufacturers	Unit value	***	***	***	***	***
1700 series to other end users	Unit value	***	***	***	***	***
1700 series to all channels	Unit value	***	***	***	***	***
All U.S. shipments to distributors	Unit value	***	***	***	***	***
All U.S. shipments to tire manufacturers	Unit value	***	***	***	***	***
All U.S. shipments to other end users	Unit value	***	***	***	***	***
All U.S. shipments	Unit value	***	***	***	***	***
1500 series to distributors	Share of quantity	***	***	***	***	***
1500 series to tire manufacturers	Share of quantity	***	***	***	***	***
1500 series to other end users	Share of quantity	***	***	***	***	***
1500 series to all channels	Share of quantity	***	***	***	***	***
1700 series to distributors	Share of quantity	***	***	***	***	***
1700 series to tire manufacturers	Share of quantity	***	***	***	***	***
1700 series to other end users	Share of quantity	***	***	***	***	***
1700 series to all channels	Share of quantity	***	***	***	***	***
All U.S. shipments to distributors	Share of quantity	***	***	***	***	***
All U.S. shipments to tire manufacturers	Share of quantity	***	***	***	***	***
All U.S. shipments to other end users	Share of quantity	***	***	***	***	***
All U.S. shipments	Share of quantity	100.0	100.0	100.0	100.0	100.0

Table continued.

Table E-2 Continued
ESBR: U.S. importers' U.S. shipments of imports from Czechia, by series, channel, and period

Shares in percent

Series / Channel	Measure	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
1500 series to distributors	Share of value	***	***	***	***	***
1500 series to tire manufacturers	Share of value	***	***	***	***	***
1500 series to other end users	Share of value	***	***	***	***	***
1500 series to all channels	Share of value	***	***	***	***	***
1700 series to distributors	Share of value	***	***	***	***	***
1700 series to tire manufacturers	Share of value	***	***	***	***	***
1700 series to other end users	Share of value	***	***	***	***	***
1700 series to all channels	Share of value	***	***	***	***	***
All U.S. shipments to distributors	Share of value	***	***	***	***	***
All U.S. shipments to tire manufacturers	Share of value	***	***	***	***	***
All U.S. shipments to other end users	Share of value	***	***	***	***	***
All U.S. shipments	Share of value	100.0	100.0	100.0	100.0	100.0

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

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

Table E-3
ESBR: U.S. importers' U.S. shipments of imports from Russia, by series, channel, and period

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

Series / Channel	Measure	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
1500 series to distributors	Quantity	***	***	***	***	***
1500 series to tire manufacturers	Quantity	***	***	***	***	***
1500 series to other end users	Quantity	***	***	***	***	***
1500 series to all channels	Quantity	***	***	***	***	***
1700 series to distributors	Quantity	***	***	***	***	***
1700 series to tire manufacturers	Quantity	***	***	***	***	***
1700 series to other end users	Quantity	***	***	***	***	***
1700 series to all channels	Quantity	***	***	***	***	***
All U.S. shipments to distributors	Quantity	***	***	***	***	***
All U.S. shipments to tire manufacturers	Quantity	***	***	***	***	***
All U.S. shipments to other end users	Quantity	***	***	***	***	***
All U.S. shipments	Quantity	***	***	***	***	***
1500 series to distributors	Value	***	***	***	***	***
1500 series to tire manufacturers	Value	***	***	***	***	***
1500 series to other end users	Value	***	***	***	***	***
1500 series to all channels	Value	***	***	***	***	***
1700 series to distributors	Value	***	***	***	***	***
1700 series to tire manufacturers	Value	***	***	***	***	***
1700 series to other end users	Value	***	***	***	***	***
1700 series to all channels	Value	***	***	***	***	***
All U.S. shipments to distributors	Value	***	***	***	***	***
All U.S. shipments to tire manufacturers	Value	***	***	***	***	***
All U.S. shipments to other end users	Value	***	***	***	***	***
All U.S. shipments	Value	***	***	***	***	***

Table continued.

Table E-3 Continued
ESBR: U.S. importers' U.S. shipments of imports from Russia, by series, channel, and period

Unit values in dollars per pound; Share in percent

Series / Channel	Measure	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
1500 series to distributors	Unit value	***	***	***	***	***
1500 series to tire manufacturers	Unit value	***	***	***	***	***
1500 series to other end users	Unit value	***	***	***	***	***
1500 series to all channels	Unit value	***	***	***	***	***
1700 series to distributors	Unit value	***	***	***	***	***
1700 series to tire manufacturers	Unit value	***	***	***	***	***
1700 series to other end users	Unit value	***	***	***	***	***
1700 series to all channels	Unit value	***	***	***	***	***
All U.S. shipments to distributors	Unit value	***	***	***	***	***
All U.S. shipments to tire manufacturers	Unit value	***	***	***	***	***
All U.S. shipments to other end users	Unit value	***	***	***	***	***
All U.S. shipments	Unit value	***	***	***	***	***
1500 series to distributors	Share of quantity	***	***	***	***	***
1500 series to tire manufacturers	Share of quantity	***	***	***	***	***
1500 series to other end users	Share of quantity	***	***	***	***	***
1500 series to all channels	Share of quantity	***	***	***	***	***
1700 series to distributors	Share of quantity	***	***	***	***	***
1700 series to tire manufacturers	Share of quantity	***	***	***	***	***
1700 series to other end users	Share of quantity	***	***	***	***	***
1700 series to all channels	Share of quantity	***	***	***	***	***
All U.S. shipments to distributors	Share of quantity	***	***	***	***	***
All U.S. shipments to tire manufacturers	Share of quantity	***	***	***	***	***
All U.S. shipments to other end users	Share of quantity	***	***	***	***	***
All U.S. shipments	Share of quantity	100.0	100.0	100.0	100.0	100.0

Table continued.

