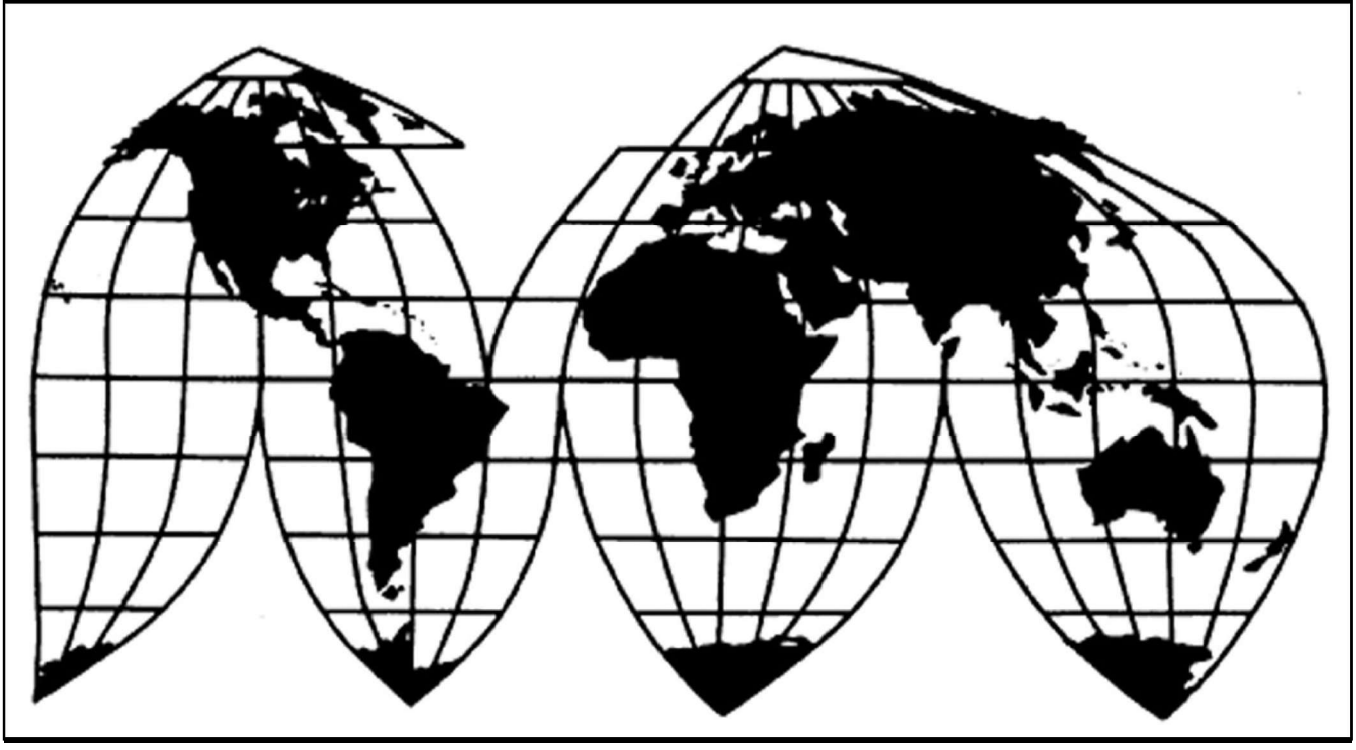
Sodium Nitrite from Russia

Investigation No. 701-TA-680 (Final)

Publication 5342 **August 2022**

U.S. International Trade Commission



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U.S. International Trade Commission

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UNITED STATES INTERNATIONAL TRADE COMMISSION

Investigation No. 701-TA-680 (Final)

Sodium Nitrite from Russia

DETERMINATION

On the basis of the record[1] developed in the subject investigation, the United States International Trade Commission ("Commission") determines, pursuant to the Tariff Act of 1930 ("the Act"), that an industry in the United States is materially injured by reason of imports of sodium nitrite from Russia provided for in subheading 2834.10.10 of the Harmonized Tariff Schedule of the United States, that have been found by the U.S. Department of Commerce ("Commerce") to be subsidized by the government of Russia.[2]

BACKGROUND

The Commission instituted this investigation effective January 13, 2022, following receipt of a petition filed with the Commission and Commerce by Chemtrade Chemicals US LLC, Parsippany, New Jersey. The Commission scheduled the final phase of the investigation following notification of a preliminary determination by Commerce that imports of sodium nitrite from Russia were being subsidized within the meaning of section 703(b) of the Act (19 U.S.C. 1671b(b)). Notice of the scheduling of the final phase of the Commission's investigation and of a public hearing to be held in connection therewith was given by posting copies of the notice in the Office of the Secretary, U.S. International Trade Commission, Washington, DC, and by publishing the notice in the *Federal Register* of April 20, 2022 (87 FR 23567). The Commission conducted its hearing on June 21, 2022. All persons who requested the opportunity were permitted to participate.

The Commission made this determination pursuant to § 705(b) of the Act (19 U.S.C. 1671d(b)). It completed and filed its determination in this investigation on August 15, 2022. The views of the Commission are contained in USITC Publication 5342 (August 2022), entitled *Sodium Nitrite from Russia: Investigation No. 701-TA-680 (Final)*.

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

[2] 87 FR 38375 (June 28, 2022).

Views of the Commission

Based on the record in the final phase of these investigations, we determine that an industry in the United States is materially injured by reason of imports of sodium nitrite from Russia found by the U.S. Department of Commerce ("Commerce") to be subsidized by the Government of Russia.

I. Background

Chemtrade Chemicals US LLC ("Chemtrade" or "Petitioner"), a domestic producer of sodium nitrite, filed countervailing and antidumping duty petitions on imports of sodium nitrite from India and Russia on January 13, 2022. The investigation schedules became staggered when Commerce did not postpone the final determination of its countervailing duty investigation on Russia or align it with the corresponding antidumping duty determination on Russia.[1] Commerce postponed the preliminary determination of the antidumping duty investigation regarding India,[2] and aligned the countervailing duty investigation from India with its corresponding antidumping duty investigation.[3] Commerce issued its preliminary determination in the countervailing duty investigation concerning Russia in April 2022 and its final determination in June 2022.[4] As a result, the Commission must make an earlier final determination in the countervailing duty investigation on sodium nitrite from Russia than in the

[1] *Sodium Nitrite From the Russian Federation: Preliminary Affirmative Determination of Sales at Less Than Fair Value*, 87 Fed. Reg. 38377 (Jun. 28, 2022).

[2] *Sodium Nitrite From India: Postponement of Preliminary Determination in the Less-Than-Fair-Value Investigation*, 87 Fed. Reg. 34851 (Jun. 8, 2022).

[3] *Sodium Nitrite From India: Preliminary Affirmative Countervailing Duty Determination and Alignment of Final Determination With the Final Antidumping Duty Determination*, 87 Fed. Reg. 36824 (Jun. 21, 2022).

[4] *Sodium Nitrite From the Russian Federation: Preliminary Affirmative Countervailing Duty Determination*, 87 Fed. Reg. 22504 (Apr. 15, 2022); *Sodium Nitrite From the Russian Federation: Final Affirmative Countervailing Duty Determination*, 87 Fed. Reg. 38375 (Jun. 28, 2022).

remaining investigations. Pursuant to the statutory cumulation provision on staggered investigations, the record for each of these investigations will be the same except that, prior to the Commission's final determinations for the antidumping duty investigation regarding Russia and the antidumping and countervailing duty determinations regarding India, the Commission shall include the relevant final Commerce antidumping and countervailing duty determinations, and the parties' final comments to the Commission concerning the later determinations, in the record.[5]

Chemtrade filed written testimony, appeared at the hearing accompanied by counsel, and submitted prehearing and posthearing briefs and final comments.[6] Deepak Nitrite Limited ("Deepak"), a foreign producer of sodium nitrite in India, filed written testimony, prehearing and posthearing briefs, and appeared at the hearing accompanied by counsel. No Russian respondent entity submitted prehearing or posthearing submissions or appeared at the hearing.[7]

[5] *See* 19 U.S.C. § 1677(7)(G)(iii). The record for the countervailing duty investigation with respect to Russia closed on July 19, 2022. Commerce is currently scheduled to issue its final antidumping duty determination regarding Russia within 135 days after the publication of its preliminary antidumping duty determination, or November 10, 2022. *See* 87 Fed. Reg. 38377. Commerce is also scheduled to issue its final antidumping and countervailing duty determinations regarding India within 135 days after the publication of its preliminary antidumping duty determination on sodium nitrite from India. *See* 87 Fed. Reg. 34851 (Jun. 8, 2022).

[6] In light of the restrictions on access to the Commission building due to the COVID-19 pandemic, the Commission conducted its hearing through video conference on June 21, 2022, as set forth in procedures provided to the parties. *Sodium Nitrite From India and Russia; Scheduling of the Final Phase of Countervailing Duty and Antidumping Duty Investigations*, 87 Fed. Reg. 23567 (Apr. 20, 2022).

[7] In the preliminary phase of these investigations, Royce Global ("Royce"), a U.S. importer of sodium nitrite, ***, appeared at the conference and filed a post-conference brief, but did not submit a brief or appear at the hearing in this final phase.

U.S. industry data are based on the questionnaire response of one firm that accounted for the vast majority of U.S. production of sodium nitrite in 2021.[8] U.S. imports are based on official import statistics under Harmonized Tariff Schedule ("HTS") statistical reporting number referenced in the scope of investigation, as well as the questionnaire responses of 12 importers that accounted for *** percent of U.S. imports from India and *** percent of U.S. imports from Russia in 2021.[9] The Commission received a response to its questionnaire from one producer/exporter of merchandise from India that accounts for the vast majority of subject imports from India in 2021.[10] The Commission received no questionnaire responses from producers and/or exporters of subject merchandise from Russia.[11]

II. Domestic Like Product

A. In General

In determining whether an industry in the United States is materially injured or threatened with material injury by reason of imports of subject merchandise, the Commission first defines the "domestic like product" and the "industry."[12] Section 771(4)(A) of the Tariff Act of 1930, as amended ("the Tariff Act"), defines the relevant domestic industry as the "producers as a whole of a domestic like product, or those producers whose collective output of a domestic like product constitutes a major proportion of the total domestic production of

[8] Confidential Report, INV-UU-074, as revised by INV-UU-075 ("CR") at III-1 (Jul. 12, 2022), Public Report ("PR") at III-1.
[9] CR/PR at IV-1.
[10] CR/PR at VII-3
[11] CR/PR at VII-8.
[12] 19 U.S.C. § 1677(4)(A).

the product."[13] In turn, the Tariff Act defines "domestic like product" as "a product which is like, or in the absence of like, most similar in characteristics and uses with, the article subject to an investigation."[14]

By statute, the Commission's "domestic like product" analysis begins with the "article subject to an investigation," *i.e.*, the subject merchandise as determined by Commerce.[15] Therefore, Commerce's determination as to the scope of the imported merchandise that is subsidized and/or sold at less than fair value is "necessarily the starting point of the Commission's like product analysis."[16] The Commission then defines the domestic like product in light of the imported articles Commerce has identified.[17] The decision regarding the appropriate domestic like product in an investigation is a factual determination, and the Commission has applied the statutory standard of "like" or "most similar in characteristics and uses" on a case-by-case basis.[18] No single factor is dispositive, and the Commission may

[13] 19 U.S.C. § 1677(4)(A).

[14] 19 U.S.C. § 1677(10).

[15] 19 U.S.C. § 1677(10). The Commission must accept Commerce's determination as to the scope of the imported merchandise that is subsidized and/or sold at less than fair value. *See*, *e.g.*, *USEC, Inc. v. United States*, 34 Fed. App'x 725, 730 (Fed. Cir. 2002) ("The ITC may not modify the class or kind of imported merchandise examined by Commerce."); *Algoma Steel Corp. v. United States,* 688 F. Supp. 639, 644 (Ct. Int'l Trade 1988), *aff'd*, 865 F.3d 240 (Fed. Cir.), *cert. denied*, 492 U.S. 919 (1989).

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

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

[18] *See, e.g., Cleo Inc. v. United States*, 501 F.3d 1291, 1299 (Fed. Cir. 2007); *NEC Corp. v. Department of Commerce*, 36 F. Supp. 2d 380, 383 (Ct. Int'l Trade 1998); *Nippon Steel Corp. v. United*
(Continued...)

consider other factors it deems relevant based on the facts of a particular investigation.[19] The Commission looks for clear dividing lines among possible like products and disregards minor variations.[20]

B. Product Description

Commerce defined the imported merchandise within the scope of the investigation as:

> Sodium nitrite in any form, at any purity level. In addition, the sodium nitrite covered by this investigation may or may not contain an anti-caking agent. Examples of names commonly used to reference sodium nitrite are nitrous acid, sodium salt, anti-rust, diazotizing salts, erinitrit, and filmerine. Sodium nitrite's chemical composition is $NaNO_2$, and it is generally classified under subheading 2834.10.1000 of the Harmonized Tariff Schedule of the United States (HTSUS). The American Chemical Society Chemical Abstract Service (CAS) has assigned the name "sodium nitrite" to sodium nitrite. The CAS registry number is 7632-00-0. For purposes of the scope of these investigations, the narrative description is dispositive, not the tariff heading, CAS registry number or CAS name, which are provided for convenience and customs purposes.[21]

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

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

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

[21] *Sodium Nitrite From the Russian Federation: Final Affirmative Countervailing Duty Determination*, 87 Fed. Reg. 38375, 38376 (Jun. 28, 2022); *see also Sodium Nitrite From the Russian Federation: Preliminary Affirmative Determination of Sales at Less Than Fair Value*, 87 Fed. Reg. 38377 (Continued...)

Sodium nitrite is an industrial chemical with a chemical formula of $NaNO_2$.[22] It has a wide variety of uses, including the detinning of scrap tinplate, phosphating metals, and as a diesel fuel additive, in water treatment chemicals, corrosion inhibitors, oil field applications, dyes and pigments, in heat treating salts to harden metals, as an antidote to cyanide poisoning, as primer for rifle bullets and in other military uses, and in other industrial applications and food production.[23]

The industrial manufacturing process to produce sodium nitrite relies on the transformation of liquid ammonia and a source of sodium (*i.e.*, soda ash or caustic soda).[24] Liquid ammonia is oxidized with air at a high temperature in a catalytic bed to form nitrogen oxides (NO and NO_2), and the nitric oxides then react with the sodium source in an absorption tower and form a sodium nitrite solution.[25] Regardless of the sodium raw material source, all sodium nitrite destined for sale as a dry product must undergo additional processing. The sodium nitrite liquid is crystallized, the crystals are centrifuged, and dried. Manufacturers either blend the crystals with an anti-caking agent to increase the flowability of the powder, or further dry and compact the crystals to yield a finished product with no anti-caking agent. Manufacturers may also dissolve the crystals in water to form a liquid solution form.[26]

(…Continued)
(Jun. 28, 2022); *Sodium Nitrite From India: Preliminary Affirmative Countervailing Duty Determination and Alignment of Final Determination With the Final Antidumping Duty Determination*, 87 Fed. Reg. 36824 (Jun. 21, 2022).

[22] CR/PR at I-7.

[23] CR/PR at I-8-9. Sodium nitrite is used in food dyes and as a preservative in curing meats. *Id*.

[24] CR/PR at I-9.

[25] CR/PR at I-9.

[26] CR/PR at I-9–I-10.

C. Arguments of the Parties

Petitioner argues that the Commission should define a single domestic like product, coextensive with the scope of Commerce's investigations.[27] No respondent party challenges the definition of the domestic like product from the preliminary determinations.[28]

D. Domestic Like Product Analysis

In the preliminary determinations, the Commission defined a single domestic like product consisting of all sodium nitrite, coextensive with the scope. It found that all grades and forms of sodium nitrite share a common chemical formula, have similar properties, and are generally sold in concentrations of greater than 98 percent for the same range of end uses. Moreover, it found that all forms of sodium nitrite within the United States are produced in the same production facility with the same equipment and employees, share common channels of distribution, and have at least some degree of interchangeability. Finally, it found that producers and customers perceive all forms and grades of sodium nitrite as being similar, and pricing data show that domestic prices for different grades and forms of sodium nitrite have significant overlap.[29]

The record in the final phase of these investigations does not contain any new information that would warrant reconsideration of the Commission's definition of a single domestic like product in the preliminary determinations.[30] [31] Accordingly, based on the record

[27] Petitioner's Prehearing Brief at 5-9.

[28] Deepak's counsel clarified that it is not arguing that tech liquor be excluded from the domestic like product definition. Hearing Transcript at 130 (Craven).

[29] *Sodium Nitrite from India and Russia*, Inv. Nos. 701-TA-679-680 and 731-TA-1585-1586 (Preliminary), USITC Pub. 5294 (March 2022) at 9-14 ("*Preliminary Determinations*").

[30] *See generally* CR/PR at I-7–I-11.

and in the absence of any contrary argument, we define a single domestic like product consisting of all sodium nitrite, coextensive with the scope of Commerce's investigations.

III. Domestic Industry

The domestic industry is defined as the domestic "producers as a whole of a domestic like product, or those producers whose collective output of a domestic like product constitutes a major proportion of the total domestic production of the product."[32] In defining the domestic industry, the Commission's general practice has been to include in the industry producers of all domestic production of the like product, whether toll-produced, captively consumed, or sold in the domestic merchant market.

These investigations raise the issue of whether firms that source dry sodium nitrite from outside suppliers and dissolve it into solution engage in sufficient production-related activities to qualify as domestic producers.[33] In deciding whether a firm qualifies as a domestic producer of the domestic like product, the Commission generally analyzes the overall nature of a firm's

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[31] Petitioner asserts that the Commission should define a single domestic like product corresponding to all sodium nitrite in the scope, as it did in the preliminary investigations and all prior sodium nitrite proceedings. No respondent addressed the definition of domestic like product in the preliminary or final phases of these investigations. CR/PR at I-11.

[32] 19 U.S.C. § 1677(4)(A).

[33] The issue of sufficient production-related activities did not arise in the 2008 investigations of sodium nitrite from China and Germany. *See Sodium Nitrite from China and Germany*, Inv. Nos. 701-TA-453 and 731-TA-1136-1137 (Final), USITC Pub. 4029 (Aug. 2008) at 20-21 ("*2008 Sodium Nitrite Investigations*").

These investigations do not raise the issue of whether appropriate circumstances exist to exclude a domestic producer from the domestic industry as a related party, pursuant to the related parties provision in section 771(4)(B) of the Tariff Act. 19 U.S.C. § 1677(4)(B). Specifically, ***. CR/PR at III-2, Table III-2; *see* SABIC email communications, EDIS Doc. 775764 at 1.

U.S. production-related activities, although production-related activity at minimum levels could be insufficient to constitute domestic production.[34]

In the preliminary determinations, the Commission found that the process of dissolving dry sodium nitrite into solution appears to have little complexity relative to the production of sodium nitrite, adds little value, and requires minimal capital investment and employment. Although Chemtrade acknowledged that some purchasers may dissolve domestically produced sodium nitrite into solution for their own internal consumption, the only firm reporting U.S. commercial shipments of dry sodium nitrite sourced from outside suppliers that has been dissolved into solution, U.S. importer ***, sourced all of its dry sodium nitrite from subject sources. The Commission found in the preliminary determinations that U.S. firms that dissolve dry forms of sodium nitrite sourced from outside suppliers into solution do not engage in sufficient production-related activities to qualify as domestic producers.[35]

A. Arguments of the Parties

Petitioner argues that firms that dissolve dry forms of sodium nitrite into solution do not engage in sufficient production-related activities to qualify as domestic producers.[36] Deepak does not address the definition of the domestic industry.

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[34] The Commission generally considers six factors: (1) source and extent of the firm's capital investment; (2) technical expertise involved in U.S. production activities; (3) value added to the product in the United States; (4) employment levels; (5) quantity and type of parts sourced in the United States; and (6) any other costs and activities in the United States directly leading to production of the like product. No single factor is determinative and the Commission may consider any other factors it deems relevant in light of the specific facts of any investigation. *Crystalline Silicon Photovoltaic Cells and Modules from China*, Inv. Nos. 701-TA-481 and 731-TA-1190 (Final), USITC Pub. 4360 at 12-13 (Nov. 2012), *aff'd*, *Changzhou Trina Solar Energy Co. v. USITC*, 879 F. 3d 1377 (Fed. Cir. 2018).

[35] *Preliminary Determinations*, USITC Pub. 5294 at 16-17.

[36] Petitioner's Prehearing Brief at 10-11.

B. Analysis

The record in the final phase of these investigations does not contain any new information that would warrant reconsideration of the Commission's finding in the preliminary phase. For the reasons detailed in the preliminary determination, we find that U.S. firms that dissolve dry forms of sodium nitrite sourced from outside suppliers into solution do not engage in sufficient production-related activities to qualify as domestic producers. Accordingly, based on our definition of the domestic like product, we define the domestic industry as all domestic producers of sodium nitrite, but not firms that dissolve dry forms of sodium nitrite sourced from outside suppliers into solution.

IV. Cumulation[37]

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

[37] Pursuant to Section 771(24) of the Tariff Act, imports from a subject country of merchandise subject to an investigation corresponding to a domestic like product that account for less than 3 percent of all such merchandise imported into the United States during the most recent 12 months for which data are available preceding the filing of the petition shall be deemed negligible. 19 U.S.C. §§ 1671b(a), 1673b(a), 1677(24)(A)(i), 1677(24)(B); *see also* 15 C.F.R. § 2013.1 (developing countries for purposes of 19 U.S.C. § 1677(36)).

During the most recent 12-month period preceding the filing of the petition in this investigation, January 2021 through December 2021, official import statistics indicate that subject imports from Russia accounted for 7.1 percent of total U.S. imports of sodium nitrite for its countervailing duty investigation. CR/PR at Table IV-3. We therefore find that subject imports from Russia for the purposes of our countervailing duty investigation are not negligible.

imports compete with each other and with the domestic like product, the Commission generally has considered four factors:

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

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

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

(4) whether the subject imports are simultaneously present in the market.[38]

While no single factor is necessarily determinative, and the list of factors is not exclusive, these factors are intended to provide the Commission with a framework for determining whether the subject imports compete with each other and with the domestic like product.[39] Only a "reasonable overlap" of competition is required.[40]

A. Arguments of the Parties

Petitioner's Arguments. Petitioner argues that the Commission should cumulate subject imports from India and Russia because the record shows that there is a reasonable overlap of competition between and among subject imports from both countries and the domestic like

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

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

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

product. Petitioner claims that sodium nitrite from India, Russia, and the United States is "sufficiently fungible," given that subject imports and the domestic like product are at least sometimes interchangeable and there is overlap in the *** of grades and forms of sodium nitrite shipped by the domestic industry and subject producers in 2021.[41] Chemtrade further argues that sodium nitrite from all three sources was sold through the same channels of distribution, overlapped in at least certain geographic regions, and were simultaneously present in the U.S. market over the POI.[42]

Respondent's Arguments. Deepak agrees that subject imports from India and Russia should be cumulated.[43] It also states that subject imports from India and Russia are chemically identical and compete for the same end users.[44]

B. Analysis and Conclusion

As an initial matter, the statutory requirement is satisfied because the petitioner filed the antidumping and countervailing duty petitions with respect to India and Russia on the same day, January 13, 2022. As explained below, we find there is a reasonable overlap of competition between subject imports from each of the subject countries, and between subject imports from each source and the domestic like product based on the following considerations.

Fungibility. One U.S. producer reported that subject imports from each subject country were *** interchangeable with each other as well as with domestically produced sodium

[41] Petitioner's Prehearing Brief at 12-14.
[42] Petitioner's Prehearing Brief at 14-15.
[43] Hearing Transcript at 153 (Gupta).
[44] Respondent's Posthearing Brief Responses to Questions from the Commissioners at 7.

nitrite.[45] The one U.S. importer reported that subject imports from India and Russia were sometimes interchangeable, and a majority of U.S. importers reported that subject imports from both sources were at least sometimes interchangeable with domestically produced sodium nitrite.[46] One of two responding purchasers reported that subject imports from India and Russia were sometimes interchangeable and that subject imports from Russia were sometimes interchangeable with domestically produced sodium nitrite; a majority of purchasers reported that subject imports from India were frequently interchangeable with domestically produced sodium nitrite.[47] Furthermore, the responding domestic producer and importers reported U.S. shipments in 2021 of granular and liquid sodium nitrite from each source, the types of sodium nitrite most prevalent in the market,[48] and of pricing product 4 (sodium nitrite in aqueous solution).[49]

Channels of Distribution. Domestically produced sodium nitrite and imports from each subject source were generally sold through the same channels of distribution, to distributors and end users.[50] Chemtrade sold primarily to end users, although its proportion of sales to distributors increased over the POI. U.S. shipments of subject imports from India were sold in

[45] CR/PR at Table II-11.

[46] CR/PR at Table II-12. Six of seven responding U.S. importers reported that the domestic like product and subject imports from India were at least sometimes interchangeable, all responding importers reported that the domestic product and subject imports from Russia were sometimes interchangeable. *Id*.

[47] CR/PR at Table II-13. One of two responding purchasers reported that the domestic product and subject imports from Russia were sometimes interchangeable, and 11 of 12 responding U.S. purchasers reported that the domestic like product and subject imports from India were at least sometimes interchangeable. *Id*.

[48] CR/PR at Table IV-4. Firms reported U.S. shipments in 2021 from each source for sodium nitrite types including granular less than 99 percent pure and liquid tankers/railcars. *Id*.

[49] CR/PR at Table V-9.

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

similar proportions to distributors and end users, although the concentration varied, while U.S. shipments of subject imports from Russia were sold primarily to end users.[51]

Geographic Overlap. Domestically produced sodium nitrite and imports from each subject country were sold in the *** geographic markets of the United States during the POI.[52] The vast majority of subject imports from both sources entered the United States through Eastern borders of entry, specifically through Charleston, South Carolina.[53]

Simultaneous Presence in Market. Domestically produced sodium nitrite and subject imports from India were present in the U.S. market throughout the POI.[54] Subject imports from Russia were present in the U.S. market in some months in 2019, and most months from January 2020 through August 2021, which was the last month of the POI in which subject imports from Russia were recorded.[55] Subject imports from India and Russia were present in the U.S. market in 22 of 39 months from 2019 through first-quarter 2022.[56]

Conclusion. The record supports finding that subject imports from India and Russia are sufficiently fungible with the domestic like product and each other, that subject imports from each subject country and the domestic like product are sold in the same channels of distribution, in similar geographic markets, and have been simultaneously present in the U.S. market. In light of the foregoing, we find a reasonable overlap of competition between and

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

[52] CR/PR at Table II-2. Questionnaire respondents reported subject imports from Russia being sold only in the Northeast and Midwest geographic markets; respondents indicated that ***. *Id*.

[53] CR/PR at IV-15 & Table IV-7.

[54] CR/PR at Tables IV-8, V-5–V-9 (showing quarterly shipments of domestic sodium nitrite).

[55] CR/PR at Table IV-8. Subject imports from Russia were present in the U.S. market for five months in 2019, 11 months in 2020, six months in 2021, and were not present in interim 2022. *Id*.

[56] CR/PR at Table IV-8.

among imports from each subject country and the domestic like product. Accordingly, we analyze subject imports from India and Russia on a cumulated basis for our analysis of whether the domestic industry is materially injured by reason of subject imports.

V. Material Injury by Reason of Subject Imports

Based on the record in the final phase of these investigations, we find that an industry in the United States is materially injured by reason of imports of sodium nitrite from Russia that Commerce has found to be subsidized by the government of Russia.

A. Legal Standards

In the final phase of antidumping and countervailing duty investigations, the Commission determines whether an industry in the United States is materially injured or threatened with material injury by reason of the imports under investigation.[57] In making this determination, the Commission must consider the volume of subject imports, their effect on prices for the domestic like product, and their impact on domestic producers of the domestic like product, but only in the context of U.S. production operations.[58] The statute defines "material injury" as "harm which is not inconsequential, immaterial, or unimportant."[59] In assessing whether the domestic industry is materially injured by reason of subject imports, we consider all relevant economic factors that bear on the state of the industry in the United States.[60] No single factor is dispositive, and all relevant factors are considered "within the

[57] 19 U.S.C. §§ 1671d(b), 1673d(b).

[58] 19 U.S.C. § 1677(7)(B). The Commission "may consider such other economic factors as are relevant to the determination" but shall "identify each {such} factor ... and explain in full its relevance to the determination." 19 U.S.C. § 1677(7)(B).

[59] 19 U.S.C. § 1677(7)(A).

[60] 19 U.S.C. § 1677(7)(C)(iii).

context of the business cycle and conditions of competition that are distinctive to the affected industry."[61]

Although the statute requires the Commission to determine whether the domestic industry is "materially injured or threatened with material injury by reason of" unfairly traded imports,[62] it does not define the phrase "by reason of," indicating that this aspect of the injury analysis is left to the Commission's reasonable exercise of its discretion.[63] In identifying a causal link, if any, between subject imports and material injury to the domestic industry, the Commission examines the facts of record that relate to the significance of the volume and price effects of the subject imports and any impact of those imports on the condition of the domestic industry. This evaluation under the "by reason of" standard must ensure that subject imports are more than a minimal or tangential cause of injury and that there is a sufficient causal, not merely a temporal, nexus between subject imports and material injury.[64]

In many investigations, there are other economic factors at work, some or all of which may also be having adverse effects on the domestic industry. Such economic factors might include nonsubject imports; changes in technology, demand, or consumer tastes; competition

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[61] 19 U.S.C. § 1677(7)(C)(iii).

[62] 19 U.S.C. §§ 1671d(b), 1673d(b).

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

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

among domestic producers; or management decisions by domestic producers. The legislative history explains that the Commission must examine factors other than subject imports to ensure that it is not attributing injury from other factors to the subject imports, thereby inflating an otherwise tangential cause of injury into one that satisfies the statutory material injury threshold.[65] In performing its examination, however, the Commission need not isolate the injury caused by other factors from injury caused by unfairly traded imports.[66] Nor does the "by reason of" standard require that unfairly traded imports be the "principal" cause of injury or contemplate that injury from unfairly traded imports be weighed against other factors,

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

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

such as nonsubject imports, which may be contributing to overall injury to an industry.[67] It is clear that the existence of injury caused by other factors does not compel a negative determination.[68]

Assessment of whether material injury to the domestic industry is "by reason of" subject imports "does not require the Commission to address the causation issue in any particular way" as long as "the injury to the domestic industry can reasonably be attributed to the subject imports."[69] The Commission ensures that it has "evidence in the record" to "show that the harm occurred 'by reason of' the LTFV imports," and that it is "not attributing injury from other sources to the subject imports."[70] The Federal Circuit has examined and affirmed various Commission methodologies and has disavowed "rigid adherence to a specific formula."[71]

The question of whether the material injury threshold for subject imports is satisfied notwithstanding any injury from other factors is factual, subject to review under the substantial

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

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

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

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

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

evidence standard.[72] Congress has delegated this factual finding to the Commission because of the agency's institutional expertise in resolving injury issues.[73]

B. Conditions of Competition and the Business Cycle

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

1. Demand Considerations

As noted above, sodium nitrite is used as a chemical additive in a wide array of applications, including dyes, metal treatments, and food additives.[74] U.S. demand for sodium nitrite depends on the demand for these downstream products produced in the United States.[75] Sodium nitrite generally accounts for a small share of the costs for these downstream products, but these costs can vary, ranging between 0.1 percent to 2.0 percent of the cost of pigments, between 6.5 and 10.0 percent for dye synthesis, less than 1 percent for corrosion inhibitors, between 0.1 and 6.0 percent for food curing, and 10 percent for plastic film bags. However, respondents also reported that there are some end uses with higher cost shares of

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

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

[74] CR/PR at II-10.

[75] CR/PR at II-10. Four of eight responding purchasers reported that they increased purchases of sodium nitrite due to an increase in demand related to the easing of COVID-19 lockdowns and increased demand for downstream products. *Id*. at V-6.

sodium nitrite.[76] A vast majority of responding firms indicated that there are no substitutes for sodium nitrite.[77]

, eight of 12 responding U.S. importers, and 16 of 18 responding purchasers reported that demand for sodium nitrite was not subject to business cycles, while four importers reported that demand was subject to seasonal effects, and that demand and/or inventory levels were subject to cyclical changes due to pricing and/or demand. One purchaser reported that demand was subject to fluctuations in the oilfield market.[78] U.S. producer Chemtrade reported that U.S. demand *** during the POI, while U.S. importers and purchasers reported varying demand trends.[79] The record indicates that apparent U.S. consumption of sodium nitrite increased slightly from 2019 to 2021, from *** pounds in 2019 to *** pounds in 2020, and *** pounds in 2021, a level *** percent higher than in 2019.[80] Apparent U.S. consumption was *** percent lower in January-March ("interim") 2022 (pounds) than in interim 2021 (*** pounds).[81]

[76] CR/PR at II-10. Responding purchasers reported that sodium nitrite accounts for between 35 and 50 percent of the costs for ***, 90 percent for ***, and 99 percent for ***. *Id*.

