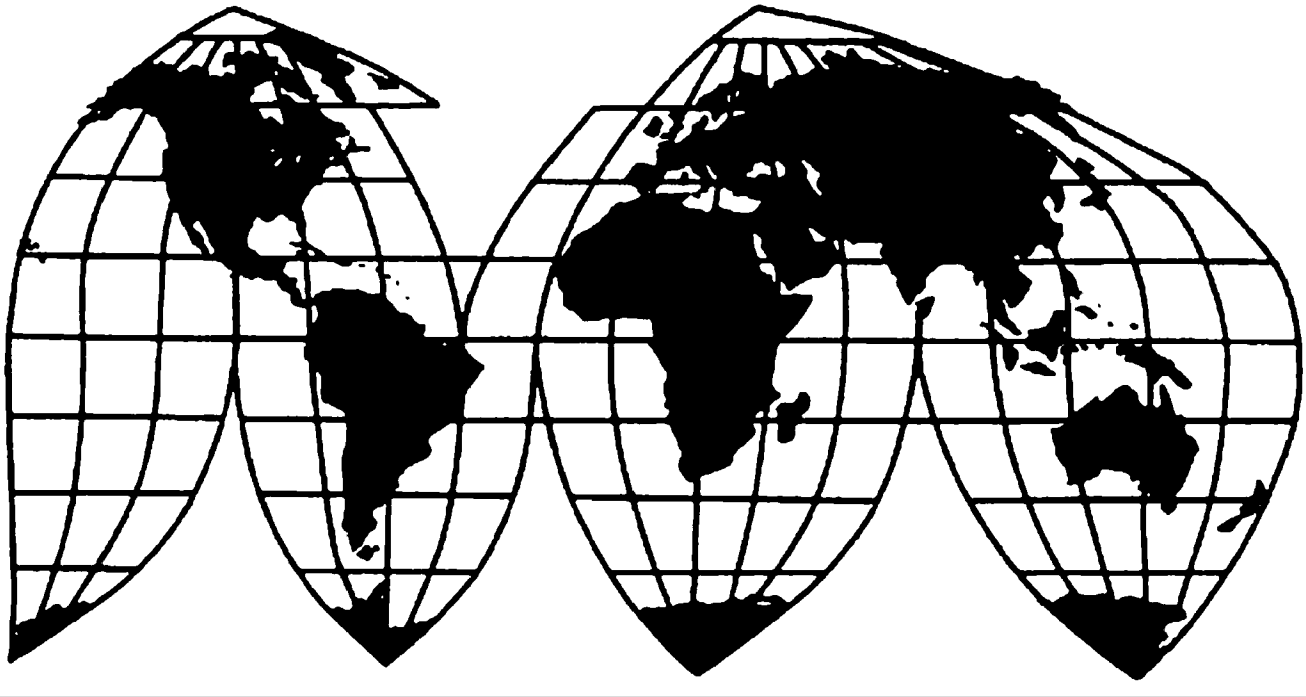
Methionine from France, Japan, and Spain

Investigation Nos. 731-TA-1534-1536 (Preliminary)

Publication 5121 **September 2020**

U.S. International Trade Commission



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U.S. International Trade Commission

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Note.—Information that would reveal confidential operations of individual concerns may not be published.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

UNITED STATES INTERNATIONAL TRADE COMMISSION

Investigation Nos. 731-TA-1534-1536 (Preliminary)

Methionine from France, Japan, and Spain

DETERMINATIONS

On the basis of the record[1] developed in the subject investigations, the United States International Trade Commission ("Commission") determines, pursuant to the Tariff Act of 1930 ("the Act"), that there is a reasonable indication that an industry in the United States is materially injured by reason of imports of methionine from France, Japan, and Spain, provided for in subheadings 2930.40.00 and 2930.90.46 of the Harmonized Tariff Schedule of the United States, that are alleged to be sold in the United States at less than fair value ("LTFV").[2]

COMMENCEMENT OF FINAL PHASE INVESTIGATIONS

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

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

[2] 85 FR 52324 (August 25, 2020).

BACKGROUND

On July 29, 2020, Novus International, Inc., St. Charles, Missouri, filed petitions with the Commission and Commerce, alleging that an industry in the United States is materially injured or threatened with material injury by reason of LTFV imports of methionine from France, Japan, and Spain. Accordingly, effective July 29, 2020, the Commission instituted antidumping duty investigation Nos. 731-TA-1534-1536 (Preliminary).

Notice of the institution of the Commission's investigations and of a public conference through video conferencing 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 August 4, 2020 (85 FR 47243). In light of the restrictions on access to the Commission building due to the COVID–19 pandemic, the Commission conducted its conference through written testimony and video conference on August 19, 2020. All persons who requested the opportunity were permitted to participate.

Views of the Commission

Based on the record in the preliminary phase of these investigations, we determine that there is a reasonable indication that an industry in the United States is materially injured by reason of imports of methionine from France, Japan, and Spain that are allegedly sold in the United States at less-than-fair-value ("LTFV").

I. The Legal Standard for Preliminary Determinations

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

II. Background

These investigations resulted from petitions filed on July 29, 2020, alleging that an industry in the United States is materially injured and threatened with material injury by reason of imports of methionine from France, Japan, and Spain that are allegedly sold in the United States at LTFV. Petitioner is Novus International, Inc. ("Novus"), a domestic producer of methionine. Novus submitted written witness testimony and a postconference brief, and witnesses from Novus appeared at the staff conference.[3]

[1] 19 U.S.C. §§ 1671b(a), 1673b(a); *see also American Lamb Co. v. United States*, 785 F.2d 994, 1001-04 (Fed. Cir. 1986); *Aristech Chem. Corp. v. United States,* 20 CIT 353, 354-55 (1996). No party argues that the establishment of an industry in the United States is materially retarded by the allegedly unfairly traded imports.