Table E-3 Continued
ESBR: U.S. importers' U.S. shipments of imports from Russia, by series, channel, and period

Shares in percent

Series / Channel	Measure	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
1500 series to distributors	Share of value	***	***	***	***	***
1500 series to tire manufacturers	Share of value	***	***	***	***	***
1500 series to other end users	Share of value	***	***	***	***	***
1500 series to all channels	Share of value	***	***	***	***	***
1700 series to distributors	Share of value	***	***	***	***	***
1700 series to tire manufacturers	Share of value	***	***	***	***	***
1700 series to other end users	Share of value	***	***	***	***	***
1700 series to all channels	Share of value	***	***	***	***	***
All U.S. shipments to distributors	Share of value	***	***	***	***	***
All U.S. shipments to tire manufacturers	Share of value	***	***	***	***	***
All U.S. shipments to other end users	Share of value	***	***	***	***	***
All U.S. shipments	Share of value	100.0	100.0	100.0	100.0	100.0

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

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

Table E-4
ESBR: U.S. importers' U.S. shipments of imports from subject sources, by series, channel, and period

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

Series / Channel	Measure	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
1500 series to distributors	Quantity	***	***	***	***	***
1500 series to tire manufacturers	Quantity	***	***	***	***	***
1500 series to other end users	Quantity	***	***	***	***	***
1500 series to all channels	Quantity	***	***	***	***	***
1700 series to distributors	Quantity	***	***	***	***	***
1700 series to tire manufacturers	Quantity	***	***	***	***	***
1700 series to other end users	Quantity	***	***	***	***	***
1700 series to all channels	Quantity	***	***	***	***	***
All U.S. shipments to distributors	Quantity	***	***	***	***	***
All U.S. shipments to tire manufacturers	Quantity	***	***	***	***	***
All U.S. shipments to other end users	Quantity	***	***	***	***	***
All U.S. shipments	Quantity	***	***	***	***	***
1500 series to distributors	Value	***	***	***	***	***
1500 series to tire manufacturers	Value	***	***	***	***	***
1500 series to other end users	Value	***	***	***	***	***
1500 series to all channels	Value	***	***	***	***	***
1700 series to distributors	Value	***	***	***	***	***
1700 series to tire manufacturers	Value	***	***	***	***	***
1700 series to other end users	Value	***	***	***	***	***
1700 series to all channels	Value	***	***	***	***	***
All U.S. shipments to distributors	Value	***	***	***	***	***
All U.S. shipments to tire manufacturers	Value	***	***	***	***	***
All U.S. shipments to other end users	Value	***	***	***	***	***
All U.S. shipments	Value	***	***	***	***	***

Table continued.

Table E-4 Continued

ESBR: U.S. importers' U.S. shipments of imports from subject sources, by series, channel, and period

Unit values in dollars per pound; Share in percent

Series / Channel	Measure	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
1500 series to distributors	Unit value	***	***	***	***	***
1500 series to tire manufacturers	Unit value	***	***	***	***	***
1500 series to other end users	Unit value	***	***	***	***	***
1500 series to all channels	Unit value	***	***	***	***	***
1700 series to distributors	Unit value	***	***	***	***	***
1700 series to tire manufacturers	Unit value	***	***	***	***	***
1700 series to other end users	Unit value	***	***	***	***	***
1700 series to all channels	Unit value	***	***	***	***	***
All U.S. shipments to distributors	Unit value	***	***	***	***	***
All U.S. shipments to tire manufacturers	Unit value	***	***	***	***	***
All U.S. shipments to other end users	Unit value	***	***	***	***	***
All U.S. shipments	Unit value	***	***	***	***	***
1500 series to distributors	Share of quantity	***	***	***	***	***
1500 series to tire manufacturers	Share of quantity	***	***	***	***	***
1500 series to other end users	Share of quantity	***	***	***	***	***
1500 series to all channels	Share of quantity	***	***	***	***	***
1700 series to distributors	Share of quantity	***	***	***	***	***
1700 series to tire manufacturers	Share of quantity	***	***	***	***	***
1700 series to other end users	Share of quantity	***	***	***	***	***
1700 series to all channels	Share of quantity	***	***	***	***	***
All U.S. shipments to distributors	Share of quantity	***	***	***	***	***
All U.S. shipments to tire manufacturers	Share of quantity	***	***	***	***	***
All U.S. shipments to other end users	Share of quantity	***	***	***	***	***
All U.S. shipments	Share of quantity	100.0	100.0	100.0	100.0	100.0

Table continued.

Table E-4 Continued**ESBR: U.S. importers' U.S. shipments of imports from subject sources, by series, channel, and period**

Shares in percent

Series / Channel	Measure	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
1500 series to distributors	Share of value	***	***	***	***	***
1500 series to tire manufacturers	Share of value	***	***	***	***	***
1500 series to other end users	Share of value	***	***	***	***	***
1500 series to all channels	Share of value	***	***	***	***	***
1700 series to distributors	Share of value	***	***	***	***	***
1700 series to tire manufacturers	Share of value	***	***	***	***	***
1700 series to other end users	Share of value	***	***	***	***	***
1700 series to all channels	Share of value	***	***	***	***	***
All U.S. shipments to distributors	Share of value	***	***	***	***	***
All U.S. shipments to tire manufacturers	Share of value	***	***	***	***	***
All U.S. shipments to other end users	Share of value	***	***	***	***	***
All U.S. shipments	Share of value	100.0	100.0	100.0	100.0	100.0

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

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

Table E-5
ESBR: U.S. importers' U.S. shipments of imports from Italy, by series, channel, and period

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

Series / Channel	Measure	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
1500 series to distributors	Quantity	***	***	***	***	***
1500 series to tire manufacturers	Quantity	***	***	***	***	***
1500 series to other end users	Quantity	***	***	***	***	***
1500 series to all channels	Quantity	***	***	***	***	***
1700 series to distributors	Quantity	***	***	***	***	***
1700 series to tire manufacturers	Quantity	***	***	***	***	***
1700 series to other end users	Quantity	***	***	***	***	***
1700 series to all channels	Quantity	***	***	***	***	***
All U.S. shipments to distributors	Quantity	***	***	***	***	***
All U.S. shipments to tire manufacturers	Quantity	***	***	***	***	***
All U.S. shipments to other end users	Quantity	***	***	***	***	***
All U.S. shipments	Quantity	***	***	***	***	***
1500 series to distributors	Value	***	***	***	***	***
1500 series to tire manufacturers	Value	***	***	***	***	***
1500 series to other end users	Value	***	***	***	***	***
1500 series to all channels	Value	***	***	***	***	***
1700 series to distributors	Value	***	***	***	***	***
1700 series to tire manufacturers	Value	***	***	***	***	***
1700 series to other end users	Value	***	***	***	***	***
1700 series to all channels	Value	***	***	***	***	***
All U.S. shipments to distributors	Value	***	***	***	***	***
All U.S. shipments to tire manufacturers	Value	***	***	***	***	***
All U.S. shipments to other end users	Value	***	***	***	***	***
All U.S. shipments	Value	***	***	***	***	***

Table continued.