[77] CR/PR at II-11. 14 of 16 responding firms indicated there are no substitutes, while importer *** reported that *** is a possible substitute. *Id*.

[78] CR/PR at II-10.

[79] CR/PR at Table II-4. Four importers reported fluctuating domestic demand, three reported that it did not change, two reported increased demand, and one reported decreased demand. Six purchasers reported fluctuating domestic demand, five reported no change, three reported increased demand, and one reported decreased demand. *Id*.

[80] SABIC provided partial production and U.S. shipment data, with data covering calendar years 2019, 2020, and 2021, but not interim 2021 or interim 2022. Taking into account SABIC's U.S. shipments, apparent U.S. consumption was *** pounds in 2019, *** pounds in 2020, and *** pounds in 2021. CR/PR at Table D-1.

[81] CR/PR at Tables IV-9 & C-1.

2. Supply Conditions

There are two domestic producers of sodium nitrite, Chemtrade and SABIC.[82] The domestic industry was the largest supplier to the U.S. market during the POI, but its share declined throughout the POI. The domestic industry's share of apparent U.S. consumption declined from *** percent in 2019 to *** percent in 2020 and *** percent in 2021; its share was higher in interim 2022 (*** percent) than in interim 2021 (*** percent).[83] The industry's production capacity was steady throughout the POI, remaining at *** pounds from 2019-2021 and at *** pounds in the interim periods, and this capacity exceeded apparent U.S. consumption throughout the POI.[84]

Cumulated subject imports accounted for the second largest share of apparent U.S. consumption, and this share increased throughout the POI. Cumulated subject imports increased as a share of apparent U.S. consumption from *** percent in 2019 to *** percent in 2020 and to *** percent in 2021. Their market share was lower in interim 2022 (*** percent) than in interim 2021 (*** percent).[85]

[82] CR/PR at I-4 & n.6, III-1 n.1 & Table D-1. SABIC primarily produces plastics/polymers, and sodium nitrite is a by-product of this production. Chemtrade was the larger domestic producer, accounting for *** percent of U.S. producers' U.S. shipments of sodium nitrite in 2019, *** percent in 2020, and *** percent in 2021. *Id*.

[83] CR/PR at Tables IV-9 & C-1. Taking into account SABIC's U.S. shipments, the domestic industry's share of apparent U.S. consumption was *** percent in 2019, *** percent in 2020, and *** percent in 2021. *Id*.at Table D-1.

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

[85] CR/PR at Tables IV-9 & C-1. Taking into account SABIC's U.S. shipments, cumulated subject imports' share of apparent U.S. consumption was *** percent in 2019, *** percent in 2020, and *** percent in 2021. *Id*. at Table D-1.

Nonsubject imports accounted for the smallest share of apparent U.S. consumption during the POI.[86] Nonsubject imports' share of apparent consumption was steady at *** percent from 2019 to 2021; there were *** in interim 2021 and they were *** percent of apparent consumption in interim 2022.[87]

*** and some importers reported that they had experienced supply constraints during the POI.[88] Seven of 17 responding purchasers reported supply constraints before the petition filing, and ten of 16 reported supply constraints after the petition filing.[89] Chemtrade reported that it maintains a *** in inventory to handle any work stoppages such as when it ceased production ***, for COVID-19 outbreaks for 10 days in November 2020 and *** in April 2021, and ***.[90]

3. Substitutability and Other Conditions

The record indicates that there is a moderately high degree of substitutability between cumulated subject imports and the domestic like product.[91] Factors contributing to the substitutability of subject and domestic sodium nitrite include similarities in the quality and forms of sodium nitrite available from different sources, as well as the high degree of

[86] Based on official U.S. import statistics (HTS 2834.10.1000), Australia was the top nonsubject source for the period for which data was collected, followed by Germany. *** exporter of merchandise from Canada under HTS 2834.10.1000, stated that it does not export sodium nitrite from Canada to the United States and does not have any sodium nitrite production in Canada. Accordingly, Canadian imports, representing less than 9.8 percent of imports under HTS 2834.10.1000 in any year during 2018-20, are not included in nonsubject imports data. CR/PR at IV-2, n.2.

[87] CR/PR at Tables IV-9 & C-1. Taking into account SABIC's U.S. shipments, nonsubject imports' share of apparent U.S. consumption did not change and was *** percent in 2019, 2020, and 2021. *Id*. at Table D-1.

[88] CR/PR at II-9.

[89] CR/PR at II-9.

[90] CR/PR at II-9; Petitioner's Prehearing Brief at 18-20. Chemtrade reported that these short-term outages did not result in any production issues. *Id*.

[91] CR/PR at II-11.

interchangeability between subject and domestic sodium nitrite of the same type.[92] As discussed above, Chemtrade reported that imports from each subject country were *** interchangeable with each other as well as with domestically produced sodium nitrite. A majority of U.S. importers reported that subject imports from both sources were at least sometimes interchangeable with domestically produced sodium nitrite, while one U.S. importer reported that subject imports from India and Russia were sometimes interchangeable.[93] The majority of purchasers reported that subject imports from India were always or frequently interchangeable with the domestic like product, and one of two purchasers reported that subject imports from Russia were sometimes interchangeable with the domestic like product and subject imports from India.[94] Furthermore, Chemtrade and responding importers reported U.S. shipments of similar types of sodium nitrite in 2021.[95]

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[92] CR/PR at II-11–I-12. Factors that may reduce substitutability between domestic and subject imported sodium nitrite include the unavailability of food grade product from subject sources and some differences in reported interchangeability between the domestic like product and subject sources by responding purchasers. *Id*.

[93] CR/PR at Table II-12. Six of seven responding U.S. importers reported that the domestic like product and subject imports from India were at least sometimes interchangeable, and both responding importers reported that the domestic product and subject imports from Russia were sometimes interchangeable. *Id*.

[94] CR/PR at II-20 & Table II-13. Eleven of twelve responding U.S. purchasers reported that the domestic like product and subject imports from India were at least sometimes interchangeable, and one of two responding purchasers reported that subject imports from Russia were sometimes interchangeable with the domestic like product and subject imports from India. *Id*.

[95] CR/PR at Table IV-4. In 2021, Chemtrade and responding importers reported U.S. shipments of domestic and subject sodium nitrite of the same four types, including ***. These types account for the vast majority of sodium nitrite shipped in the U.S. in 2021. *Id.* U.S. importers reported only two types of sodium nitrite for which Chemtrade did not report U.S. shipments, sodium nitrite in ***. *Id*. As further discussed below, there is overlap in the products that are sold, with the domestic producers and importers of subject imports reporting U.S. shipments of ***. *Id*. Moreover, there is evidence on the record that subject importer's briquette form can be used interchangeably with the domestic producer's flake form. *Id*. at II-2; Petitioner's Prehearing Brief at 37-38; Petitioner's Posthearing Brief at 11 and I-14. U.S. importers' U.S. shipments of prill are minimal, accounting for just *** percent of such shipments in 2021. CR/PR at Table IV-4.

We also find that price is an important factor in purchasing decisions, among other factors. Responding purchasers identified availability/supply/lead times, price, and quality as the most important purchasing factors for sodium nitrite, with fourteen responding purchasers identifying price as among their three most important purchasing factors.[96] Chemtrade reported that differences other than price were *** significant when comparing domestically produced sodium nitrite and subject imports, and responding U.S. importers reported that such differences were only *** significant when comparing domestically produced sodium nitrite with subject imports from Russia.[97] On the other hand, the majority of responding U.S. importers reported that such differences were always or frequently significant when comparing domestically produced sodium nitrite with subject imports from India.[98] Eleven of 12 responding purchasers reported that differences other than price were sometimes or never significant when comparing their purchases of subject imports from India and the domestic like product, as did both responding purchasers when comparing subject imports from Russia and the domestic like product.[99]

[96] CR/PR at Table II-6. Of responding purchasers, 16 identified availability/supply/lead times as an important purchasing factor, 14 identified price, eight identified quality, and three identified service. *Id*.

[97] CR/PR at Table II-14. When comparing subject imports from Russia with the domestic like product, two importers reported that non-price differences were sometimes important. *Id*.

[98] CR/PR at Table II-15. When comparing domestic sodium nitrite and subject imports from India, three importers reported that non-price differences were always important, three reported that such differences were frequently important, and one reported that such differences were only sometimes important. *Id*.

[99] CR/PR at Table II-16.

Sodium nitrite is primarily sold from inventory. Chemtrade reported that *** of its commercial shipments were from inventory, with lead times averaging *** days.[100] Responding importers reported that *** percent of their commercial shipments were from U.S. inventories, with lead times averaging five days.[101] *** importers reported setting prices primarily using transaction-by-transaction negotiations.[102] Further, *** importers reported selling all or most of their sodium nitrite on the spot market.[103]

The principal raw materials used to produce sodium nitrite are ammonia and either soda ash (a process used by Chemtrade) or caustic soda (a process used by Deepak).[104] Ammonia prices remained relatively flat from January 2019 to January 2021 and then tripled from January 2021 to March 2022, with substantial increases in the first and last quarters of 2021.[105] Chemtrade also reported using natural gas to generate steam in its production process, and prices for natural gas fluctuated from 2019 to 2020 before increasing sharply in 2021, resulting in prices that were 32.7 percent higher in March 2022 than in January 2019.[106]

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[100] CR/PR at II-14. In the final phase of these investigations, Chemtrade clarified that customers began placing earlier orders, on average a month before their requested shipping date, and Chemtrade was shipping the orders earlier within a week of the target date. *Id*. at II-14 n.43.

[101] CR/PR at II-14. The remaining *** percent of importers' commercial U.S. shipments were from foreign inventories, with lead times averaging 70 days. *Id*.

[102] CR/PR at Table V-3. *** importer reported using both set price lists and transaction-by-transaction methods. *Id*. at V-5 & Table V-3.

[103] CR/PR at Table V-4. ***. Otherwise, all other sales were in the spot market. *Id*.

[104] CR/PR at V-1; *see also* Hearing Transcript at 165 (Cannon). As previously noted, SABIC primarily produces plastics/polymers, and sodium nitrite is a by-product of this production. CR/PR at III-n.1.

[105] CR/PR at V-1, Figure V-1 & Table V-1. The increase in ammonia prices in 2021 resulted from increasing prices for natural gas (used in ammonia production) and increased demand for fertilizer, which uses ammonia. *Id*.

[106] CR/PR at V-2-3, Figure V-2 & Table V-2. Natural gas prices peaked in February 2021 due to winter storms in Texas and Oklahoma. While natural gas prices declined in March 2021 after this peak, prices subsequently increased throughout the remainder of the POI. *Id*. at V-3.

Tech liquor, a mixture of roughly two-thirds sodium nitrite and one-third sodium nitrate, is produced as part of the sodium nitrite production process and is included in the scope of these investigations and the definition of the domestic like product.[107] Only Chemtrade reported U.S. shipments of tech liquor during the POI.[108]

In August 2008, antidumping duties were imposed on imports of sodium nitrite to the U.S. market from China and Germany, and countervailing duties were imposed on imports of sodium nitrite from China; these orders remain in place.[109]

C. Volume of Cumulated Subject Imports

Section 771(7)(C)(i) of the Tariff Act provides that the "Commission shall consider whether the volume of imports of the merchandise, or any increase in that volume, either in absolute terms or relative to production or consumption in the United States, is significant."[110]

The volume of cumulated subject imports increased from 10.7 million pounds in 2019 to 14.8 million pounds in 2020 and 16.6 million pounds in 2021, a level 55.9 percent higher than in 2019.[111] Cumulated subject imports' share of apparent U.S. consumption similarly increased,

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[107] CR/PR at II-10.

[108] Petitioner's Posthearing Brief at 6 & I-4. Chemtrade ***. *Id*.

[109] CR/PR at I-5.

[110] 19 U.S.C. § 1677(7)(C)(i).

[111] CR/PR at Tables IV-9 & C-1. Subject imports totaled 5.3 million dry pounds in the interim 2021 period, constituting 40 percent of apparent U.S. consumption, and declined to 2.8 million dry pounds in the interim 2022 period, constituting 26.6 percent of apparent U.S. consumption. *Id*. at Tables IV-2 & IV-9. Petitioner argues that the lower volume and market share of subject imports in interim 2022, compared with interim 2021, should be discounted as attributable to the filing of the petitions on January 22, 2022. Petitioner's Prehearing Brief at 34; CR/PR at Table C-1. Deepak acknowledges that the filing of the petitions had a "significant chilling effect" with regard to the sale of the subject merchandise in the U.S. market and noted that U.S. purchasers have not been willing to make purchases of subject imports until the final determinations of these investigations. Respondent's Posthearing Brief Responses to Questions from the Commissioners at 22.
(Continued...)

from *** percent in 2019 to *** percent in 2020 and *** percent in 2021; these increases in subject import market share were at the expense of the domestic industry.[112]

We find that the volume of cumulated subject imports and the increase in that volume are significant both in absolute terms and relative to consumption in the United States during the POI.

D. Price Effects of the Subject Imports

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

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

(II) the effect of imports of such merchandise otherwise depresses prices to a significant degree or prevents price increases, which otherwise would have occurred, to a significant degree.[113]

(…Continued)

We recognize that the volume of cumulated subject imports was 47.3 percent lower in interim 2022 than in interim 2021, and subject imports' market share was *** percentage points lower, subsequent to the filing of the petitions on January 13, 2022. CR/PR at Table C-1. Given this and Deepak's acknowledgement that the petition filing led to significantly decreased sales of subject imports, we find that declines in subject import volume, U.S. shipments, and market share in interim 2022 reflect the impact of the filing of the petitions and we therefore accord less weight to the interim period in assessing the significance of subject import volumes.

[112] CR/PR at Tables IV-9 & C-1. As noted above, SABIC provided partial production and U.S. shipment data, with data covering calendar years 2019, 2020, and 2021, but not interim 2021 or interim 2022. Taking into account SABIC's U.S. shipments, cumulated subject imports' share of apparent U.S. consumption was *** percent in 2019, *** percent in 2020, and *** percent in 2021. *Id*. at Table D-1.

[113] 19 U.S.C. § 1677(7)(C)(ii).

As discussed above, we find that there is a moderately high degree of substitutability between the domestic like product and cumulated subject imports and that price is an important consideration in purchasing decisions.

The Commission requested that U.S. producers and importers provide quarterly data for the total quantity and f.o.b. value of their sales of four sodium nitrite products to unrelated customers from January 2019 through March 2022.[114] Chemtrade and seven importers reported usable pricing data for sales, although not all firms reported data for all products or for all quarters.[115] Pricing data reported by these firms accounted for approximately *** percent of the domestic industry's U.S. shipments, *** percent of U.S. shipments of subject imports from India, and *** percent of U.S. shipments of subject imports from Russia in 2021.[116]

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[114] The pricing products were defined as follows:

Product 1.— Minimum sodium nitrite component of 98.0 percent. Sodium nitrite may or may not contain an anti-caking agent. Sodium nitrite may or may not be sold in prill form. Do not include flake, briquettes, liquor or products that meet the definition of "food grade" as defined below;

Product 2.— Minimum sodium nitrite component of 98.0 percent, in flake form. Sodium nitrite may or may not contain an anti-caking agent. Do not include flakes or products that meet the definition of "food grade" as defined below;

Product 3.— Minimum sodium nitrite component of 98.0 percent, in briquette form. Sodium nitrite may or may not contain an anti-caking agent. Do not include briquettes or products that meet the definition of "food grade" as defined below;

Product 4.— Sodium nitrite in aqueous solution, with a nominal concentration between 38 and 42 percent. Do not include products that meet the definition of "food grade" as defined below.

"Food grade" sodium nitrite is certified as complying with the Food Chemical Codex (FCC) and current Good Manufacturing Practice (cGMP). "Food grade" sodium nitrite may or may not contain an anti-caking agent, and may or may not be sold in prill form. CR/PR at V-7 & n.7.

[115] CR/PR at V-7–V-8. U.S. producer Chemtrade *** and importers of sodium nitrite from Russia only reported price data for pricing product 4. *Id*.

[116] CR/PR at V-7–V-8.

According to these pricing data, cumulated subject imports undersold the domestic like product in 30 of 37 quarterly comparisons (81.1 percent), at underselling margins ranging from less than 0.05 percent to 35.2 percent, and averaging 13.5 percent; subject import volumes in quarters with underselling totaled 25.4 million pounds (79.1 percent of the volume of subject imports encompassed by the pricing data).[117] Subject imports oversold the domestic like product in the remaining seven comparisons (19.0 percent), at overselling margins ranging from 2.7 percent to 9.0 percent, and averaging 6.1 percent; subject import volumes in quarters with overselling totaled 6.7 million pounds (20.8 percent).[118]

We have also considered purchasers' responses to lost sales and lost revenue allegations. Of 17 responding purchasers, nine reported that they purchased subject imports from India and one reported that it purchased subject imports from Russia, rather than U.S.-produced product. Three of the nine responding purchasers regarding India and the one responding purchaser regarding Russia reported that subject import prices were lower than the U.S. product. All three responding purchasers regarding India reported that

[117] CR/PR at Table V-13.

[118] CR/PR at Table V-13. Petitioner argues that the Commission should combine the pricing data for pricing product 2 (flake) and 3 (briquette), because flake and briquette are both sodium nitrite, free of anti-caking agent, in a pellet form that will not cake. The largest importer of subject merchandise, Royce, uses the terms flake and briquette interchangeably in its product listing; purchaser *** reported that ***; and purchaser *** sources sodium nitrite from Deepak with a specification sheet that refers to the material as "briq., flake, pastille, pellet, or prill," with specifications similar to Chemtrade's flake sodium nitrite. Petitioner's Prehearing Brief at 37-38; Petitioner's Posthearing Brief at 11 and I-14.

If pricing products 2 and 3 are combined, the results are similar: cumulated subject imports undersold the domestic like product in 37 of 46 quarterly comparisons (80.4 percent) involving 28.4 million pounds (80.2 percent of the total volume encompassed by the pricing data), at underselling margins ranging from < 0.05 percent to 27.3 percent and averaging 12.1 percent. Subject imports oversold the domestic like product in the remaining 9 comparisons (20.0 percent) involving 7.0 million pounds (19.8 percent), at overselling margins ranging from 0.3 percent to 9.0 percent and averaging 5.1 percent. CR/PR at Table V-15.

price was a primary reason for the decision to purchase imported product rather than U.S.-produced product. The one purchaser regarding Russia did not report that price was a primary reason for purchasing the imported product.[119] These purchasers reported purchasing *** pounds of subject imports instead of the domestic like product primarily due to price.[120] Responding purchasers reported that their purchases of domestically produced sodium nitrite declined as a share of their total purchases by *** percentage points from 2019 to 2021, while the subject import share of their purchases increased by *** percent.[121]

Given the available pricing data and the moderately high degree of substitutability between the domestic like product and subject imports, as well as the importance of price in purchasing decisions, we find that subject import underselling was

[119] CR/PR at V-23 & Table V-18. Other firms that reported purchasing subject imports instead of the domestic like product reported non-price reasons for such purchases, including U.S. producers' payment terms, U.S. producers' inability to offer consignment stock options, domestic supplier unwillingness to negotiate, having no access to domestic product from the producer, delays due to domestic material availability, having additional supply sources, customer demand for a specific brand, and ***. *Id*. at V-23.

[120] CR/PR at V-23 & Table V-18. The quantity of confirmed lost sales corresponded to *** percent of the total aggregate *** pounds of sodium nitrite purchases from all sources reported by 18 purchasers that responded to the Commission's questionnaires, and *** percent of apparent U.S. consumption over the POI. *Derived from* CR/PR at Tables V-17, V-18, and C-1. The quantity of confirmed lost sales corresponded to *** percent of the quantity of subject imports purchased by responding purchasers, and *** percent of the volume of subject imports over the POI. *Derived from* CR/PR at Tables IV-2, V-17, and V-18. Purchaser *** acknowledged that in 2021, when it shifted purchases from domestic product to subject imports, domestic prices were 10 percent higher than subject import prices. *** Purchaser Questionnaire at II-3 (c). Purchaser *** indicated in the preliminary phase that it purchased *** pounds of subject imports instead of the domestic like product due to lower prices, however it did not submit a purchaser questionnaire in the final phase. *Id*. at V-23 n.13; Preliminary Staff Report, INV-UU-015, at Table V-13.

[121] CR/PR at Table V-17.

significant. Subject imports gained *** percentage points in market share from the domestic industry from 2019 to 2021.[122]

We have also examined available data on price trends. U.S. prices for sodium nitrite increased between January 2019 and March 2022.[123] Domestic prices increased for each of the pricing products over this period, with prices increasing *** percent for product 1, *** percent for product 2, and *** percent for product 4.[124] Prices for subject imports from India also increased, with an increase of *** percent for product 1, *** percent for product 3, and *** percent for product 4.[125]

Based on the foregoing, we find that subject imports did not depress domestic prices to a significant degree.

We have also considered whether cumulated subject imports prevented price increases that would have otherwise occurred to a significant degree. We recognize that the domestic industry faced increased costs in the latter portion of the POI, due in large part to increasing

[122] CR/PR at Table C-1. SABIC provided partially complete production and U.S. shipment data, with data covering calendar years 2019, 2020, and 2021, but not interim 2021 or interim 2022. Taking into account SABIC's U.S. shipments, the domestic industry lost *** percentage points of market share, while subject imports increased *** percentage points. *Id*. at Table D-1.

[123] While the largest quarter to quarter increase in domestic producer prices occurred from the fourth quarter of 2021 to the first quarter of 2022, *i.e.*, after the filing of the petitions, prices increased throughout the POI. CR/PR at Tables V-5 to V-9.

[124] CR/PR at Table V-10.

[125] CR/PR at Table V-10. We recognize that prices in the 2022 interim period (*i.e.,* January-March 2022) may have been impacted by the January 2022 filing of the petition. Between the first quarter of 2019 and the last quarter of 2021, domestic prices also increased for each of the pricing products, with prices increasing *** percent for product 1, *** percent for product 2, and *** percent for product 4.[125] Prices for subject imports from India also increased, with an increase of *** percent for product 1, *** percent for product 3, and *** percent for product 4. CR/PR at Table V-5, Table V-7, and Table V-9. There was not sufficient pricing data for subject imports from Russia to calculate a price change over the period. No importers reported pricing data for subject imports from Russia for products 1, 2, or 3, and importers reported only *** quarters of pricing data for product 4. *Id*.

ammonia prices;[126] however, the domestic industry's ratio of cost of goods sold ("COGS") to net sales value declined from 2019 to 2021 as net sales value increased to a greater extent.[127] The industry's ratio of COGS to net sales value decreased irregularly between 2019 and 2021, initially decreasing from *** percent in 2019 to *** percent in 2020 before increasing to *** percent in 2021, a level *** percentage points lower than in 2019.[128] Chemtrade claims that subject imports suppressed domestic like product prices from 2020 to 2021 as raw material costs increased.[129] However, Chemtrade implemented an ammonia surcharge in April 2021, which helped its net sales value unit value to increase by $*** per dry pound from 2020 to 2021, more than increasing unit raw material COGS ($*** per dry pound) or unit total COGS ($*** per dry pound).[130] Given this record evidence, we cannot conclude that cumulated subject imports prevented price increases which otherwise would have occurred to a significant degree.

Based on the record, we find that cumulated subject imports significantly undersold the domestic like product and took sales and market share from the domestic industry. Accordingly, we find that subject imports had significant price effects on the domestic like product.

[126] CR/PR at Table V-1. Ammonia prices tripled from January 2021 to March 2022, with substantial increases in the first and last quarters of 2021. *Id*.

[127] CR/PR at Tables VI-1 & C-1. Chemtrade's total net sales value increased $*** from 2019 to 2021 while COGS increased only $*** over the same period. Unit net sales value increased by $*** per dry pound from 2019 to 2021, while unit COGS increased by $*** per dry pound over the same period. *Id*.

[128] CR/PR at Tables VI-1 & C-1.

[129] Petitioner's Prehearing Brief at 43-44.

[130] CR/PR at Tables VI-1 & C-1. Chemtrade's net sales value increased $*** from 2020 to 2021, while COGS increased $*** over the same period. *Id*.

E. Impact of the Subject Imports

Section 771(7)(C)(iii) of the Tariff Act provides that examining the impact of subject imports, the Commission "shall evaluate all relevant economic factors which have a bearing on the state of the industry."[131] These factors include output, sales, inventories, capacity utilization, market share, employment, wages, productivity, gross profits, net profits, operating profits, cash flow, return on investment, return on capital, ability to raise capital, ability to service debts, research and development, and factors affecting domestic prices. No single factor is dispositive and all relevant factors are considered "within the context of the business cycle and conditions of competition that are distinctive to the affected industry."[132]

Cumulated subject imports significantly increased from 2019 to 2021, taking sales and market share from the domestic industry.[133] Cumulated subject imports increased from 10.7 million pounds in 2019 to 16.6 million pounds in 2021 and gained *** percentage points of market share at the expense of the domestic industry.[134] Consequently, the domestic

[131] 19 U.S.C. § 1677(7)(C)(iii); *see also* SAA at 851 and 885 ("In material injury determinations, the Commission considers, in addition to imports, other factors that may be contributing to overall injury. While these factors, in some cases, may account for the injury to the domestic industry, they also may demonstrate that an industry is facing difficulties from a variety of sources and is vulnerable to dumped or subsidized imports.").

[132] 19 U.S.C. § 1677(7)(C)(iii). This provision was amended by the Trade Preferences Extension Act of 2015, Pub. L. 114-27.

[133] As discussed above in n.111, subject import volumes and market share were substantially lower in interim 2022 than in interim 2021 due to the filing of the petitions and the pendency of the investigations. Taking this into account, we find that the 2019–2021 period is the appropriate context for evaluating the impact of subject imports on the domestic industry.

[134] CR/PR at Tables IV-9 & C-1. The domestic industry's market share declined by *** percentage points over the POI, from *** percent in 2019 to *** percent in 2020 and *** percent in 2021. *Id*. at Table IV-9. Including SABIC's U.S. shipments, the domestic industry's share of apparent U.S. consumption declined by *** percentage points, from *** percent in 2019 to *** percent in 2020 and *** percent in 2021. *Id*. at Table D-1.

industry's production[135] and U.S. shipments[136] declined between 2019 and 2021 and its revenues were lower than they otherwise would have been.[137]

Chemtrade's number of production-related workers ("PRWs") were relatively steady over the POI, while total hours worked and wages paid increased. Chemtrade's hourly wages increased irregularly over the POI. Productivity, however, declined between 2019 and 2021, as a steady number of workers were utilized for declining levels of production, resulting in higher unit labor costs.[138]

Chemtrade began the POI ***. Its financial indicia generally fluctuated but improved overall from 2019 to 2021, although net income was *** throughout the POI.[139] Chemtrade's net sales values increased irregularly, falling from $*** in 2019 to $*** in 2020 before rising to

[135] Chemtrade's production declined irregularly from *** pounds in 2019 to *** pounds in 2020 and *** pounds in 2021. CR/PR at Table III-4. Chemtrade's capacity utilization declined irregularly from *** percent in 2019, to *** percent in 2020, and *** percent in 2021. *Id*. at Table III-4. Including SABIC's data, the domestic industry's production similarly declined irregularly from *** pounds in 2019 to *** pounds in 2020 and *** pounds in 2021. *Derived from id.* and email from *** SABIC, July 12, 2022, EDIS Doc. No. 775764.

[136] Chemtrade's U.S. shipments declined from *** pounds in 2019 to *** pounds in 2020 and *** pounds in 2021. Including SABIC's data, the domestic industry's U.S. shipments declined from *** pounds in 2019 to *** pounds in 2020 and *** pounds in 2021. CR/PR at Table D-1.

[137] Chemtrade's inventories increased irregularly between 2019 and 2021. Its end-of-period inventories increased irregularly from *** pounds in 2019 to *** pounds in 2020 and *** pounds in 2021. Chemtrade's ratio of inventories to U.S. shipments initially fell from *** percent in 2019 to *** percent in 2020 before increasing overall to *** percent in 2021. CR/PR at Table III-7.

[138] Chemtrade's PRWs totaled *** in 2019, *** in 2020, and *** in 2021. Total hours worked were *** in 2019, *** in 2020, and *** in 2021. Wages paid increased from $*** in 2019 to $*** in 2020, and $*** in 2021. Hourly wages increased irregularly from $*** in 2019 to $*** in 2020 and $*** in 2021. Productivity declined from *** pounds per hour in 2019 to *** pounds per hour in 2020 and *** pounds per hour in 2021. Unit labor costs increased from $*** per pound in 2019 to $*** in 2020 and 2021. CR/PR at Table III-8.

[139] *See* CR/PR at Table VI-1.

$*** in 2021.[140] Its gross profit increased from $*** in 2019 to $*** in 2020, and $*** in 2021. Its annual operating income fluctuated, increasing from *** in 2019 to $*** in 2020, before decreasing to $*** in 2021. Similarly, as a ratio to net sales, Chemtrade's annual operating income margin fluctuated, increasing from *** percent in 2019 to *** percent in 2020, and fell to *** percent in 2021. Chemtrade's net income and net income to net sales ratio were *** throughout the POI but increased irregularly from 2019 to 2021. Chemtrade's net income was *** in 2019, *** in 2020, and *** in 2021; the net income to net sales ratio was *** percent in 2019, *** percent in 2020, and *** percent in 2021.[141]

The record indicates that the increasing volume of low-priced subject imports significantly undersold the domestic like product, taking sales and market share from the domestic industry between 2019 and 2021.[142] As a result, the domestic industry's output and revenues were lower than they would have been otherwise. The domestic industry's production and shipments declined from 2019 to 2021 and Chemtrade's financial performance was weak, exhibiting net losses from 2019 to 2021. In light of these considerations, we find that subject imports had a significant impact on the domestic industry.

We have also considered whether there are other factors that may have had an impact on the domestic industry during the POI to ensure that we are not attributing injury from such other factors to cumulated subject imports. Nonsubject imports had a trace presence in the U.S. market, with their share of apparent U.S. consumption never exceeding *** percent in any

[140] CR/PR at Table VI-1. Chemtrade also reported export shipments, which remained below *** percent of its total shipments throughout the POI. These export shipments initially decreased from *** pounds in 2019 to *** pounds in 2020, before increasing to *** pounds in 2021. *Id*. at Table III-5.

[141] CR/PR at Tables VI-1 & C-1.

[142] CR/PR at Tables IV-9 & C-1.

year or interim period of the POI.[143] Therefore, nonsubject imports cannot explain the domestic industry's market share losses during that period.

We are unpersuaded by Deepak's argument that changes in Chemtrade's performance over the POI are due to its tech liquor production and sales.[144] We note that given that tech liquor is included in the domestic like product,[145] the Commission analyzes the impact of subject imports on the domestic industry as a whole and finds that subject imports have had a significant adverse impact on the domestic industry. However, when the industry data is considered with tech liquor sales removed, the domestic industry's U.S. shipments and market share continue to decrease from 2019 to 2021, while its net losses worsen.[146] Thus, the record does not support Deepak's argument that Chemtrade's tech liquor was the reason that the domestic industry lost market share or experienced poor financial performance over the POI.

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[143] Nonsubject import volume was 10,000 pounds in 2019, 3,000 pounds in 2020, and 7,000 pounds in 2021. CR/PR at Table IV-9.

[144] Respondent's Posthearing Brief Responses to Questions from the Commissioners at 9-13.

[145] No party has contested that tech liquor is included in the scope of investigation and the domestic like product. Hearing Transcript at 88 (Alves), 130 (Craven).

[146] Chemtrade's U.S. shipments of sodium nitrite other than tech liquor decreased from *** pounds in 2019 to *** pounds in 2020 before increasing to *** pounds, for an overall decrease of *** percent from 2019 to 2021. CR/PR at Table III-6. Including SABIC's U.S. shipments, the domestic industry's U.S. shipments, less U.S. shipments of tech liquor, declined from *** pounds in 2019 to *** pounds in 2020 before increasing to *** pounds in 2021, for an overall decrease of *** percent. *Derived from* CR/PR at Tables III-6 and D-1. Less U.S. shipments of tech liquor, Chemtrade's market share decreased from *** percent in 2019 to *** percent in 2020 and *** percent in 2021. *Calculated from* CR/PR at Tables III-6 & IV-9. Less U.S. shipments of tech liquor but including SABIC's data, the domestic industry's market share decreased from *** percent in 2019 to *** percent in 2020 and *** percent in 2021. *Calculated from* CR/PR at Tables III-6 & D-1.

Additionally, Chemtrade had U.S. shipments of tech liquor in 2019 and 2020, and export shipments in 2021. *Id*. at III-7 n.7 & Table III-6. These tech liquor sales contributed to revenue and increased Chemtrade's overall sodium nitrite's profits every year from 2019 to 2021. Chemtrade U.S. Producer Questionnaire at III-9a & III-9b. Although tech liquor sales made up less than *** percent of net sales value, and do not significantly impact financial performance, if these profitable tech liquor sales are removed from the domestic industry data, the domestic industry data would show lower profits or increased losses. *Id*.