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

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

Two respondents participated in the preliminary phase of these investigations by submitting written witness testimony and postconference briefs and having witnesses participate in the Commission's staff conference:

- Adisseo France SAS and Adisseo España SA, producers and exporters of subject merchandise in France and Spain, and Adisseo USA, Inc., a U.S. importer of subject merchandise (collectively, "Adisseo"); and

- Sumitomo Chemical Company, Ltd. ("Sumitomo"), a producer and exporter of subject merchandise in Japan.

In addition, Evonik Corporation ("Evonik"), a domestic producer of methionine, submitted a non-party statement, pursuant to 19 CFR § 207.15, and took no position on the petitions.

U.S. industry data are based on the questionnaire responses of two producers, accounting for all known U.S. production of methionine during 2019.[4] U.S. import data are based on official import statistics.[5] The Commission received responses to its foreign producer questionnaire from Adisseo France SAS in France, Sumitomo Chemical Corporation in Japan, and Adisseo España SA in Spain. These three firms are believed to account for all subject imports during the January 2017-March 2020 period of investigation ("POI").[6]

III. Domestic Like Product

In determining whether there is a reasonable indication that an industry in the United States is materially injured or threatened with material injury by reason of imports of the subject merchandise, the Commission first defines the "domestic like product" and the "industry."[7] Section 771(4)(A) of the Tariff Act of 1930, as amended ("the Tariff Act"), defines the relevant domestic industry as the "producers as a whole of a domestic like product, or those producers whose collective output of a domestic like product constitutes a major proportion of the total domestic production of the product."[8] 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."[9]

[4] Confidential Report INV-SS-108 (Sept. 4, 2020) ("CR") at III-1, Public Report ("PR") at III-1.
[5] CR/PR at I-4.
[6] *See* CR/PR at VII-3, VII-8, and VII-14.
[7] 19 U.S.C. § 1677(4)(A).
[8] 19 U.S.C. § 1677(4)(A).
[9] 19 U.S.C. § 1677(10).

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.[10] 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."[11] The Commission then defines the domestic like product in light of the imported articles Commerce has identified.[12] The decision regarding the appropriate domestic like product(s) in an investigation is a factual determination, and the Commission has applied the statutory standard of "like" or "most similar in characteristics and uses" on a case-by-case basis.[13] No single factor is dispositive, and the Commission may consider other factors it deems relevant based on the facts of a particular investigation.[14] The Commission looks for clear dividing lines among possible like products and disregards minor variations.[15]

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[10] 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).

[11] *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).

[12] *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*, 747 F. Supp. at 748-52 (affirming the Commission's determination defining six like products in investigations where Commerce found five classes or kinds).

[13] *See*, *e.g.*, *Cleo*, 501 F.3d at 1299; *NEC Corp. v. Department of Commerce*, 36 F. Supp. 2d 380, 383 (Ct. Int'l Trade 1998); *Nippon Steel Corp. v. United States*, 19 CIT 450, 455 (1995); *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).

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

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

A. Scope Definition

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

> methionine and dl-Hydroxy analogue of dl-methionine, also known as 2-Hydroxy 4-(Methylthio) Butanoic acid (HMTBa), regardless of purity, particle size, grade, or physical form. Methionine has the chemical formula $C_5H_{11}NO_2S$, liquid HMTBa has the chemical formula $C_5H_{10}O_3S$, and dry HMTBa has the chemical formula $(C_5H_9O_3S)_2Ca$.
>
> Subject merchandise also includes methionine processed in a third country including, but not limited to, refining, converting from liquid to dry or dry to liquid form, or any other processing that would not otherwise remove the merchandise from the scope of these investigations if performed in the country of manufacture of the in-scope methionine or dl-Hydroxy analogue of dl-methionine.
>
> The scope also includes methionine that is commingled (*i.e.,* mixed or combined) with methionine from sources not subject to these investigations. Only the subject component of such commingled products is covered by the scope of these investigations.
>
> Excluded from these investigations is United States Pharmacopoeia (USP) grade methionine. In order to qualify for this exclusion, USP grade methionine must meet or exceed all of the chemical, purity, performance, and labeling requirements of the United States Pharmacopeia and the National Formulary for USP grade methionine.
>
> Methionine is currently classified under subheadings 2930.40.0000 and 2930.90.4600 of the Harmonized Tariff Schedule of the United States (HTSUS). Methionine has the Chemical Abstracts Service (CAS) registry numbers 583–91–5, 4857–44–7, 59–51–8 and 922–50–9. While the HTSUS subheadings and CAS registry numbers are provided for convenience and customs purposes, the written description of the scope of these investigations is dispositive.[16]

The scope of these investigations includes both methionine and a hydroxy analogue of methionine. Methionine is an essential amino acid and has two different isomers: D-methionine and L-methionine.[17] A mixture of the two isomers, called D,L-methionine ("DLM")

[16] *Methionine from France, Japan, and Spain: Initiation of Less-Than-Fair-Value Investigations*, 85 Fed. Reg. 52324, 52328-52329 (Aug. 25, 2020).