Table E-5 Continued
ESBR: U.S. importers' U.S. shipments of imports from Italy, by series, channel, and period

Unit values in dollars per pound; Share in percent

Series / Channel	Measure	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
1500 series to distributors	Unit value	***	***	***	***	***
1500 series to tire manufacturers	Unit value	***	***	***	***	***
1500 series to other end users	Unit value	***	***	***	***	***
1500 series to all channels	Unit value	***	***	***	***	***
1700 series to distributors	Unit value	***	***	***	***	***
1700 series to tire manufacturers	Unit value	***	***	***	***	***
1700 series to other end users	Unit value	***	***	***	***	***
1700 series to all channels	Unit value	***	***	***	***	***
All U.S. shipments to distributors	Unit value	***	***	***	***	***
All U.S. shipments to tire manufacturers	Unit value	***	***	***	***	***
All U.S. shipments to other end users	Unit value	***	***	***	***	***
All U.S. shipments	Unit value	***	***	***	***	***
1500 series to distributors	Share of quantity	***	***	***	***	***
1500 series to tire manufacturers	Share of quantity	***	***	***	***	***
1500 series to other end users	Share of quantity	***	***	***	***	***
1500 series to all channels	Share of quantity	***	***	***	***	***
1700 series to distributors	Share of quantity	***	***	***	***	***
1700 series to tire manufacturers	Share of quantity	***	***	***	***	***
1700 series to other end users	Share of quantity	***	***	***	***	***
1700 series to all channels	Share of quantity	***	***	***	***	***
All U.S. shipments to distributors	Share of quantity	***	***	***	***	***
All U.S. shipments to tire manufacturers	Share of quantity	***	***	***	***	***
All U.S. shipments to other end users	Share of quantity	***	***	***	***	***
All U.S. shipments	Share of quantity	100.0	100.0	100.0	100.0	100.0

Table continued.

Table E-5 Continued
ESBR: U.S. importers' U.S. shipments of imports from Italy, by series, channel, and period

Shares in percent

Series / Channel	Measure	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
1500 series to distributors	Share of value	***	***	***	***	***
1500 series to tire manufacturers	Share of value	***	***	***	***	***
1500 series to other end users	Share of value	***	***	***	***	***
1500 series to all channels	Share of value	***	***	***	***	***
1700 series to distributors	Share of value	***	***	***	***	***
1700 series to tire manufacturers	Share of value	***	***	***	***	***
1700 series to other end users	Share of value	***	***	***	***	***
1700 series to all channels	Share of value	***	***	***	***	***
All U.S. shipments to distributors	Share of value	***	***	***	***	***
All U.S. shipments to tire manufacturers	Share of value	***	***	***	***	***
All U.S. shipments to other end users	Share of value	***	***	***	***	***
All U.S. shipments	Share of value	100.0	100.0	100.0	100.0	100.0

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

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

Table E-6
ESBR: U.S. importers' U.S. shipments of imports from all other sources, by series, channel, and period

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

Series / Channel	Measure	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
1500 series to distributors	Quantity	***	***	***	***	***
1500 series to tire manufacturers	Quantity	***	***	***	***	***
1500 series to other end users	Quantity	***	***	***	***	***
1500 series to all channels	Quantity	***	***	***	***	***
1700 series to distributors	Quantity	***	***	***	***	***
1700 series to tire manufacturers	Quantity	***	***	***	***	***
1700 series to other end users	Quantity	***	***	***	***	***
1700 series to all channels	Quantity	***	***	***	***	***
All U.S. shipments to distributors	Quantity	***	***	***	***	***
All U.S. shipments to tire manufacturers	Quantity	***	***	***	***	***
All U.S. shipments to other end users	Quantity	***	***	***	***	***
All U.S. shipments	Quantity	***	***	***	***	***
1500 series to distributors	Value	***	***	***	***	***
1500 series to tire manufacturers	Value	***	***	***	***	***
1500 series to other end users	Value	***	***	***	***	***
1500 series to all channels	Value	***	***	***	***	***
1700 series to distributors	Value	***	***	***	***	***
1700 series to tire manufacturers	Value	***	***	***	***	***
1700 series to other end users	Value	***	***	***	***	***
1700 series to all channels	Value	***	***	***	***	***
All U.S. shipments to distributors	Value	***	***	***	***	***
All U.S. shipments to tire manufacturers	Value	***	***	***	***	***
All U.S. shipments to other end users	Value	***	***	***	***	***
All U.S. shipments	Value	***	***	***	***	***

Table continued.

Table E-6 Continued
ESBR: U.S. importers' U.S. shipments of imports from all other sources, by series, channel, and period

Unit values in dollars per pound; Share in percent

Series / Channel	Measure	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
1500 series to distributors	Unit value	***	***	***	***	***
1500 series to tire manufacturers	Unit value	***	***	***	***	***
1500 series to other end users	Unit value	***	***	***	***	***
1500 series to all channels	Unit value	***	***	***	***	***
1700 series to distributors	Unit value	***	***	***	***	***
1700 series to tire manufacturers	Unit value	***	***	***	***	***
1700 series to other end users	Unit value	***	***	***	***	***
1700 series to all channels	Unit value	***	***	***	***	***
All U.S. shipments to distributors	Unit value	***	***	***	***	***
All U.S. shipments to tire manufacturers	Unit value	***	***	***	***	***
All U.S. shipments to other end users	Unit value	***	***	***	***	***
All U.S. shipments	Unit value	***	***	***	***	***
1500 series to distributors	Share of quantity	***	***	***	***	***
1500 series to tire manufacturers	Share of quantity	***	***	***	***	***
1500 series to other end users	Share of quantity	***	***	***	***	***
1500 series to all channels	Share of quantity	***	***	***	***	***
1700 series to distributors	Share of quantity	***	***	***	***	***
1700 series to tire manufacturers	Share of quantity	***	***	***	***	***
1700 series to other end users	Share of quantity	***	***	***	***	***
1700 series to all channels	Share of quantity	***	***	***	***	***
All U.S. shipments to distributors	Share of quantity	***	***	***	***	***
All U.S. shipments to tire manufacturers	Share of quantity	***	***	***	***	***
All U.S. shipments to other end users	Share of quantity	***	***	***	***	***
All U.S. shipments	Share of quantity	100.0	100.0	100.0	100.0	100.0

Table continued.

Table E-6 Continued

ESBR: U.S. importers' U.S. shipments of imports from all other sources, by series, channel, and period

Shares in percent

Series / Channel	Measure	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
1500 series to distributors	Share of value	***	***	***	***	***
1500 series to tire manufacturers	Share of value	***	***	***	***	***
1500 series to other end users	Share of value	***	***	***	***	***
1500 series to all channels	Share of value	***	***	***	***	***
1700 series to distributors	Share of value	***	***	***	***	***
1700 series to tire manufacturers	Share of value	***	***	***	***	***
1700 series to other end users	Share of value	***	***	***	***	***
1700 series to all channels	Share of value	***	***	***	***	***
All U.S. shipments to distributors	Share of value	***	***	***	***	***
All U.S. shipments to tire manufacturers	Share of value	***	***	***	***	***
All U.S. shipments to other end users	Share of value	***	***	***	***	***
All U.S. shipments	Share of value	100.0	100.0	100.0	100.0	100.0

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

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

Table E-7
ESBR: U.S. importers' U.S. shipments of imports from nonsubject sources, by series, channel, and period