Instead, as described above, the pricing product data demonstrates head-to-head competition, with the increasing volume of low-priced subject imports significantly underselling the domestic like product and taking market share from the domestic industry.

We are also unpersuaded by Deepak's argument that subject import purchases increased due to production shutdowns by U.S. producer SABIC and Chemtrade's change in its anti-caking agent in 2018, which allegedly made its sodium nitrite unsuitable for certain purchasers.[147] The record indicates that SABIC continued to produce and sell sodium nitrite in each year of the POI.[148] Contrary to Deepak's argument, Chemtrade had sufficient available production capacity to supply all apparent U.S. consumption, including SABIC's customers,[149] and Chemtrade's correspondence with *** indicated that it did supply SABIC's customers when sodium nitrite was unavailable from SABIC.[150] Further, the domestic industry lost *** percentage points of market share to subject imports between 2019 and 2021, even excluding SABIC's data from the market share calculations.[151] With respect to Chemtrade's change in its anti-caking agent, a Chemtrade representative stated that *** purchasers continued to purchase Chemtrade's free-flowing food and technical grade sodium nitrite after the ***, while only ***.[152] A representative from Chemtrade testified that it "did not know of a single customer that we lost" because of switching its anti-caking agent.[153] Most responding

[147] Deepak's Posthearing Brief Response to Questions of Commission at 12.

[148] CR/PR at Table D-1. SABIC sold *** pounds in 2019, *** pounds in 2020, and *** pounds in 2021. *Id*.

[149] Chemtrade's production capacity was *** pounds from 2019 to 2021, which was higher than apparent U.S. consumption throughout this period. CR/PR at Table C-1.

[150] Petitioner Postconference Br. at Exh. 7. Email communications indicate that ***. *Id*.

[151] CR/PR at Table IV-9.

[152] Petitioner's Posthearing Brief at I-8.

[153] Hearing Transcript at 41 (Emfinger).

purchasers that switched to subject imports during the POI did not report being motivated by either SABIC's production shutdowns or Chemtrade's change in anti-caking agent.[154] Accordingly, we find that the record does not support Deepak's argument that Chemtrade's changes in its anti-caking agent or in SABIC's production explain the significant increase in subject import volume over the POI.[155] [156]

[154] Four of the eight responding purchasers citing non-price reasons for switching to subject imports attributed the switch to ***. CR/PR at Table V-18. While purchaser *** indicated that it ***, this firm further acknowledged that subject import prices were 10 percent lower than the domestic product when it switched purchases. CR/PR at Table V-18. As discussed above, three responding purchasers, ***, reported that price was a primary reason that they shifted *** pounds of purchases from the domestic industry to subject imports over the POI. CR/PR at Table V-18. Furthermore, as also noted above, *** shifted *** pounds of its purchases from the domestic industry to subject imports due to lower subject import prices. Preliminary Staff Report, INV-UU-015, at Table V-13.

[155] We recognize that Deepak made arguments that winter storms, increased raw material costs, adjusted EBITDA and goodwill impairment, and goodwill impairment in the water solutions and specialty chemicals "WSSC" segment impacted Chemtrade's performance. However, Deepak did not provide evidence to support these arguments.

We recognize that one purchaser identified weather-related supply constraints in February-March 2021; however, the record indicates that difficulties in transportation of materials were limited to 10 days in which Chemtrade provided partial orders. CR/PR at II-9; Petitioner's Posthearing Brief at I-36–I-37. Additionally, a storm that resulted in a shortage of plastic bags in late 2021 and early 2022 did not impact production or delivery of the domestic like product. *Id*. Chemtrade reports that it maintains a *** inventory to handle short-term outages. Petitioner's Prehearing Br. at 19.

The record indicates that ammonia was Chemtrade's largest input cost and prices tripled from January 2021 to March 2022. In response, Chemtrade initiated an ammonia surcharge in April 2021 to pass the increased costs to its customers and eliminate the impact on its financial performance. CR/PR at V-1 n.2.

We have considered Deepak's arguments that adjusted EBITDA and goodwill impairment and goodwill impairment in the "WSSC segment" caused the injury to the domestic industry, but this is not supported by the record. Chemtrade reported financial data in accordance with IFRS, but EBITDA is not recognized by IFRS as a reliable measure of profitability. Additionally, Chemtrade did not report goodwill impairment as a specific expense. *See generally* Chemtrade U.S. Producer Questionnaire and Chemtrade's Verification Report, EDIS Doc. 775131. We are unpersuaded that these other factors are responsible for changes in the domestic industry's market share or Chemtrade's performance over the POI that we have attributed to subject imports.

[156] Deepak also argues that there is no relationship between market share and profit/losses. Respondent's Posthearing Brief at 10-12. However, Deepak relies on interim 2022 data that involve only a single quarter to which we have given reduced weight, in part because, as Deepak recognizes, subject imports decreased and the U.S. producer's shipments increased, subsequent to the filing of the petitions in January 2022. Respondent's Posthearing Brief Responses to Questions from the Commissioners at 22. (Continued...)

Finally, we are unpersuaded by Deepak's argument that competition between subject imports and the domestic industry was attenuated because they sell different forms of sodium nitrite and there were no subject imports of food grade sodium nitrite.[157] As discussed above, there is a reasonable overlap of competition between the domestic like product and cumulated subject imports.[158] There is also overlap in the products that are sold, with the domestic producers and importers of subject imports reporting U.S. shipments of ***.[159] These forms make up a large majority of U.S. shipments in the U.S. market in 2021.[160] While Deepak claims that its sodium nitrite in briquette form differs from the forms of sodium nitrite offered by domestic producers, it concedes that ***.[161] Further, contrary to Deepak's arguments, there

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(…Continued)

Deepak also argues that the underselling and overselling of subject imports from India does not correlate with the domestic industry's financial performance. Respondent's Posthearing Brief at 11-12. However, Deepak relies on the overselling of pricing product 4 in 2019 and ignores the underselling of pricing product 1 ***. CR/PR at V-13. We do not find this argument to be persuasive because the cumulated subject imports undersold the two domestic like products in 30 out of 37 quarterly comparisons and the domestic industry ***. CR/PR at Tables V-13 & VI-1.

[157] Respondent's Prehearing Brief at 4; Respondent's Posthearing Brief Responses to Questions from the Commissioners at 5 & 8.

[158] All grades and forms of sodium nitrite share a common chemical formula, have similar properties, and are generally sold in concentrations of greater than 98 percent for the same range of end uses. CR/PR at I-7, IV-4, V-7–V-8. There is a substantial overlap in the channels of distribution with a mix of sales to distributors and end users; geographic overlap and they were simultaneously present. *Id*. at Tables II-1, II-2, IV-8, V-5–V-9.

[159] CR/PR at Table IV-4.

[160] CR/PR at Table IV-4. These forms account for *** percent of U.S. shipments in 2021 for all sources. *Id*.

[161] Deepak Postconference Br., Att. A at 19-20. Despite Deepak's arguments, there is evidence on the record that subject importer's briquette form can be used interchangeably with the domestic producer's flake form. CR/PR at Table IV-4. Petitioner argues that flake and briquette are interchangeable because both forms are sodium nitrite, free of anti-caking agent, in a pellet form that will not cake. Additionally, as noted above, there is evidence that some importers and purchasers use flake and briquette interchangeably. Petitioner's Prehearing Brief at 37-38; Petitioner's Posthearing Brief at 11 and I-14.

were *** volumes of U.S. shipments of food grade sodium nitrite from India during the POI.[162] Moreover, there is substantial overlap of competition for sales of technical grade sodium nitrite, which constituted large majorities of U.S. shipments of subject imports and of the domestic like product.[163] Given these circumstances, we find that the record does not support Deepak's argument that subject import competition was significantly attenuated.

We consequently conclude that other causes cannot explain the injury we have attributed to the cumulated subject imports. We accordingly determine that the domestic industry was materially injured by reason of cumulated subject imports.

VI. Conclusion

For the reasons stated above, we determine that an industry in the United States is materially injured by reason of subject imports of sodium nitrite from Russia that have been found by Commerce to be subsidized by the Government of Russia.

[162] CR/PR at Table IV-6.

[163] CR/PR at Table IV-6. In 2021, sales of technical grade accounted for *** of Chemtrade's U.S. shipments, *** percent of U.S. shipments of cumulated subject imports, and *** percent of total U.S. shipments. *Id*. at Table IV-6. We also note that Chemtrade's entire production facility meets standards for food grade sodium nitrite. *Id*. at I-8.

Part I: Introduction

Background

These investigations result from petitions filed with the U.S. Department of Commerce ("Commerce") and the U.S. International Trade Commission ("USITC" or "Commission") by Chemtrade Chemicals US LLC ("Chemtrade"), Parsippany, NJ, on January 13, 2022, alleging that an industry in the United States is materially injured and threatened with material injury by reason of subsidized and less-than-fair-value ("LTFV") imports of sodium nitrite[1] from India and Russia. Table I-1 presents information relating to the background of these investigations.[2] [3]

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

Effective date	Action
January 13, 2022	Petitions filed with Commerce and the Commission; institution of the Commission's investigations (87 FR 3333, January 21, 2022)
February 2, 2022	Commerce's notices of initiation of less-than-fair-value ("LTFV") investigations (87 FR 7122, February 8, 2022) and countervailing duty ("CVD") investigations (87 FR 7108, February 8, 2022)
February 28, 2022	Commission's preliminary determinations (87 FR 12487, March 4, 2022)
April 15, 2022	Commerce's preliminary CVD determination regarding Russia (87 FR 22504, April 15, 2022); scheduling of final phase of Commission investigations (87 FR 23567, April 20, 2022)
June 21, 2022	Commerce's preliminary CVD determination regarding India and alignment with final antidumping duty ("AD") determination (87 FR 36824, June 21, 2022)
June 21, 2022	Commission's hearing
June 22, 2022	Commerce's final CVD determination regarding Russia (87 FR 38375, June 28, 2022)
June 22, 2022	Commerce's preliminary AD determination regarding Russia (87 FR 38377, June 28, 2022)
July 27, 2022	Scheduled date for the Commission's vote regarding Russia CVD
August 8, 2022	Scheduled date for Commission's views regarding Russia CVD

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

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

[3] Appendix B presents the witnesses appearing at the Commission's hearing.

Effective date	Action
August 11, 2022	Scheduled date for Commerce's preliminary AD determination regarding India
September 6, 2022	Scheduled date for Commerce's final AD determination regarding Russia
October 25, 2022	Scheduled date for Commerce's final AD and CVD determinations regarding India

Statutory criteria

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

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

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

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

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

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

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

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

Organization of report

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

Market summary

Sodium nitrite is an industrial chemical that is available in technical grade or food grade. Sodium nitrite is used in a wide range of end uses, including producing chemicals and dyes, metal coating, detinning, plating, wastewater treating, meat curing for food preservatives, ammunition for military applications, treating lumber, and some medical applications, including as an antidote to cyanide poisoning.

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

The leading U.S. producer of sodium nitrite is Chemtrade, while the leading producers of sodium nitrite in countries subject to these investigations include Deepak Nitrite Limited ("Deepak") of India, and Uralchem, JSC of Russia. The leading U.S. importer of sodium nitrite from India is Royce Associates ("Royce"), while the leading importer of sodium nitrite from Russia is ***. U.S. purchasers of sodium nitrite are end users and distributors; leading purchasers responding to the purchaser questionnaire are end users ***.

Apparent U.S. consumption of sodium nitrite totaled approximately *** dry pounds ($***) in 2021. U.S. producer Chemtrade's U.S. shipments of sodium nitrite totaled *** dry pounds ($***) in 2021, and accounted for *** percent of apparent U.S. consumption by quantity and *** percent by value. U.S. imports from subject sources totaled 16.6 million dry pounds ($6.7 million) in 2021 and accounted for *** percent of apparent U.S. consumption by quantity and *** percent by value. U.S. imports from nonsubject sources totaled 7,000 dry pounds ($.04 million) in 2021 and accounted for *** percent of apparent U.S. consumption by quantity and *** percent by value.

Summary data and data sources

A summary of data collected in these investigations is presented in appendix C, table C-1. Except as noted, U.S. industry data are based on the questionnaire response of the petitioner, Chemtrade, that accounted for the vast majority of U.S. production of sodium nitrite during 2021.[6] U.S. imports, unless otherwise noted, are based on official U.S. import statistics of the U.S. Department of Commerce Census Bureau using HTS statistical reporting number 2834.10.1000.

Previous and related investigations

Sodium nitrite has been the subject of prior countervailing and antidumping duty investigations in the United States. In 2007, General Chemical LLC ("General Chemical"), filed petitions alleging that an industry in the United States was materially injured or threatened with material injury by reason of subsidized imports of sodium nitrite from China and LTFV

[6] Chemtrade also identified SABIC as a domestic producer, ***. Petitions, vol. 1, p. 3. SABIC stated that it ***. Email from ***, July 12, 2022.

imports of sodium nitrite from China and Germany.[7] In August 2008, antidumping duties were imposed on imports of sodium nitrite from China and Germany, and countervailing duty orders imposed on imports from China, following an affirmative injury determination by the Commission. In January 2014 and July 2019 the Commission reached affirmative determinations in first and second five-year reviews, respectively, determining that revocation of existing orders on imports from China and Germany would likely lead to continuation or recurrence of material injury to the domestic industry.[8] [9] Commerce issued continuation orders following second five-year reviews, effective August 12, 2019.[10]

Nature and extent of subsidies and sales at LTFV

Subsidies

On June 21, 2022, Commerce published a notice in the Federal Register of its preliminary determination of countervailable subsidies for producers and exporters of sodium nitrite from India. Table I-2 presents Commerce's findings of subsidization of sodium nitrite in India.[11] On June 28, 2022, Commerce published a notice in the Federal Register of its final determination of countervailable subsidies for producers and exporters of sodium nitrite from Russia.[12] Table I-3 presents Commerce's findings of subsidization of sodium nitrite in Russia.

Table I-2
Sodium nitrite: Commerce's preliminary subsidy determination with respect to imports from India

Entity	Preliminary countervailable subsidy rate (percent)
Deepak Nitrite Limited	12.88
All others	12.88

Source: 87 FR 36824, June 21, 2022.

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

[7] Chemtrade is the parent entity of Chemtrade Solutions LLC, the successor-in-interest to General Chemical. Chemtrade Solutions LLC currently operates the same manufacturing facility used by General Chemical to produce sodium nitrite in the United States. Petitions, vol. 1, p. 4.

[8] Sodium Nitrite from China and Germany, Inv. Nos. 701-TA-453 and 731-TA-1136-1137 (First Review), USITC Publication 4451, January 2014.

[9] Sodium Nitrite from China and Germany, Inv. Nos. 701-TA-453 and 731-TA-1136-1137 (Second Review), USITC Publication 4936, July 2019 ("China and Germany Second Review Publication").

[10] 84 FR 39804, August 12, 2019.

[11] 87 FR 36825, June 21, 2022.

[12] 87 FR 38375, June 28, 2022.

Table I-3
Sodium nitrite: Commerce's subsidy determination with respect to imports from Russia

Entity	Countervailable subsidy rate (percent)
Uralchem, JSC	386.24
All others	386.24

Source: 87 FR 38375, June 22, 2022.

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

Sales at LTFV

On February 8, 2022, Commerce published a notice in the Federal Register of the initiation of its antidumping duty investigations on sodium nitrite from India and Russia.[13] Commerce has initiated antidumping duty investigations based on estimated dumping margins ranging from 53.43 to 153.30 percent for sodium nitrite from India and 207.17 percent for sodium nitrite from Russia. On June 28, 2022, Commerce published a notice in the Federal Register of its preliminary determination of sales at LTFV with respect to imports from Russia.[14] Table I-4 presents Commerce's dumping margins with respect to imports of sodium nitrite from Russia.

Table I-4
Sodium nitrite: Commerce's preliminary weighted-average LTFV margins with respect to imports from Russia

Exporter Producer	Preliminary dumping margin (percent)
Uralchem, JSC	207.17
All others	207.17

Source: 87 FR 38377, June 28, 2022.

The subject merchandise

Commerce's scope

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

> *The product covered by these investigations is sodium nitrite in any form, at any purity level. In addition, the sodium nitrite covered by these*

[13] 87 FR 7122, February 8, 2022.
[14] 87 FR 38377, June 28, 2022.
[15] 87 FR 38377, June 28, 2022.

investigations may or may not contain an anti-caking agent. Examples of names commonly used to reference sodium nitrite are nitrous acid, sodium salt, anti-rust, diazotizing salts, erinitrit, and filmerine. Sodium nitrite's chemical composition is $NaNO_2$, and it is generally classified under subheading 2834.10.1000 of the Harmonized Tariff Schedule of the United States (HTSUS). The American Chemical Society Chemical Abstract Service (CAS) has assigned the name ''sodium nitrite'' to sodium nitrite. The CAS registry number is 7632–00–0. For purposes of the scope of these investigations, the narrative description is dispositive, not the tariff heading, CAS registry number or CAS name, which are provided for convenience and customs purposes.

Tariff treatment

Based upon the scope set forth by Commerce, information available to the Commission indicates that the merchandise subject to these investigations is provided for by name in subheading 2834.10.10 of the Harmonized Tariff Schedule of the United States ("HTS"). The 2022 general rate of duty for HTS subheading 2834.10.10 is 5.5 percent ad valorem, applicable to products of India; as of April 8, 2022, products of Russia are now subject to the column 2 duty rate of 54 percent ad valorem on the declared customs value. Although this tariff subheading is designated as covering eligible products of beneficiary developing countries under the Generalized System of Preferences, this program is currently not in effect and India and Russia are not designated beneficiaries. Effective May 10, 2019, sodium nitrite imported from China is subject to an additional 25.0 percent ad valorem duty under Section 301 of the Trade Act of 1974 as provided for in subheading 9903.88.03.[16] Decisions on the tariff classification and treatment of imported goods are within the authority of U.S. Customs and Border Protection.

The product

Description and applications

Sodium nitrite ($NaNO_2$) is an industrial chemical sold in solid or liquid form. There are no other chemical names for sodium nitrite. It is a white to slightly yellowish crystalline granular or

[16] The U.S. Trade Representative has not granted any exclusions for subheading 2834.10.10 from Section 301 duties under 9903.88.03. Harmonized Tariff Schedule of the United States (2022), Basic Edition, USITC Publication 5277, January 2022, Chapter 99, notes 20(e) and 20(f); 84 FR 20459, May 9, 2019.

flake solid that is very soluble in water, but not in standard organic solvents. Dry forms of sodium nitrite include a granular powder that may or may not be treated with an anti-caking agent. Other dry forms, granular, prill, and briquette, are made of particles of sufficient size to avoid sticking together and, therefore, do not need anti-caking agent. Dry sodium nitrite is sold in bags, drums, and super sacks. Sodium nitrite can be stored indefinitely without losing its properties,[17] but if not treated with an anti-caking agent, it can harden and require breaking up. The primary liquid form is sodium nitrite dissolved in water (known as "liquor"), typically about a 40 percent solution,[18] sold in tank trucks and rail cars. A secondary liquid product is a mixture of sodium nitrite and sodium nitrate called "technical liquor," or "tech liquor."[19]

Sodium nitrite is also sold in varying grades depending on end-use application, including: (1) granular free-flowing food grade; (2) granular free-flowing technical grade; (3) high-purity flake; (4) high-purity granular; (5) crystal reagent quality; (6) high-purity special granular; (7) pure liquor; and (8) tech liquor, a solution with sodium nitrate.[20] Food grade is required to meet higher quality standards (notably for the level of heavy metals); to be in compliance with the Food Chemical Codex and current Good Manufacturing Practice (cGMP); and to be registered with the U.S. Food and Drug Administration.[21] Chemtrade's entire production facility meets standards for food grade and the sodium nitrite it produces likely meets food grade standards, though much of it is sold as technical product.[22]

Sodium nitrite is used in a wide range of industrial applications. As an oxidizing agent it is used in corrosion inhibition, detinning scrap tinplate, and phosphating metals. It also

[17] Conference transcript, p. 55 (McFarland).

[18] Although a 40 percent solution is a common standard, each shipment is diluted to customers' specifications.

[19] Hearing transcript, p. 101 (Boonstra). Deepak's posthearing brief, p. 10.

[20] Conference transcript, p. 20 (McFarland).

[21] Petitions, vol. 1, p. 12.

[22] Hearing transcript, p. 35 (Emfinger). Chemtrade and Deepak both have ISO 9001 certification for quality management systems. Petitioner prehearing brief, p. 26, footnote 129 and exhibit 9. Chemtrade also meets qualifications for U.S. FDA current Good Manufacturing Practice (cGMP) and Food Safety Modernization Act regulations. Consulting firm FDA Reader states that, depending on current conditions, a firm may take 3-6 months to adopt cGMP standards, then undergo a third-party audit to receive certification. "Introduction to Good Manufacturing Processes," FDA Reader, May 21, 2019. https://www.fdareader.com/blog/introduction-to-gmps.

Chemtrade states that with "in-house help" or *** Petitioner prehearing brief, p. 26, footnote 129.

functions as a reducing agent with oxidizing agents such as dichromate, permanganate, chlorate, and chlorine. Sodium nitrite is an important source of nitrous acid in some organic syntheses, notably the production of organic amines.[23] It is also reacted with organic alcohols and amines to form amyl nitrite, amine nitrite, and other organic nitrites that are used as diesel fuel additives and corrosion inhibitors. Additional applications include the production of dyes (including azo, food, and textile) and synthetic rubber; as a preservative in curing meat; to control odor and inhibit bacterial growth in wastewater treatment; in heat treating salts to harden metals;[24] as an antidote to cyanide poisoning; and in military applications, including ammunition and explosives. Food grade sodium nitrite can be used for industrial applications.[25]

Manufacturing processes

In the first stage of the manufacturing process used by Chemtrade, liquid ammonia is oxidized with air at a high temperature in a catalytic bed to form nitrogen oxides (NO and NO_2) in the chemical equation $2NH_3 + 3O_2 \rightarrow 2HNO_2 + 2H_2O$.

Nitrogen oxides are then reacted with either soda ash (sodium carbonate) in the chemical reaction $2HNO_2 + Na_2(CO_3) \rightarrow 2NaNO_2 + H_2O + CO_2$, or caustic soda (sodium hydroxide), forming a highly dilute solution that requires concentration. Chemtrade uses soda ash in its production process, while producers in India and Russia most likely use caustic soda.[26] While soda ash and caustic soda serve a similar function as a source of sodium in the production reaction, they differ in quantity required: ***.[27]

Additional processing is required to remove water to produce dry sodium nitrite. Processing in an evaporator-crystallizer followed by centrifugation yields crystals that are then either dried to reduce moisture to less than 0.2 percent (for high purity product); dried and blended with an anti-caking agent (which increases flowability of the powder); or further dried, compacted into a thin cake, and flaked. In 2018, Chemtrade switched anti-caking agent from Petro AG to silicon dioxide to meet food grade requirements in markets other than the United States and Mexico, while Deepak continues to use Petro AG.[28] Food grade sodium nitrite is tested to certify that it meets quality standards, notably for the presence of heavy metals. In

[23] Nitrous acid is unstable and not available commercially. Sodium nitrite, when exposed to mineral acids, forms nitrous acid. Petitions, pp. 6—7.

[24] Conference transcript, p. 26 (Emfinger).

[25] Conference transcript, p. 40 (McFarland).

[26] Petitioners' postconference brief, p. 6.

[27] Chemtrade's U.S. producer questionnaire, III-9d.

[28] Hearing transcript, pp. 35—36 (Emfinger) and p. 138 (Shinde).

most applications, sodium nitrite is used as a liquid solution which either the seller or the purchaser makes by mixing solid product with water.[29] Chemtrade states that this process requires neither specialized skill nor equipment, while Deepak states that it requires effort and cost.[30]

Sodium nitrite production, whether using soda ash and caustic soda, yields another product, tech liquor, that is a mixture of roughly two-thirds sodium nitrite and one-third sodium nitrate.[31] If tech liquor cannot be sold, it requires disposal as a waste product. ***.[32] Deepak noted that they process tech liquor into saleable sodium nitrate.[33] Chemtrade asserts that Deepak's tech liquor has a higher concentration of sodium nitrite and accounts for a higher share of production volume than Chemtrade's tech liquor. Both firms produce a slurry solution that contains sodium nitrite crystals and a liquid that is a mixture of sodium nitrite and sodium nitrate.[34] Chemtrade asserts that it, unlike Deepak, ***. Chemtrade states that its tech liquor was *** percent (dry weight) of its total 2021 sodium nitrite production and estimates Deepak's tech liquor is *** percent of its total production of sodium nitrite.

Domestic like product issues

No issues with respect to domestic like product have been raised in these investigations. In the preliminary phase of the investigations, Chemtrade argued for a single domestic like product of sodium nitrite in all forms and grades, coextensive with the scope of investigations. Neither Deepak nor Royce addressed the definition of domestic like product in their arguments. In its preliminary determinations, the Commission found a single domestic like product consisting of sodium nitrite, coextensive with the scope.[35]

In these final phase investigations, neither petitioner nor respondents have made requests for further data or other information necessary for analysis of the domestic like

[29] Hearing transcript, p. 26 (McFarland).
[30] Hearing transcript, p. 28 (McFarland), p. 125 (Gupta).
[31] Hearing transcript, p. 25 (McFarland).
[32] Chemtrade's U.S. producer questionnaire, II-3e.
[33] Deepak's posthearing brief, p. 1.
[34] Petitioner's posthearing brief, p. 5.
[35] Sodium Nitrite from India and Russia, Investigation Nos. 701-679-680 and 731-1585-1586 (Preliminary), USITC Publication 5294, March 2022 ("Sodium Nitrite Publication"), p. 9.

product. The petitioner proposes that the Commission should define a single domestic like product corresponding to all sodium nitrite in the scope, as it did in the preliminary investigations and all prior sodium nitrite proceedings.[36] Respondents did not address the definition of domestic like product in their arguments.

[36] Petitioner's posthearing brief, p. I-3.

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

U.S. market characteristics

Sodium nitrite is an industrial chemical that is available in technical grade or food grade.[1] Sodium nitrite is used in a wide range of end uses, including producing chemicals and dyes, metal coating, detinning, plating, wastewater treating, meat curing for food preservatives, ammunition for military applications, treating lumber, and some medical applications, including as an antidote to cyanide poisoning.[2] Petitioner Chemtrade sells to markets including industrial and municipal water treatment, oil and gas operations, corrosion inhibitors, as a surface cleaner, and the food industry.[3] It is sold on the basis of a supplier-provided certificate of analysis,[4] and some customers independently test the product for purity.[5]

Food grade sodium nitrite must meet higher quality specifications and quality standards than technical grade product, especially with regards to heavy metals.[6] Food grade sodium nitrite must also be registered with the Food and Drug Administration ("FDA"), and must comply with the Food Chemical Codex ("FCC") and current Good Manufacturing Practice ("cGMP") standards.[7] Food grade sodium nitrite accounted for *** percent of U.S. shipments in 2021, virtually all of which were from the U.S. producer. [8] Food grade sodium nitrite can be substituted for technical grade sodium nitrite, but technical grade cannot be used for food applications.[9] Generally, technical grade is priced lower than food grade sodium nitrite.[10]

[1] Sodium nitrite from China and Germany, USITC Inv. Nos. 701-TA-453 and 731-TA-1136-1137 (Final), USITC Publication 4029, August 2008, ("China and Germany Original Publication"), p. II-1.

[2] Petitions, pp. 11 and 17, and conference transcript, p. 6 (Alves).

[3] Hearing transcript, p. 33 (Emfinger).

[4] See Petitions, exh. I-9.

[5] Petitions, p. 17.

[6] Food grade sodium nitrite is generally tested for a larger range of impurities than technical grade product. Petitions, p. 17.

[7] U.S. producer Chemtrade keeps its entire plant as a food grade facility at the state and federal level. Conference transcript, p. 27 (Emfinger).

[8] See Part IV for additional information.

[9] Petitions, p. 12.

[10] Petitions, p. 14; Hearing transcript, p. 25 (McFarland).

Sodium nitrite can be dissolved in water as "liquor" form[11] and sold in trucks and rail cars, or in dry form, which is sold in bags.[12] [13] Sodium nitrite is also sold in varying types depending on the end-use application, including:

- granular free-flowing food grade
- granular free-flowing technical grade
- high-purity flake (or briquettes)[14] [15]
- high-purity granular
- crystal reagent quality
- high-purity special granular
- pure liquor (40 percent solution).[16] [17]

High-purity flake is sold at a premium as some customers require a "specific quality" of sodium nitrite.[18] Some customers purchase multiple grades of product, and grades are generally standard across the industry.[19]

Almost all applications of sodium nitrite are put into a solution, with a few exceptions including heat baths for metal treatment and rubber processing.[20] Anti-caking agents, such as silicon dioxide, are used in granular sodium nitrite because it will harden if exposed to moisture, but sodium nitrite flakes and briquettes are compressed forms of sodium nitrite without an anti-caking agent.[21] Petitioner Chemtrade stated that its end users of sodium nitrite are sometimes able to switch between forms, depending on their manufacturing processes and

[11] Currently, all liquor forms of sodium nitrite are technical grade. Conference transcript, p. 34 (McFarland).

[12] Petitions, p. 6.

[13] Some customers purchase dry sodium nitrite and put the product in solution at their own facilities, while others purchase sodium nitrite in solution. This decision generally depends on transportation costs and storage requirements. Petitions, p. 13. See also conference transcript, p. 22 (McFarland).

[14] Parties disagreed as to whether the briquette product offered by Indian producer Deepak is similar to Chemtrade's high-purity flake product. Petitioner argued that Deepak markets briquette product as "briquette/flake," which competes with U.S. producer Chemtrade's flake product. Respondent Deepak stated that its briquettes ***. Petitioner's postconference brief, p. 20. Respondent Royce's postconference brief, att. A, p. 18.

[15] High-purity flake does not have an anti-caking agent added to it. Most of the high-purity flake applications are heat bath salt applications. Conference transcript, p. 48 (Emfinger).

[16] The 40 percent sodium nitrite concentration is common across the industry. Petitions, p. 8.

[17] Petitions, p. 6.

[18] Conference transcript, p. 21 (McFarland).

[19] Petitions, p. 14.

[20] Hearing transcript, pp. 26, 33 (McFarland, Emfinger).

[21] Hearing transcript, pp. 24, 38 (McFarland, Alves).

convenience, although it does not occur often.[22] Respondent Deepak argued that while different end users have developed preferences for certain forms, prices for different forms tend to move in tandem.[23] Petitioner also stated that flake and briquette forms of sodium nitrite are both compressed forms of sodium nitrite without an anti-caking agent and that these forms compete against each other.[24] Flake and briquette forms are generally dissolved into a solution for similar applications such as ***, or can be used in heat baths for metal treatment.[25] Respondent Deepak argued that briquette has limited interchangeability with flake when converted into liquid.[26]

The U.S. market is supplied by U.S. producer Chemtrade and imports from India and Russia. India producer Deepak produces *** sodium nitrite.[27] Respondent Deepak argued that its technical grade sodium nitrite can sometimes be used for food applications, but it does not have the necessary certification to sell its product as "food grade."[28] Most exports from India and Russia are shipped in dry form in bags or super sacks; however, some importers will turn the dry form into a solution for commercial sale.[29] Sodium nitrite from China and Germany have been subject to countervailing and/or antidumping duty orders since August 2008.[30]

Apparent U.S. consumption of sodium nitrite increased during January 2019-December 2021. Overall, apparent U.S. consumption in 2021 was *** percent higher than in 2019. Apparent U.S. consumption in January-March 2022 was *** percent lower than in January-March 2021.

[22] Hearing transcript, pp. 26-27 (McFarland); Petitioner's posthearing brief, exh. I, p. I-10.

[23] Respondent Deepak's posthearing brief, Responses to Commissioner Questions, p. 2.

[24] Hearing transcript, p. 38 (Alves). Petitioner provided an example of purchaser *** that reported *** and that it had switched between the two forms, and cited a specification sheet from another purchaser *** that refers to "briq., flake, pastill, pellet, or prill." Petitioner's posthearing brief, p. 11, and exh. I, p. I-14.

[25] Petitioner's posthearing brief, exh. I, p. I-14.

[26] Respondent Deepak's posthearing brief, Responses to Commissioner Questions, p. 9.

[27] Conference transcript, p. 28 (Emfinger), Respondent Royce's postconference brief, p. 6, and Respondent Deepak's postconference brief, att. A, p. 20. For additional information, see part IV.

[28] Respondent Deepak's posthearing brief, Responses to Commissioner Questions, p. 16.

[29] Conference transcript, pp. 22-23 (McFarland); Hearing transcript, pp. 23-24 (McFarland).

[30] 73 FR 50593, August 27, 2008; 73 FR 50595, August 27, 2008.