[17] CR/PR at I-7.

is the form sold in the United States as an animal feed supplement.[18] A higher purity form of methionine, United States Pharmacopoeia (USP) grade methionine, for human consumption, is excluded from the scope of the investigations.[19]

The hydroxy analogue of DLM within the scope is 2-Hydroxy 4-(Methylthio) Butanoic acid (HMTBa). It is also known as methionine hydroxy analogue ("MHA").[20] Both MHA and DLM are primarily used in animal feed preparations for poultry, swine, and aquaculture.[21] MHA is a chemical precursor to DLM and is converted by the animal's digestive system into DLM.[22] MHA is usually sold as a liquid while DLM is sold in solid form.[23]

B. Arguments of the Parties

1. Domestic Parties

Petitioner argues that the Commission should define a single domestic like product that is coextensive with the scope of the investigations, which includes both DLM and MHA. Petitioner acknowledges that the chemical formulas of DLM and MHA differ slightly, but contends MHA becomes chemically identical to DLM once digested by livestock. It asserts that all forms of methionine are interchangeable, as they deliver the same amino acid in animal feed regardless of whether its liquid or solid, DLM or MHA. While end users may prefer one form or type based on their current feed production technology, petitioner claims that U.S. producers and purchasers perceive all forms of methionine to be one product category. Petitioner also highlights the testimony of respondents' witnesses at the staff conference, claiming they conceded that both MHA and DLM are excellent sources of methionine and that purchasers will switch between the two based on price.[24]

With respect to channels of distribution, petitioner argues that domestic producer and importer questionnaire responses ***; it disputes that alleged differences in transportation costs have any relevance to defining the domestic like product. It adds that while DLM and MHA are produced in different facilities, their production processes are similar, and both DLM and MHA are synthesized from the same starting materials, acrolein and methyl mercaptan.

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[18] CR/PR at I-7 to I-8.

[19] Conf. Tr. at 23-24 (Klopfenstein).

[20] CR/PR at I-7.

[21] CR/PR at I-7.

[22] CR/PR at I-8.

[23] CR/PR at II-1.

[24] Petitioner's Brief, Answers to Questions at 8-10 (citing Conf. Tr. at 118 (Barnes), 126 (Harari), and 153 (Harari)).

Finally, petitioner claims that, once adjusted for activity level, prices for DLM and MHA are ***.[25]

Domestic producer Evonik states that DLM and MHA are completely interchangeable as both products deliver precisely the same molecule to animals for protein synthesis. It indicates that both MHA and DLM are used in the same way, for the same purpose, and by the same customers as there are no differences other than the product concentration and bioavailability. Further, it reports that all customers who use feed-grade methionine in their livestock production make the choice each contract cycle whether to use MHA or DLM. According to Evonik, transportation costs for the dry and liquid products are roughly equal, but because MHA contains a significant amount of water, the unit cost of transporting MHA is typically higher, with less active ingredient contained in each shipment. Evonik states that the backward integration of its production process is the primary difference between its production process for DLM and Novus's process for MHA.[26]

2. Respondents

Sumitomo argues that the Commission should define DLM and MHA as separate domestic like products because they are different chemical compounds, with different chemical and metabolic properties, production processes, transportation and storage requirements, and equipment usage requirements. It states that DLM has an amine group (NH_2) at the asymmetric carbon, while the hydroxy analog methionine has a hydroxyl group (OH) at that position. According to Sumitomo, this difference in chemistry causes DLM and MHA to have substantially different physical and chemical characteristics, regardless of whether the final form is liquid or dry. Furthermore, because DLM and MHA are different chemical compounds, Sumitomo contends that the production processes are necessarily different.[27]

Sumitomo emphasizes that the bioefficacy of MHA is much lower than that of DLM, meaning MHA does not deliver as much methionine to the animal as DLM on a per-pound basis. While these differences in chemistry and bioefficacy exist regardless of the form in which products are sold, it maintains that the differences are magnified by the fact that DLM and MHA are overwhelmingly sold in different physical forms. It also claims that because MHA is

[25] Petitioner's Brief, Answers to Questions at 10-14.
[26] Evonik's Comments at 2-3
[27] Sumitomo's Brief at 5-8.

highly acidic, it requires different transportation and storage requirements, safety protocols, and methods of use.[28]

C. Analysis

Based on the record of the preliminary phase of these investigations, we define a single domestic like product consisting of DLM and MHA, coextensive with the scope of the investigations.

Physical Characteristics and Uses. DLM and MHA are distinct chemical compounds but they have the same use as a feed supplement for poultry, swine, and aquaculture, and both provide the same amino acid to animals once ingested.[29] MHA has a hydroxy group where the amine group is located on the DLM molecule and therefore MHA is not an amino acid.[30] DLM is usually sold as a crystalline powder while MHA is usually sold as a liquid, though there are some sales of MHA in powder form.[31] MHA may also have lower bioefficacy because all of the chemical may not be converted into the amino acid upon digestion.[32] However, DLM and MHA are both used to provide animals the essential amino acid methionine needed for their nutrition.

The Commission asked domestic producers and importers in the questionnaires to rate and comment on the comparability of DLM and MHA with respect to the six domestic like product factors.[33] Two domestic producers and three importers responded.[34] With respect to physical characteristics and uses, *** indicated in its responses that they are "fully" comparable, *** indicated that they were "mostly" comparable, and two U.S. importers reported that they are "somewhat" comparable.[35]

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[28] Sumitomo's Brief at 8-14. Adisseo states that for purposes of the preliminary phase of these investigations, it does not contest the definition of the domestic like product or the domestic industry proposed by petitioner. Adisseo's Brief at 3.

[29] CR/PR at I-8; Petitioner's Brief, Answers to Questions at 9; Evonik Comments at 2.

[30] Conf. Tr. at 19 (Klopfenstein).

[31] Novus is the only domestic producer of MHA. Approximately *** percent of Novus' shipments of MHA were in liquid form. Novus' Producer Questionnaire Response at II-9. Evonik is the only domestic producer of DLM. Although Evonik reports the ability to produce a liquid form of DLM, ***. Evonik's Comments at 6; Evonik's Producer Questionnaire Response at II-9.

[32] CR/PR at I-8, D-3 to D-5. *See* also Conf. Tr. at 111-12 (Mitchell).

[33] *See* CR/PR at Table I-1. The questionnaires ask if the two are "fully," "mostly," "somewhat," or "not at all" comparable.