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

Series / Channel	Measure	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
1500 series to distributors	Quantity	***	***	***	***	***
1500 series to tire manufacturers	Quantity	***	***	***	***	***
1500 series to other end users	Quantity	***	***	***	***	***
1500 series to all channels	Quantity	***	***	***	***	***
1700 series to distributors	Quantity	***	***	***	***	***
1700 series to tire manufacturers	Quantity	***	***	***	***	***
1700 series to other end users	Quantity	***	***	***	***	***
1700 series to all channels	Quantity	***	***	***	***	***
All U.S. shipments to distributors	Quantity	***	***	***	***	***
All U.S. shipments to tire manufacturers	Quantity	***	***	***	***	***
All U.S. shipments to other end users	Quantity	***	***	***	***	***
All U.S. shipments	Quantity	***	***	***	***	***
1500 series to distributors	Value	***	***	***	***	***
1500 series to tire manufacturers	Value	***	***	***	***	***
1500 series to other end users	Value	***	***	***	***	***
1500 series to all channels	Value	***	***	***	***	***
1700 series to distributors	Value	***	***	***	***	***
1700 series to tire manufacturers	Value	***	***	***	***	***
1700 series to other end users	Value	***	***	***	***	***
1700 series to all channels	Value	***	***	***	***	***
All U.S. shipments to distributors	Value	***	***	***	***	***
All U.S. shipments to tire manufacturers	Value	***	***	***	***	***
All U.S. shipments to other end users	Value	***	***	***	***	***
All U.S. shipments	Value	***	***	***	***	***

Table continued.

Table E-7 Continued
ESBR: U.S. importers' U.S. shipments of imports from nonsubject sources, by series, channel, and period

Unit values in dollars per pound; Share in percent

Series / Channel	Measure	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
1500 series to distributors	Unit value	***	***	***	***	***
1500 series to tire manufacturers	Unit value	***	***	***	***	***
1500 series to other end users	Unit value	***	***	***	***	***
1500 series to all channels	Unit value	***	***	***	***	***
1700 series to distributors	Unit value	***	***	***	***	***
1700 series to tire manufacturers	Unit value	***	***	***	***	***
1700 series to other end users	Unit value	***	***	***	***	***
1700 series to all channels	Unit value	***	***	***	***	***
All U.S. shipments to distributors	Unit value	***	***	***	***	***
All U.S. shipments to tire manufacturers	Unit value	***	***	***	***	***
All U.S. shipments to other end users	Unit value	***	***	***	***	***
All U.S. shipments	Unit value	***	***	***	***	***
1500 series to distributors	Share of quantity	***	***	***	***	***
1500 series to tire manufacturers	Share of quantity	***	***	***	***	***
1500 series to other end users	Share of quantity	***	***	***	***	***
1500 series to all channels	Share of quantity	***	***	***	***	***
1700 series to distributors	Share of quantity	***	***	***	***	***
1700 series to tire manufacturers	Share of quantity	***	***	***	***	***
1700 series to other end users	Share of quantity	***	***	***	***	***
1700 series to all channels	Share of quantity	***	***	***	***	***
All U.S. shipments to distributors	Share of quantity	***	***	***	***	***
All U.S. shipments to tire manufacturers	Share of quantity	***	***	***	***	***
All U.S. shipments to other end users	Share of quantity	***	***	***	***	***
All U.S. shipments	Share of quantity	100.0	100.0	100.0	100.0	100.0

Table continued.

Table E-7 Continued
ESBR: U.S. importers' U.S. shipments of imports from nonsubject sources, by series, channel, and period

Shares in percent

Series / Channel	Measure	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
1500 series to distributors	Share of value	***	***	***	***	***
1500 series to tire manufacturers	Share of value	***	***	***	***	***
1500 series to other end users	Share of value	***	***	***	***	***
1500 series to all channels	Share of value	***	***	***	***	***
1700 series to distributors	Share of value	***	***	***	***	***
1700 series to tire manufacturers	Share of value	***	***	***	***	***
1700 series to other end users	Share of value	***	***	***	***	***
1700 series to all channels	Share of value	***	***	***	***	***
All U.S. shipments to distributors	Share of value	***	***	***	***	***
All U.S. shipments to tire manufacturers	Share of value	***	***	***	***	***
All U.S. shipments to other end users	Share of value	***	***	***	***	***
All U.S. shipments	Share of value	100.0	100.0	100.0	100.0	100.0

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

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

Table E-8
ESBR: U.S. importers' U.S. shipments of imports from all sources, by series, channel, and period

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

Series / Channel	Measure	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
1500 series to distributors	Quantity	***	***	***	***	***
1500 series to tire manufacturers	Quantity	***	***	***	***	***
1500 series to other end users	Quantity	***	***	***	***	***
1500 series to all channels	Quantity	***	***	***	***	***
1700 series to distributors	Quantity	***	***	***	***	***
1700 series to tire manufacturers	Quantity	***	***	***	***	***
1700 series to other end users	Quantity	***	***	***	***	***
1700 series to all channels	Quantity	***	***	***	***	***
All U.S. shipments to distributors	Quantity	***	***	***	***	***
All U.S. shipments to tire manufacturers	Quantity	***	***	***	***	***
All U.S. shipments to other end users	Quantity	***	***	***	***	***
All U.S. shipments	Quantity	***	***	***	***	***
1500 series to distributors	Value	***	***	***	***	***
1500 series to tire manufacturers	Value	***	***	***	***	***
1500 series to other end users	Value	***	***	***	***	***
1500 series to all channels	Value	***	***	***	***	***
1700 series to distributors	Value	***	***	***	***	***
1700 series to tire manufacturers	Value	***	***	***	***	***
1700 series to other end users	Value	***	***	***	***	***
1700 series to all channels	Value	***	***	***	***	***
All U.S. shipments to distributors	Value	***	***	***	***	***
All U.S. shipments to tire manufacturers	Value	***	***	***	***	***
All U.S. shipments to other end users	Value	***	***	***	***	***
All U.S. shipments	Value	***	***	***	***	***

Table continued.