U.S. purchasers

The Commission received 18 usable questionnaire responses from firms that had purchased sodium nitrite during January 2019-March 2022.[31] [32] [33] Nine responding purchasers are end users and nine are distributors. The responding purchasers represented firms in a variety of domestic industries. Large purchasers of sodium nitrite include distributor *** and end users ***.

Channels of distribution

Petitioner Chemtrade's sales to distributors and end users are roughly equal.[34] More than half of U.S. producer Chemtrade's sales were to ***; however, it had sizeable and increasing sales to *** from 2019-21, as shown in table II-1. The share of imports from India sold to distributors increased so that in 2021, approximately *** of U.S. shipments were sold to distributors. Importers of sodium nitrite from Russia sold mostly to end users in 2019 and *** in 2020 and 2021.

Petitioner Chemtrade's sales to distributors are typically large volume and they do not compete directly with their distributors and will direct smaller purchasers to buy from a distributor.[35]

[31] The following firms provided purchaser questionnaire responses: ***.

[32] Of the 17 responding purchasers, 13 purchased domestic sodium nitrite, 10 purchased subject imports from India, 1 purchased subject imports from Russia, and none purchased imports from other countries. Four firms reported purchasing from unknown sources.

[33] Sixteen purchasers indicated they had marketing/pricing knowledge of domestic product, 11 of Indian product, 1 of Russian product, and none of product from nonsubject countries.

[34] Hearing transcript, p. 32 (Emfinger).

[35] Hearing transcript, p. 33 (Emfinger).

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

Shares in percent

Source	Channel	2019	2020	2021	Jan-Mar 2021	Jan-Mar 2022
United States	Distributors	***	***	***	***	***
United States	End users	***	***	***	***	***
India	Distributors	***	***	***	***	***
India	End users	***	***	***	***	***
Russia	Distributors	***	***	***	***	***
Russia	End users	***	***	***	***	***
Subject sources	Distributors	***	***	***	***	***
Subject sources	End users	***	***	***	***	***
Nonsubject sources	Distributors	***	***	***	***	***
Nonsubject sources	End users	***	***	***	***	***
All imports	Distributors	***	***	***	***	***
All imports	End users	***	***	***	***	***

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

Geographic distribution

U.S. producer Chemtrade reported selling sodium nitrite to *** (table II-2). Importers reported selling product from India to all regions in the contiguous United States, and Russian product was sold only in the Northeast and Midwest. For the responding U.S. producer, *** sales were within 100 miles of its production facility, *** percent were between 101 and 1,000 miles, and *** percent were over 1,000 miles. Importers sold *** percent of their product from India and Russia within 100 miles of their U.S. points of shipment, *** percent between 101 and 1,000 miles, and *** percent over 1,000 miles.

Table II-2
Sodium nitrite: Count of U.S. producer's and U.S. importers' geographic markets

Region	U.S. producer	U.S. importers from India	U.S. importers from Russia	U.S. importers from Subject sources
Northeast	***	3	1	3
Midwest	***	3	2	4
Southeast	***	2	0	2
Central Southwest	***	7	0	7
Mountains	***	1	0	1
Pacific Coast	***	2	0	2
Other	***	0	0	0
All regions (except Other)	***	0	0	0
Reporting firms	1	8	2	9

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

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

Supply and demand considerations

U.S. supply

Table II-3 provides a summary of the supply factors regarding sodium nitrite from U.S. producer Chemtrade. One Indian producer, ***, responded and no Russian foreign producers responded to the Commission's questionnaire.

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

Quantity in 1,000 pounds, dry measure basis; ratio and share in percent; count in number of firms reporting

Factor	Measure	United States	India	Russia
Capacity 2019	Quantity	***	***	***
Capacity 2021	Quantity	***	***	***
Capacity utilization 2019	Ratio	***	***	***
Capacity utilization 2021	Ratio	***	***	***
Ending inventories 2019	Ratio	***	***	***
Ending inventories 2021	Ratio	***	***	***
Home market 2021	Ratio	***	***	***
Non-US export markets 2021	Ratio	***	***	***
Ability to shift production	Count	***	***	***

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

Note: The responding U.S. producer accounted for the vast majority of all of U.S. production of sodium nitrite in 2021. The responding foreign producer/exporter firm accounted for more than *** of imports from India. No foreign producers/exporters from Russia responded to the Commission's questionnaire. For additional data on the number of responding firms and their share of U.S. production and of U.S. imports from each subject country, please refer to Part I, "Summary Data and Data Sources."

Note: Capacity utilization is measured as a ratio of production to capacity, ending inventories is measured as a ratio to total shipments, home market 2021 and non-U.S. export market 2021 shipments are measured as a share of total shipments.

Domestic production

Based on available information, U.S. producer Chemtrade has the ability to respond to changes in demand with large changes in the quantity of shipments of U.S.-produced sodium nitrite to the U.S. market. [36] The main contributing factors to this degree of responsiveness of supply are ***. Chemtrade stated that it holds a *** in inventory to handle any work stoppages.[37] A factor mitigating responsiveness is the ***.

Chemtrade's capacity was stable from 2019-21 while production decreased by *** percent, resulting in a decline in capacity utilization to *** percent in 2021. Chemtrade's major export markets include Canada and Mexico.[38] Chemtrade reported it *** on the same equipment as sodium nitrite.

Subject imports from India

Based on available information, the responding producer of sodium nitrite from India has the ability to respond to changes in demand with moderate-to-large changes in the quantity of shipments of sodium nitrite to the U.S. market. The main contributing factors to this degree of responsiveness of supply are ***. Factors mitigating responsiveness of supply include ***.

Deepak's capacity increased by *** percent during 2019-21, while production increased by *** percent, resulting in an increase in capacity utilization. Deepak exported *** percent of its shipments in 2021 to non-U.S. markets; major export markets include ***, and there are *** to shifting between markets. Deepak reported that it *** on the same equipment as sodium nitrite, noting that its plant is ***.

[36] Chemtrade is the only U.S. producer that provided usable data on their operations. For additional information, see Part III.

[37] Petitioner's prehearing brief, p. 19.

[38] Conference transcript, p. 71 (McFarland).

Subject imports from Russia

No foreign producers from Russia responded to the Commission's questionnaire. Based on export data, Russia has substantial exports to the rest of the world, namely to Germany, India, and Saudi Arabia, that could be diverted to the U.S. market.[39]

Imports from nonsubject sources

Nonsubject imports were a minor source of imports in the U.S. market. Nonsubject imports never accounted for more than *** percent of imports during the period of investigation.

Supply constraints

U.S. producer Chemtrade reported that *** supply constraints *** the filing of the petitions on January 13, 2022. Chemtrade reported ***. Most importers reported that they had not experienced supply constraints before (9 of 12) or after (5 of 9) the filing of the petitions. Among the importers reporting supply constraints, a few importers reported freight and supply chain issues. Importer *** reported that it refused all new business for briquette grade since late 2020 due to supply constraints in India, and that it has also been unable to supply liquid grade on several occasions in early 2021 and early 2022 due to supply disruptions and increased transportation time. Importer *** reported that there had been supply problems due to lead times, production issues, and ocean freight. Importer *** reported that importers have drastically reduced shipments and that domestic production currently has lead times of six weeks.

Seven of 17 responding purchasers reported that there were supply constraints before the petition filing, including tight supply, long lead times, order delays, missed delivery dates, and being placed on allocation. One purchaser stated that the lead time for domestic product has historically been two weeks but that lead times have increased to 4 to 6 weeks "in the past years." Purchaser *** stated that it was placed on allocation by Chemtrade in February-March 2021 because of weather-related supply constraints. Ten of 16 purchasers reported supply constraints after the petition filing, including continued short supply and increased lead times for domestic product, as well as limited availability of imported product.

[39] See Part VII for more information.

New suppliers

No purchasers indicated that new suppliers entered the U.S. market since January 1, 2019.

U.S. demand

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

End uses and cost share

U.S. demand for sodium nitrite depends on the demand for U.S.-produced downstream products, such as dyes, metal treatment, and food additives.

Sodium nitrite accounts for a small share of the cost of most end-use products in which it is used. Reported cost shares for some end uses were as follows: less than 1 percent for corrosion inhibitors; between 0.1 percent and 6.0 percent food curing; between 0.1 percent and 2.0 percent for pigments; between 6.5 and 10.0 percent for dye synthesis; and 10 percent for plastic film bags. Responding purchasers reported some end uses with higher cost shares of sodium nitrite, such as *** (ranging from 36-50 percent); *** (90 percent); and *** (99 percent).

Business cycles

*** most importers (8 of 12) and purchasers (16 of 18) indicated that the market was not subject to business cycles or conditions of competition. The four remaining importers reported that there were seasonal effects, and that demand and/or inventory levels were subject to cyclical changes due to pricing and/or demand. Importer *** reported that demand for material increased coupled with both U.S. producers shutting down “several times” since 2019 as distinct conditions of competition, which had a “profound” effect on supply in the market. One purchaser reported that the business cycle was related to the fluctuating oilfield market.

Demand trends

U.S. producer Chemtrade reported a *** in U.S. demand for sodium nitrite since January 1, 2019 (table II-4), but importers and purchasers reported a wide range of responses.

A plurality of importers (4) reported fluctuating demand, while three reported that demand was constant, two reported increased demand, and one reported a decrease in demand. Six purchasers reported fluctuating domestic demand, five purchasers each reported no change in domestic demand, three reported increased demand, and one reported decreased demand.

Table II-4
Sodium nitrite: Count of firms' responses regarding overall domestic and foreign demand, by firm type

Count in number of firms reporting

Market	Firm type	Increase	No change	Decrease	Fluctuate
Domestic demand	U.S. producers	***	***	***	***
Domestic demand	Importers	2	3	1	4
Domestic demand	Purchasers	3	5	1	6
Foreign demand	U.S. producers	***	***	***	***
Foreign demand	Importers	1	2	0	2
Foreign demand	Purchasers	1	3	1	2
Demand for end use products	Purchasers	2	1	0	6

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

Substitute products

Substitutes for sodium nitrite are limited. U.S. producer Chemtrade reported that there *** substitutes for sodium nitrite. Seven of eight responding importers and nearly all responding purchasers (14 of 16) reported that there were no substitutes.[40] Importer *** reported that *** is a possible substitute.

Substitutability issues

This section assesses the degree to which U.S.-produced sodium nitrite and imports of sodium nitrite from subject countries can be substituted for one another by examining the importance of certain purchasing factors and the comparability of sodium nitrite from domestic and imported sources based on those factors. Based on available data, staff believes that there is a moderately high degree of substitutability between domestically produced sodium nitrite and sodium nitrite imported from subject sources.[41] Factors contributing to this level of

[40] One purchaser reported that sodium nitrate could be used in a few applications (metal coloring and heat treatment) and one reported that potassium nitrite is a substitute in meat curing.

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

substitutability include similar quality, similar availability of forms of sodium nitrite from domestic and imported sources, and high interchangeability between domestic and subject sources on a product basis. Factors reducing substitutability include the unavailability of food grade sodium nitrite from subject sources, and some differences in reported interchangeability between sodium nitrite from domestic and subject sources by responding purchasers.

Factors affecting purchasing decisions

Purchaser decisions based on source

As shown in table II-5 a majority or plurality of responding purchasers and their customers never make purchasing decisions based on the producer or country of origin. The sole purchaser that reported that it always makes decisions based on the manufacturer said that only a few producers have passed its quality approval test.

Table II-5
Sodium nitrite: Count of purchasers' responses regarding frequency of purchasing decisions based on producer and country of origin

Firm making decision	Decision based on	Always	Usually	Sometimes	Never
Purchaser	Producer	1	3	4	9
Customer	Producer	1	0	5	7
Purchaser	Country	0	2	4	11
Customer	Country	1	0	4	9

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

Importance of purchasing domestic product

Nearly all responding purchasers (14 of 15) purchasers reported that most or all of their purchases did not require purchasing U.S.-produced product.[42] Two purchasers reported that domestic product was required by law (for 2 and 15 percent of their purchases, respectively), two purchasers (***) reported domestic product was required by their customers (for 3 and 100 percent of purchases, respectively), and none reported other preferences for domestic product.

Most important purchase factors

The most often cited top three factors firms consider in their purchasing decisions for sodium nitrite were availability/supply/lead times (16 firms), price (14 firms), and quality (8 firms) as shown in table II-6. Availability/supply/lead times was the most frequently cited first-

[42] Ten purchasers reported that 100 percent of purchases had no domestic requirement and three purchasers reported shares ranging from 85 to 98 percent having no domestic requirement.

most important factor (cited by 6 firms), followed by price (4 firms); availability/supply/lead times and price were the most frequently reported second-most important factors (6 firms each); and availability/supply/lead times and price were the most frequently reported third-most important factors (4 firms each).

Table II-6
Sodium nitrite: Count of ranking of factors used in purchasing decisions as reported by purchasers, by factor

Factor	First	Second	Third	Total
Availability/supply/lead times	6	6	4	16
Price	4	6	4	14
Quality	3	2	3	8
Service	1	1	1	3
All other factors	2	1	2	5

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

Note: Other factors include customer requirements (2 firms) for first factor; commercial terms (1 firm) for second factor; and extension of credit and historical experience (1 firm each) for third factor.

Slightly less than half of responding purchasers (7 of 16) reported that they usually purchase the lowest-priced product, five sometimes do, and four never do so.

Importance of specified purchase factors

Purchasers were asked to rate the importance of 18 factors in their purchasing decisions (table II-7). The factors rated as very important by more than half of responding purchasers were availability (general) (16 firms); reliability of supply (15); product consistency and quality meets industry standards (13 each); price (12); availability of specific grades, availability of specific purities, delivery time, and U.S. transportation costs (10 each). Eight of 16 purchasers reported that minimum quantity requirements were not important in their purchase decisions, and seven purchasers reported that minimum quantity requirements were sometimes important.

Table II-7
Sodium nitrite: Count of purchasers' responses regarding importance of purchase factors, by factor

Factor	Very important	Somewhat important	Not important
Availability (general)	16	1	0
Availability of specific forms	8	3	5
Availability of specific grades	10	5	2
Availability of specific purities	10	4	3
Delivery terms	6	8	3
Delivery time	10	6	1
Discounts offered	3	7	7
Minimum quantity requirements	1	7	8
Packaging	5	10	2
Payment terms	6	8	3
Price	12	5	0
Product consistency	13	4	0
Product range	2	10	5
Quality meets industry standards	13	4	0
Quality exceeds industry standards	6	8	3
Reliability of supply	15	2	0
Technical support/service	6	7	4
U.S. transportation costs	10	7	0

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

Lead times

Sodium nitrite is primarily sold from inventory. During the preliminary phase, U.S. producer Chemtrade reported that *** its commercial shipments were made from ***, with lead times averaging *** days.[43] During the final phase of these investigations, U.S. importers reported that *** percent of their commercial shipments were sold from U.S. inventories, with lead times averaging five days. The remaining *** percent of their commercial shipments came from foreign inventories, with lead times averaging 70 days.

In response to supply chain and logistics issues and Chemtrade's "lumpy" production, Chemtrade's customers have changed their ordering patterns so that they order further in advance to get their orders "in line."[44]

[43] Staff followed up with Chemtrade ***. See staff email on May 24, 2022. In response to the request, Chemtrade replied that "***."

[44] Hearing transcript, p. 41 (McFarland).

Supplier certification

Most responding purchasers (12 of 17) require their suppliers to become certified or qualified to sell sodium nitrite to their firm. Purchasers reported that certification processes include samples, a safety data sheet, certificates of analysis, reports of unknown impurities, a lab sample evaluation, a manufacturing site audit, and food certification. Two purchasers (***) reported that customer feedback is taken into account. Five purchasers reported that the time to qualify a new supplier was 30 days or fewer, one firm reported 60 days, and four firms reported 90 days or longer. No purchasers reported that any suppliers had failed in their attempt to qualify sodium nitrite or had lost their approved status since 2019.

Minimum quality specifications

As shown in table II-8, 10 responding purchasers reported that domestically produced product always met minimum quality specifications and 9 responding purchasers reported that Indian sodium nitrite always met minimum quality specifications. Most purchasers did not know how often Russian product met minimum quality specifications, one reported it usually did, and one reported it rarely or never did.

Table II-8
Sodium nitrite: Count of purchasers' responses regarding suppliers' ability to meet minimum quality specifications, by source

Source of purchases	Always	Usually	Sometimes	Rarely or never	Don't Know
United States	10	3	0	2	3
India	9	1	0	1	6
Russia	0	1	0	1	12
Nonsubject sources	1	0	0	1	9

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

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

Purchasers reported factors that determined quality include meeting customer specifications, purity, solubility, composition of the material, packaging, free flowing and the type of anti-caking agent[45] used.

[45] Petitioner Chemtrade changed its anti-caking agent to silicon dioxide in 2018 and offered technical assistance or high purity flake instead of technical grade granular at the same price to customers who experienced issues with the change. Hearing transcript, p. 36 (Emfinger).

Changes in purchasing patterns

Purchasers were asked about changes in their purchasing patterns from different sources since 2019 (table II-9). Reasons reported for changes in sourcing included changes in demand for end-use products, availability, customer specifications and customer demand for specific brands, dual-sourcing needs, Chemtrade unable to keep up with customer demand, and Chemtrade being the only available source of sodium nitrite after the filing of the petitions. Three of 18 responding purchasers reported that they had changed suppliers since January 1, 2019. *** stopped purchasing from Chemtrade due to price and the proximity of Royce's blending facility ***. *** increased purchases from Royce and decreased its purchases from Chemtrade ***, it increased purchases from Chemtrade since Royce has announced it would stop supplying ***. *** stated it was forced to move to Chemtrade from other suppliers because of these investigations, which has also caused it to eliminate its dual sourcing.

Table II-9
Sodium nitrite: Count of purchasers' responses regarding changes in purchase patterns from U.S., subject, and nonsubject countries

Source of purchases	Decreased	Increased	Constant	Fluctuated	Did not purchase
United States	1	4	3	5	3
India	1	1	3	3	4
Russia	1	0	0	1	7
Nonsubject sources	0	0	1	1	6
Sources unknown	2	0	0	3	6

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

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

Purchasers were asked a number of questions comparing sodium nitrite produced in the United States, subject countries, and nonsubject countries. First, purchasers were asked for a country-by-country comparison on the same 18 factors (tables II-10) for which they were asked to rate the importance.

A majority or plurality of responding purchasers reported that U.S. and Indian sodium nitrite were comparable on all 18 factors. Only one purchaser (***) compared U.S. and Russian product; it reported that the U.S. product was inferior to the Russian product for

most factors.[46] Three purchasers compared U.S. and nonsubject product and reported that they were comparable on all factors except availability of specific forms, availability of specific grades, availability of specific purities, and delivery time (for which one purchaser reported U.S. sodium nitrite was superior to nonsubject sodium nitrite), and price (for which one purchaser reported U.S.-produced sodium nitrite was inferior).

Table II-10
Sodium nitrite: Count of purchasers' responses comparing U.S.-produced and imported product, by factor and country pair

Factor	Country pair	Superior	Comparable	Inferior
Availability (general)	U.S. vs India	2	6	2
Availability of specific forms	U.S. vs India	3	7	0
Availability of specific grades	U.S. vs India	4	6	0
Availability of specific purities	U.S. vs India	2	8	0
Delivery terms	U.S. vs India	1	6	2
Delivery time	U.S. vs India	4	4	2
Discounts offered	U.S. vs India	1	5	1
Minimum quantity requirements	U.S. vs India	0	9	1
Packaging	U.S. vs India	0	8	2
Payment terms	U.S. vs India	0	9	1
Price	U.S. vs India	0	8	2
Product consistency	U.S. vs India	1	9	0
Product range	U.S. vs India	2	7	0
Quality meets industry standards	U.S. vs India	0	10	0
Quality exceeds industry standards	U.S. vs India	1	9	0
Reliability of supply	U.S. vs India	3	6	1
Technical support/service	U.S. vs India	1	9	0
U.S. transportation costs	U.S. vs India	2	6	3

Table continued.

[46] This purchaser (***) stopped purchasing the Russian product in 2019. It reported that, ***. Additionally, this purchaser reported that it did not have access to domestically produced sodium nitrite.

Table II-10 Continued
Sodium nitrite: Count of purchasers' responses comparing U.S.-produced and imported product, by factor and country pair

Factor	Country pair	Superior	Comparable	Inferior
Availability (general)	U.S. vs Russia	0	0	1
Availability of specific forms	U.S. vs Russia	0	0	1
Availability of specific grades	U.S. vs Russia	0	0	1
Availability of specific purities	U.S. vs Russia	0	0	1
Delivery terms	U.S. vs Russia	0	0	1
Delivery time	U.S. vs Russia	0	0	1
Discounts offered	U.S. vs Russia	0	0	1
Minimum quantity requirements	U.S. vs Russia	0	0	1
Packaging	U.S. vs Russia	0	0	1
Payment terms	U.S. vs Russia	0	0	1
Price	U.S. vs Russia	1	1	0
Product consistency	U.S. vs Russia	0	0	1
Product range	U.S. vs Russia	0	0	1
Quality meets industry standards	U.S. vs Russia	0	1	0
Quality exceeds industry standards	U.S. vs Russia	0	0	1
Reliability of supply	U.S. vs Russia	0	0	1
Technical support/service	U.S. vs Russia	0	0	1
U.S. transportation costs	U.S. vs Russia	0	1	0

Table continued.

Table II-10 Continued
Sodium nitrite: Count of purchasers' responses comparing U.S.-produced and imported product, by factor and country pair

Factor	Country pair	Superior	Comparable	Inferior
Availability (general)	U.S. vs Nonsubject	0	3	0
Availability of specific forms	U.S. vs Nonsubject	1	2	0
Availability of specific grades	U.S. vs Nonsubject	1	2	0
Availability of specific purities	U.S. vs Nonsubject	1	2	0
Delivery terms	U.S. vs Nonsubject	0	3	0
Delivery time	U.S. vs Nonsubject	1	2	0
Discounts offered	U.S. vs Nonsubject	0	3	0
Minimum quantity requirements	U.S. vs Nonsubject	0	3	0
Packaging	U.S. vs Nonsubject	0	3	0
Payment terms	U.S. vs Nonsubject	0	3	0
Price	U.S. vs Nonsubject	0	2	1
Product consistency	U.S. vs Nonsubject	0	3	0
Product range	U.S. vs Nonsubject	0	3	0
Quality meets industry standards	U.S. vs Nonsubject	0	3	0
Quality exceeds industry standards	U.S. vs Nonsubject	0	3	0
Reliability of supply	U.S. vs Nonsubject	0	3	0
Technical support/service	U.S. vs Nonsubject	0	3	0
U.S. transportation costs	U.S. vs Nonsubject	0	3	0

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

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

Note: Staff followed up with purchaser *** regarding its response to U.S. and Russia comparison of price, for which it made multiple selections, and did not receive a response. See staff email to ***, June 6, 2022.

Comparison of U.S.-produced and imported sodium nitrite

In order to determine whether U.S.-produced sodium nitrite can generally be used in the same applications as imports from India and Russia, the U.S. producer, importers, and purchasers were asked whether the products can always, frequently, sometimes, or never be used interchangeably. As shown in tables II-11 to II-13, Chemtrade reported that U.S.-produced sodium nitrite and sodium nitrite from all other sources is *** interchangeable while a plurality of importers (3 of 7) reported that U.S.-produced sodium nitrite and sodium nitrite from India were frequently interchangeable. Importer *** reported that domestic and Indian sodium nitrite was never interchangeable because Chemtrade's product produces "copious amounts of toxic nitrous oxide fumes" while Indian sodium nitrite does not; importer *** reported that Indian producer Deepak offers briquette form, which is not available domestically. Both responding importers reported that U.S.-produced and Russian sodium nitrite were only sometimes interchangeable, with importer *** reporting that Russian sodium nitrite has a high sodium nitrate content that may be too high for some purchasers and that it also does not have an anti-caking agent so is only useable in liquor production. One responding importer reported that Indian and Russian sodium nitrite were sometimes interchangeable.

Most responding purchasers reported that the U.S. and Indian product were always or frequently interchangeable. Two purchasers compared U.S. and Russian product; one reported that the products were never interchangeable and one reported that they were sometimes interchangeable. *** reported that U.S. product is never interchangeable with imported product because it only wants domestic product. *** reported that domestic product and that from India and nonsubject countries are sometimes interchangeable and that it currently has only two approved materials, *** from Chemtrade and a *** in India. *** also reported that the U.S. and Indian product are sometimes interchangeable, adding that it is only able to source tech grade and lower from India. *** reported that products from each country source are sometimes interchangeable and that product quality, availability, and lead time are all factors in whether product from a particular source is viable.

Table II-11
Sodium nitrite: Count of U.S. producers reporting the interchangeability between product produced in the United States and in other countries, by country pair

Count in number of firms reporting

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

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

Table II-12
Sodium nitrite: Count of importers reporting the interchangeability between product produced in the United States and in other countries, by country pair

Count in number of firms reporting

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

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

Table II-13
Sodium nitrite: Count of purchasers reporting the interchangeability between product produced in the United States and in other countries, by country pair

Count in number of firms reporting

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

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

In addition, U.S. producers, importers, and purchasers were asked to assess how often differences other than price were significant in sales of sodium nitrite from the United States, subject, or nonsubject countries. As presented in tables II-14 to II-16, U.S. producer Chemtrade reported that factors other than price were *** significant. Most responding importers (6 of 7) reported that factors other than price were always or frequently significant when comparing U.S.-produced sodium nitrite and sodium nitrite from India. Both responding

importers reported that factors other than price were only sometimes significant when comparing U.S.-produced and Russian sodium nitrite and Russian and Indian sodium nitrite.

Most responding purchasers reported that factors other than price were only sometimes significant in their purchases of U.S. versus Indian product. The two purchasers that responded with respect to U.S. versus Russian product reported that such factors were sometimes or never significant in their purchase decisions. Purchasers did not discuss any additional factors besides those mentioned previously in their answers regarding interchangeability.

Table II-14
Sodium nitrite: Count of U.S. producers reporting the significance of differences other than price between product produced in the United States and in other countries, by country pair

Count in number of firms reporting

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

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

Table II-15
Sodium nitrite: Count of importers reporting the significance of differences between product produced in the United States and in other countries, by country pair

Count in number of firms reporting

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

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

Table II-16
Sodium nitrite: Count of purchasers reporting the significance of differences between product produced in the United States and in other countries, by country pair

Count in number of firms reporting

Country pair	Always	Frequently	Sometimes	Never
United States vs. India	0	1	9	2
United States vs. Russia	0	0	1	1
India vs. Russia	0	0	1	1
United States vs. Other	0	0	1	2
India vs. Other	0	0	0	2
Russia vs. Other	0	0	0	1

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

Elasticity estimates

This section discusses elasticity estimates; parties were encouraged to comment on these estimates; comments are summarized below.

U.S. supply elasticity

The domestic supply elasticity for sodium nitrite measures the sensitivity of the quantity supplied by U.S. producers to changes in the U.S. market price of sodium nitrite. The elasticity of domestic supply depends on several factors including the level of excess capacity, the ease with which producers can alter capacity, producers' ability to shift to production of other products, the existence of inventories, and the availability of alternate markets for U.S.-produced sodium nitrite. Analysis of these factors above indicates that the U.S. industry has the ability to greatly increase or decrease shipments to the U.S. market; an estimate in the range of 5 to 7 is suggested.

U.S. demand elasticity

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

Substitution elasticity

The elasticity of substitution depends upon the extent of product differentiation between the domestic and imported products.[47] Product differentiation, in turn, depends upon such factors as quality (e.g., chemistry, appearance, etc.) and conditions of sale (e.g., availability, sales terms/discounts/promotions, etc.). Based on available information, the elasticity of substitution between U.S.-produced sodium nitrite and imported sodium nitrite is likely to be moderately high and in the range of 3 to 5.[48] Factors contributing to this level of substitutability include similar quality, similar availability of forms of sodium nitrite, and high interchangeability between domestic and subject sources on a product basis. Factors reducing substitutability include the unavailability of food grade sodium nitrite from subject sources, some differences in reported interchangeability between sodium nitrite from domestic and subject sources, and some significant factors other than price that firms consider.

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

[48] Petitioner stated that this was a correct characterization. Petitioner's prehearing brief, p. 28. Respondent Deepak also agreed that that there is a moderately high degree of substitution. Hearing transcript, p. 153 (Gupta); Respondent Deepak's posthearing brief, Responses to Commissioner Questions, p. 26.

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

The Commission analyzes a number of factors in making injury determinations (see 19 U.S.C. §§ 1677(7)(B) and 1677(7)(C)). Information on the subsidies and dumping margins was presented in Part I of this report and information on the volume and pricing of imports of the subject merchandise is presented in Part IV and Part V. Information on the other factors specified is presented in this section and/or Part VI and (except as noted) is based on the questionnaire responses of one firm that accounted for the vast majority of U.S. production of sodium nitrite during 2021.

U.S. producers

The Commission issued a U.S. producer questionnaire to two firms based on information contained in the petitions. One firm provided usable data on their operations.[1] Staff believes that this response represents the vast majority of U.S. production of sodium nitrite.

Table III-1 presents the U.S. producer of sodium nitrite, its production location, position on the petitions, and its share of total production.

Table III-1
Sodium nitrite: U.S. producer Chemtrade, its position on the petition, location of production, and share of reported production, 2021

Shares in percent

Firm	Position on petition	Production location	Share of production
Chemtrade	Petitioner	Syracuse, NY	***

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 "--".

[1] A U.S. producer questionnaire was issued to SABIC Innovative Chemicals US, LLC ("SABIC"), as Chemtrade identified SABIC as a domestic producer ***. Petitions, vol. 1, p. 3. SABIC stated that it ***. Email from *** SABIC, July 12, 2022. SABIC provided limited information on production and sales quantities for calendar years 2019-21 in email correspondence, submitted the day the record closed in these final investigations. Appendix D presents apparent U.S. consumption and market share data based on quantity, inclusive of SABIC's by-product production and sales quantities. Email from *** SABIC, July 19, 2022.

Table III-2 presents information on the responding U.S. producer's ownership, related and/or affiliated firms. As indicated in table III-2, Chemtrade *** related to foreign producers of the subject merchandise and *** related to U.S. importers of the subject merchandise. In addition, as discussed in greater detail below, Chemtrade *** directly import the subject merchandise and *** purchase the subject merchandise from U.S. importers.

Table III-2
Sodium nitrite: U.S. producer Chemtrade's ownership, related and/or affiliated firms

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

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

Table III-3 presents the responding U.S. producer's reported changes in operations since January 1, 2019.[2]

Table III-3
Sodium nitrite: U.S. producer Chemtrade's reported changes in operations, since January 1, 2019

Item	Firm name and narrative response on changes in operations
Revised labor agreements	***
Other	***

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

[2] In addition to the operational changes described in table III-3, Chemtrade also shut down its plant for a period of 10 days in November 2020 and ***. Conference transcript, p. 72 (Boonstra) and Petitioner's postconference brief, p. 1.

U.S. production, capacity, and capacity utilization

Table III-4 and figure III-1 present the responding U.S. producer's production, capacity, and capacity utilization.[3] Chemtrade's production experienced a net decrease of *** percent from 2019 to 2021, with a *** percent decrease from 2019 to 2020, and a subsequent *** percent increase from 2020-2021. The firm's production was *** percent lower in January-March ("interim") 2022 than in interim 2021. Production capacity did not change over the period reported.[4] Combined with the net decrease in production, this led to a net decrease of *** percentage points in capacity utilization from 2019 to 2021, and was *** percentage points lower in interim 2022 compared with interim 2021.

Table III-4
Sodium nitrite: U.S. producer Chemtrade's average production capacity, production, and capacity utilization, by period

Capacity and production in 1,000 dry pounds; capacity utilization ratio in percent

Item	2019	2020	2021	Jan-Mar 2021	Jan-Mar 2022
Capacity	***	***	***	***	***
Production	***	***	***	***	***
Capacity utilization	***	***	***	***	***

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

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

[3] Chemtrade stated that the by-product tech liquor is included in its capacity and production. Petitioner's posthearing brief, p. I-5.

[4] Chemtrade stated that its capacity is calculated from its best month demonstrated capacity of *** tons (*** million pounds), which includes *** tons (*** pounds) of capacity specific to tech liquor. Chemtrade's U.S. producer questionnaire, II-3c.

Figure III-1
Sodium nitrite: U.S. producer Chemtrade's average production capacity, production, and capacity utilization, by period

* * * * * * *

Source: Compiled from data submitted in response to Commission questionnaires

Alternative products

Chemtrade *** production of other products on the same equipment used to produce sodium nitrite during January 1, 2019 through March 2022.