[34] *See* CR/PR at Table I-1. Evonik, which is a domestic producer and importer, submitted responses in both its domestic producer and importer questionnaire responses. Evonik reported imports from only nonsubject sources. *Id*. at Table IV-1 note.

[35] CR/PR at Table I-1.

Interchangeability. Both DLM and MHA are used only as supplements to add methionine to animal feed. Petitioner Novus and domestic producer Evonik report that both DLM and MHA can be used interchangeably as animal feed supplements.[36] Importer Adisseo USA commented in its questionnaire that because of the dry and liquid forms of the two products, they ***.[37] Thus, the different forms of DLM and MHA (dry versus liquid) may limit their interchangeability, but the products appear to be otherwise interchangeable despite their different chemistries.[38]

In their questionnaire responses, the *** indicated they are "fully" interchangeable, one U.S. importer indicated they are "somewhat" interchangeable, and one reported they are "never" interchangeable.[39]

Manufacturing Facilities, Production Processes, and Employees. The record indicates that DLM and MHA are produced by different producers in different facilities with different employees. Novus and Evonik also use different chemical syntheses to produce MHA and DLM, respectively.

Novus produces methylthiopropionaldehyde ("MMP") from inputs obtained from other companies and then reacts it with hydrogen cyanide to form liquid MHA.[40] Evonik is backward integrated, producing acrolein, MMP, and hydrogen cyanide. It then reacts MMP, hydrogen cyanide, carbon dioxide, and ammonia to form hydantoin. The hydantoin is hydrolyzed to form potassium methioninate which is then converted to DLM.[41] Thus, the production processes of the two U.S. producers are similar in that they both use MMP, formed from reacting acrolein with methyl mercaptan, and hydrogen cyanide as the basic starting materials in the processes.[42]

In comparing the two production processes, Evonik states that "***."[43] Novus indicates that ***.[44] Adisseo USA also stated that "***."[45]

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[36] CR/PR at D-3.

[37] CR/PR at D-4. Sumitomo USA observed that the "***" *Id.*

[38] Petitioner's Brief at 7, Answers to Questions at 19.

[39] *See* CR/PR at Table I-1.

[40] CR/PR at I-9.

[41] CR/PR at I-9.

[42] CR/PR at I-9.

[43] CR/PR at D-3. Evonik also described differences in the downstream portions of the production process: "***." *Id.*

[44] CR/PR at D-3.

[45] CR/PR at D-4.

In responding to the questionnaires with respect to this factor (manufacturing facilities, production processes, and employees), ***, and one of each of the importers reported that they are "somewhat" and "never" comparable.[46]

Channels of Distribution. The channels of distribution are the same for DLM and MHA. Evonik ships *** of its DLM to end users, and Novus ships the *** of its MHA to end users.[47] In responding to the questionnaires, ***; two U.S. importers reported that they are "somewhat" comparable.[48]

Producer and Customer Perceptions. Novus indicates that DLM and MHA are both seen as ***.[49] Evonik reports that customers have ***. It reports that customers generally believe that ***.[50] Adisseo USA, an importer, markets both DLM and MHA as methionine feed supplements. Its website offers both DLM ("Rhodimet® NP99") and MHA ("Rhodimet® AT88") under a single product category "Rhodimet." They are described as powder and liquid forms of methionine.[51]

In responding to the questionnaires with respect to perceptions in the marketplace, *** indicated that DLM and MHA are "fully" comparable, *** indicated that they are "mostly" comparable, and two U.S. importers reported that DLM and MHA are "somewhat" comparable.[52]

Price. While MHA is priced lower on an absolute basis than DLM, once adjusted for activity level[53] the prices are roughly comparable, although the dry MHA product produced by Novus is higher-priced than the other products.[54] Liquid MHA generally has an 88 percent activity level, while dry MHA typically has an activity level of 84 percent and dry DLM has an activity level of 99 percent.[55] Novus states that "***" and Adisseo similarly states that "***."[56]

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[46] *See* CR/PR at Table I-1.

[47] *See* CR/PR at Table II-1.

[48] *See* CR/PR at Table I-1.

[49] *See* CR/PR at D-3 to D-5.

[50] CR/PR at D-3 to D-5. *See* also Conf. Tr. at 111-12 (Mitchell).

[51] *See* Petition at I-12 and Exhibit I-9. *See also* https://www.adisseo.com/en/products/rhodimet/.

[52] *See* CR/PR at Table I-1.

[53] *See* Petition at I-15. The Commission's pricing data in these investigations are adjusted based on activity level to be comparable and thus no longer reflect the difference. CR/PR at V-4 n.7.

[54] Liquid MHA produced by Novus (pricing product 2) fell from $*** per short ton in January 2017 to $*** per short ton in March 2020. Dry DLM produced by Evonik (pricing product 4) fell from $*** per short ton in January 2017 to $*** per short ton in March 2020. *See* CR/PR at Tables V-4 and V-5. The dry MHA produced by Novus (pricing product 1) fell from $*** per short ton in January 2017 to $*** per short ton in March 2020. CR/PR at Table V-3.

[55] CR/PR at II-1.

[56] CR/PR at D-5.

In their questionnaire responses, *** responses indicated that DLM and MHA are "somewhat" comparably priced, while *** indicated they are "fully" comparably priced.[57]

Conclusion. We define a single domestic like product corresponding to the scope of the investigations that includes both DLM and MHA for purposes of our preliminary determinations.[58] Although there are differences between DLM and MHA with respect to physical characteristics and manufacturing facilities, processes, and employees, the current record indicates virtually identical uses and channels of distribution. The record also indicates that there is substantial interchangeably between DLM and MHA, and producers and customers perceive DLM and MHA to be similar products that are both sources of methionine for animal feed. While there are some differences in pricing between DLM and MHA when considered on a short ton basis, the two are similarly priced when adjusted for activity level.