Table E-8 Continued**ESBR: U.S. importers' U.S. shipments of imports from all sources, by series, channel, and period**

Unit values in dollars per pound; Share in percent

Series / Channel	Measure	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
1500 series to distributors	Unit value	***	***	***	***	***
1500 series to tire manufacturers	Unit value	***	***	***	***	***
1500 series to other end users	Unit value	***	***	***	***	***
1500 series to all channels	Unit value	***	***	***	***	***
1700 series to distributors	Unit value	***	***	***	***	***
1700 series to tire manufacturers	Unit value	***	***	***	***	***
1700 series to other end users	Unit value	***	***	***	***	***
1700 series to all channels	Unit value	***	***	***	***	***
All U.S. shipments to distributors	Unit value	***	***	***	***	***
All U.S. shipments to tire manufacturers	Unit value	***	***	***	***	***
All U.S. shipments to other end users	Unit value	***	***	***	***	***
All U.S. shipments	Unit value	***	***	***	***	***
1500 series to distributors	Share of quantity	***	***	***	***	***
1500 series to tire manufacturers	Share of quantity	***	***	***	***	***
1500 series to other end users	Share of quantity	***	***	***	***	***
1500 series to all channels	Share of quantity	***	***	***	***	***
1700 series to distributors	Share of quantity	***	***	***	***	***
1700 series to tire manufacturers	Share of quantity	***	***	***	***	***
1700 series to other end users	Share of quantity	***	***	***	***	***
1700 series to all channels	Share of quantity	***	***	***	***	***
All U.S. shipments to distributors	Share of quantity	***	***	***	***	***
All U.S. shipments to tire manufacturers	Share of quantity	***	***	***	***	***
All U.S. shipments to other end users	Share of quantity	***	***	***	***	***
All U.S. shipments	Share of quantity	100.0	100.0	100.0	100.0	100.0

Table continued.

Table E-8 Continued
ESBR: U.S. importers' U.S. shipments of imports from all sources, by series, channel, and period

Shares in percent

Series / Channel	Measure	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
1500 series to distributors	Share of value	***	***	***	***	***
1500 series to tire manufacturers	Share of value	***	***	***	***	***
1500 series to other end users	Share of value	***	***	***	***	***
1500 series to all channels	Share of value	***	***	***	***	***
1700 series to distributors	Share of value	***	***	***	***	***
1700 series to tire manufacturers	Share of value	***	***	***	***	***
1700 series to other end users	Share of value	***	***	***	***	***
1700 series to all channels	Share of value	***	***	***	***	***
All U.S. shipments to distributors	Share of value	***	***	***	***	***
All U.S. shipments to tire manufacturers	Share of value	***	***	***	***	***
All U.S. shipments to other end users	Share of value	***	***	***	***	***
All U.S. shipments	Share of value	100.0	100.0	100.0	100.0	100.0

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

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

Figure E-1
ESBR: U.S. producers' and U.S. importers' average unit values, by series type

* * * * *

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

Table E-9
ESBR: U.S. producers' and importers' U.S. shipments to distributors, by source and period

Quantity in 1,000 pounds; Shares in percent; Ratios to overall apparent consumption quantity in percent

Source	Measure	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
U.S. producers	Quantity	***	***	***	***	***
Czechia	Quantity	***	***	***	***	***
Russia	Quantity	***	***	***	***	***
Subject sources	Quantity	***	***	***	***	***
Italy	Quantity	***	***	***	***	***
All other sources	Quantity	***	***	***	***	***
Nonsubject sources	Quantity	***	***	***	***	***
All import sources	Quantity	***	***	***	***	***
All sources	Quantity	***	***	***	***	***
U.S. producers	Share	***	***	***	***	***
Czechia	Share	***	***	***	***	***
Russia	Share	***	***	***	***	***
Subject sources	Share	***	***	***	***	***
Italy	Share	***	***	***	***	***
All other sources	Share	***	***	***	***	***
Nonsubject sources	Share	***	***	***	***	***
All import sources	Share	***	***	***	***	***
All sources	Share	***	***	***	***	***
U.S. producers	Ratio	***	***	***	***	***
Czechia	Ratio	***	***	***	***	***
Russia	Ratio	***	***	***	***	***
Subject sources	Ratio	***	***	***	***	***
Italy	Ratio	***	***	***	***	***
All other sources	Ratio	***	***	***	***	***
Nonsubject sources	Ratio	***	***	***	***	***
All import sources	Ratio	***	***	***	***	***
All sources	Ratio	***	***	***	***	***

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

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

Table E-10**ESBR: U.S. producers' and importers' U.S. shipments to tire manufacturers, by source and period**

Quantity in 1,000 pounds; Shares in percent; Ratios to overall apparent consumption quantity in percent

Source	Measure	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
U.S. producers	Quantity	***	***	***	***	***
Czechia	Quantity	***	***	***	***	***
Russia	Quantity	***	***	***	***	***
Subject sources	Quantity	***	***	***	***	***
Italy	Quantity	***	***	***	***	***
All other sources	Quantity	***	***	***	***	***
Nonsubject sources	Quantity	***	***	***	***	***
All import sources	Quantity	***	***	***	***	***
All sources	Quantity	***	***	***	***	***
U.S. producers	Share	***	***	***	***	***
Czechia	Share	***	***	***	***	***
Russia	Share	***	***	***	***	***
Subject sources	Share	***	***	***	***	***
Italy	Share	***	***	***	***	***
All other sources	Share	***	***	***	***	***
Nonsubject sources	Share	***	***	***	***	***
All import sources	Share	***	***	***	***	***
All sources	Share	***	***	***	***	***
U.S. producers	Ratio	***	***	***	***	***
Czechia	Ratio	***	***	***	***	***
Russia	Ratio	***	***	***	***	***
Subject sources	Ratio	***	***	***	***	***
Italy	Ratio	***	***	***	***	***
All other sources	Ratio	***	***	***	***	***
Nonsubject sources	Ratio	***	***	***	***	***
All import sources	Ratio	***	***	***	***	***
All sources	Ratio	***	***	***	***	***

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

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent.

Table E-11
ESBR: U.S. producers' and importers' U.S. shipments to other end users, by source and period

Quantity in 1,000 pounds; Shares in percent; Ratios to overall apparent consumption quantity in percent

Source	Measure	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
U.S. producers	Quantity	***	***	***	***	***
Czechia	Quantity	***	***	***	***	***
Russia	Quantity	***	***	***	***	***
Subject sources	Quantity	***	***	***	***	***
Italy	Quantity	***	***	***	***	***
All other sources	Quantity	***	***	***	***	***
Nonsubject sources	Quantity	***	***	***	***	***
All import sources	Quantity	***	***	***	***	***
All sources	Quantity	***	***	***	***	***
U.S. producers	Share	***	***	***	***	***
Czechia	Share	***	***	***	***	***
Russia	Share	***	***	***	***	***
Subject sources	Share	***	***	***	***	***
Italy	Share	***	***	***	***	***
All other sources	Share	***	***	***	***	***
Nonsubject sources	Share	***	***	***	***	***
All import sources	Share	***	***	***	***	***
All sources	Share	***	***	***	***	***
U.S. producers	Ratio	***	***	***	***	***
Czechia	Ratio	***	***	***	***	***
Russia	Ratio	***	***	***	***	***
Subject sources	Ratio	***	***	***	***	***
Italy	Ratio	***	***	***	***	***
All other sources	Ratio	***	***	***	***	***
Nonsubject sources	Ratio	***	***	***	***	***
All import sources	Ratio	***	***	***	***	***
All sources	Ratio	***	***	***	***	***

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

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

APPENDIX F

**U.S. PRODUCERS' U.S. SHIPMENTS AND FOREIGN PRODUCERS' PRODUCTION
BY STYRENE AND ADDITIVE TYPE**

Table F-1
ESBR: U.S. producers' U.S. shipments and foreign producers' production, by source and styrene type, 2021

Quantity in 1,000 pounds

Source	Alphamethyl styrene	Bound styrene	Other styrene	All types of styrene
U.S. producers	***	***	***	***
Czechia	***	***	***	***
Russia	***	***	***	***
Subject sources	***	***	***	***

Table continued.