U.S. producer's U.S. shipments and exports

Table III-5 presents the U.S. producer's U.S. shipments, export shipments, and total shipments.[5] Chemtrade's total shipments of sodium nitrite, by quantity, declined continuously from 2019-2021, with consecutive declines of *** percent from 2019 to 2020 and *** percent from 2020 to 2021, resulting in a *** percent decline in total shipments from 2019 to 2021. However, total shipments in interim 2022 were *** percent higher than interim 2021. The overall decline in total shipments from 2019 to 2021 was driven *** by the net decline of *** percent in U.S. shipments over the same period. While export shipments decreased by *** percent from 2019 to 2020, the subsequent *** percent increase from 2020 to 2021 resulted in a net increase of *** percent from 2019 to 2021. Likewise, export shipments in interim 2022 were *** percent higher than in interim 2021. Meanwhile, U.S. shipments were *** percent lower for interim 2022 as compared to interim 2021. The net increase in export shipments from 2019-21, in conjunction with the net decrease in U.S. shipments, caused export shipments to gain *** percentage points as a share of total shipments by quantity, reaching *** percent of total shipments in calendar year 2021, the highest for the period collected.

Whereas total shipments by quantity had a net decrease from 2019 to 2021, total shipments by value had a net increase of *** percent over the same period. The net increase in total shipments by value was driven entirely by the increase in U.S. shipments, with U.S. shipments by value increasing *** percent from 2019 to 2021, whereas export shipments by value decreased *** percent over the same period. Both U.S. shipments and export shipments by value first decreased from 2019-20, by *** percent and *** percent respectively, before both increasing from 2020 to 2021. However, the year-on-year increase of *** percent from 2020-2021 in export shipments by value was not large enough to surpass 2019 levels, whereas the 2020-21 increase of *** percent for U.S. shipments did exceed the prior year-on-year decline, leading to the net increase between 2019 and 2021. Total shipments by value were *** percent higher for interim 2022 compared to interim 2021, with U.S. shipments *** percent higher, and export shipments *** percent higher.

The net decrease in quantity of U.S. shipments from 2019 to 2021 alongside the net increase in value over the same period resulted in an increase of *** percent in unit value for U.S. shipments, whereas export shipments saw a *** decrease in unit value due to an increase in quantity and decrease in value over the same period. The magnitude of the increase in unit value for U.S. shipments outpaced the magnitude of the decrease for export shipments,

[5] Chemtrade ***.

contributing to a *** percent increase in unit value for total shipments from 2019 to 2021. Total shipments unit value was *** percent higher for interim 2022 compared to 2021, driven by unit value increases for both U.S. and export shipments, in turn driving the higher values of both U.S. and export shipments for interim 2022 compared to interim 2021.

Table III-5
Sodium nitrite: U.S. producer Chemtrade's shipments, by destination and period

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

Item	Measure	2019	2020	2021	Jan-Mar 2021	Jan-Mar 2022
U.S. shipments	Quantity	***	***	***	***	***
Export shipments	Quantity	***	***	***	***	***
Total shipments	Quantity	***	***	***	***	***
U.S. shipments	Value	***	***	***	***	***
Export shipments	Value	***	***	***	***	***
Total shipments	Value	***	***	***	***	***
U.S. shipments	Unit value	***	***	***	***	***
Export shipments	Unit value	***	***	***	***	***
Total shipments	Unit value	***	***	***	***	***
U.S. shipments	Share of quantity	***	***	***	***	***
Export shipments	Share of quantity	***	***	***	***	***
Total shipments	Share of quantity	***	***	***	***	***
U.S. shipments	Share of value	***	***	***	***	***
Export shipments	Share of value	***	***	***	***	***
Total shipments	Share of value	***	***	***	***	***

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 III-6 presents the responding U.S. producer's U.S. shipments by type. Chemtrade's U.S. shipments of the tech liquor form of sodium nitrite decreased both in terms in quantity and value from 2019 to 2020, at which point U.S. shipments of tech liquor ceased and did not resume during the period for which data was collected.[6] The *** percent decrease in U.S. shipments of tech liquor from 2019-20 led to a commensurate *** percent decrease in the share of total U.S. shipments by quantity. Tech liquor shipments by value followed the same trend, with a decrease in value of tech liquor shipments of *** percent from 2019-20 resulting in a *** percent drop in their share of total shipments by value. Although tech liquor consistently maintained a lower unit value when compared to all other forms of sodium nitrite across all periods, the lack of any tech liquor shipments in 2021 and interim 2022 did not result in a higher average unit value for all other types of sodium nitrite, as U.S. tech liquor shipments never accounted for more than *** of total U.S. shipments by quantity, or greater than *** percent by value.[7]

[6] Chemtrade noted that it sold tech liquor to one customer in the charcoal briquette industry for over 20 years, but those sales stopped in the second half of 2020 when the customer reformulated its process to remove the need for tech liquor. Conference transcript, pp. 20 and 36 (McFarland).

[7] Chemtrade reported ***. Chemtrade's U.S. producer questionnaire, II-9.

Table III-6
Sodium nitrite: U.S. producer Chemtrade's U.S. shipments, by product type and period

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

Product type	Measure	2019	2020	2021	Jan-Mar 2021	Jan-Mar 2022
Tech liquor	Quantity	***	***	***	***	***
All other types	Quantity	***	***	***	***	***
All products	Quantity	***	***	***	***	***
Tech liquor	Value	***	***	***	***	***
All other types	Value	***	***	***	***	***
All products	Value	***	***	***	***	***
Tech liquor	Unit value	***	***	***	***	***
All other types	Unit value	***	***	***	***	***
All products	Unit value	***	***	***	***	***
Tech liquor	Share of quantity	***	***	***	***	***
All other types	Share of quantity	***	***	***	***	***
All products	Share of quantity	***	***	***	***	***
Tech liquor	Share of value	***	***	***	***	***
All other types	Share of value	***	***	***	***	***
All products	Share of value	***	***	***	***	***

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

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

U.S. producer's inventories

Table III-7 presents the responding U.S. producer's end-of-period inventories and the ratio of these inventories to their production, U.S. shipments, and total shipments. From 2019 to 2021, Chemtrade had a net increase of *** percent in end-of-period inventories. Following a year-on-year decrease of *** percent from 2019-20, end-of-period inventories then increased by *** percent from 2020 to 2021. Over the same 2019-21 period, inventory ratios to U.S. production, U.S. shipments, and total shipments also increased by *** percentage points, *** percentage points, and *** percentage points, respectively. For interim 2022, Chemtrade's end-of-period inventories were *** percent higher than interim 2021. Inventories as a ratio to U.S. production, U.S. shipments, and total shipments for interim 2022 were also higher than interim 2021, by *** percentage points, *** percentage points, and *** percentage points, respectively. However, all inventory ratios for interim 2022 were lower than calendar year 2021, although the difference was less than *** percentage points for each ratio.

Table III-7
Sodium nitrite: U.S. producer Chemtrade's inventories and their ratio to select items, by period

Quantity in 1,000 dry pounds; ratios in percent

Item	2019	2020	2021	Jan-Mar 2021	Jan-Mar 2022
End-of-period inventory quantity	***	***	***	***	***
Inventory ratio to U.S. production	***	***	***	***	***
Inventory ratio to U.S. shipments	***	***	***	***	***
Inventory ratio to total shipments	***	***	***	***	***

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

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

U.S. producer's imports from subject sources

***.

U.S. employment, wages, and productivity

Table III-8 shows the responding U.S. producer's employment-related data.[8] While production and related workers remained the same in 2021 as in 2019 and productivity declined, the total hours worked, hours worked per PRW, wages paid, hourly wages, and unit labor costs increased.

Table III-8
Sodium nitrite: U.S. producer Chemtrade's employment related information, by item period

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

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

[8] Chemtrade reported that there were "***."

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

U.S. importers

The Commission issued importer questionnaires to 25 firms believed to be importers of subject sodium nitrite, as well as to U.S. producers of sodium nitrite.[1] Usable questionnaire responses were received from 12 companies, representing *** percent of U.S. imports of sodium nitrite from India and *** percent of U.S. imports of sodium nitrite from Russia in 2021 under HTS statistical reporting number 2834.10.1000. Table IV-1 lists all responding U.S. importers of sodium nitrite from India and Russia and other sources, their locations, and their shares of U.S. imports, in 2021. *** reported U.S. imports from nonsubject countries.

[1] The Commission issued questionnaires to those firms identified in the petitions, along with firms that, based on a review of data from third-party sources, may have accounted for more than one percent of total imports under HTS 2834.10.1000 in 2021.

Table IV-1
Sodium nitrite: U.S. importers, their headquarters, and share of total imports within a given source by firm, 2021

Shares in percent

Firm	Headquarters	India	Russia	Subject sources	Nonsubject sources	All import sources
Ace Fluids	Odessa. TX	***	***	***	***	***
Amchem	Longview, TX	***	***	***	***	***
BASF	Florham Park, NJ	***	***	***	***	***
Bold Production	Houston, TX	***	***	***	***	***
Brenntag	Reading, PA	***	***	***	***	***
CDN	Warrenville, IL	***	***	***	***	***
Chem One	Houston, TX	***	***	***	***	***
Concordia	Humble, TX	***	***	***	***	***
Penn Chemicals	Bensalem, PA	***	***	***	***	***
Royale	Bear, DE	***	***	***	***	***
Royce	East Rutherford, NJ	***	***	***	***	***
Sunbelt	Rock Hill, SC	***	***	***	***	***
All firms	Various	***	***	***	***	***

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

U.S. imports

Table IV-2 presents data for U.S. imports of sodium nitrite from India and Russia and all other sources.[2] The quantity of imports from all sources increased by 72.1 percent from 2019 to 2021, but was 41.2 percent lower in interim 2022 than interim 2021. The multi-year increase in the quantity of total imports from 2019-21 is the result of a 55.9 percent increase in subject imports. Imports from India had a multi-year increase of 49.1 percent from 2019 to 2021, whereas Russian imports peaked in 2020 with over five-fold year-on-year growth from 2019 to 2020, before declining by 40.4 percent in 2021. Even with the decrease from 2020-21, Russian imports in 2021 remained almost three times higher than 2019 levels. The lower level of total imports reported in interim 2022 compared to interim 2021 is due entirely to lower levels of imports from subject sources, as imports from India and Russia were 42.8 percent and 100.0 percentage points lower, respectively. Subject sources' share of total imports by quantity remained at or above 99.9 percent for all periods for which data was collected.

[2] Based on official U.S. import statistics (HTS 2834.10.1000), Australia was the top nonsubject source for the period for which data was collected, followed by Germany. *** exporter of merchandise from Canada under HTS 2834.10.1000, stated that it does not export sodium nitrite from Canada to the United States and does not have any sodium nitrite production in Canada. As such Canadian imports, representing less than 9.8 percent of imports in any year during 2018-20, are not included in nonsubject imports data in this report. E-mail from ***, July 12, 2022.

Trends in value data for the period of investigation mirrored those for quantity. Total imports by value increased 65.7 percent from 2019-21, but were 21.4 percent lower in interim 2022 than in interim 2021. As with imports by quantity, the 2019-21 increase in imports by value was driven by a 66.9 percent increase in subject imports over the same period. The increase in subject imports by value from 2019-2021 included a 59.9 percent increase in imports from India, and an over three-fold irregular increase in Russian imports. Subject imports were 22.6 percent lower in interim 2022 compared to interim 2021, driven by an 18.1 percent decrease in the value of Indian imports, and Russian imports ceasing entirely in interim 2022. Subject imports' share of total import value in interim 2022 was the lowest since 2019, at 98.4 percent.

Unit values of total subject imports declined between 2019 and 2020 but increased in 2021, ending $0.02 higher than in 2019. Accounting for no less than 86.7 percent of the quantity of all sodium nitrite imports, the $0.03 increase in unit values of imports from India during 2019-21 drove this increase. Imports from Russia also experienced an aggregate $0.04 increase in average unit values across this period. Russian imports' unit values were lower than that of Indian imports in all periods reported. When Russian unit values were zero in interim 2022 due to cessation of Russian imports, Indian imports' unit values were $0.52, the highest during the period for which data were collected and $0.16 higher than in interim 2021. With the exception of interim 2021, for which no nonsubject imports were reported, unit values of nonsubject imports ranged between $4.30 and $7.08 per pound, due to import quantities remaining between 3 and 10 thousand dry pounds over the same periods.

Total imports as a ratio to U.S. production increased by *** percentage points during 2019-21, but were *** percentage points lower in interim 2022 than in interim 2021. Although total imports as a ratio to U.S. production were lower in interim 2022 than interim 2021, the interim 2022 ratio was still *** percentage points higher than in calendar year 2019. Never accounting for less than 86.7 percent of total imports by quantity, subject imports from India drove these trends. Nonsubject sources as a ratio to U.S. production remained at *** in all periods for which data were collected.

Table IV-2
Sodium nitrite: U.S. imports, by source and period

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

Source	Measure	2019	2020	2021	Jan-Mar 2021	Jan-Mar 2022
India	Quantity	10,356	12,864	15,438	4,946	2,829
Russia	Quantity	298	1,969	1,173	335	---
Subject sources	Quantity	10,654	14,833	16,611	5,281	2,829
Nonsubject sources	Quantity	10	3	7	---	3
All import sources	Quantity	10,663	14,836	16,618	5,281	2,832
India	Value	3,920	4,708	6,268	1,804	1,478
Russia	Value	97	623	437	106	---
Subject sources	Value	4,017	5,331	6,705	1,910	1,478
Nonsubject sources	Value	55	12	40	---	24
All import sources	Value	4,071	5,343	6,745	1,910	1,502
India	Unit value	0.38	0.37	0.41	0.36	0.52
Russia	Unit value	0.33	0.32	0.37	0.32	---
Subject sources	Unit value	0.38	0.36	0.40	0.36	0.52
Nonsubject sources	Unit value	5.76	4.30	6.15	---	7.08
All import sources	Unit value	0.38	0.36	0.41	0.36	0.53

Table continued.

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

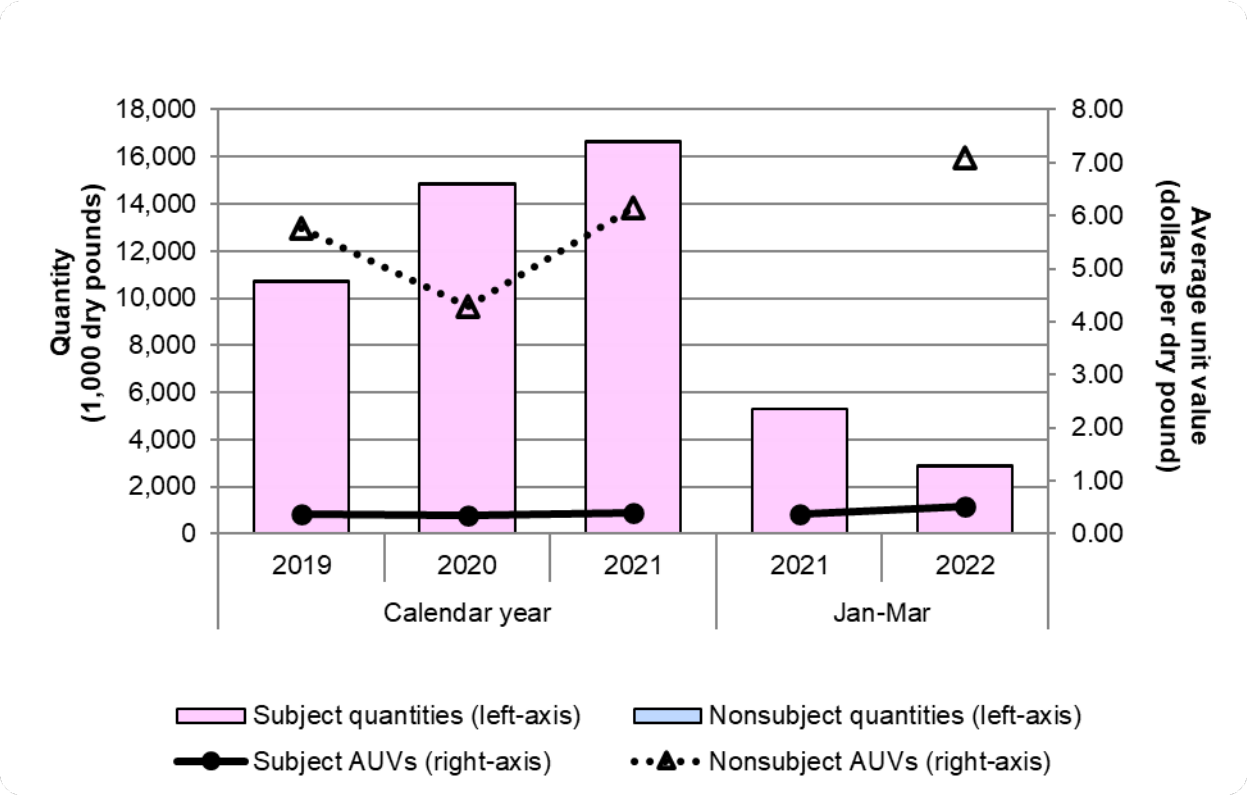
Shares and ratios in percent

Source	Measure	2019	2020	2021	Jan-Mar 2021	Jan-Mar 2022
India	Share of quantity	97.1	86.7	92.9	93.7	99.9
Russia	Share of quantity	2.8	13.3	7.1	6.3	---
Subject sources	Share of quantity	99.9	100.0	100.0	100.0	99.9
Nonsubject sources	Share of quantity	0.1	0.0	0.0	---	0.1
All import sources	Share of quantity	100.0	100.0	100.0	100.0	100.0
India	Share of value	96.3	88.1	92.9	94.4	98.4
Russia	Share of value	2.4	11.7	6.5	5.6	---
Subject sources	Share of value	98.7	99.8	99.4	100.0	98.4
Nonsubject sources	Share of value	1.3	0.2	0.6	---	1.6
All import sources	Share of value	100.0	100.0	100.0	100.0	100.0
India	Ratio	***	***	***	***	***
Russia	Ratio	***	***	***	***	---
Subject sources	Ratio	***	***	***	***	***
Nonsubject sources	Ratio	***	***	***	---	***
All import sources	Ratio	***	***	***	***	***

Source: Compiled from official U.S. imports statistics of the U.S. Department of Commerce Census Bureau using HTS statistical reporting number 2834.10.1000, accessed on May 18, 2022. Imports are based on the imports for U.S. consumption data series. Value data reflect landed duty-paid values.

Note: Share of quantity is the share of U.S. imports by quantity; share of value is the share of U.S. imports by value; ratio are U.S. imports to production. Nonsubject sources do not include imports from Canada which are believed to be out of scope.

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



Source: Compiled from official U.S. imports statistics of the U.S. Department of Commerce Census Bureau using HTS statistical reporting number 2834.10.1000, accessed on May 18, 2022. Imports are based on the imports for U.S. consumption data series. Value data reflect landed duty-paid values. Nonsubject sources do not include imports from Canada which are believed to be out of scope.

Negligibility

The statute requires that an investigation be terminated without an injury determination if imports of the subject merchandise are found to be negligible.[3] Negligible imports are generally defined in the Act, as amended, as imports from a country of merchandise corresponding to a domestic like product where such imports account for less than 3 percent of the volume of all such merchandise imported into the United States in the most recent 12-month period for which data are available that precedes the filing of the petition or the initiation of the investigation. However, if there are imports of such merchandise from a number of countries subject to investigations initiated on the same day that individually account for less than 3 percent of the total volume of the subject merchandise, and if the imports from those countries collectively account for more than 7 percent of the volume of all

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

such merchandise imported into the United States during the applicable 12-month period, then imports from such countries are deemed not to be negligible.[4] Imports from India and Russia accounted for 92.9 and 7.1 percent, respectively, of total U.S. imports of sodium nitrite by quantity during calendar year 2021 (i.e., the 12-month period preceding the filing of the petitions).

Table IV-3
Sodium nitrite: U.S. imports in the twelve-month period preceding the filing of the petition, January 2021 through December 2021

Quantity in 1,000 dry pounds, share in percent

Source of imports	Quantity	Share of quantity
India	15,438	92.9
Russia	1,173	7.1
Subject sources	16,611	100.0
Nonsubject sources	7	0.0
All import sources	16,618	100.0

Source: Compiled from official U.S. imports statistics of the U.S. Department of Commerce Census Bureau using HTS statistical reporting number 2834.10.1000, accessed on May 18, 2022. Imports are based on the imports for U.S. consumption data series.

Note: Shares and ratios as "0.0" represent value greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "--." Nonsubject sources do not include imports from Canada which are believed to be out of scope.

Cumulation considerations

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

Fungibility

Tables IV-4 and IV-5, and figures IV-2 and IV-3, present data for the U.S. producer's and U.S. importers' U.S. shipments by product type for 2021. Importers reported shipments of imports from India in *** forms in 2021, and U.S. shipments of imports from Russia

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

only in the *** and *** forms. The U.S. producer reported U.S. shipments of ***. For the U.S. producer, U.S. shipments in 2021 were concentrated in granulated forms, with the U.S. producer's shipments of the aggregated all granulated forms accounting for *** percent of all granulated shipments, compared to *** percent for India and *** percent for Russia. However, *** percent of the U.S. producer's shipments of aggregated all granulated forms were concentrated in the granulated less than 99 percent pure detailed form. This contrasts with imports from India, with *** percent of importers' aggregated granulated forms shipments coming in the granular 99 percent pure or more detailed form. There were *** U.S. shipments of imports from Russia in the granular 99 percent pure or more detailed form.

For the aggregated flake and briquette forms, U.S. shipments by the U.S. producer accounted for *** percent of all aggregated flake and briquette imports, compared to *** percent for imports from India. Importers ***. The U.S. producer ***, whereas importers had shipments of imports from India in ***, with imports from India shipped in the briquette detailed form accounting for *** percent of all aggregated flake and briquette shipments of subject imports.

Aggregated liquid forms of sodium nitrite was the only aggregated form for which U.S. shipments of subject imports exceeded those by the U.S. producer, with U.S. shipments of aggregated liquid form imports from India accounting for *** percent of all aggregated liquid form shipments, compared to *** percent for the U.S. producer and *** percent for imports from Russia. While *** within the aggregated all liquid forms category. For imports from India and Russia, shipments of liquid via tankers/railcars comprised the vast majority of their aggregated all liquid forms shipments. While the U.S. producer's single largest detailed form by U.S. shipments was the *** detailed form, for imports from India and Russia, the largest form by shipments was ***, at *** percent and *** percent of total U.S. shipments of imports from India and Russia, respectively. *** were the only source and form with reported shipments from the aggregated all other forms category.

Table IV-4
Sodium nitrite: U.S. producer Chemtrade's and U.S. importers' U.S. shipments in 2021, by source and detailed form type

Quantity in 1,000 dry pounds

Detailed product form	U.S. producer	India	Russia	Subject sources	Nonsubject sources	All import sources	All sources
Granular 99 pure or more	***	***	***	***	***	***	***
Granulated Less than 99 pure	***	***	***	***	***	***	***
Flake	***	***	***	***	***	***	***
Briquette	***	***	***	***	***	***	***
Liquid tankers / railcars	***	***	***	***	***	***	***
Liquid drums / totes	***	***	***	***	***	***	***
Liquid other container sizes	***	***	***	***	***	***	***
Prill	***	***	***	***	***	***	***
Tech liquor	***	***	***	***	***	***	***
All other forms	***	***	***	***	***	***	***
All forms	***	***	***	***	***	***	***

Table continued.

Table IV-4 Continued
Sodium nitrite: U.S. producer Chemtrade's and U.S. importers' U.S. shipments in 2021, by source and detailed form type

Share across in percent

Detailed product form	U.S. producer	India	Russia	Subject sources	Nonsubject sources	All import sources	All sources
Granular 99 pure or more	***	***	***	***	***	***	***
Granulated Less than 99 pure	***	***	***	***	***	***	***
Flake	***	***	***	***	***	***	***
Briquette	***	***	***	***	***	***	***
Liquid tankers / railcars	***	***	***	***	***	***	***
Liquid drums / totes	***	***	***	***	***	***	***
Liquid other container sizes	***	***	***	***	***	***	***
Prill	***	***	***	***	***	***	***
Tech liquor	***	***	***	***	***	***	***
All other forms	***	***	***	***	***	***	***
All forms	***	***	***	***	***	***	***

Table continued.

Table IV-4 Continued
Sodium nitrite: U.S. producer Chemtrade's and U.S. importers' U.S. shipments in 2021, by source and detailed form type

Share down in percent

Detailed product form	U.S. producer	India	Russia	Subject sources	Nonsubject sources	All import sources	All sources
Granular 99 pure or more	***	***	***	***	***	***	***
Granulated Less than 99 pure	***	***	***	***	***	***	***
Flake	***	***	***	***	***	***	***
Briquette	***	***	***	***	***	***	***
Liquid tankers / railcars	***	***	***	***	***	***	***
Liquid drums / totes	***	***	***	***	***	***	***
Liquid other container sizes	***	***	***	***	***	***	***
Prill	***	***	***	***	***	***	***
Tech liquor	***	***	***	***	***	***	***
All other forms	***	***	***	***	***	***	***
All forms	***	***	***	***	***	***	***

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

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

Figure IV-2
Sodium nitrite: U.S. producer Chemtrade's and U.S. importers' U.S. shipments in 2021, by source and detailed form type, 2021

* * * * * * *

Source: Compiled from data submitted in response to Commission questionnaires

Table IV-5
Sodium nitrite: U.S. producer Chemtrade's and U.S. importers' U.S. shipments in 2021, by source and aggregated form subtotals

Quantity in 1,000 dry pounds

Aggregated product form category	U.S. producer	India	Russia	Subject sources	Nonsubject sources	All import sources	All sources
All granulated	***	***	***	***	***	***	***
Flake and briquette combined	***	***	***	***	***	***	***
All liquid	***	***	***	***	***	***	***
All other forms	***	***	***	***	***	***	***
All forms	***	***	***	***	***	***	***

Table continued.

Table IV-5 Continued
Sodium nitrite: U.S. producer Chemtrade's and U.S. importers' U.S. shipments in 2021, by source and aggregated form subtotals

Share across in percent

Aggregated product form category	U.S. producer	India	Russia	Subject sources	Nonsubject sources	All import sources	All sources
All granulated	***	***	***	***	***	***	***
Flake and briquette combined	***	***	***	***	***	***	***
All liquid	***	***	***	***	***	***	***
All other forms	***	***	***	***	***	***	***
All forms	***	***	***	***	***	***	***

Table continued.

Table IV-5 Continued
Sodium nitrite: U.S. producer Chemtrade's and U.S. importers' U.S. shipments in 2021, by source and aggregated form subtotals

Share down in percent

Aggregated product form category	U.S. producer	India	Russia	Subject sources	Nonsubject sources	All import sources	All sources
All granulated	***	***	***	***	***	***	***
Flake and briquette combined	***	***	***	***	***	***	***
All liquid	***	***	***	***	***	***	***
All other forms	***	***	***	***	***	***	***
All forms	***	***	***	***	***	***	***

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

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

Figure IV-3
Sodium nitrite: U.S. producer Chemtrade's and U.S. importers' U.S. shipments in 2021, by source and aggregated form subtotals

* * * * * * *

Source: Compiled from data submitted in response to Commission questionnaires

Table IV-6 and figure IV-4 present data for the U.S. producer's and U.S. importers' U.S. shipments by product grade for 2021. As detailed in Part I of this report, the production process for food and technical grade sodium nitrite is identical, with food grade sodium nitrite going through an additional certification process. The U.S. producer accounted for *** percent of all U.S. shipments of food grade sodium nitrite from all sources in 2021, comprising *** percent of the U.S. producer's shipments of all grades and *** percent of shipments of all grades from all sources combined. The U.S. producer's shipments of other grade sodium nitrite were *** percent of shipments of other grade from all sources, and *** percent of shipments from all grades from all sources. Shipments of other grade sodium nitrite from subject sources were comprised of Indian imports (*** percent) and Russian imports (*** percent), with other grade sodium nitrite imported from India comprising *** percent and Russian imports comprising *** percent of all grades from all sources.

Table IV-6
Sodium nitrite: U.S. producer Chemtrade's and U.S. importers' U.S. shipments in 2021, by source and grade

Quantity in 1,000 dry pounds

Source	Food grade	Other grade	All grades
U.S producer	***	***	***
India	***	***	***
Russia	***	***	***
Subject sources	***	***	***
Nonsubject sources	***	***	***
All import sources	***	***	***
All sources	***	***	***

Table continued.

Table IV-6 Continued
Sodium nitrite: U.S. producer Chemtrade's and U.S. importers' U.S. shipments in 2021, by source and grade

Share across in percent

Source	Food grade	Other grade	All grades
U.S producer	***	***	***
India	***	***	***
Russia	***	***	***
Subject sources	***	***	***
Nonsubject sources	***	***	***
All import sources	***	***	***
All sources	***	***	***

Table continued.

Table IV-6 Continued
Sodium nitrite U.S. producer Chemtrade's and U.S. importers' U.S. shipments in 2021, by source and grade

Share down in percent

Source	Food grade	Other grade	All grades
U.S producer	***	***	***
India	***	***	***
Russia	***	***	***
Subject sources	***	***	***
Nonsubject sources	***	***	***
All import sources	***	***	***
All sources	***	***	***

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

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

Figure IV-4
Sodium nitrite: U.S. producer Chemtrade's and U.S. importers' U.S. shipments in 2021, by source and grade

* * * * * * *

Source: Compiled from data submitted in response to Commission questionnaires

Geographical markets

Table IV-7 presents U.S. imports of sodium nitrite, by source and border of entry in 2021, based on official Commerce import statistics. The vast majority of subject imports entered through the Eastern border of entry, specifically the Charleston, South Carolina U.S. Customs District. Indian imports entered through all borders of entry except the Western border of entry in 2021, with a majority through the Eastern border of entry, whereas Russian imports entered only through the Eastern border of entry. Nonsubject imports for 2021 entered entirely through the Northern and Eastern border of entry.

Table IV-7
Sodium nitrite: U.S. imports by source and border of entry, 2021

Quantity in 1,000 dry pounds

Source	East	North	South	West	All borders
India	10,531	525	4,382	---	15,438
Russia	1,173	---	---	---	1,173
Subject sources	11,704	525	4,382	---	16,611
Nonsubject sources	3	3	---	---	7
All import sources	11,707	528	4,382	---	16,618

Table continued.

Table IV-7 Continued
Sodium nitrite: U.S. imports by source and border of entry, 2021

Share across in percent

Source	East	North	South	West	All borders
India	68.2	3.4	28.4	---	100.0
Russia	100.0	---	---	---	100.0
Subject sources	70.5	3.2	26.4	---	100.0
Nonsubject sources	50.4	49.6	---	---	100.0
All import sources	70.4	3.2	26.4	---	100.0

Table continued.

Table IV-7 Continued
Sodium nitrite: U.S. imports by source and border of entry, 2021

Share down in percent

Source	East	North	South	West	All borders
India	90.0	99.4	100.0	---	92.9
Russia	---	---	---	---	---
Subject sources	---	---	---	---	---
Nonsubject sources	0.0	0.6	---	---	0.0
All import sources	100.0	100.0	100.0	---	100.0

Source: Compiled from official U.S. imports statistics of the U.S. Department of Commerce Census Bureau using HTS statistical reporting number 2834.10.1000, accessed on May 18, 2022. Imports are based on the imports for U.S. consumption data series.

Note: Shares and ratios as "0.0" represent value greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "--". Nonsubject sources do not include imports from Canada which are believed to be out of scope.

Presence in the market

Table IV-8 and figures IV-5 and IV-6 present monthly U.S. imports from January 2019 to March 2022. U.S. imports from India entered the U.S. market in each of the 39 months. In 4 of 12 months in 2021, Indian imports entered the U.S. market in quantities higher than for any month in 2019-20 and interim 2022. With respect to Russia, imports of sodium nitrite entered

the U.S. market in 22 of the 39 months. Russian imports increased in 2020, with imports entering the United States in 11 of the 12 months. In the following year, Russian imports entered the U.S. market in 6 of the first 8 months, but ceased after August 2021. Nonsubject import sources had a presence in the U.S. market for 6 of the 39 months, in small quantities relative to subject imports.

Table IV-8
Sodium nitrite: U.S. imports, by year, by month, and by source

Quantity in 1,000 dry pounds

Year	Month	India	Russia	Subject sources	Nonsubject sources	All import sources
2019	January	1,184	---	1,184	---	1,184
2019	February	1,072	---	1,072	---	1,072
2019	March	1,505	---	1,505	---	1,505
2019	April	798	42	840	---	840
2019	May	416	---	416	---	416
2019	June	762	---	762	3	764
2019	July	902	---	902	1	903
2019	August	830	44	874	---	874
2019	September	822	42	864	---	864
2019	October	553	42	595	---	595
2019	November	856	128	984	---	984
2019	December	656	---	656	5	661
2020	January	583	---	583	---	583
2020	February	735	84	819	---	819
2020	March	867	42	909	---	909
2020	April	1,177	251	1,429	---	1,429
2020	May	630	335	966	---	966
2020	June	968	335	1,303	3	1,306
2020	July	1,183	251	1,435	---	1,435
2020	August	1,132	84	1,215	---	1,215
2020	September	1,354	84	1,438	---	1,438
2020	October	1,259	84	1,342	---	1,342
2020	November	1,220	251	1,472	---	1,472
2020	December	1,755	168	1,922	---	1,922

Table continued.