[57] *See* CR/PR at Table I-1.

[58] While each like product definition is *sui generis* and is based upon the current record, we note that the Commission has previously considered the definition of the domestic like product in two investigations concerning methionine. Although these investigations were completed many years ago, the factual findings underlying those earlier like product definitions do not appear to be contradicted by the record in the current investigations. In *Animal Feed Grade DL-Methionine from France*, Inv. No. 731-TA-255 (Preliminary), USITC Publication 1699 at 3-5 (May 1985), the Commission defined the domestic like product to include both MHA and DLM even though the scope only covered DLM. It found that DLM and MHA were similar chemically, had identical uses as animal feed additives, and were commercially interchangeable. It also observed that they were synthesized from the same raw materials, although the production processes were different for each chemical, and that they were both marketed through the same channels of distribution. In a 1999 five-year review of an antidumping duty order on methionine from Japan, the Commission considered whether a like product definition broader than the scope continued to be appropriate. *Synthetic Methionine from Japan,* Inv. No. AA1921-115 (Review) USITC Pub. 3205 at 4-6 (July 1999). The Commission found that synthetic methionine (DLM) and MHA were chemically similar, had the same uses, and were interchangeable. While recognizing that there were production differences, it found these were outweighed by the virtually complete overlap between end uses and the customer markets for the products and producer and customer perceptions. *Id.* In the earlier changed circumstances review of that order, *Synthetic L- Methionine from Japan,* Inv. No. 751-TA-4 (Review) USITC Pub. 1167 at 1-2 (July 1981), the Commission found that there was no domestic product which was "like" synthetic L-methionine, the imported product under review. It found the domestic like product therefore consisted of DLM and MHA, the forms of methionine produced in the United States, which were most similar in characteristics and uses to synthetic L-methionine. The Commission indicated that slight differences in the chemical formulas of DLM and MHA was not a determining factor in the marketplace because they were commercially fungible as forms of synthetic methionine used as animal feed additives.

Accordingly, for purposes of the preliminary phase of the investigations we define a single domestic like product[59] consisting of DLM and MHA, coextensive with the scope of the investigations.[60]

IV. Domestic Industry

The domestic industry is defined as the domestic "producers as a whole of a domestic like product, or those producers whose collective output of a domestic like product constitutes a major proportion of the total domestic production of the product."[61] In defining the domestic industry, the Commission's general practice has been to include the industry producers of all domestic production of the like product, whether toll-produced, captively consumed, or sold in the domestic merchant market. There are no related parties in these investigations or other domestic industry issues to address.[62] Accordingly, we define the domestic industry to include all U.S. producers of methionine.

V. Cumulation[63]

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

[59] Accordingly, unless otherwise noted, we will use the term "methionine" to refer to both DLM and MHA.

[60] The record contains little information concerning a higher purity grade of methionine, USP grade methionine, that is for human consumption and excluded from the scope of the investigations. *See* CR/PR at I-8; Conf. Tr. at 19-20 (Klopfenstein) (indicating it is much more expensive and does not compete with methionine for animal feed). There is no information concerning current production of this product in the United States.

[61] 19 U.S.C. § 1677(4)(A).

[62] *See* 19 U.S.C. § 1677(4)(B).

[63] Pursuant to Section 771(24) of the Tariff Act, imports from a subject country of merchandise corresponding to a domestic like product shall be deemed negligible if they account for less than three 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. *See* 19 U.S.C. §§ 1673b(a), 1677(24)(A)(i).

Based on official import statistics, imports from France, Japan, and Spain accounted for 7.1 percent, 26.9 percent, and 63.8 percent of total imports of subject merchandise, respectively, during the twelve months preceding the filing of the petitions, July 2019 through June 2020. CR/PR at Table IV-3. Because these percentages exceed the applicable statutory threshold, we find that subject imports from France, Japan, and Spain are not negligible.

other and with the domestic like product in the U.S. market. In assessing whether subject imports compete with each other and with the domestic like product, the Commission generally has considered four factors:

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

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

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

(4) whether the subject imports are simultaneously present in the market.[64]

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.[65] Only a "reasonable overlap" of competition is required.[66]

A. Arguments of the Parties

Petitioner's Arguments. Petitioner argues that that the Commission should cumulatively assess imports from all subject countries. Petitioner asserts that DLM and MHA from all subject countries and the domestic like product are fungible. It argues that despite being in different forms (*i.e.*, liquid versus dry), DLM and MHA are put to identical end uses, perform the same function as an animal-feed additive, and are commercially interchangeable. It also claims that witness testimony at the staff conference confirmed that the domestic

[64] *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).

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

[66] 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 and subject imports are fungible, with sales to overlapping consumers who routinely switch between wet and dry product for a variety of reasons including price.[67]

According to petitioner, subject imports entered at ports in all regions of the country and were sold to both end users and distributors. Finally, it asserts that imports from each of the subject countries have been present in the U.S. market in nearly every month of the POI. Thus, it concludes that each of the factors the Commission considers regarding cumulation supports cumulating subject imports from all subject countries in these investigations.[68]

Respondents' Arguments. Respondents do not address cumulation.

B. Analysis and Conclusion

The initial statutory requirement is satisfied because the petitioner filed the antidumping duty petitions with respect to France, Japan, and Spain on the same day, July 29, 2020. As discussed below, we find that 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.