Table F-1 Continued
ESBR: U.S. producers' U.S. shipments and foreign producers' production, by source and styrene type, 2021

Share across in percent

Source	Alphamethyl styrene	Bound styrene	Other styrene	All types of styrene
U.S. producers	***	***	***	100.0
Czechia	***	***	***	100.0
Russia	***	***	***	100.0
Subject sources	***	***	***	100.0

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

Figure F-1
ESBR: U.S. producers' U.S. shipments and foreign producers' production, by source and styrene type, 2021

* * * * *

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

Table F-2

ESBR: U.S. producers' U.S. shipments and foreign producers' production of aromatic extracts, by source and additive type, 2021

Quantity in 1,000 pounds

Source	Aromatic extracts	Not aromatic extracts	All shipments/production
U.S. producers' U.S. shipments	***	***	***
Czechia's production	***	***	***
Russia's production	***	***	***
Subject sources' production	***	***	***

Table continued.

Table F-2 continued

ESBR: U.S. producers' U.S. shipments and foreign producers' production of aromatic extracts, by source and additive type, 2021

Quantity in 1,000 pounds

Source	Aromatic extracts	Not aromatic extracts	All shipments/production
U.S. producers' U.S. shipments	***	***	100.0
Czechia's production	***	***	100.0
Russia's production	***	***	100.0
Subject sources' production	***	***	100.0

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

Figure F-2

ESBR: U.S. producers' U.S. shipments and foreign producers' production of aromatic extracts, by source and additive type, 2021

* * * * *

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

Table F-3

ESBR: U.S. producers' U.S. shipments and foreign producers' production of aromatic oils, by source and additive type, 2021

Share across in percent

Source	Aromatic oils	Not using aromatic oils	All shipments/production
U.S. producers' U.S. shipments	***	***	***
Czechia's production	***	***	***
Russia's production	***	***	***
Subject sources' production	***	***	***

Table continued.

Table F-3 continued

ESBR: U.S. producers' U.S. shipments and foreign producers' production of aromatic oils, by source and additive type, 2021

Quantity in 1,000 pounds

Source	Aromatic oils	Not using aromatic oils	All shipments/production
U.S. producers' U.S. shipments	***	***	100.0
Czechia's production	***	***	100.0
Russia's production	***	***	100.0
Subject sources' production	***	***	100.0

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

Figure F-3

ESBR: U.S. producers' U.S. shipments and foreign producers' production of aromatic oils, by source and additive type, 2021

* * * * *

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

Table F-4
ESBR: U.S. producers' U.S. shipments and foreign producers' production using other additives,
by source and additive type, 2021

Share across in percent

Source	Other additives	No other additives	All shipments/production
U.S. producers	***	***	***
Czechia	***	***	***
Russia	***	***	***
Subject sources	***	***	***

Table continued.

Table F-4 continued
ESBR: U.S. producers' U.S. shipments and foreign producers' production using other additives,
by source and additive type, 2021

Quantity in 1,000 pounds

Source	Other additives	No other additives	All shipments/production
U.S. producers' U.S. shipments	***	***	100.0
Czechia's production	***	***	100.0
Russia's production	***	***	100.0
Subject sources' production	***	***	100.0

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

Figure F-4
ESBR: U.S. producers' U.S. shipments and foreign producers' production using other additives,
by source and additive type, 2021

* * * * *

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

APPENDIX G

FIRM NARRATIVES ON IMPACT OF COVID-19 PANDEMIC

Table G-1

ESBR: U.S. producers' narratives regarding impact of COVID-19

Firm	Narrative response on COVID-19 impact
Goodyear	***
Lion	***

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

Table G-2
ESBR: U.S. importers' narratives regarding impact of COVID-19

Firm	Narrative response on COVID-19 impact
***	***
***	***
***	***
***	***
***	***
***	***
***	***
***	***
***	***
***	***
***	***
***	***

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

APPENDIX H
NONSUBJECT COUNTRY AND SPOT PRICE DATA

One importer reported price data for Italy for product 1. Price data reported by this firm accounted for *** percent of U.S. commercial shipments from Italy.¹ These price items and accompanying data are comparable to those presented in table V-5. Price and quantity data for Italy are shown in tables H-1 and in figure H-1 (with domestic and subject sources).

In comparing nonsubject country pricing data with U.S. producer pricing data, prices for product imported from Italy were lower than prices for U.S.-produced product in three instances and higher in three instances. In comparing nonsubject country pricing data with subject country pricing data, prices for product imported from Italy were lower than prices for product imported from Czechia in one instance and higher in five instances and lower than the product from Russian in two instances and higher in four. A summary of price differentials is presented in table H-2.

Table H-1
ESBR: Weighted-average f.o.b. prices and quantities of domestic and imported product 1, by quarter

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

Period	US price	US quantity	Italy price	Italy quantity
2019 Q1	***	***	***	***
2019 Q2	***	***	***	***
2019 Q3	***	***	***	***
2019 Q4	***	***	***	***
2020 Q1	***	***	***	***
2020 Q2	***	***	***	***
2020 Q3	***	***	***	***
2020 Q4	***	***	***	***
2021 Q1	***	***	***	***
2021 Q2	***	***	***	***
2021 Q3	***	***	***	***
2021 Q4	***	***	***	***
2022 Q1	***	***	***	***
2022 Q2	***	***	***	***

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

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

¹ ***.

Figure H-1

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.

Table H-2
ESBR: Summary of higher/(lower) unit values, by source, January 2019-June 2022

Quantity in 1,000 pounds.

Comparison source	Benchmark source	Number of quarters lower	Quantity lower	Number of quarters higher	Quantity higher
Italy	United States	***	***	***	***
Italy	Czechia	***	***	***	***
Italy	Russia	***	***	***	***

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

Table H-3
ESBR: Spot prices and quantities of domestic and imported product 1, by firm and quarter

Price in dollars per pound, quantity in 1,000 pounds

Period	*** price	*** quantity	*** price	*** quantity	*** price	*** quantity
2019 Q1	***	***	***	***	***	***
2019 Q2	***	***	***	***	***	***
2019 Q3	***	***	***	***	***	***
2019 Q4	***	***	***	***	***	***
2020 Q1	***	***	***	***	***	***
2020 Q2	***	***	***	***	***	***
2020 Q3	***	***	***	***	***	***
2020 Q4	***	***	***	***	***	***
2021 Q1	***	***	***	***	***	***
2021 Q2	***	***	***	***	***	***
2021 Q3	***	***	***	***	***	***
2021 Q4	***	***	***	***	***	***
2022 Q1	***	***	***	***	***	***
2022 Q2	***	***	***	***	***	***

Source: Compiled from data submitted in posthearing briefs.