Table IV-8 Continued
Sodium nitrite: U.S. imports, by year, by month, and by source

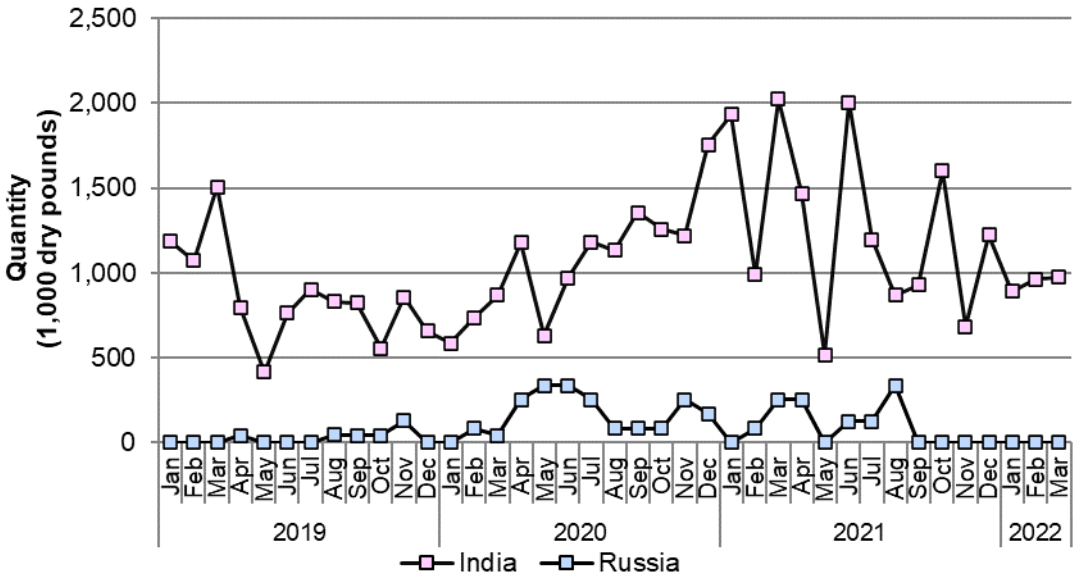
Quantity in 1,000 dry pounds

Year	Month	India	Russia	Subject sources	Nonsubject sources	All import sources
2021	January	1,932	---	1,932	---	1,932
2021	February	989	84	1,073	---	1,073
2021	March	2,024	251	2,275	---	2,275
2021	April	1,470	251	1,722	---	1,722
2021	May	516	---	516	7	523
2021	June	2,007	126	2,132	---	2,132
2021	July	1,195	126	1,321	---	1,321
2021	August	868	335	1,203	---	1,203
2021	September	929	---	929	---	929
2021	October	1,601	---	1,601	---	1,601
2021	November	685	---	685	---	685
2021	December	1,221	---	1,221	---	1,221
2022	January	892	---	892	---	892
2022	February	962	---	962	3	965
2022	March	975	---	975	---	975

Source: Compiled from official U.S. imports statistics of the U.S. Department of Commerce Census Bureau using HTS statistical reporting number 2834.10.1000, accessed on May 18, 2022. Imports are based on the imports for U.S. consumption data series.

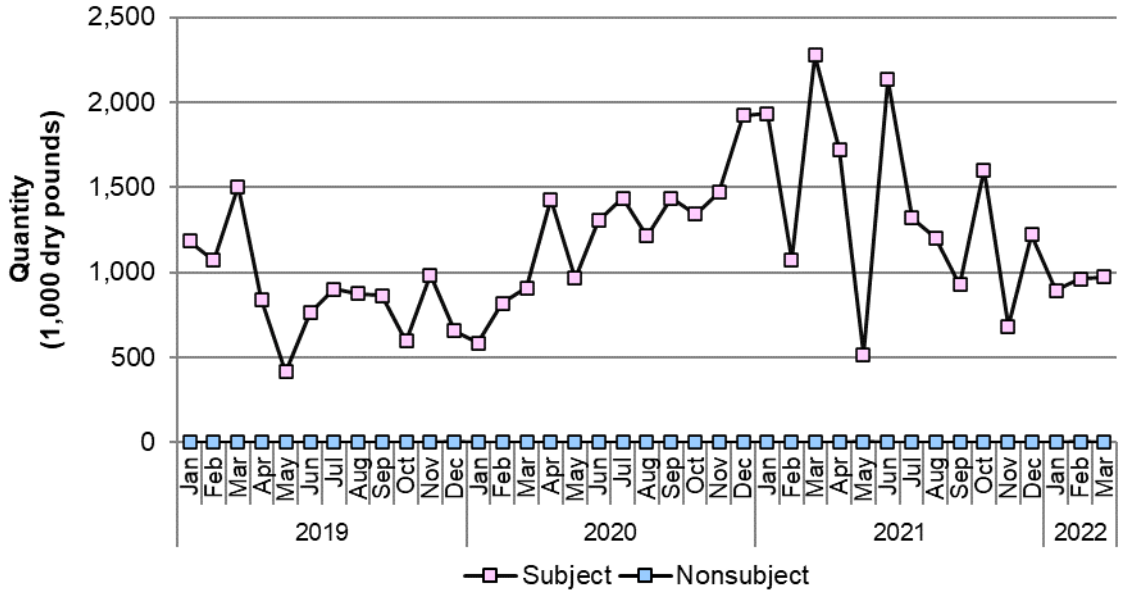
Note: Zeroes, null values, and undefined calculations are suppressed and shown as "--". Nonsubject sources do not include imports from Canada which are believed to be out of scope.

Figure IV-5
Sodium nitrite: U.S. imports from individual subject sources, by source and by month



Source: Compiled from official U.S. imports statistics of the U.S. Department of Commerce Census Bureau using HTS statistical reporting number 2834.10.1000, accessed on May 18, 2022. Imports are based on the imports for U.S. consumption data series.

Figure IV-6
Sodium nitrite: Quantity of U.S. imports, by source and month



Source: Compiled from official U.S. imports statistics of the U.S. Department of Commerce Census Bureau using HTS statistical reporting number 2834.10.1000, accessed on May 18, 2022. Imports are based on the imports for U.S. consumption data series. Nonsubject sources do not include imports from Canada which are believed to be out of scope.

Apparent U.S. consumption and market shares

Quantity

Table IV-9 and figure IV-7 present data on apparent U.S. consumption and U.S. market shares by quantity for sodium nitrite. Overall apparent U.S. consumption increased by *** percent during 2019-21, during which time all import sources' share increased by *** percentage points while the U.S. producer's share fell by *** percentage points. Subject sources accounted for all of the growth in all import sources over this period, as Indian imports increased 49.1 percent, and Russian imports increased nearly three-fold from 2019-21. Nonsubject sources remained below *** percent as a share of total apparent consumption through the period for which data was collected.

Following the multi-year decline in the U.S. producer's share of overall apparent U.S. consumption, the U.S. producer's market share in interim 2022 was *** percent higher than in interim 2021, the second highest share for the periods reported. Likewise, the share of total imports in interim 2022 was the second-lowest share for total imports for the periods collected. The lower market share in interim 2022 as compared to interim 2021 seen for all imports is accounted for entirely by subject imports, with Russian imports *** and Indian imports *** percentage points lower in interim 2022 compared to interim 2021.

Table IV-9
Sodium nitrite: Apparent U.S. consumption and market shares based on quantity, by source and period

Quantity in 1,000 dry pounds; shares in percent

Source	Measure	2019	2020	2021	Jan-Mar 2021	Jan-Mar 2022
U.S. producer	Quantity	***	***	***	***	***
India	Quantity	10,356	12,864	15,438	4,946	2,829
Russia	Quantity	298	1,969	1,173	335	---
Subject sources	Quantity	10,654	14,833	16,611	5,281	2,829
Nonsubject sources	Quantity	10	3	7	---	3
All import sources	Quantity	10,663	14,836	16,618	5,281	2,832
All sources	Quantity	***	***	***	***	***
U.S. producer	Share	***	***	***	***	***
India	Share	***	***	***	***	***
Russia	Share	***	***	***	***	***
Subject sources	Share	***	***	***	***	***
Nonsubject sources	Share	***	***	***	***	***
All import sources	Share	***	***	***	***	***
All sources	Share	***	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires and from official U.S. imports statistics of the U.S. Department of Commerce Census Bureau using HTS statistical reporting number 2834.10.1000, accessed on May 18, 2022. Imports are based on the imports for U.S. consumption data series.

Note: Shares and ratios as “0.0” represent value greater than zero, but less than “0.05” percent. Zeroes, null values, and undefined calculations are suppressed and shown as “--“. Nonsubject sources do not include imports from Canada which are believed to be out of scope.

Figure IV-7
Sodium nitrite: Apparent U.S. consumption based on quantity, by source and period

* * * * * * *

Source: Compiled from data submitted in response to Commission questionnaires and from official U.S. imports statistics of the U.S. Department of Commerce Census Bureau using HTS statistical reporting number 2834.10.1000, accessed on May 18, 2022. Imports are based on the imports for U.S. consumption data series. Nonsubject sources, which accounted for *** percent of apparent U.S. consumption on the basis of quantity, do not include imports from Canada which are believed to be out of scope.

Value

Table IV-10 and figure IV-8 present data on apparent U.S. consumption and U.S. market shares by value for sodium nitrite. Overall apparent U.S. consumption by value increased by *** percent during 2019-21, and was *** percent higher in interim 2022 as compared to interim 2021. The U.S. producer's share of apparent U.S. consumption decreased by *** percentage points between 2019 and 2021, due to a 66.9 percent increase in the value of subject imports over the same period. However, the U.S. producer's share was *** percentage points higher in interim 2022 compared to interim 2021, the largest share of overall apparent U.S. consumption for the U.S. producer during the periods for which data was collected.

The increase in market share for imports from all sources was due to an increase of *** percentage points for subject sources from 2019-21. Both Indian and Russian imports saw *** percentage point and *** percentage point gains in market share by value, respectively, from

2019 to 2021. Likewise, imports for both subject countries were lower in interim 2022 as compared to interim 2021, with Russian imports *** and Indian imports decreasing by *** percentage points as a share of apparent consumption, with Indian imports have the smallest market share in interim 2022. The value of nonsubject imports did not exceed *** percent of all import sources for any period for which data was collected.

Table IV-10
Sodium nitrite: Apparent U.S. consumption and market shares based on value, by source and period

Value in 1,000 dollars; shares in percent

Source	Measure	2019	2020	2021	Jan-Mar 2021	Jan-Mar 2022
U.S. producer	Value	***	***	***	***	***
India	Value	3,920	4,708	6,268	1,804	1,478
Russia	Value	97	623	437	106	---
Subject sources	Value	4,017	5,331	6,705	1,910	1,478
Nonsubject sources	Value	55	12	40	---	24
All import sources	Value	4,071	5,343	6,745	1,910	1,502
All sources	Value	***	***	***	***	***
U.S. producer	Share	***	***	***	***	***
India	Share	***	***	***	***	***
Russia	Share	***	***	***	***	***
Subject sources	Share	***	***	***	***	***
Nonsubject sources	Share	***	***	***	***	***
All import sources	Share	***	***	***	***	***
All sources	Share	***	***	***	***	***

Source: Compiled from official U.S. import statistics of the U.S. Department of Commerce Census Bureau using HTS statistical reporting number 2834.10.1000, accessed on May 18, 2022. Import value data reflect landed duty-paid values. Nonsubject sources do not include imports from Canada which are believed to be out of scope.

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

Figure IV-8
Sodium nitrite: Apparent U.S. consumption based on value, by source and period

* * * * * * *

Source: Compiled from official U.S. import statistics of the U.S. Department of Commerce Census Bureau using HTS statistical reporting number 2834.10.1000, accessed on May 18, 2022. Import value data reflect landed duty-paid values. Nonsubject sources, which accounted for *** of apparent U.S. consumption on the basis of value, do not include imports from Canada which are believed to be out of scope.

Part V: Pricing data

Factors affecting prices

Raw material costs

The raw materials used to produce sodium nitrite include ammonia and soda ash or caustic soda. All producers use ammonia, but the use of caustic soda or soda ash depends upon the production process of the sodium nitrite manufacturer.[1] During the preliminary phase, Petitioner stated that it used soda ash, and that soda ash prices were stable throughout 2018-21. Petitioner added that ammonia accounts for two-thirds of its variable costs and is the largest input cost.[2] Petitioner also noted that it uses natural gas to make steam as part of its production process. As a share of cost of goods sold ("COGS"), raw materials increased from *** percent in 2019 to *** percent in 2021. Raw materials as a share of COGS were *** percent in January-March 2022 compared to *** percent in January-March 2021.

As shown in figure V-1, ammonia prices tripled from January 2018 to March 2022, with substantial increases in the first and last quarters of 2021. From September 2021 to March 2022, ammonia prices increased by *** percent. Reasons for this increase include increased prices for natural gas used in ammonia production (see figure V-2) and increased demand for fertilizers which use ammonia.[3]

[1] China and Germany Original Publication.

[2] Conference transcript, pp. 15 and 53-54 (Boonstra). Petitioner added an ammonia surcharge in April 2021 to respond to the large ammonia price increase. Petitioner's prehearing brief, pp. 44, 49; Hearing transcript, p. 16 (Cannon).

[3] AgriLife Today, "Fertilizer prices continue record climb," November 9, 2021.

Figure V-1
Raw materials: Average anhydrous ammonia prices, by month and year

* * * * * * *

Source: Compiled from data obtained from ***, accessed May 26, 2022.

Note: Prices are reported on a U.S. Gulf of Mexico New Orleans (NOLA) basis. Monthly prices shown are simple averages of the published weekly prices within the specified year and month.

Table V-1
Raw materials: Average anhydrous ammonia prices, by month and year

Price in dollars per short ton

Month	2019	2020	2021	2022
January	***	***	***	***
February	***	***	***	***
March	***	***	***	***
April	***	***	***	***
May	***	***	***	***
June	***	***	***	***
July	***	***	***	***
August	***	***	***	***
September	***	***	***	***
October	***	***	***	***
November	***	***	***	***
December	***	***	***	***

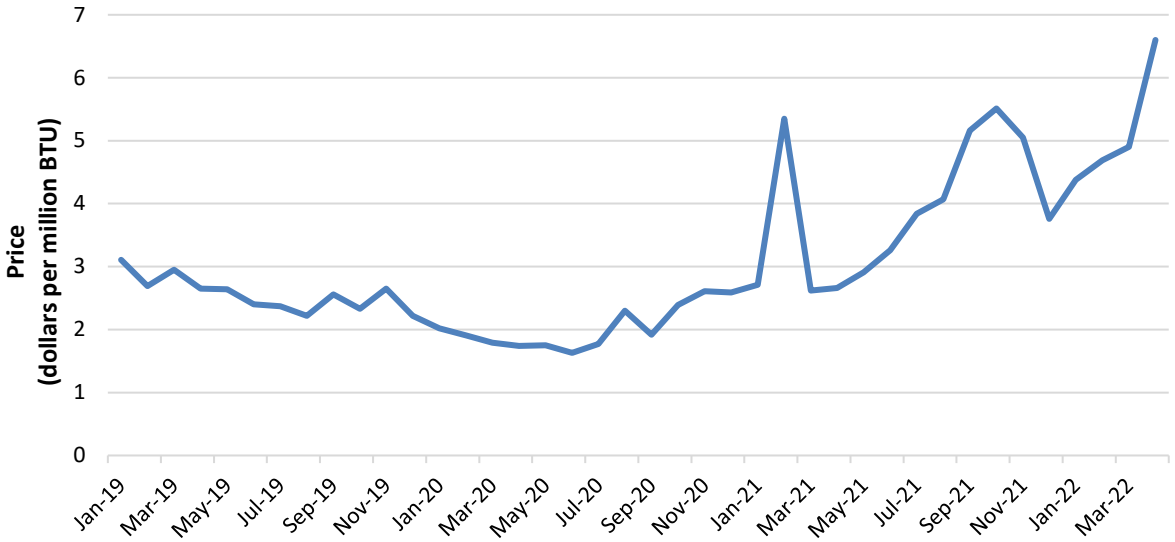
Source: Compiled from data obtained from ***, accessed May 26, 2022.

Note: Prices are reported on a U.S. Gulf of Mexico NOLA basis. Monthly prices shown are simple averages of the published weekly prices within the specified year and month.

Natural gas prices fluctuated during 2019-20 and increased sharply in February 2021, before falling just as sharply and then increased more steadily throughout the year before

peaking in October 2021 (table V-2). Natural gas prices spiked in February 2021 due to Winter Storm Uri that impacted natural gas and electricity markets in Texas and Oklahoma; prices fell sharply in March followed by price increases continuing to November 2021, decreasing briefly, and sharply increasing again through April 2022.[4] Overall, monthly natural gas prices were 32.7 percent higher in March 2022 compared to January 2019.

Figure V-2
Raw materials: Average natural gas prices, by month and year



Source: Compiled from official energy statistics on Henry Hub Natural Gas Spot Prices from the U.S. Department of Energy, U.S. Energy Information Administration, https://www.eia.gov/dnav/ng/hist/rngwhhdm.htm, accessed May 24, 2022.

Note: BTU stands for British Thermal Unit and is used as a unit of heat energy.

[4] Natural gas price volatility in 2021 occurred due to weather-related consumption and production outages, high international natural gas prices that encouraged exports, and key pipeline outages, amongst other factors. U.S. Energy Information Administration, "U.S. natural gas prices spiked in February 2021, then generally increased through October," January 6, 2022, https://www.eia.gov/todayinenergy/detail.php?id=50778, accessed February 10, 2022.

Table V-2
Raw materials: Average natural gas prices, by month and year

Price in dollars per million BTU

Month	2019	2020	2021	2022
January	3.11	2.02	2.71	4.38
February	2.69	1.91	5.35	4.69
March	2.95	1.79	2.62	4.90
April	2.65	1.74	2.66	6.60
May	2.64	1.75	2.91	---
June	2.40	1.63	3.26	---
July	2.37	1.77	3.84	---
August	2.22	2.30	4.07	---
September	2.56	1.92	5.16	---
October	2.33	2.39	5.51	---
November	2.65	2.61	5.05	---
December	2.22	2.59	3.76	---

Source: Compiled from official energy statistics on Henry Hub Natural Gas Spot Prices from the U.S. Department of Energy, U.S. Energy Information Administration, https://www.eia.gov/dnav/ng/hist/rngwhhdm.htm, accessed May 24, 2022.

Note: BTU stands for British Thermal Unit and is used as a unit of heat energy.

Transportation costs to the U.S. market

Transportation costs for sodium nitrite shipped from subject countries to the United States averaged 22.9 percent for India during 2021 and 20.1 percent for Russia. These estimates were derived from official import data and represent the transportation and other charges on imports.[5]

U.S. inland transportation costs

Seven of nine responding importers reported that they typically arrange transportation to their customers while *** two importers reported that the purchasers arrange transportation. U.S. producer Chemtrade reported that its U.S. inland transportation costs were approximately *** percent while six importers reported costs between 3 to 15 percent.

[5] The estimated transportation costs were obtained by subtracting the customs value from the c.i.f. value of the imports for 2021 and then dividing by the customs value based on the HTS statistical reporting number 2834.10.1000.

Pricing practices

Pricing methods

*** importers reported setting prices primarily using transaction-by-transaction negotiations, although importer *** also reported set price lists (table V-3).

Table V-3
Sodium nitrite: Count of U.S. producer's and importers' reported price setting methods

Method	U.S. producers	U.S. importers
Transaction-by-transaction	***	8
Contract	***	0
Set price list	***	1
Other	***	0
Responding firms	***	8

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

Note: The sum of responses down may not add up to the total number of responding firms as each firm was instructed to check all applicable price setting methods employed.

*** importers reported selling all or most of their sodium nitrite in the spot market (table V-4).

Table V-4
Sodium nitrite: U.S. producer's and importers' shares of commercial U.S. shipments by type of sale, 2021

Share in percent

Type of sale	U.S. producer	Subject importers
Long-term contracts	***	***
Annual contracts	***	***
Short-term contracts	***	***
Spot sales	***	***
Total	100.0	100.0

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

Note: Because of rounding, figures may not add to the totals shown.

For the *** share of its sales under ***, *** indicated that these contracts ***. Petitioner Chemtrade reported that purchasers may provide directional or explicit price comparisons during negotiations.[6]

[6] Petitioner's posthearing brief, exh. 1, p. 10.

Eight purchasers reported that they purchase product monthly, three purchase weekly, three purchase quarterly, one purchases annually, one purchases daily, and one purchases as needed. Ten responding purchasers reported that their purchasing frequency had not changed since 2019. However, seven reported having changed their purchasing frequency. Four of these purchasers reported increasing their frequency of purchases due to their increased demand for sodium nitrite, in turn due to reasons such as the easing of COVID-19 lockdowns and increased demand for their own downstream products. However, three purchasers reported less frequent purchases, citing a downturn in the oilfield market, difficulty obtaining sodium nitrite, and a cessation of purchases. Fifteen responding purchasers indicated that they contact one to five suppliers before making a purchase, although nine indicated that they contacted two or fewer suppliers.

Sales terms and discounts

U.S. producer Chemtrade typically quotes prices on a *** basis. Six importers typically quote prices on an f.o.b. basis, and four typically quote on a delivered basis. *** seven importers indicated that they offer no discounts.

Price leadership

Six purchasers reported that there were price leaders in the sodium nitrite market, with five naming Chemtrade, one naming Royce (in addition to Chemtrade), and one naming Kraft Chemical. Two purchasers indicated that there were no price leaders.

Purchasers indicating the presence of price leaders indicated that these price leaders led in different ways. Purchaser *** indicated that U.S. producer Chemtrade initiated an ammonia surcharge on purchases of all sodium nitrite. Purchaser *** stated that from 2016 to October 2020, both the domestic and Indian approved materials were offered at the same price in the market, but that since October 2020, the price of domestic sodium nitrite rose at a faster pace than that of the Indian material.

Price data

The Commission requested U.S. producers and importers to provide quarterly data for the total quantity and f.o.b. value of the following sodium nitrite products shipped to unrelated U.S. customers during January 2019-March 2022.

Product 1.-- Minimum sodium nitrite component of 98.0 percent. Sodium nitrite may or may not contain an anti-caking agent. Sodium nitrite may or may not be sold in prill form. Do not include flake, briquettes, liquor or products that meet the definition of "food grade" as defined below.[7]

Product 2.-- Minimum sodium nitrite component of 98.0 percent, in **flake** form. Sodium nitrite may or may not contain an anti-caking agent. Do not include flakes or products that meet the definition of "food grade" as defined below.

Product 3.-- Minimum sodium nitrite component of 98.0 percent, in **briquette** form. Sodium nitrite may or may not contain an anti-caking agent. Do not include briquettes or products that meet the definition of "food grade" as defined below.

Product 4.-- Sodium nitrite in aqueous solution, with a nominal concentration between 38 and 42 percent. Do not include products that meet the definition of "food grade" as defined below.[8]

One U.S. producer and seven importers provided usable pricing data for sales of the requested products, although not all firms reported pricing for all products for all quarters.[9] Pricing data reported by these firms accounted for approximately *** percent of U.S. producer's U.S. shipments of sodium nitrite and *** percent of U.S. shipments of subject imports from

[7] "Food grade" sodium nitrite is certified as complying with the Food Chemical Codex (FCC) and current Good Manufacturing Practice (cGMP). "Food grade" sodium nitrite may or may not contain an anti-caking agent, and may or may not be sold in prill form.

[8] U.S. producer and importers reporting sales of pricing product 4 were asked to estimate the share of these sales that were sold by tanker trucks/railcars, drums/totes, and other. U.S. producer Chemtrade reported that *** of its shipments were sold in tanker trucks and railcars. The *** of shipments from Russia were sold in tanker trucks and railcars. Approximately *** of shipments from India were sold in tanker trucks and railcars, with the remaining share sold in drums or totes.

[9] Per-unit pricing data are calculated from total quantity and total value data provided by U.S. producers and importers. The precision and variation of these figures may be affected by rounding, limited quantities, and producer or importer estimates.

India *** in 2021.[10] Importers of sodium nitrite from Russia only reported price data for product 4.

Price data are presented in tables V-5 to V-9 and figures V-3 to V-7, including price data for combined products 2 and 3. U.S. producer Chemtrade ***. Petitioner argued that pricing products 2 (flake) and 3 (briquette) should be combined because they are both compressed forms of sodium nitrite without an anti-caking agent and that they compete against one another and in some cases are marketed together.[11]

[10] Pricing coverage is based on U.S. shipments reported in questionnaires. ***.
[11] Petitioner's prehearing brief, p. 37; Hearing transcript, pp. 38, 57 (Alves).

Table V-5
Sodium nitrite: Weighted-average f.o.b. prices and quantities of domestic and imported product 1 and margins of underselling/(overselling), by source and quarter

Quantity in 1,000 dry pounds; prices in dollars per dry pound; margins in percent

Period	U.S. price	U.S. quantity	India price	India quantity	India margin
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	***	***	***	***	***

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

Note: Product 1: Minimum sodium nitrite component of 98.0 percent. Sodium nitrite may or may not contain an anti-caking agent. Sodium nitrite may or may not be sold in prill form. Do not include flake, briquettes, liquor or products that meet the definition of “food grade” as defined in footnote 7.

Table V-6
Sodium nitrite: Weighted-average f.o.b. prices and quantities of domestic and imported product 2 and margins of underselling/(overselling), by source and quarter

Quantity in 1,000 dry pounds; prices in dollars per dry pound; margins in percent

Period	U.S. price	U.S. quantity	India price	India quantity	India margin
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	***	***	***	***	***

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

Note: Product 2: Minimum sodium nitrite component of 98.0 percent, in flake form. Sodium nitrite may or may not contain an anti-caking agent. Do not include flakes or products that meet the definition of “food grade” as defined in footnote 7.

Table V-7
Sodium nitrite: Weighted-average f.o.b. prices and quantities of domestic and imported product 3 and margins of underselling/(overselling), by source and quarter

Quantity in 1,000 dry pounds; prices in dollars per dry pound; margins in percent

Period	U.S. price	U.S. quantity	India price	India quantity	India margin
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	***	***	***	***	***

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

Note: Product 3: Minimum sodium nitrite component of 98.0 percent, in briquette form. Sodium nitrite may or may not contain an anti-caking agent. Do not include briquettes or products that meet the definition of "food grade" as defined in footnote 7.

Table V-8
Sodium nitrite: Weighted-average f.o.b. prices and quantities of domestic and imported product 2 and 3 combined, and margins of underselling/(overselling), by source and quarter

Quantity in 1,000 dry pounds; prices in dollars per dry pound; margins in percent

Period	U.S. price	U.S. quantity	India price	India quantity	India margin
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	***	***	***	***	***

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

Table V-9
Sodium nitrite: Weighted-average f.o.b. prices and quantities of domestic and imported product 4 and margins of underselling/(overselling), by source and quarter

Quantity in 1,000 dry pounds; prices in dollars per dry pound; margins in percent

Period	U.S. price	U.S. quantity	India price	India quantity	India margin	Russia price	Russia quantity	Russia margin
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	***	***	***	***	***	***	***	***

Period	U.S. price	U.S. quantity	Subject price	Subject quantity	Subject margin
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	***	***	***	***	***

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

Note: Product 4: Sodium nitrite in aqueous solution, with a nominal concentration between 38 and 42 percent. Do not include products that meet the definition of “food grade” as defined in footnote 7.

Figure V-3
Sodium nitrite: Weighted-average f.o.b. prices and quantities of domestic and imported product 1, by source and quarter

Price of product 1

* * * * * * *

Volume of product 1

* * * * * * *

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

Note: Product 1: Minimum sodium nitrite component of 98.0 percent. Sodium nitrite may or may not contain an anti-caking agent. Sodium nitrite may or may not be sold in prill form. Do not include flake, briquettes, liquor or products that meet the definition of “food grade” as defined in footnote 7.

Figure V-4
Sodium nitrite: Weighted-average f.o.b. prices and quantities of domestic and imported product 2, by source and quarter

Price of product 2

* * * * * * *

Volume of product 2

* * * * * * *

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

Note: Product 2: Minimum sodium nitrite component of 98.0 percent, in flake form. Sodium nitrite may or may not contain an anti-caking agent. Do not include flakes or products that meet the definition of “food grade” as defined in footnote 7.

Figure V-5
Sodium nitrite: Weighted-average f.o.b. prices and quantities of domestic and imported product 3, by source and quarter

Price of product 3

* * * * * * *

Volume of product 3

* * * * * * *

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

Note: Product 3: Minimum sodium nitrite component of 98.0 percent, in briquette form. Sodium nitrite may or may not contain an anti-caking agent. Do not include briquettes or products that meet the definition of "food grade" as defined in footnote 7.

Figure V-6
Sodium nitrite: Weighted-average f.o.b. prices and quantities of domestic and imported product 2 and 3 combined, by source and quarter

Price of combined products 2 and 3

* * * * * * *

Volume of combined products 2 and 3

* * * * * * *

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

Figure V-7
Sodium nitrite: Weighted-average f.o.b. prices and quantities of domestic and imported product 4, by source and quarter

Price of product 4

* * * * * * *

Volume of product 4

* * * * * * *

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

Note: Product 4: Sodium nitrite in aqueous solution, with a nominal concentration between 38 and 42 percent. Do not include products that meet the definition of “food grade” as defined in footnote 7.

Price trends

Sodium nitrite prices increased during January 2019-March 2022 with large increases during the first quarter of 2022. Table V-10 summarizes the price trends, by country and by product. The U.S. producer reported sales of products 1, 2, and 4 with most sales in product 2; importers of sodium nitrite from India reported pricing data for all four pricing products with most sales in product 4, and importers of sodium nitrite from Russia reported sales for pricing product 4 only. As shown in the table, domestic price increases ranged from *** to *** percent during January 2019-March 2022 while price increases ranged from *** to *** percent for shipments of imports from India. Russian import price data did not extend over this entire period. Figures V-8 and V-9 show indexed price trends, and accompanying data are shown in tables V-11 and V-12.

Chemtrade stated that it increased its prices as an intentional shift in its sales strategy from lowering prices in an attempt to retain market share in 2020.[12]

Table V-10
Sodium nitrite: Summary of price data, by product and source, January 2019-March 2022

Quantity in 1,000 dry pounds; prices in dollars per dry pound; change in percent

Product	Source	Number of quarters	Quantity	Low price	High price	First quarter price	Last quarter price	Change over period
Product 1	United States	13	***	***	***	***	***	***
Product 1	India	13	***	***	***	***	***	***
Product 1	Russia	---	***	***	***	***	***	***
Product 2	United States	13	***	***	***	***	***	***
Product 2	India	4	***	***	***	***	***	***
Product 2	Russia	---	***	***	***	***	***	***
Product 3	United States	---	***	***	***	***	***	***
Product 3	India	13	***	***	***	***	***	***
Product 3	Russia	---	***	***	***	***	***	***
Product 4	United States	13	***	***	***	***	***	***
Product 4	India	13	***	***	***	***	***	***
Product 4	Russia	7	***	***	***	***	***	***

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

Note: Change over period column is percentage change from the first quarter 2019 to the first quarter 2022.

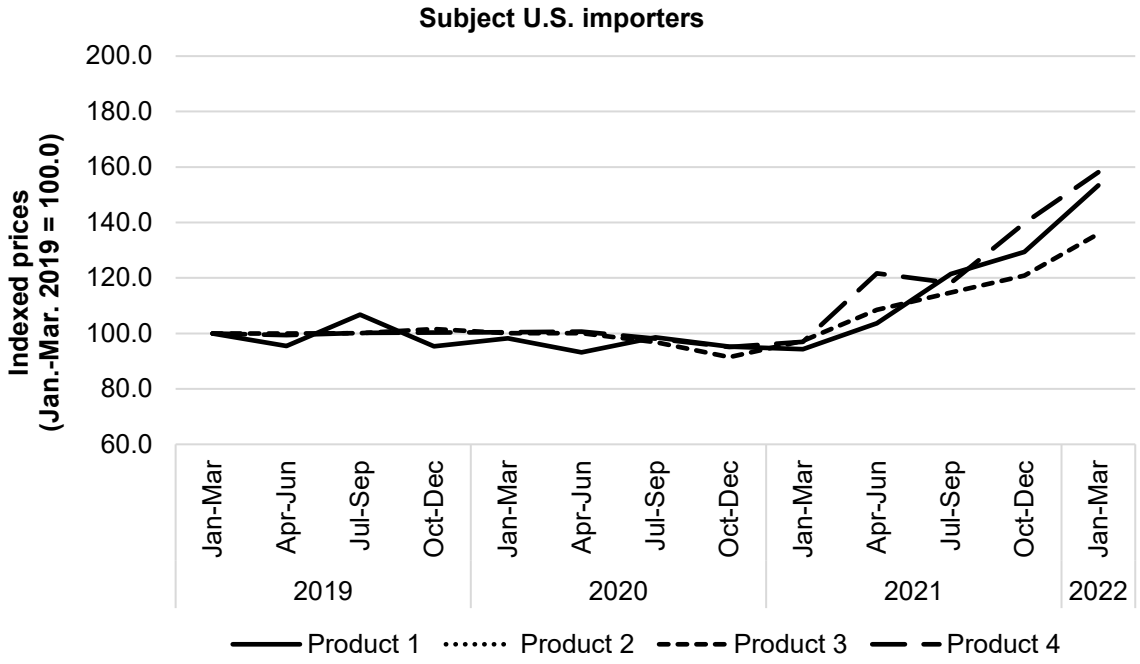
[12] Hearing transcript, pp. 40, 74 (Boonstra, Alves).