Fungibility. *** U.S. producers reported that the domestic like product and subject imports from France, Japan, and Spain were always interchangeable in all comparisons.[69] In comparisons between the domestic like product and imports from subject sources, and among imports from subject sources, two importers reported that the sources were sometimes interchangeable and one importer reported they were always interchangeable.[70]

Moreover, despite subject imports from France consisting entirely of DLM and subject imports from Spain consisting entirely of MHA, there is substantial overlap in shipments of the domestic like product and subject imports from different sources. In 2019, MHA accounted for *** percent of U.S. shipments of the domestic like product, *** percent of U.S. shipments of subject imports from Japan, and *** U.S. shipments of subject imports from Spain.[71] In 2019, DLM accounted for *** percent of shipments of the domestic like product, *** subject imports from France, and *** percent of shipments of subject imports from Japan.[72] Thus, in 2019,

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[67] Petitioner's Brief at 5 (*citing* Conf. Tr. at 126, 129 (Harari)).

[68] Petitioner's Brief at 5-6.

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

[70] CR/PR at Table II-5. The one exception was the comparison between subject imports from France with subject imports from Spain. In comparing subject imports from France with subject imports from Spain, one importer indicated that they were always interchangeable, one importer indicated that they were sometimes interchangeable, and one importer indicated they were never interchangeable.

[71] CR/PR at Table IV-4, Fig. IV-2.

[72] CR/PR at Table IV-4, Fig. IV-2.

DLM was available from three sources (the domestic industry, France, and Japan) and MHA was available from three sources (the domestic industry, Japan, and Spain).[73] Moreover, as discussed above, DLM and MHA can be used interchangeably and purchasers may consider both forms when considering methionine purchases.

In response to questions concerning the significance of non-price differences in sales of methionine from different sources, *** indicated that there were never non-price differences between the domestic product and subject imports from France or Spain and never non-price differences between subject imports from France and Spain.[74] For comparisons between subject imports from Japan and the domestic like product or subject imports from France or Spain, *** reported that there were frequently differences other than price and *** reported that there were never differences other than price.[75] U.S. importers reported more non-price differences, and in most comparisons they indicated that there sometimes or frequently were non-price differences in the comparisons.[76]

Channels of Distribution. *** shipments of subject imports from Spain, and a *** of the domestic producers' shipments and subject imports from Japan, were to end users.[77] The percentage of shipments of subject imports from France that went to end users ranged from a low of *** percent in 2017 to a high of *** percent in January-March 2020. ("interim 2020").[78]

Geographic Overlap. *** reported shipping the domestic product to all six regions of the contiguous United States. Importers reported shipping imports from each subject country to four of the six regions: the Northeast, Midwest, Central Southwest, and Pacific Coast.[79] Imports from each subject country also entered through ports located in the East, North, South, and West, with the exception of subject imports from Spain that did not enter at the Western border.[80]

[73] CR/PR at Fig. IV-2.

[74] CR/PR at Table II-6.

[75] CR/PR at Table II-6.

[76] CR/PR at Table II-6.

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

[78] CR/PR at Table II-1. While not contesting that cumulation is appropriate, Sumitomo claims that there is no overlap in customers between the primary importer of subject imports from Japan (Sumitomo) and the primary importer of subject imports from France and Spain (Adisseo USA). Sumitomo's Brief at 21. In any final phase of these investigations, we will seek additional information concerning the overlap in customers for MHA and DLM and imports from each subject country.

[79] CR/PR at Table II-2.

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

Simultaneous Presence in Market. The domestic like product and imports from each subject country have been present in the U.S. market during 2017, 2018, 2019, and interim 2020.[81]

Conclusion. The record demonstrates that imports from each subject country are fungible with the domestic like product and each other, and imports from each of the subject countries and the domestic like product are sold in similar channels of distribution, similar geographic markets, and have been simultaneously present in the U.S. market. In light of the foregoing, we find that there is a reasonable overlap of competition between the domestic like product and imports from each subject country and among imports from each subject country. Therefore, we cumulatively assess the volume and effects of subject imports from France, Japan, and Spain for purposes of analyzing present material injury in the preliminary phase of these investigations.

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

A. Legal Standard

In the preliminary phase of antidumping and countervailing duty investigations, the Commission determines whether there is a reasonable indication that an industry in the United States is materially injured or threatened with material injury by reason of the imports under investigation.[82] 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.[83] The statute defines "material injury" as "harm which is not inconsequential, immaterial, or unimportant."[84] In assessing whether there is a reasonable indication that the domestic industry is materially injured by reason of subject imports, we consider all relevant

[81] *See* CR/PR at Tables III-5, IV-7, V-3, V-4, V-5. Subject imports from France and Japan were present in all 39 months of POI. Subject imports from Spain were present in 37 of 39 months. *See* CR/PR at Table IV-7.

[82] 19 U.S.C. §§ 1671b(a), 1673b(a). The Trade Preferences Extension Act of 2015, Pub. L. 114-27, amended the provisions of the Tariff Act pertaining to Commission determinations of reasonable indication of material injury and threat of material injury by reason of subject imports in certain respects.

[83] 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 ... {a}nd explain in full its relevance to the determination." 19 U.S.C. § 1677(7)(B).

[84] 19 U.S.C. § 1677(7)(A).

economic factors that bear on the state of the industry in the United States.[85] 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."[86]

Although the statute requires the Commission to determine whether there is a reasonable indication that the domestic industry is "materially injured by reason of" unfairly traded imports,[87] 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.[88] 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.[89]

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

[85] 19 U.S.C. § 1677(7)(C)(iii).

[86] 19 U.S.C. § 1677(7)(C)(iii).

[87] 19 U.S.C. §§ 1671b(a), 1673b(a).