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

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

Note: ***.

Table H-4**ESBR: Spot prices and quantities of domestic and imported product 2, by firm and quarter**

Price in dollars per pound, quantity in 1,000 pounds

Period	*** price	*** quantity	*** price	*** quantity
2019 Q1	***	***	***	***
2019 Q2	***	***	***	***
2019 Q3	***	***	***	***
2019 Q4	***	***	***	***
2020 Q1	***	***	***	***
2020 Q2	***	***	***	***
2020 Q3	***	***	***	***
2020 Q4	***	***	***	***
2021 Q1	***	***	***	***
2021 Q2	***	***	***	***
2021 Q3	***	***	***	***
2021 Q4	***	***	***	***
2022 Q1	***	***	***	***
2022 Q2	***	***	***	***

Source: Compiled from data submitted in posthearing briefs.

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

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

Note: ***.

Table H-5
ESBR: Spot prices and quantities of domestic and imported product 3, by firm and quarter

Price in dollars per pound, quantity in 1,000 pounds

Period	*** price	*** quantity	*** price	*** quantity	*** price	*** quantity
2019 Q1	***	***	***	***	***	***
2019 Q2	***	***	***	***	***	***
2019 Q3	***	***	***	***	***	***
2019 Q4	***	***	***	***	***	***
2020 Q1	***	***	***	***	***	***
2020 Q2	***	***	***	***	***	***
2020 Q3	***	***	***	***	***	***
2020 Q4	***	***	***	***	***	***
2021 Q1	***	***	***	***	***	***
2021 Q2	***	***	***	***	***	***
2021 Q3	***	***	***	***	***	***
2021 Q4	***	***	***	***	***	***
2022 Q1	***	***	***	***	***	***
2022 Q2	***	***	***	***	***	***

Source: Compiled from data submitted in posthearing briefs.

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

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

Note: ***.

Table H-6
ESBR: Spot prices and quantities of domestic and imported product 4, by firm and quarter

Price in dollars per pound, quantity in 1,000 pounds

Period	*** price	*** quantity	*** price	*** quantity
2019 Q1	***	***	***	***
2019 Q2	***	***	***	***
2019 Q3	***	***	***	***
2019 Q4	***	***	***	***
2020 Q1	***	***	***	***
2020 Q2	***	***	***	***
2020 Q3	***	***	***	***
2020 Q4	***	***	***	***
2021 Q1	***	***	***	***
2021 Q2	***	***	***	***
2021 Q3	***	***	***	***
2021 Q4	***	***	***	***
2022 Q1	***	***	***	***
2022 Q2	***	***	***	***

Source: Compiled from data submitted in posthearing briefs.

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

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

Note: ***.

APPENDIX J

APPENDIX FOR PART VI

Table J-1**ESBR: Firm-by-firm total net sales quantity (total market operations), by period**

Quantity in 1,000 pounds

Firm	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
Goodyear	***	***	***	***	***
Lion	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table J-1 Continued**ESBR: Firm-by-firm total net sales value (total market operations), by period**

Value in 1,000 dollars

Firm	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
Goodyear	***	***	***	***	***
Lion	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table J-1 Continued**ESBR: Firm-by-firm cost of goods sold (total market operations), by period**

Value in 1,000 dollars

Firm	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
Goodyear	***	***	***	***	***
Lion	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table J-1 Continued**ESBR: Firm-by-firm gross profit or (loss) (total market operations), by period**

Value in 1,000 dollars

Firm	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
Goodyear	***	***	***	***	***
Lion	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table J-1 Continued
ESBR: Firm-by-firm selling, general and administrative (SG&A) expenses (total market operations), by period

Value in 1,000 dollars

Firm	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
Goodyear	***	***	***	***	***
Lion	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table J-1 Continued
ESBR: Firm-by-firm operating income or (loss) (total market operations), by period

Value in 1,000 dollars

Firm	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
Goodyear	***	***	***	***	***
Lion	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table J-1 Continued
ESBR: Firm-by-firm net income or (loss) (total market operations), by period

Value in 1,000 dollars

Firm	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
Goodyear	***	***	***	***	***
Lion	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table J-1 Continued
ESBR: Firm-by-firm ratio of cost of goods sold to net sales value (total market operations), by period

Ratio in percent

Firm	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
Goodyear	***	***	***	***	***
Lion	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table J-1 Continued**ESBR: Firm-by-firm ratio of gross profit or (loss) to net sales value (total market operations), by period**

Ratio in percent

Firm	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
Goodyear	***	***	***	***	***
Lion	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table J-1 Continued**ESBR: Firm-by-firm ratio of SG&A expenses to net sales value (total market operations), by period**

Ratio in percent

Firm	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
Goodyear	***	***	***	***	***
Lion	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table J-1 Continued**ESBR: Firm-by-firm ratio of operating income or (loss) to net sales value (total market operations), by period**

Ratio in percent

Firm	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
Goodyear	***	***	***	***	***
Lion	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table J-1 Continued**ESBR: Firm-by-firm ratio of net income or (loss) to net sales value (total market operations), by period**

Ratio in percent

Firm	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
Goodyear	***	***	***	***	***
Lion	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table J-1 Continued
ESBR: Firm-by-firm unit net sales value (total market operations), by period

Unit value in dollars per pound

Firm	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
Goodyear	***	***	***	***	***
Lion	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table J-1 Continued
ESBR: Firm-by-firm unit butadiene cost (total market operations), by period

Unit value in dollars per pound

Firm	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
Goodyear	***	***	***	***	***
Lion	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table J-1 Continued
ESBR: Firm-by-firm unit styrene cost (total market operations), by period

Unit value in dollars per pound

Firm	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
Goodyear	***	***	***	***	***
Lion	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table J-1 Continued
ESBR: Firm-by-firm unit other raw material cost (total market operations), by period

Unit value in dollars per pound

Firm	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
Goodyear	***	***	***	***	***
Lion	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table J-1 Continued**ESBR: Firm-by-firm unit total raw materials cost (total market operations), by period**

Unit value in dollars per pound

Firm	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
Goodyear	***	***	***	***	***
Lion	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table J-1 Continued**ESBR: Firm-by-firm unit direct labor cost (total market operations), by period**