Figure V-8
Sodium nitrite: Indexed U.S. producer prices, by quarter

* * * * * * *

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

Figure V-9
Sodium nitrite: Indexed U.S. producer prices, by quarter



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

Table V-11
Sodium nitrite: Indexed U.S. producer prices, by quarter

Indexed prices in percent

Year	Period	Product 1	Product 2	Product 3	Product 4
2019	Jan-Mar	***	***	***	***
2019	Apr-Jun	***	***	***	***
2019	Jul-Sep	***	***	***	***
2019	Oct-Dec	***	***	***	***
2020	Jan-Mar	***	***	***	***
2020	Apr-Jun	***	***	***	***
2020	Jul-Sep	***	***	***	***
2020	Oct-Dec	***	***	***	***
2021	Jan-Mar	***	***	***	***
2021	Apr-Jun	***	***	***	***
2021	Jul-Sep	***	***	***	***
2021	Oct-Dec	***	***	***	***
2022	Jan-Mar	***	***	***	***

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

Table V-12
Sodium nitrite: Indexed subject U.S. importer prices, by quarter

Indexed prices in percent

Year	Period	Product 1	Product 2	Product 3	Product 4
2021	Jan-Mar	100.0	---	100.0	100.0
2021	Apr-Jun	95.5	---	100.0	99.4
2021	Jul-Sep	106.7	---	100.0	100.2
2021	Oct-Dec	95.3	---	101.6	100.3
2021	Jan-Mar	98.2	---	100.0	100.4
2021	Apr-Jun	93.2	---	100.0	100.6
2021	Jul-Sep	98.6	---	96.9	98.1
2021	Oct-Dec	95.2	---	91.4	95.1
2021	Jan-Mar	94.3	---	97.3	96.9
2021	Apr-Jun	103.6	---	108.5	121.7
2021	Jul-Sep	121.4	---	114.8	118.1
2021	Oct-Dec	129.4	---	120.8	139.7
2021	Jan-Mar	153.4	---	135.9	158.1

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

Price comparisons

As shown in tables V-13 and V-14, prices for product imported from India and Russia were below those for U.S.-produced product in 30 of 37 instances (25.4 million dry pounds); margins of underselling ranged from 0.0 to 35.2 percent. In the remaining 7 instances (6.7 million dry pounds), prices for product from India and Russia were between 2.7 and 9.0 percent above prices for the domestic product. Prices for product 1 imported from India were all lower

than U.S.-produced product; prices for product 2 importers from India were mostly higher than U.S.-produced product, and comparisons of prices for product 4 imported from India and Russia showed mixed underselling and overselling (although product from Russia was mostly priced lower than U.S.-produced sodium nitrite).

If product 2 and product 3 prices are combined, prices for product imported from India and Russia were below those for U.S.-produced product in 37 of 46 instances (28 million dry pounds); margins of underselling ranged from 0.0 to 27.3 percent. In the remaining 9 instances (7 million dry pounds), prices for product from India and Russia were between 0.3 and 9.0 percent above prices for the domestic product (see tables V-15 and V-16).

Table V-13
Sodium nitrite: Instances of underselling and overselling and the range and average of margins, by product

Quantity in 1,000 dry pounds; margin in percent

Products	Type	Number of quarters	Quantity	Average margin	Min margin	Max margin
Product 1	Underselling	13	***	***	***	***
Product 2	Underselling	4	***	***	***	***
Product 3	Underselling	---	***	***	***	***
Product 4	Underselling	13	***	***	***	***
All products	Underselling	30	25,438	13.5	0.0	35.2
Product 1	Overselling	---	***	***	***	***
Product 2	Overselling	---	***	***	***	***
Product 3	Overselling	---	***	***	***	***
Product 4	Overselling	7	***	***	***	***
All products	Overselling	7	6,738	(6.1)	(2.7)	(9.0)

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

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

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 V-14
Sodium nitrite: Instances of underselling and overselling and the range and average of margins, by source

Quantity in 1,000 dry pounds; margin in percent

Sources	Type	Number of quarters	Quantity	Average margin	Min margin	Max margin
India	Underselling	24	***	***	***	***
Russia	Underselling	6	***	***	***	***
All subject sources	Underselling	30	25,438	13.5	0.0	35.2
India	Overselling	6	***	***	***	***
Russia	Overselling	1	***	***	***	***
All subject sources	Overselling	7	6,738	(6.1)	(2.7)	(9.0)

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

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

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 V-15
Sodium nitrite: Instances of underselling and overselling and the range and average of margins, with combination of pricing product 2 and pricing product 3, by product

Quantity in 1,000 dry pounds; margin in percent

Products	Type	Number of quarters	Quantity	Average margin	Min margin	Max margin
Product 1	Underselling	13	***	***	***	***
Products 2 & 3 combined	Underselling	11	***	***	***	***
Product 4	Underselling	13	***	***	***	***
All products	Underselling	37	28,381	12.1	0.0	27.3
Product 1	Overselling	---	***	***	***	***
Products 2 & 3 combined	Overselling	2	***	***	***	***
Product 4	Overselling	7	***	***	***	***
All products	Overselling	9	7,043	(5.1)	(0.3)	(9.0)

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

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

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 V-16
Sodium nitrite: Instances of underselling and overselling and the range and average of margins, with combination of pricing product 2 and pricing product 3, by source

Quantity in 1,000 dry pounds; margin in percent

Sources	Type	Number of quarters	Quantity	Average margin	Min margin	Max margin
India	Underselling	31	***	***	***	***
Russia	Underselling	6	***	***	***	***
All subject sources	Underselling	37	28,381	12.1	0.0	27.3
India	Overselling	8	***	***	***	***
Russia	Overselling	1	***	***	***	***
All subject sources	Overselling	9	7,043	(5.1)	(0.3)	(9.0)

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

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

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 "---".

Lost sales and lost revenue

In the preliminary phase of these investigations, the Commission requested that U.S. producers of sodium nitrite report purchasers with which they experienced instances of lost sales or revenue due to competition from imports of sodium nitrite from India and/or Russia during January 2018-September 2021. Petitioner reported that it had to *** and reported ***. U.S. producer Chemtrade submitted lost sales and lost revenue allegations identifying 30 firms with which it lost sales or revenue (10 consisting of lost sales allegations and 20 consisting of both types of allegations). All allegations were against ***.

In the final phase of these investigations, U.S. producer Chemtrade reported that it had to either ***, and that it ***. Staff contacted 54 purchasers and received responses from 17 purchasers.[13] Responding purchasers reported purchasing *** pounds of sodium nitrite during from January 2019-March 2022 (table V-17).

Of the 18 purchasers, 9 responded that, since 2019, they had purchased imported sodium nitrite from India instead of U.S.-produced product, and four of these purchasers reported that subject import prices from India were lower than U.S.-produced product. Three of eight responding purchasers reported that price was a primary reason for the decision to purchase Indian product rather than U.S.-produced product, with quantities estimated to be approximately *** million pounds (tables V-18 and V-19). One purchaser reported purchasing imported sodium nitrite from Russia instead of U.S.-produced product and reported that subject import prices from Russia were lower than U.S.-produced product. No purchaser reported that price was a primary reason for purchasing Russian product.

Purchasers identified that non-price reasons for purchasing imported rather than U.S.-produced product included changes in the U.S. producer's payment terms, the U.S. producer's inability to offer consignment stock options, domestic supplier unwillingness to negotiate, having no access to domestic product from the producer, delays from domestic material availability, having additional supply sources, customer demand for a specific brand, and ***.[14]

[13] Three purchasers, ***, submitted lost sales lost revenue survey responses in the preliminary phase, but did not submit purchaser questionnaire responses in the final phase.

[14] During the preliminary phase of these investigations, Chemtrade noted that ***. Email from *** February 4, 2022.

Of 17 responding purchasers, none reported that U.S. producers had reduced prices in order to compete with lower-priced imports from subject countries, 6 reported that U.S. producers had not reduced prices to compete with lower-priced subject imports, and 11 reported that they did not know. Purchaser *** reported that ***.

Table V-17
Sodium nitrite: U.S. purchasers' reported purchases and imports, by firm and source

Quantity in 1,000 dry pounds; change in shares in percentage points

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

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

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

Note: No purchaser reported purchases of nonsubject product, although three purchasers (***) reported purchases of sodium nitrite from unknown sources.

Table V-18
Sodium nitrite: Purchasers' responses to purchasing subject imports instead of domestic product, by firm

Quantity in 1,000 dry pounds

Firm	Purchased subject imports instead of domestic	Imports priced lower	Choice based on price	Quantity	Narrative on reasons for purchasing imports
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***

Table continued.

Table V-18 Continued
Sodium nitrite: Purchasers' responses to purchasing subject imports instead of domestic product, by firm

Quantity in 1,000 dry pounds

Firm	Purchased subject imports instead of domestic	Imports priced lower	Choice based on price	Quantity	Narrative on reasons for purchasing imports
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
All firms	Yes--10; No--7	Yes--4; No--5	Yes--3; No--5	***	NA

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

Table V-19
Sodium nitrite: Purchasers' responses to purchasing subject imports instead of domestic product, by source

Count in number of firms reporting; quantity in 1,000 dry pounds

Source	Count of purchasers reporting subject instead of domestic	Count of purchasers reported that imports were priced lower	Count of purchasers reporting that price was a primary reason for shift	Quantity
India	9	3	3	***
Russia	1	1	---	***
Subject sources	10	4	3	***

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

Part VI: Financial experience of U.S. producers

Background[1]

The petitioner, Chemtrade, is the only U.S. producer of sodium nitrite that provided usable financial results on its operations.[2] Chemtrade's fiscal year ends on December 31 and financial data were provided in accordance with IFRS.[3] Revenue reflects ***.

Operations on sodium nitrite

Table VI-1 presents financial data on Chemtrade's operations in relation to sodium nitrite, while table VI-2 presents corresponding changes in AUVs.[4]

[1] The following abbreviations may be used in the tables and/or text of this section: International Financial Reporting Standards ("IFRS"), fiscal year ("FY"), net sales ("NS"), cost of goods sold ("COGS"), selling, general, and administrative expenses ("SG&A expenses"), average unit values ("AUVs"), research and development expenses ("R&D expenses"), and return on assets ("ROA").

[2] The only other U.S. producer identified in the petitions, SABIC Innovative Chemicals US, LLC ("SABIC"), *** in the United States. Email from ***, May 16, 2022 and ***, July 12, 2022.

[3] Chemtrade is wholly owned by Chemtrade Solutions, LLC (Delaware) with Chemtrade Logistics Income Fund (Toronto Stock Exchange (CHE.UN)) as its ultimate parent. Sodium nitrite was part of the Water Solutions & Specialty Chemicals (WSSC) segment until January 1, 2022, when it moved to the newly created Sulphur and Water Chemicals (SWC) segment. Hearing transcript, p. 12 (Boonstra).

Staff conducted a verification of Chemtrade's U.S. producer questionnaire. ***. Chemtrade verification report, p. 2.

[4] Chemtrade reported that the COVID-19 pandemic ***. Chemtrade's U.S. producer questionnaire, III-18.

Table VI-1
Sodium nitrite: Results of operations of U.S. producer Chemtrade, by item and period

Quantity in 1,000 pounds, dry measure basis; value in 1,000 dollars; ratios in percent

Item	Measure	2019	2020	2021	Jan-Mar 2021	Jan-Mar 2022
Total net sales	Quantity	***	***	***	***	***
Total net sales	Value	***	***	***	***	***
COGS: Raw materials	Value	***	***	***	***	***
COGS: Energy costs	Value	***	***	***	***	***
COGS: Direct labor	Value	***	***	***	***	***
COGS: Other factory	Value	***	***	***	***	***
COGS: Total	Value	***	***	***	***	***
Gross profit or (loss)	Value	***	***	***	***	***
SG&A expenses	Value	***	***	***	***	***
Operating income or (loss)	Value	***	***	***	***	***
Interest expense	Value	***	***	***	***	***
Net income or (loss)	Value	***	***	***	***	***
Depreciation/amortization	Value	***	***	***	***	***
Cash flow	Value	***	***	***	***	***
COGS: Raw materials	Ratio to NS	***	***	***	***	***
COGS: Energy costs	Ratio to NS	***	***	***	***	***
COGS: Direct labor	Ratio to NS	***	***	***	***	***
COGS: Other factory	Ratio to NS	***	***	***	***	***
COGS: Total	Ratio to NS	***	***	***	***	***
Gross profit	Ratio to NS	***	***	***	***	***
SG&A expense	Ratio to NS	***	***	***	***	***
Operating income or (loss)	Ratio to NS	***	***	***	***	***
Net income or (loss)	Ratio to NS	***	***	***	***	***

Table continued.

Table VI-1 Continued
Sodium nitrite: Results of operations of U.S. producer Chemtrade, by item and period

Shares in percent; unit values in dollars per dry pound; count in number of firms reporting

Item	Measure	2019	2020	2021	Jan-Mar 2021	Jan-Mar 2022
COGS: Raw materials	Share of COGS	***	***	***	***	***
COGS: Energy costs	Share of COGS	***	***	***	***	***
COGS: Direct labor	Share of COGS	***	***	***	***	***
COGS: Other factory	Share of COGS	***	***	***	***	***
COGS: Total	Share of COGS	***	***	***	***	***
Total net sales	Unit value	***	***	***	***	***
COGS: Raw materials	Unit value	***	***	***	***	***
COGS: Energy costs	Unit value	***	***	***	***	***
COGS: Direct labor	Unit value	***	***	***	***	***
COGS: Other factory	Unit value	***	***	***	***	***
COGS: Total	Unit value	***	***	***	***	***
Gross profit or (loss)	Unit value	***	***	***	***	***
SG&A expenses	Unit value	***	***	***	***	***
Operating income or (loss)	Unit value	***	***	***	***	***
Net income or (loss)	Unit value	***	***	***	***	***
Operating losses	Count	***	***	***	***	***
Net losses	Count	***	***	***	***	***
Data	Count	1	1	1	1	1

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

Table VI-2
Sodium nitrite: Changes in AUVs between comparison periods

Changes in percent

Item	2019-21	2019-20	2020-21	Jan-Mar 2021-22
Total net sales	▲***	▲***	▲***	▲***
COGS: Raw materials	▲***	▼***	▲***	▲***
COGS: Energy costs	▲***	▼***	▲***	▲***
COGS: Direct labor	▲***	▲***	▲***	▲***
COGS: Other factory	▲***	▲***	▲***	▲***
COGS: Total	▲***	▲***	▲***	▲***

Table continued.

Table VI-2 Continued
Sodium nitrite: Changes in AUVs between comparison periods

Changes in dollars per dry pound

Item	2019-21	2019-20	2020-21	Jan-Mar 2021-22
Total net sales	▲***	▲***	▲***	▲***
COGS: Raw materials	▲***	▼***	▲***	▲***
COGS: Energy costs	▲***	▼***	▲***	▲***
COGS: Direct labor	▲***	▲***	▲***	▲***
COGS: Other factory	▲***	▲***	▲***	▲***
COGS: Total	▲***	▲***	▲***	▲***
Gross profit or (loss)	▲***	▲***	▲***	▲***
SG&A expense	▲***	▲***	▲***	▲***
Operating income or (loss)	▲***	▲***	▼***	▲***
Net income or (loss)	▲***	▲***	▼***	▲***

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

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Period changes preceded by a "▲" represent an increase, while period changes preceded by a "▼" represent a decrease.

Net sales

As presented in table VI-1, Chemtrade's total net sales quantity declined by *** percent while net sales value increased by *** percent from 2019 to 2021; both net sales quantity and value were higher in January to March 2022 ("interim 2022") than in January to March 2021 ("interim 2021"). Net sales AUVs also increased each year ($*** in 2019, $*** in 2020, $*** in 2021); AUVs were higher in interim 2022 than in interim 2021.[5] Chemtrade

[5] For over 20 years, Chemtrade sold in-scope tech liquor waste to one customer in the charcoal briquette industry, but those sales stopped in the second half of 2020 when the customer reformulated its process to remove the need for tech liquor. Hearing transcript, pp. 19 and 66 (Boonstra).

Sales of the in-scope waste byproduct, tech liquor, declined *** percent of all sodium nitrite sales from 2019 to 2021, ***. Tech liquor AUVs (***) are roughly *** or less than sodium nitrite AUVs (***) for the three full year periods. In 2020, Chemtrade ***. Chemtrade ***. The AUV for tech liquor in 2021 was higher ***. Chemtrade verification report, p. 6. Chemtrade is ***. Hearing transcript, pp. 18-19 (Boonstra) and also see table VI-6 ***.

attributed the increase in net sales AUVs in 2021 to *** surcharges passed to its customers.[6]

Cost of goods sold and gross profit or loss

As shown in table VI-1, raw material costs account for the largest share of total COGS, ranging from *** to *** percent of total COGS from 2019 to March 2022. As a ratio to net sales, raw material costs increased irregularly from *** to *** percent from 2019 to 2021, but were lower in interim 2022 than in interim 2021.

Table VI-3 presents details on specific raw material inputs as a share of total raw material costs in 2021. Chemtrade's production of sodium nitrite primarily consists of two material inputs, ammonia and soda ash (sodium carbonate), with soda ash accounting for the largest share of total raw material costs.[7] The high percentage of other raw material costs is the result of Chemtrade reporting ***.[8] Table VI-1 shows that total raw material AUVs decreased slightly from $*** per-dry pound in 2019 to $*** per-dry pound in 2020 but increased to $*** per-dry pound in 2021; raw material AUVs are much higher in interim 2022 than in interim 2021. Chemtrade *** fluctuates

[6] Hearing transcript, pp. 16, 20 (Boonstra) and Chemtrade verification report, p. 8.

[7] Production of sodium nitrite can use either soda ash or caustic soda (sodium hydroxide). Chemtrade uses soda ash exclusively as the raw material containing sodium ***. Hearing transcript, p. 99 (Boonstra) and Chemtrade verification report, p. 7.

Chemtrade reported that it ***. In addition, Chemtrade explained that ***. Chemtrade's U.S. producer questionnaire, II-3e and III-9d.

[8] Other raw materials include ***. Chemtrade verification report, p. 7.

with the Tampa Ammonia Index.[9] Increases in raw material AUVs in 2021 and interim 2022 were primarily the result of *** surcharges passed to its customers [10] [11]

Table VI-3
Sodium nitrite: Raw material costs in 2021

Values in 1,000 dollars; unit values in dollars per dry pound; share of value in percent

Item	Value	Unit value	Share of value
Ammonia	***	***	***
Soda ash	***	***	***
Other material inputs	***	***	***
All raw materials	***	***	***

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

As shown in table VI-1, other factory costs account for the second largest share of total COGS, ranging from *** to *** percent of total COGS from 2019 to March 2022. As a ratio to net sales, other factory costs declined from *** to *** percent from 2019 to 2021 and was lower in interim 2022 than in interim 2021. Other factory cost AUVs were fairly steady, at $*** per-dry pound in 2019 and $*** per-dry pound in 2020 and 2021; other factory cost AUVs were much higher in interim 2022 than in interim 2021.[12]

As shown in table VI-1, direct labor accounted for the third largest share of total COGS, ranging from *** to *** percent as a share of total COGS from 2019 to March 2022. As a ratio to net sales, direct labor irregularly decreased from *** to *** percent from 2019 to 2021 and was lower in interim 2022 than in interim 2021. Direct labor AUVs increased each year, from $*** to $*** from 2019 to 2021 and were the same in both interim periods.[13]

[9] Hearing transcript, p. 16 (Boonstra) and Chemtrade verification report, p. 7.

[10] Chemtrade testified that ammonia prices are at historically high levels, with the index of ammonia prices going from $280 at the beginning of 2021 to $1,000 by the end of 2021. Chemtrade stated that ammonia accounted for two-thirds of its variable cost for materials {in 2021}. Hearing transcript, pp. 15-16 (Boonstra).

[11] ***. Chemtrade verification report, pp. 7-8.

[12] Other factory costs include ***. Chemtrade verification report, p. 8.

[13] Both other factory and direct labor costs include mostly *** during the period examined. Email from James Cannon, Counsel for petitioner, February 4, 2022 and Chemtrade verification report, p. 8.

Table VI-1 shows that energy and utility were the smallest share of total COGS, ranging from *** to *** percent as a share of total COGS from 2019 to March 2022. As a ratio to net sales, energy and utility costs fluctuated irregularly from *** percent in 2019 to *** percent in 2020 before increasing to *** percent in 2021; these costs as a share of net sales were lower in interim 2022 than in interim 2021. Energy and utility AUVs fluctuated from $*** to $*** per-dry pound throughout the period for which data were collected.[14]

Total COGS irregularly increased, by *** percent from 2019 to 2021 (primarily driven by fluctuations in raw material costs); total COGS were higher in interim 2022 than in interim 2021. Chemtrade's COGS to sales ratio fluctuated from *** percent in 2019 to *** percent in 2020 and then to *** percent in 2021; the COGS to sales ratio was lower in interim 2022 than in interim 2021. COGS AUVs increased each year, from $*** in 2019 to $*** in 2020 and then higher to $*** in 2021; COGS AUVs were *** higher in interim 2022 than in interim 2021. The increase in COGS AUVs primarily reflect the increases in raw material costs, as well as increases to energy and direct labor costs (to a lesser extent). Product mix differences such as grades or forms of sodium nitrite *** to the increase in COGS AUVs.[15]

Gross profit increased from $*** in 2019 to $*** in 2020 and then up to $*** in 2021; gross profit was higher in interim 2022 than in interim 2021. Gross margins (total gross profit divided by total net sales) irregularly increased, from *** percent in 2019 to *** percent in 2020 before decreasing to *** percent; gross margins were higher in interim 2022 than in interim 2021. The lowest profitability during the period examined was reported in 2019, and allegedly reflects the result of not passing COGS increases to its customers in an attempt to maintain market share.[16]

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[14] Energy and utility *** fluctuations primarily caused by the changes in natural gas prices (declining in 2020, but subsequently increasing in 2021 and January 2022). Hearing transcript, p. 16 (Boonstra) and Chemtrade verification report, p. 8.

[15] Chemtrade characterized the COGS differences among various grades ***. All sodium nitrite ***. Email from James Cannon, Counsel for petitioner, February 4, 2022, hearing transcript, p. 6 (Alves), and Chemtrade verification report, p. 6.

[16] Chemtrade witness testified that Chemtrade changed the strategy in 2019 in an attempt to improve profits by increasing prices of sodium nitrite starting in 2020. Hearing transcript, pp. 12-14 (Boonstra).

SG&A expenses and operating income or loss

As presented in table VI-1, Chemtrade's SG&A expenses increased from 2019 to 2021 and were higher in interim 2022 than in interim 2021.[17] SG&A expense ratios (i.e., total SG&A expenses divided by net sales) was mostly steady at *** percent from 2019 to 2021 but was lower in interim 2022 than in interim 2021.

As presented in table VI-1, Chemtrade's operating income fluctuated, increasing from ***; operating profits were *** higher in interim 2022 than in interim 2021. The *** absolute value increase in SG&A expenses from 2020 to 2021 drove the dip in operating profits in 2021 (the result of an increased allocation of SG&A expenses as sodium nitrite sales were a greater percentage of overall sales). Operating margins (i.e. operating income divided by net sales) followed the same directional pattern as ***, *** percent in 2019 to *** percent in 2020 before decreasing to *** percent in 2021; operating margins were *** higher in interim 2022 than in interim 2021.

All other expenses and net income or loss

Classified below the operating income level are interest expenses, other expenses, and other income. Table VI-1 shows that Chemtrade did not have all other expense or income items, but that its interest expenses increased from 2019 to 2021 but were lower in interim 2022 than in interim 2021.

Similar to the trend in operating income/losses, Chemtrade reported a net loss of $*** in 2019 then a reduced net loss of $*** in 2020 followed by an increased net loss of $*** in 2021; net income was higher in interim 2022 than in interim 2021, with both interim periods showing positive net income. The trend of net income/losses is primarily driven by the timing of Chemtrade passing costs to its customers as noted earlier and declines in net sales volume from 2019 to 2021. The positive profitability in interim 2022 is the result of *** higher sales volume, increases in sales prices, and decreases in interest expenses (at faster pace than the increases in COGS and SG&A).

[17] SG&A expenses are allocated based on ***. Chemtrade's U.S. producer questionnaire, III-4b.

Variance analysis

A variance analysis for the operations of the U.S. producer of sodium nitrite is presented in table VI-4.[18] The information for this variance analysis is derived from table VI-1.

Table VI-4
Sodium nitrite: Variance analysis for U.S. producer Chemtrade between comparison periods

Value in 1,000 dollars

Item	2019-21	2019-20	2020-21	Jan-Mar 2021-22
Net sales price variance	***	***	***	***
Net sales volume variance	***	***	***	***
Net sales total variance	***	***	***	***
COGS cost variance	***	***	***	***
COGS volume variance	***	***	***	***
COGS total variance	***	***	***	***
Gross profit variance	***	***	***	***
SG&A cost variance	***	***	***	***
SG&A volume variance	***	***	***	***
SG&A total variance	***	***	***	***
Operating income price variance	***	***	***	***
Operating income cost variance	***	***	***	***
Operating income volume variance	***	***	***	***
Operating income total variance	***	***	***	***

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

Note: Unfavorable variances are shown in parentheses; all others are favorable.

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

Capital expenditures, R&D expenses, assets, and ROA

Table VI-5 presents Chemtrade's capital expenditures, net assets, and operating return on assets.[19] Table VI-6 presents Chemtrade's narrative explanations of the nature, focus, and significance of its capital expenditures, R&D expenses, and major asset categories as well as any significant changes in asset levels over time.[20] [21]

Table VI-5
Sodium nitrite: U.S. producer Chemtrade's capital expenditures, by period

Value in 1,000 dollars

Firm	2019	2020	2021	Jan-Mar 2021	Jan-Mar 2022
Capital expenditures	***	***	***	***	***
Net assets	***	***	***		
ROA	***	***	***		

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

[19] ***. U.S. producer questionnaire, III-13c and hearing transcript, pp. 18-19 (Boonstra) and p. 25 (McFarland).

[20] Chemtrade testified that Chemtrade's sodium nitrite operation has stalled multiple capital investment projects necessary to sustain capacity by modernizing the plan to increase efficiency and safety. Hearing transcript, p. 18 (Boonstra).

[21] Construction for a greenfield sodium nitrite plant requires equipment, skilled and high-paid workers, an investment of about ***, and "three to four years to do preliminary engineering, to make an investment decision, to do detailed design, to procure equipment and to construct." Conference transcript, p. 63 (Boonstra) and postconference brief, p. 11.

Table VI-6
Sodium nitrite: Narrative explaining the nature, focus, and significance of Chemtrade's capital expenditures, R&D expenses, and asset levels

Item	Narrative
Capital expenditures	***
R&D expenses	***
Net assets	***

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

Capital and investment

The Commission requested the U.S. producer of sodium nitrite to describe any actual or potential negative effects of imports of sodium nitrite from India and Russia on the firm's growth, investment, ability to raise capital, development and production efforts, or the scale of capital investments. Table VI-7 presents the response of U.S. producer Chemtrade on the impact of subject imports in each category and table VI-8 provides Chemtrade's narrative responses.

Table VI-7
Sodium nitrite: U.S. producer Chemtrade's actual and anticipated negative effects of imports from subject sources on its investment, growth, and development since January 1, 2019, by effect

Number of firms reporting

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

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

Table VI-8
Sodium nitrite: Narratives relating to actual and anticipated negative effects of imports on U.S. producer Chemtrade's investment, growth, and development, since January 1, 2019

Item	Narrative on impact of imports
Cancellation, postponement, or rejection of expansion projects	***
Reduction in the size of capital investments	***
Other effects on growth and development	***
Anticipated effects of imports	***

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

Part VII: Threat considerations and information on nonsubject countries

Section 771(7)(F)(i) of the Act (19 U.S.C. § 1677(7)(F)(i)) provides that—

> *In determining whether an industry in the United States is threatened with material injury by reason of imports (or sales for importation) of the subject merchandise, the Commission shall consider, among other relevant economic factors*[1]*--*
>
> *(I) if a countervailable subsidy is involved, such information as may be presented to it by the administering authority as to the nature of the subsidy (particularly as to whether the countervailable subsidy is a subsidy described in Article 3 or 6.1 of the Subsidies Agreement), and whether imports of the subject merchandise are likely to increase,*
>
> *(II) any existing unused production capacity or imminent, substantial increase in production capacity in the exporting country indicating the likelihood of substantially increased imports of the subject merchandise into the United States, taking into account the availability of other export markets to absorb any additional exports,*
>
> *(III) a significant rate of increase of the volume or market penetration of imports of the subject merchandise indicating the likelihood of substantially increased imports,*
>
> *(IV) whether imports of the subject merchandise are entering at prices that are likely to have a significant depressing or suppressing effect on domestic prices, and are likely to increase demand for further imports,*
>
> *(V) inventories of the subject merchandise,*

[1] Section 771(7)(F)(ii) of the Act (19 U.S.C. § 1677(7)(F)(ii)) provides that "The Commission shall consider {these factors} . . . as a whole in making a determination of whether further dumped or subsidized imports are imminent and whether material injury by reason of imports would occur unless an order is issued or a suspension agreement is accepted under this title. The presence or absence of any factor which the Commission is required to consider . . . shall not necessarily give decisive guidance with respect to the determination. Such a determination may not be made on the basis of mere conjecture or supposition."

(VI) the potential for product-shifting if production facilities in the foreign country, which can be used to produce the subject merchandise, are currently being used to produce other products,

(VII) in any investigation under this title which involves imports of both a raw agricultural product (within the meaning of paragraph (4)(E)(iv)) and any product processed from such raw agricultural product, the likelihood that there will be increased imports, by reason of product shifting, if there is an affirmative determination by the Commission under section 705(b)(1) or 735(b)(1) with respect to either the raw agricultural product or the processed agricultural product (but not both),

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

(IX) any other demonstrable adverse trends that indicate the probability that there is likely to be material injury by reason of imports (or sale for importation) of the subject merchandise (whether or not it is actually being imported at the time).[2]

Information on the nature of the subsidies was presented earlier in this report; information on the volume and pricing of imports of the subject merchandise is presented in Parts IV and V; and information on the effects of imports of the subject merchandise on the U.S. producer's existing development and production efforts is presented in Part VI. Information on inventories of the subject merchandise; the foreign producer's operations, including the potential for "product-shifting;" any other threat indicators, if applicable; and any dumping in third-country markets, follows. Also presented in this section of the report is information obtained for consideration by the Commission on nonsubject countries.

[2] Section 771(7)(F)(iii) of the Act (19 U.S.C. § 1677(7)(F)(iii)) further provides that, in antidumping investigations, ". . . the Commission shall consider whether dumping in the markets of foreign countries (as evidenced by dumping findings or antidumping remedies in other WTO member markets against the same class or kind of merchandise manufactured or exported by the same party as under investigation) suggests a threat of material injury to the domestic industry."

The industry in India

The Commission issued foreign producers or exporters questionnaires to 14 firms believed to produce and/or export sodium nitrite from India.[3] A usable response to the Commission's questionnaire was received from one firm, Deepak Nitrite Limited ("Deepak"). Deepak's exports to the United States accounted for the vast majority of U.S. imports of sodium nitrite from India in 2021.[4] According to Deepak, its production of sodium nitrite in India as reported in its questionnaire accounts for approximately *** percent of overall production of sodium nitrite in India.[5] Table VII-1 presents information on the sodium nitrite operations of the responding producer/exporter in India.

Table VII-1
Sodium nitrite: Summary data for producer in India, 2021

Firm	Production (1,000 dry pounds)	Share of reported production (percent)	Exports to the United States (1,000 dry pounds)	Share of reported exports to the United States (percent)	Total shipments (1,000 dry pounds)	Share of firm's total shipments exported to the United States (percent)
Deepak	***	***	***	***	***	***
All firms	***	***	***	***	***	***

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

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

[3] These firms were identified through a review of information submitted in the petitions and presented in third-party sources.

[4] Deepak stated that it is the largest exporter of sodium nitrite from India, accounting for more than 95 percent of such exports from India. Conference transcript, p. 80 (Gupta).