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

[89] The Federal Circuit, in addressing the causation standard of the statute, has 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 re-affirmed in *Mittal Steel Point Lisas Ltd. v. United States*, 542 F.3d 867, 873 (Fed. Cir. 2008), in which 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).

injury threshold.[90] In performing its examination, however, the Commission need not isolate the injury caused by other factors from injury caused by unfairly traded imports.[91] Nor does the "by reason of" standard require that unfairly traded imports be the "principal" cause of injury or contemplate that injury from unfairly traded imports be weighed against other factors, such as nonsubject imports, which may be contributing to overall injury to an industry.[92] It is clear that the existence of injury caused by other factors does not compel a negative determination.[93]

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

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[90] SAA, H.R. Rep. 103-316, Vol. I at 851-52 (1994) ("{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.

[91] 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.").

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

[93] *See Nippon*, 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.").

imports."[94] 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." [95] The Federal Circuit has examined and affirmed various Commission methodologies and has disavowed "rigid adherence to a specific formula."[96]

The question of whether the material injury threshold for subject imports is satisfied notwithstanding any injury from other factors is factual, subject to review under the substantial evidence standard.[97] Congress has delegated this factual finding to the Commission because of the agency's institutional expertise in resolving injury issues.[98]

B. Conditions of Competition and the Business Cycle

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

1. Demand Conditions

Methionine is used in animal feed for poultry, swine, ruminants, and aquaculture.[99] Demand for methionine is growing worldwide as meat consumption has increased, particularly

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[94] *Mittal Steel*, 542 F.3d at 876 & 878; *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*.

[95] *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.

[96] *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.").

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

[98] *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.").

[99] CR/PR at II-9.

poultry.[100] The great majority of methionine used in the United States is for poultry feed.[101] Reportedly, demand for poultry in the United States has been increasing in recent years.[102]

U.S. producers and importers reported an increase in U.S. demand for methionine during the POI.[103] Apparent U.S. consumption of methionine increased by *** percent over the three-year period 2017-2019.[104] Apparent U.S. consumption rose from *** short tons in 2017 to *** short tons in 2018 and *** short tons in 2019.[105]

2. Supply Conditions

There are reportedly only seven producers of methionine worldwide,[106] and two firms produce methionine in the United States.[107] Novus produces MHA, *** in liquid form,[108] while Evonik only produces powdered DLM.[109] During the POI, Novus abandoned its plans to expand its capacity by *** tons with a new facility in Bloomington, Texas.[110] It attributes its decision to ***.[111] The domestic industry's capacity was unchanged during the POI.[112]

The domestic industry supplied the largest share of methionine to the U.S. market during the POI. Its market share decreased from *** percent in 2017 to *** percent in 2018

[100] Adisseo's Brief at 4.

[101] Novus's Brief at 3 (estimating ***). A witness for Adisseo estimated that 90 percent of methionine is used for poultry feed. Conf. Tr. at 146 (Harari).

[102] Sumitomo's Brief at 18.

[103] CR/PR at Table II-4. *** and three of five importers reported that U.S. demand for methionine increased since January 1, 2017. *Id.*

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

[105] CR/PR at Tables IV-8, C-1. Apparent U.S. consumption was *** short tons in interim 2019 and *** short tons in interim 2020. *Id.*

[106] CR/PR at VI-1. There were substantial additions to capacity in subject and nonsubject countries during the POI. CR at Tables VII-12, VII-15. Adisseo estimates that global capacity increased by *** from 2017 to 2020. CR/PR at II-8.

[107] CR/PR at I-9.

[108] Novus's U.S. shipments consisted of *** percent liquid MHA and *** percent dry MHA during 2019. CR/PR at Table E-1.

[109] Evonik is ***. CR/PR at VI-9 n.5.

[110] CR/PR at III-2.

[111] CR/PR at Table III-3; Novus's Brief, Answers to Questions at 5-6. In any final phase of these investigations, we will further examine whether subject imports played a role in the cancellation of this project.

[112] CR/PR at Table III-4.

and *** percent in 2019.[113] Domestic producers' inventories of methionine increased from *** short tons in 2017 to *** short tons in 2018, and then declined to *** short tons in 2019.[114]

Subject imports' share of apparent U.S. consumption increased over the POI and they became the second largest source of methionine to the U.S. market during 2018, 2019, and interim 2020.[115] Subject imports' market share was *** percent in 2017, *** percent in 2018, and *** percent in 2019.[116]

Nonsubject imports' share of apparent U.S. consumption declined over the POI, primarily as nonsubject imports from China largely exited the US. market. Nonsubject imports' share of apparent U.S. consumption was *** percent in 2017, *** percent in 2018, and *** percent in 2019.[117] In September 2018, pursuant to Section 301 of the Trade Act of 1974, imports of methionine from China became subject to a 10-percent *ad valorem* tariff, which increased to 25 percent in May 2019.[118] Imports of methionine from China declined from 25,280 short tons in 2018 to 3,936 short tons in 2019.[119] Imports of methionine from China accounted for 40.4 percent of total imports of methionine in 2018, but only 5.6 percent in 2019.[120] In 2019, the largest source of nonsubject imports was Malaysia.[121]

3. Substitutability and Other Conditions

There is a high degree of substitutability between domestically produced methionine and methionine imported from subject countries, although costs involved in switching between DLM and MHA,[122] availability, and some purchasers' preferences for liquid or dry product may

[113] CR/PR at Tables IV-9 and C-1. Its market share was *** percent in interim 2019 and *** percent in interim 2020. *Id.*

[114] CR/PR at Tables III-6 and C-1. Thus, domestic producers' inventories increased by *** percent over 2017-2019. CR/PR at Table C-1. Their inventories were *** in interim 2019 and *** short tons in interim 2020.

[115] *See* CR/PR at Tables IV-9 and C-1.

[116] CR/PR at Tables IV-9 and C-1. Subject imports' share was *** percent in interim 2019 and *** percent in interim 2020. *Id.*

[117] CR/PR at Table IV-9 and C-1. Nonsubject imports' market share was *** percent in interim 2019 and only *** percent in interim 2020. *Id.*

[118] CR/PR at II-8, IV-5.