Unit value in dollars per pound

Firm	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
Goodyear	***	***	***	***	***
Lion	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table J-1 Continued**ESBR: Firm-by-firm unit other factory costs (total market operations), by period**

Unit value in dollars per pound

Firm	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
Goodyear	***	***	***	***	***
Lion	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table J-1 Continued**ESBR: Firm-by-firm unit conversion costs (total market operations), by period**

Unit value in dollars per pound

Firm	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
Goodyear	***	***	***	***	***
Lion	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table J-1 Continued
ESBR: Firm-by-firm unit COGS (total market operations), by period

Unit value in dollars per pound

Firm	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
Goodyear	***	***	***	***	***
Lion	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table J-1 Continued
ESBR: Firm-by-firm unit gross profit or (loss) (total market operations), by period

Unit value in dollars per pound

Firm	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
Goodyear	***	***	***	***	***
Lion	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table J-1 Continued
ESBR: Firm-by-firm unit SG&A expenses (total market operations), by period

Unit value in dollars per pound

Firm	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
Goodyear	***	***	***	***	***
Lion	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table J-1 Continued
ESBR: Firm-by-firm unit operating income or (loss) (total market operations), by period

Unit value in dollars per pound

Firm	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
Goodyear	***	***	***	***	***
Lion	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table J-1 Continued
ESBR: Firm-by-firm unit net income or (loss) (total market operations), by period

Unit value in dollars per pound

Firm	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
Goodyear	***	***	***	***	***
Lion	***	***	***	***	***
All firms	***	***	***	***	***

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

Note: Unit conversion costs equals the sum of direct labor cost and unit other factory costs.

Table J-2
ESBR: Firm-by-firm total net sales quantity (merchant market operations), by period

Quantity in 1,000 pounds

Firm	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
Goodyear	***	***	***	***	***
Lion	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table J-2 Continued
ESBR: Firm-by-firm total net sales value (merchant market operations), by period

Value in 1,000 dollars

Firm	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
Goodyear	***	***	***	***	***
Lion	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table J-2 Continued
ESBR: Firm-by-firm cost of goods sold (merchant market operations), by period

Value in 1,000 dollars

Firm	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
Goodyear	***	***	***	***	***
Lion	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table J-2 Continued
ESBR: Firm-by-firm gross profit or (loss) (merchant market operations), by period

Value in 1,000 dollars

Firm	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
Goodyear	***	***	***	***	***
Lion	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table J-2 Continued
ESBR: Firm-by-firm selling, general and administrative (SG&A) expenses (merchant market operations), by period

Value in 1,000 dollars

Firm	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
Goodyear	***	***	***	***	***
Lion	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table J-2 Continued
ESBR: Firm-by-firm operating income or (loss) (merchant market operations), by period

Value in 1,000 dollars

Firm	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
Goodyear	***	***	***	***	***
Lion	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table J-2 Continued
ESBR: Firm-by-firm net income or (loss) (merchant market operations), by period

Value in 1,000 dollars

Firm	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
Goodyear	***	***	***	***	***
Lion	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table J-2 Continued

ESBR: Firm-by-firm ratio of cost of goods sold to net sales value (merchant market operations), by period

Ratio in percent

Firm	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
Goodyear	***	***	***	***	***
Lion	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table J-2 Continued

ESBR: Firm-by-firm ratio of gross profit or (loss) to net sales value (merchant market operations), by period

Ratio in percent

Firm	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
Goodyear	***	***	***	***	***
Lion	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table J-2 Continued

ESBR: Firm-by-firm ratio of SG&A expenses to net sales value (merchant market operations), by period

Ratio in percent

Firm	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
Goodyear	***	***	***	***	***
Lion	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table J-2 Continued

ESBR: Firm-by-firm ratio of operating income or (loss) to net sales value (merchant market operations), by period

Ratio in percent

Firm	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
Goodyear	***	***	***	***	***
Lion	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table J-2 Continued**ESBR: Firm-by-firm ratio of net income or (loss) to net sales value (merchant market operations), by period**

Ratio in percent

Firm	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
Goodyear	***	***	***	***	***
Lion	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table J-2 Continued**ESBR: Firm-by-firm unit net sales value (merchant market operations), by period**

Unit value in dollars per pound

Firm	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
Goodyear	***	***	***	***	***
Lion	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table J-2 Continued**ESBR: Firm-by-firm unit butadiene cost (merchant market operations), by period**

Unit value in dollars per pound

Firm	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
Goodyear	***	***	***	***	***
Lion	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table J-2 Continued**ESBR: Firm-by-firm unit styrene cost (merchant market operations), by period**

Unit value in dollars per pound

Firm	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
Goodyear	***	***	***	***	***
Lion	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table J-2 Continued
ESBR: Firm-by-firm unit other raw material cost (merchant market operations), by period

Unit value in dollars per pound

Firm	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
Goodyear	***	***	***	***	***
Lion	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table J-2 Continued
ESBR: Firm-by-firm unit total raw materials cost (merchant market operations), by period

Unit value in dollars per pound

Firm	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
Goodyear	***	***	***	***	***
Lion	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table J-2 Continued
ESBR: Firm-by-firm unit direct labor cost (merchant market operations), by period

Unit value in dollars per pound

Firm	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
Goodyear	***	***	***	***	***
Lion	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table J-2 Continued
ESBR: Firm-by-firm unit other factory costs (merchant market operations), by period

Unit value in dollars per pound

Firm	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
Goodyear	***	***	***	***	***
Lion	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table J-2 Continued
ESBR: Firm-by-firm unit conversion costs (merchant market operations), by period

Unit value in dollars per pound

Firm	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
Goodyear	***	***	***	***	***
Lion	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table J-2 Continued
ESBR: Firm-by-firm unit COGS (merchant market operations), by period

Unit value in dollars per pound

Firm	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
Goodyear	***	***	***	***	***
Lion	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table J-2 Continued
ESBR: Firm-by-firm unit gross profit or (loss) (merchant market operations), by period

Unit value in dollars per pound

Firm	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
Goodyear	***	***	***	***	***
Lion	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table J-2 Continued
ESBR: Firm-by-firm unit SG&A expenses (merchant market operations), by period

Unit value in dollars per pound

Firm	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
Goodyear	***	***	***	***	***
Lion	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table J-2 Continued
ESBR: Firm-by-firm unit operating income or (loss) (merchant market operations), by period

Unit value in dollars per pound

Firm	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
Goodyear	***	***	***	***	***
Lion	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table J-2 Continued
ESBR: Firm-by-firm unit net income or (loss) (merchant market operations), by period

Unit value in dollars per pound

Firm	2019	2020	2021	Jan-Jun 2021	Jan-Jun 2022
Goodyear	***	***	***	***	***
Lion	***	***	***	***	***
All firms	***	***	***	***	***

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

Note: Unit conversion costs equals the sum of direct labor cost and unit other factory costs.