[5] Email from Counsel for Deepak, June 7, 2022, p. 1. Deepak reported knowledge of four other producers of sodium nitrite in India: Punjab Chemicals & Crop Protection Ltd., National Fertilizer Ltd., Rashtriya Chemicals & Fertilizers Ltd., and Kutch Chemical Industries Ltd ("Kutch"). Only Kutch is reported to produce sodium nitrite, with a capacity of 15,000 metric tons annually, while the other three firms produce sodium nitrite only as a by-product. Deepak postconference brief, att. A, p. 17.

Changes in operations

As presented in table VII-2, producers in India reported operational and organizational changes since January 1, 2019.

Table VII-2
Sodium nitrite: Reported changes in operations in India since January 1, 2019

Item	Firm name and accompanying narrative response
Expansions	***

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

Operations on sodium nitrite

Table VII-3 presents information on the sodium nitrite operations of the responding producer and exporter in India, Deepak. Deepak experienced an *** percent capacity increase from 2019 to 2021, with a further increase of *** percent projected in 2023 compared to 2021.[6] This would put 2023 capacity *** percent higher than capacity reported in 2019. Production levels increased by *** percent from 2019 to 2021, the magnitude of which outpaced the increase in capacity, leading to an increase in capacity utilization from 2019 to 2021. Projected production levels for 2022 and 2023 show an increase compared to 2021 levels, with projected 2022 production *** percent higher than 2021, and *** percent higher than 2019 levels. The projected rise in production, in conjunction with the projected rise in capacity, also represents a decrease in capacity utilization projected for 2023 compared to 2021.

Total shipments increased irregularly by *** percent during 2019-21, and are projected to further increase by *** percent in 2022 and *** percent in 2023. From 2019 to 2021, exports to the United States from India increased by *** percent, and their share of Deepak's total shipments also increased by *** percentage points.[7] Over the same period, exports to all other markets increased irregularly by *** percent, and increased by *** percentage points as a share of total shipments. Continuing this trend, exports to all other markets are projected to increase by *** percent between 2022 and 2023, a *** percentage point increase in exports to all other markets as a share of total shipments.[8] Projected exports to all other markets in 2023 represent a *** percent increase compared with 2019 levels. At the same

[6] As noted in table VII-2, Deepak reported that it ***.

[7] Deepak reported that approximately 70 percent of its exports were to Royce. Conference transcript, pp. 83-84 (Gupta).

[8] All other export markets include ***. Deepak's foreign producer questionnaire, II-8.

time, projected exports to the United States in 2023 represent a *** percent decrease compared to 2021 levels, and a *** percent decrease compared to 2019 levels. Home market shipments increased irregularly by *** percent during 2019-21, while declining *** percentage points as a share of total shipments over the same period. In 2022, home market shipments project a *** percent increase compared to 2021, and projected 2023 shipments represent a *** percent increase from 2019 shipments. Thus, the increase in total shipments projected from 2021 to 2022 is *** accounted for by growth in home market shipments and exports to other countries, with U.S. exports as a share of total shipments declining by *** percentage points in 2022 compared to 2021.

End-of-period inventories held by Deepak in India increased by *** percent from 2019 to 2021, leading to an increase in inventory as a ratio to production and total shipments of *** percentage points and *** percentage points, respectively. Inventory levels for interim 2022 are projected to be *** percent lower than calendar year 2021, and projected inventories for 2023 continue this trend, representing an *** percent decrease compared to 2021 inventory levels, and a *** percent decrease compared to 2019.

Table VII-3
Sodium nitrite: Data on industry in India, by period

Quantity in 1,000 dry pounds

Item	2019	2020	2021	Jan-Mar 2021	Jan-Mar 2022	Projection 2022	Projection 2023
Capacity	***	***	***	***	***	***	***
Production	***	***	***	***	***	***	***
End-of-period inventories	***	***	***	***	***	***	***
Internal consumption	***	***	***	***	***	***	***
Commercial home market shipments	***	***	***	***	***	***	***
Home market shipments	***	***	***	***	***	***	***
Exports to the United States	***	***	***	***	***	***	***
Exports to all other markets	***	***	***	***	***	***	***
Export shipments	***	***	***	***	***	***	***
Total shipments	***	***	***	***	***	***	***

Table continued.

Table VII-3 Continued
Sodium nitrite: Data on industry in India, by period

Shares and ratios in percent

Item	2019	2020	2021	Jan-Mar 2021	Jan-Mar 2022	Projection 2022	Projection 2023
Capacity utilization ratio	***	***	***	***	***	***	***
Inventory ratio to production	***	***	***	***	***	***	***
Inventory ratio to total shipments	***	***	***	***	***	***	***
Internal consumption share	***	***	***	***	***	***	***
Commercial home market shipments share	***	***	***	***	***	***	***
Home market shipments share	***	***	***	***	***	***	***
Exports to the United States share	***	***	***	***	***	***	***
Exports to all other markets share	***	***	***	***	***	***	***
Export shipments share	***	***	***	***	***	***	***
Total shipments share	***	***	***	***	***	***	***

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

Alternative products

***.

Exports

According to GTA, the leading export markets for nitrites, including sodium nitrite, from India are the United States, Japan, and South Korea (table VII-4). During 2021, the United States was the top export market for nitrites from India, accounting for 39.0 percent, followed by Japan, accounting for 24.4 percent, and South Korea, accounting for 7.0 percent.

Table VII-4
Nitrites: Exports from India, by destination market and period

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

Destination market	Measure	2019	2020	2021
United States	Quantity	9,203	15,507	15,007
Japan	Quantity	6,883	5,579	9,392
South Korea	Quantity	2,116	1,080	2,690
Germany	Quantity	2,999	3,425	1,984
United Arab Emirates	Quantity	1,748	1,941	1,604
Brazil	Quantity	1,539	1,698	1,280
Saudi Arabia	Quantity	1,669	1,993	1,151
Taiwan	Quantity	893	767	1,138
Thailand	Quantity	756	510	1,065
All other destination markets	Quantity	3,708	2,565	3,163
All destination markets	Quantity	31,515	35,065	38,473
United States	Value	3,401	4,888	4,766
Japan	Value	2,016	1,563	3,111
South Korea	Value	722	339	860
Germany	Value	831	886	511
United Arab Emirates	Value	556	550	510
Brazil	Value	520	457	405
Saudi Arabia	Value	456	531	359
Taiwan	Value	256	204	368
Thailand	Value	252	118	325
All other destination markets	Value	1,943	987	1,274
All destination markets	Value	10,954	10,522	12,487

Table continued.

Table VII-4 Continued
Nitrites: Exports from India, by destination market and period

Unit value in dollars per dry pound; shares in percent

Destination market	Measure	2019	2020	2021
United States	Unit value	0.37	0.32	0.32
Japan	Unit value	0.29	0.28	0.33
South Korea	Unit value	0.34	0.31	0.32
Germany	Unit value	0.28	0.26	0.26
United Arab Emirates	Unit value	0.32	0.28	0.32
Brazil	Unit value	0.34	0.27	0.32
Saudi Arabia	Unit value	0.27	0.27	0.31
Taiwan	Unit value	0.29	0.27	0.32
Thailand	Unit value	0.33	0.23	0.31
All other destination markets	Unit value	0.52	0.38	0.40
All destination markets	Unit value	0.35	0.30	0.32
United States	Share of quantity	29.2	44.2	39.0
Japan	Share of quantity	21.8	15.9	24.4
South Korea	Share of quantity	6.7	3.1	7.0
Germany	Share of quantity	9.5	9.8	5.2
United Arab Emirates	Share of quantity	5.5	5.5	4.2
Brazil	Share of quantity	4.9	4.8	3.3
Saudi Arabia	Share of quantity	5.3	5.7	3.0
Taiwan	Share of quantity	2.8	2.2	3.0
Thailand	Share of quantity	2.4	1.5	2.8
All other destination markets	Share of quantity	11.8	7.3	8.2
All destination markets	Share of quantity	100.0	100.0	100.0

Source: Official export statistics under HS subheading 2834.10, as reported by the Ministry of Commerce in the Global Trade Atlas database, accessed May 9, 2022.

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "---". United States is shown at the top, all remaining top export destinations shown in descending order of 2021 data.

The industry in Russia

The Commission issued the foreign producers or exporters questionnaire to one firm believed to produce and/or export sodium nitrite from Russia.[9] No usable responses to the Commission's questionnaire were received from any sodium nitrite producers/exporters in Russia.

[9] This firm (Uralchem JSC) was identified through a review of information submitted in the petition and presented in third-party sources.

Exports

According to GTA, the leading export markets for nitrites, including sodium nitrite, from Russia in 2021 were India, Germany, the United States, and Saudi Arabia (table VII-5). During 2021, the United States was tied with Saudi Arabia as the third-largest export market for nitrite from Russia, accounting for 8.4 percent. The top export market for nitrites from Russia in 2021 was India, at 25.4 percent of total exports, followed by Germany, which accounted for 20.6 percent.

Table VII-5
Nitrites: Exports from Russia, by destination market and period

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

Destination market	Measure	2019	2020	2021
United States	Quantity	---	1,634	1,340
India	Quantity	844	7,004	4,061
Germany	Quantity	---	2,901	3,291
Saudi Arabia	Quantity	---	1,799	1,340
Poland	Quantity	9,731	1,111	1,164
Kazakhstan	Quantity	779	598	746
Australia	Quantity	---	816	741
Ukraine	Quantity	34	23	469
Taiwan	Quantity	---	556	463
All other destination markets	Quantity	2,098	3,087	2,373
All destination markets	Quantity	13,487	19,527	15,989
United States	Value	---	508	470
India	Value	185	1,483	902
Germany	Value	---	866	1,218
Saudi Arabia	Value	---	383	337
Poland	Value	2,148	372	420
Kazakhstan	Value	280	183	291
Australia	Value	---	253	310
Ukraine	Value	14	8	144
Taiwan	Value	---	127	132
All other destination markets	Value	536	907	827
All destination markets	Value	3,164	5,091	5,052

Table continued.

Table VII-5 Continued
Nitrites: Exports from Russia, by destination market and period

Unit value in dollars per dry pound; shares in percent

Destination market	Measure	2019	2020	2021
United States	Unit value	---	0.31	0.35
India	Unit value	0.22	0.21	0.22
Germany	Unit value	---	0.30	0.37
Saudi Arabia	Unit value	---	0.21	0.25
Poland	Unit value	0.22	0.33	0.36
Kazakhstan	Unit value	0.36	0.31	0.39
Australia	Unit value	---	0.31	0.42
Ukraine	Unit value	0.42	0.33	0.31
Taiwan	Unit value	---	0.23	0.29
All other destination markets	Unit value	0.26	0.29	0.35
All destination markets	Unit value	0.23	0.26	0.32
United States	Share of quantity	---	8.4	8.4
India	Share of quantity	6.3	35.9	25.4
Germany	Share of quantity	---	14.9	20.6
Saudi Arabia	Share of quantity	---	9.2	8.4
Poland	Share of quantity	72.2	5.7	7.3
Kazakhstan	Share of quantity	5.8	3.1	4.7
Australia	Share of quantity	---	4.2	4.6
Ukraine	Share of quantity	0.3	0.1	2.9
Taiwan	Share of quantity	---	2.8	2.9
All other destination markets	Share of quantity	15.6	15.8	14.8
All destination markets	Share of quantity	100.0	100.0	100.0

Source: Official exports statistics under HS subheading 2814.10 as reported by Customs Committee of Russia in the Global Trade Atlas database, accessed May 09, 2022.

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as “---“. United States is shown at the top, all remaining top export destinations shown in descending order of 2021 data.

U.S. inventories of imported merchandise

Table VII-6 presents data on U.S. importers' reported inventories of sodium nitrite. U.S. importers' inventories of sodium nitrite from subject sources increased by *** percent from 2019 to 2021, while the ratio of inventories to imports and shipments increased. The increase in inventories from subject sources from 2019 to 2021 was driven only by increases in inventories from India, with inventories from India rising *** percent and inventories from Russia declining from *** thousand pounds in 2019 to *** pounds in 2021. U.S. inventories of imports from India were *** percent lower in interim 2022 than in interim 2021, and inventories of imports from Russia *** in interim 2022. The lower inventories of imports from India in interim 2022 compared to interim 2021 coincided with lower ratios of inventories of Indian imports to total imports, U.S. shipments of imports, and total shipments of imports. ***.

Table VII-6
Sodium nitrite: U.S. importers' inventories and their ratio to select items, by source and period

Quantity in 1,000 dry pounds; ratios in percent

Measure	Source	2019	2020	2021	Jan-Mar 2021	Jan-Mar 2022
Inventories quantity	India	***	***	***	***	***
Ratio to imports	India	***	***	***	***	***
Ratio to U.S. shipments of imports	India	***	***	***	***	***
Ratio to total shipments of imports	India	***	***	***	***	***
Inventories quantity	Russia	***	***	***	***	***
Ratio to imports	Russia	***	***	***	***	***
Ratio to U.S. shipments of imports	Russia	***	***	***	***	***
Ratio to total shipments of imports	Russia	***	***	***	***	***
Inventories quantity	Subject	***	***	***	***	***
Ratio to imports	Subject	***	***	***	***	***
Ratio to U.S. shipments of imports	Subject	***	***	***	***	***
Ratio to total shipments of imports	Subject	***	***	***	***	***
Inventories quantity	Nonsubject	***	***	***	***	***
Ratio to imports	Nonsubject	***	***	***	***	***
Ratio to U.S. shipments of imports	Nonsubject	***	***	***	***	***
Ratio to total shipments of imports	Nonsubject	***	***	***	***	***
Inventories quantity	All	***	***	***	***	***
Ratio to imports	All	***	***	***	***	***
Ratio to U.S. shipments of imports	All	***	***	***	***	***
Ratio to total shipments of imports	All	***	***	***	***	***

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

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

U.S. importers' outstanding orders

The Commission requested importers to indicate whether they imported or arranged for the importation of sodium nitrite from India and Russia after March 31, 2022. Their reported data is presented in table VII-7. Four importers reported outstanding orders through the third quarter of 2022, with subject imports from India accounting for *** percent of outstanding orders.

Table VII-7
Sodium nitrite: U.S. importers' arranged imports, by source and period

Quantity in 1,000 dry pounds

Source	Apr-Jun 2022	Jul-Sept 2022	Oct-Dec 2022	Jan-Mar 2023	Total
India	***	***	***	***	***
Russia	***	***	***	***	***
Subject sources	***	***	***	***	***
Nonsubject sources	***	***	***	***	***
All import sources	***	***	***	***	***

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

Third-country trade actions

Deepak stated that there are no trade remedial measures in force on subject merchandise exported from India and no known remedial measures in force on subject merchandise exported from Russia.[10] Effective July 19, 2017, the Indian Ministry of Commerce and Industry extended antidumping duties on imports of sodium nitrite originating in or exported from China with a duty rate of $72.95 per metric ton.[11] Effective July 30, 2018, the Indian Ministry of Commerce and Industry extended antidumping duties on imports of sodium nitrite originating in or exported from the European Union with a duty rate of $51.83 per metric ton.[12] [13]

[10] Deepak's posthearing brief, p. 7.

[11] Sunset review of Anti-dumping duty imposed on the imports of sodium nitrite originating in or exported from China PR, F. No. 15/06/2016-DGAD.

[12] Mid-Term Review investigation concerning imports of sodium nitrite originating in or exported from the European Union, F. No. 7/12/2017-DGAD and Central Board of Indirect Taxes and Customs, Anti-dumping Duty Notifications, Chapter 28, February 2, 2018, pp. 2234-2235.

[13] In December 2017, the Indian Directorate General of Antidumping & Allied Duties, Ministry of Commerce and Industry initiated an antidumping investigation on imports of sodium nitrite from Russia. In July 2018, the investigation was terminated without the imposition of duties. https://www.globaltradealert.org/state-act/29603/india-initiation-and-subsequent-termination-ofantidumping-investigation-on-imports-of-sodium-nitrite-from-russia.

Information on nonsubject countries

The two largest nonsubject sources of sodium nitrite, China and Germany, are subject to U.S. countervailing and/or antidumping duty orders.[14] In the Commission's most recent five-year review of those orders in 2019, Chemtrade stated that the industry in China has more than 40 producers with total production capacity possibly as much as *** metric tons. Chemtrade also provided a list of 10 firms in Germany believed to have either produced or exported sodium nitrite between 2008 and 2017 and stated that German producer BASF was the largest-capacity producer outside China, with an estimated production capacity, *** metric tons, that exceeded demand in the EU market.[15]

Table VII-8 presents global export data for nitrites, a category that includes sodium nitrite and out-of-scope products.

[14] See Part I for further information.

[15] Investigation Nos. 701-TA-453 and 731-TA-1136-1137 (Second Review): Sodium Nitrite from China and Germany, Confidential Report, INV-RR-017, March 26, 2019, pp. I-21—23.

Table VII-8
Nitrites: Global exports, by reporting country and period

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

Exporting country	Measure	2019	2020	2021
United States	Quantity	25,683	23,422	29,167
India	Quantity	31,515	35,065	38,473
Russia	Quantity	13,487	19,527	15,989
Subject exporters	Quantity	45,002	54,592	54,462
China	Quantity	101,004	62,034	85,113
Netherlands	Quantity	1,749	2,769	3,028
Malaysia	Quantity	1,657	1,570	2,631
Canada	Quantity	1,119	470	2,004
France	Quantity	---	---	1,684
Poland	Quantity	2,081	2,038	1,125
Sweden	Quantity	1,110	1,170	1,116
South Africa	Quantity	1,516	1,383	951
All other exporters	Quantity	13,763	9,824	6,293
All reporting exporters	Quantity	194,687	159,272	187,574
United States	Value	7,846	6,906	8,428
India	Value	10,954	10,522	12,487
Russia	Value	3,164	5,091	5,052
Subject exporters	Value	14,117	15,613	17,539
China	Value	22,690	14,284	25,694
Netherlands	Value	974	1,207	1,457
Malaysia	Value	152	154	884
Canada	Value	177	138	608
France	Value	---	---	801
Poland	Value	1,054	1,047	493
Sweden	Value	736	692	639
South Africa	Value	711	659	628
All other exporters	Value	7,136	5,888	3,857
All reporting exporters	Value	55,595	46,588	61,029

Table continued.

Table VII-8 Continued
Nitrites: Global exports, by reporting country and period

Unit value in dollars per dry pound; shares in percent

Exporting country	Measure	2019	2020	2021
United States	Unit value	0.31	0.29	0.29
India	Unit value	0.35	0.30	0.32
Russia	Unit value	0.23	0.26	0.32
Subject exporters	Unit value	0.31	0.29	0.32
China	Unit value	0.22	0.23	0.30
Netherlands	Unit value	0.56	0.44	0.48
Malaysia	Unit value	0.09	0.10	0.34
Canada	Unit value	0.16	0.29	0.30
France	Unit value	---	---	0.48
Poland	Unit value	0.51	0.51	0.44
Sweden	Unit value	0.66	0.59	0.57
South Africa	Unit value	0.47	0.48	0.66
All other exporters	Unit value	0.52	0.60	0.61
All reporting exporters	Unit value	0.29	0.29	0.33
United States	Share of quantity	13.2	14.7	15.5
India	Share of quantity	16.2	22.0	20.5
Russia	Share of quantity	6.9	12.3	8.5
Subject exporters	Share of quantity	23.1	34.3	29.0
China	Share of quantity	51.9	38.9	45.4
Netherlands	Share of quantity	0.9	1.7	1.6
Malaysia	Share of quantity	0.9	1.0	1.4
Canada	Share of quantity	0.6	0.3	1.1
France	Share of quantity	---	---	0.9
Poland	Share of quantity	1.1	1.3	0.6
Sweden	Share of quantity	0.6	0.7	0.6
South Africa	Share of quantity	0.8	0.9	0.5
All other exporters	Share of quantity	7.1	6.2	3.4
All reporting exporters	Share of quantity	100.0	100.0	100.0

Source: Official export statistics under HS subheading 2834.10, as reported by various national statical authorities in the Global Trade Atlas database, accessed May 9, 2022.

Notes: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as “---“. United States is shown at the top followed by the countries under investigation, all remaining top exporting countries in descending order of 2021 data.

APPENDIX A

FEDERAL REGISTER NOTICES

The Commission makes available notices relevant to its investigations and reviews on its website, www.usitc.gov. In addition, the following tabulation presents, in chronological order, Federal Register notices issued by the Commission and Commerce during the current proceeding.

Citation	Title	Link
87 FR 3333 January 21, 2022	*Sodium Nitrite From India and Russia; Institution of Antidumping and Countervailing Duty Investigations and Scheduling of Preliminary Phase Investigations*	https://www.govinfo.gov/content/pkg/FR-2022-01-21/pdf/2022-01089.pdf
87 FR 7122 February 8, 2022	*Sodium Nitrite From India and the Russian Federation: Initiation of Less Than-Fair-Value Investigations*	https://www.govinfo.gov/content/pkg/FR-2022-02-08/pdf/2022-02635.pdf
87 FR 7108 February 8, 2022	*Sodium Nitrite From India and the Russian Federation: Initiation of Countervailing Duty Investigations*	https://www.govinfo.gov/content/pkg/FR-2022-02-08/pdf/2022-02634.pdf
87 FR 12487 March 4, 2022	*Sodium Nitrite from India and Russia*	https://www.govinfo.gov/content/pkg/FR-2022-03-04/pdf/2022-04569.pdf

Citation	Title	Link
87 FR 15373 March 18, 2022	*Sodium Nitrite From India: Postponement of Preliminary Determination in the Countervailing Duty Investigation*	https://www.govinfo.gov/content/pkg/FR-2022-03-18/pdf/2022-05724.pdf
87 FR 22504 April 15, 2022	*Sodium Nitrite From the Russian Federation: Preliminary Affirmative Countervailing Duty Determination*	https://www.govinfo.gov/content/pkg/FR-2022-04-15/pdf/2022-08082.pdf
87 FR 23567 April 20, 2022	*Sodium Nitrite From India and Russia; Scheduling of the Final Phase of Countervailing Duty and Antidumping Duty Investigations*	https://www.govinfo.gov/content/pkg/FR-2022-04-20/pdf/2022-08435.pdf
87 FR 34851 June 8, 2022	*Sodium Nitrite From India: Postponement of Preliminary Determination in the Less-Than-FairValue Investigation*	https://www.govinfo.gov/content/pkg/FR-2022-06-08/pdf/2022-12348.pdf
87 FR 36824 June 21, 2022	*Sodium Nitrite From India: Preliminary Affirmative Countervailing Duty Determination and Alignment of Final Determination With the Final Antidumping Duty Determination*	https://www.govinfo.gov/content/pkg/FR-2022-06-21/pdf/2022-13184.pdf
87 FR 38375 June 28, 2022	*Sodium Nitrite From the Russian Federation: Final Affirmative Countervailing Duty Determination*	https://www.govinfo.gov/content/pkg/FR-2022-06-28/pdf/2022-13772.pdf
87 FR 38377 June 28, 2022	*Sodium Nitrite From the Russian Federation: Preliminary Affirmative Determination of Sales at Less Than Fair Value*	https://www.govinfo.gov/content/pkg/FR-2022-06-28/pdf/2022-13791.pdf

APPENDIX B

LIST OF HEARING WITNESSES

CALENDAR OF PUBLIC HEARING

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

Subject: Sodium Nitrite from India and Russia

Inv. Nos.: 701-TA-679-680 and 731-TA-1585-1586 (Final)

Date and Time: June 21, 2022 - 9:30 a.m.

OPENING REMARKS:

In Support of Imposition (**Mary Jane Alves**, Cassidy Levy Kent (USA) LLP)
In Opposition to Imposition (**A. K. Gupta**, TPM Solicitors & Consultants)

In Support of Imposition of
Antidumping and Countervailing Duty Orders:

Cassidy Levy Kent (USA) LLP
Washington, DC
on behalf of

Chemtrade Chemicals US LLC ("Chemtrade")

Don Boonstra, Business Director for the Electrochemicals Business Unit, Chemtrade

Douglas McFarland, Director, Sales and Marketing, Chemtrade Logistics Inc.

Willard "Ray" Emfinger, Commercial Manager for Sodium Nitrite, Chemtrade Logistics Inc.

James R. Cannon)
) – OF COUNSEL
Mary Jane Alves)

In Opposition to Imposition of
Antidumping and Countervailing Duty Orders:

Diaz Trade Law
North Miami, FL
on behalf of

Deepak Nitrite Limited ("DNL")

Rajendra Shinde, Vice President, DNL

A. K. Gupta, Director, TPM Solicitors & Consultants

David J. Craven) – OF COUNSEL

REBUTTAL/CLOSING REMARKS:

In Support of Imposition (**James R. Cannon, Jr.**, Cassidy Levy Kent (USA) LLP)
In Opposition to Imposition (**A. K. Gupta**, TPM Solicitors & Consultants)

-END-

APPENDIX C

SUMMARY DATA

Table C-1
Sodium nitrite: Summary data concerning the U.S. market, by period
Quantity=1,000 dry pounds; Value=1,000 dollars; Unit values, unit labor costs, and unit expenses=dollars per dry pound; Period changes=percent--exceptions noted

	Reported data					Period changes			
	Calendar year			Jan-Mar		Comparison years			Jan-Mar
	2019	2020	2021	2021	2022	2019-21	2019-20	2020-21	2021-22
U.S. consumption quantity:									
Amount	***	***	***	***	***	▲***	▲***	▲***	▼***
Producers' share (fn1)	***	***	***	***	***	▼***	▼***	▼***	▲***
Importers' share (fn1):									
India	***	***	***	***	***	▲***	▲***	▲***	▼***
Russia	***	***	***	***	***	▲***	▲***	▼***	▼***
Subject sources	***	***	***	***	***	▲***	▲***	▲***	▼***
Nonsubject sources	***	***	***	***	***	▼***	▼***	▲***	▲***
All import sources	***	***	***	***	***	▲***	▲***	▲***	▼***
U.S. consumption value:									
Amount	***	***	***	***	***	▲***	▲***	▲***	▲***
Producers' share (fn1)	***	***	***	***	***	▼***	▼***	▼***	▲***
Importers' share (fn1):									
India	***	***	***	***	***	▲***	▲***	▲***	▼***
Russia	***	***	***	***	***	▲***	▲***	▼***	▼***
Subject sources	***	***	***	***	***	▲***	▲***	▲***	▼***
Nonsubject sources	***	***	***	***	***	▼***	▼***	▲***	▲***
All import sources	***	***	***	***	***	▲***	▲***	▲***	▼***
U.S. imports from:									
India:									
Quantity	10,356	12,864	15,438	4,946	2,829	▲49.1	▲24.2	▲20.0	▼(42.8)
Value	3,920	4,708	6,268	1,804	1,478	▲59.9	▲20.1	▲33.1	▼(18.1)
Unit value	$0.38	$0.37	$0.41	$0.36	$0.52	▲7.3	▼(3.3)	▲10.9	▲43.2
Ending inventory quantity	***	***	***	***	***	▲***	▲***	▲***	▼***
Russia:									
Quantity	298	1,969	1,173	335	---	▲294.1	▲561.5	▼(40.4)	▼(100.0)
Value	97	623	437	106	---	▲351.4	▲543.1	▼(29.8)	▼(100.0)
Unit value	$0.33	$0.32	$0.37	$0.32	---	▲14.5	▼(2.8)	▲17.8	▼(100.0)
Ending inventory quantity	***	***	***	***	***	▼***	▲***	▼***	▼***
Subject sources:									
Quantity	10,654	14,833	16,611	5,281	2,829	▲55.9	▲39.2	▲12.0	▼(46.4)
Value	4,017	5,331	6,705	1,910	1,478	▲66.9	▲32.7	▲25.8	▼(22.6)
Unit value	$0.38	$0.36	$0.40	$0.36	$0.52	▲7.1	▼(4.7)	▲12.3	▲44.4
Ending inventory quantity	***	***	***	***	***	▲***	▲***	▲***	▼***
Nonsubject sources (fn2):									
Quantity	10	3	7	---	3	▼(31.0)	▼(71.0)	▲138.0	▲***
Value	55	12	40	---	24	▼(26.3)	▼(78.4)	▲240.6	▲***
Unit value	$5.76	$4.30	$6.15	---	$7.08	▲6.8	▼(25.4)	▲43.1	▲***
Ending inventory quantity	***	***	***	***	***	***	***	***	***
All import sources:									
Quantity	10,663	14,836	16,618	5,281	2,832	▲55.8	▲39.1	▲12.0	▼(46.4)
Value	4,071	5,343	6,745	1,910	1,502	▲65.7	▲31.2	▲26.2	▼(21.4)
Unit value	$0.38	$0.36	$0.41	$0.36	$0.53	▲6.3	▼(5.7)	▲12.7	▲46.6
Ending inventory quantity	***	***	***	***	***	▲***	▲***	▲***	▼***

Table continued.

Table C-1 Continued
Sodium nitrite: Summary data concerning the U.S. market, by period
Quantity=1,000 dry pounds; Value=1,000 dollars; Unit values, unit labor costs, and unit expenses=dollars per dry pound; Period changes=percent--exceptions noted

	Reported data					Period changes			
	Calendar year			Jan-Mar		Comparison years			Jan-Mar
	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 (dry pounds per hour)	***	***	***	***	***	▼***	▼***	▼***	▼***
Unit labor costs	***	***	***	***	***	▲***	▲***	▼***	▲***
Net sales:									
Quantity	***	***	***	***	***	▼***	▼***	▼***	▲***
Value	***	***	***	***	***	▲***	▼***	▲***	▲***
Unit value	***	***	***	***	***	▲***	▲***	▲***	▲***
Cost of goods sold (COGS)	***	***	***	***	***	▲***	▼***	▲***	▲***
Gross profit or (loss) (fn3)	***	***	***	***	***	▲***	▲***	▲***	▲***
SG&A expenses	***	***	***	***	***	▲***	▼***	▲***	▲***
Operating income or (loss) (fn3)	***	***	***	***	***	▲***	▲***	▼***	▲***
Net income or (loss) (fn3)	***	***	***	***	***	▲***	▲***	▼***	▲***
Unit COGS	***	***	***	***	***	▲***	▲***	▲***	▲***
Unit SG&A expenses	***	***	***	***	***	▲***	▲***	▲***	▲***
Unit operating income or (loss) (fn3)	***	***	***	***	***	▲***	▲***	▼***	▲***
Unit net income or (loss) (fn3)	***	***	***	***	***	▲***	▲***	▼***	▲***
COGS/sales (fn1)	***	***	***	***	***	▼***	▼***	▲***	▼***
Operating income or (loss)/sales (fn1)	***	***	***	***	***	▲***	▲***	▼***	▲***
Net income or (loss)/sales (fn1)	***	***	***	***	***	▲***	▲***	▼***	▲***
Capital expenditures	***	***	***	***	***	▲***	▲***	▲***	▲***
Research and development expenses	***	***	***	***	***	***	***	***	***
Net assets	***	***	***	***	***	▼***	▼***	▼***	***

Source: Compiled from data submitted in response to Commission questionnaires and from official U.S. import statistics of the U.S. Department of Commerce Census Bureau using HTS statistical reporting number 2834.10.1000, accessed May 18, 2022. Imports are based on the imports for consumption data series. Import value data reflect landed duty-paid values. 508-compliant tables containing these data are contained in parts 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.--Nonsubject sources do not include imports from Canada which are believed to be out of scope.
fn3.--Percent changes only calculated when both comparison values represent profits; The directional change in profitability provided when one or both comparison values represent a loss.

APPENDIX D

APPARENT U.S. CONSUMPTION AND MARKET SHARES INCLUSIVE OF SABIC

Table D-1
Sodium nitrite: Apparent U.S. consumption and market shares based on quantity data inclusive of by-product producer SABIC, by source and period

Quantity in 1,000 dry pounds; shares in percent

Source	Measure	2019	2020	2021
U.S. primary producer	Quantity	***	***	***
U.S. by-product producer	Quantity	***	***	***
All U.S. producers	Quantity	***	***	***
India	Quantity	10,356	12,864	15,438
Russia	Quantity	298	1,969	1,173
Subject sources	Quantity	10,654	14,833	16,611
Nonsubject sources	Quantity	10	3	7
All import sources	Quantity	10,663	14,836	16,618
All sources	Quantity	***	***	***
U.S. primary producer	Share	***	***	***
U.S. by-product producer	Share	***	***	***
All U.S. producers	Share	***	***	***
India	Share	***	***	***
Russia	Share	***	***	***
Subject sources	Share	***	***	***
Nonsubject sources	Share	***	***	***
All import sources	Share	***	***	***
All sources	Share	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires, from official U.S. import statistics of the U.S. Department of Commerce Census Bureau using HTS statistical reporting number 2834.10.1000, accessed on May 18, 2022, and email received from U.S. by-product producer SABIC. Imports are based on the imports for consumption data series. Nonsubject sources do not include imports from Canada which are believed to be out of scope. SABIC sales quantities are available for the full year periods only and were labeled as product sold in the email response received from the company.

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 "---". Nonsubject sources do not include imports from Canada which are believed to be out of scope.