[119] CR/PR at Table IV-2. Adisseo states that it had been a leading supplier of nonsubject imports from its facility in China but shifted to supplying the U.S. market from its facility in Spain in response to the imposition of additional tariffs under Section 301. Adisseo's brief at 7-8.

[120] CR/PR at Table IV-2.

[121] CR/PR at VII-24.

[122] *See* Conf. Tr. at 175 (Barnes, Harari). The application equipment may be provided by the producer/importer and included in the price of the methionine. *See* CR/PR at II-12; Petitioner's Brief, Answers to Questions at 15 (***).

limit substitutability in some instances.[123] *** reported that the domestic like product and subject imports from France, Japan, and Spain are always interchangeable in all comparisons.[124] Importers generally indicated that subject imports and the domestic product are sometimes interchangeable.[125]

The record also indicates that price is an important factor in purchasing decisions for methionine. In response to the Commission's lost sales/lost revenue survey, purchasers most frequently cited price, quality, and reliability/availability of supply as the most important factors in purchasing decisions.[126] Further, *** indicated that non-price differences were never significant between the domestic product and subject imports from France or Spain, and between subject imports from France and Spain.[127] U.S. importers indicated that in most instances non-price differences were sometimes or frequently significant in the comparisons.[128]

The primary raw materials used to manufacture methionine are acrolein and methyl mercaptan.[129] These two chemicals were responsible for *** percent of U.S. producers' raw material costs in 2019.[130] Raw material costs fluctuated but increased slightly overall from $*** per short ton in 2017 to $*** per short ton in 2019.[131] Raw materials as a portion of the domestic industry's average cost of goods sold ("COGS") increased from *** percent in 2017 to *** percent in 2018 and *** percent in 2019.[132]

U.S. producers' shipments of domestically produced methionine were sold primarily on the basis of short-term and annual contracts, with a smaller percentage being sold through

[123] CR/PR at II-11.

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

[125] In comparisons between the domestic like product and imports from subject sources, and among imports from subject sources, two importers reported that the sources are sometimes interchangeable, and one importer reported they are always interchangeable. In comparing subject imports from France with subject imports from Spain, one importer indicated that they are always interchangeable, one importer indicated that they are sometimes interchangeable, and one importer indicated they are never interchangeable. CR/PR at Table II-5.

[126] CR/PR at II-12. Other factors considered by purchasers include reliability/availability of supply, incentives, methionine in liquid or solid form, and technical support. *Id.*

[127] CR/PR at Tables II-6. However, for comparisons between subject imports from Japan and the domestic like product or subject imports from France or Spain, one domestic producer reported that there were frequently differences other than price and one reported that there were never differences other than price. *Id.*

[128] CR/PR at Table II-6.

[129] CR/PR at V-1.

[130] CR/PR at V-1.

[131] CR/PR at Table VI-1. Raw material costs were lower in interim 2020 than in interim 2019. *Id.*

[132] CR/PR at Table VI-1. The ratio was also higher in interim 2020 than in interim 2019.

long-term contracts and spot sales.[133] U.S. importers' shipments of subject imports were sold primarily through long-term contracts.[134] Methionine prices are available in an industry publication, *Feedinfo*.[135] The published prices are reportedly used by buyers and sellers as a reference point for global methionine spot prices or contract negotiations.[136] *** reported that ***.[137] The domestic producers reportedly are aware of price changes in the U.S. market.[138] U.S. producers primarily sold to end users over the POI. U.S. importers also primarily sold subject imports to end users, with the exception of subject imports from France, which were mostly sold to distributors.[139]

C. Volume of Subject Imports

Section 771(7)(C)(i) of the Tariff Act provides that the "Commission shall consider whether the volume of imports of the merchandise, or any increase in that volume, either in absolute terms or relative to production or consumption in the United States, is significant."[140]

The volume of cumulated subject imports more than doubled over the three-year period 2017-2019, increasing from 29,157 short tons in 2017 to 33,722 short tons in 2018 and 61,278 short tons in 2019.[141] As a share of apparent U.S. consumption, cumulated subject imports increased from *** percent in 2017 to *** percent in 2018 and *** percent in 2019.[142] For purposes of these preliminary determinations, we find that the volume of cumulated subject imports, and their increase, were significant in both absolute terms and relative to consumption in the United States during the POI.

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[133] *See* CR/PR at Table V-2.

[134] *See* CR/PR at Table V-2.

[135] CR/PR at V-11.

[136] CR/PR at V-11.

[137] CR/PR at V-3. Novus indicated that its contracts typically have meet or release clauses and that its contract prices adjust quarterly. Conf. Tr. at 16 (Hux), 23 (Galo).

[138] CR/PR at V-3; Conf. Tr. at 23 (Galo), 128 (Harari).

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

[140] 19 U.S.C. § 1677(7)(C)(i).

[141] CR/PR at Tables IV-2 and C-1 (based on official statistics). Subject imports were 14,916 short tons in interim 2019 and 19,252 short tons in interim 2020. *Id.* Petitioner indicates that official import statistics are an appropriate measure of imports of methionine in these investigations. Petitioner's Brief, Answers to Questions at 22. Respondents argue that the Commission should use questionnaire data to calculate the volume of subject imports and official import statistics for nonsubject imports. Adisseo's Brief at 11; Sumitomo's Brief at 22.

[142] CR/PR at Tables IV-9 and C-1. Subject imports' U.S. market share was *** percent in interim 2019 and *** percent in interim 2020. *Id.*

D. Price Effects of the Subject Imports

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

> (I) there has been significant price underselling by the imported merchandise as compared with the price of domestic like products of the United States, and
>
> (II) the effect of imports of such merchandise otherwise depresses prices to a significant degree or prevents price increases, which otherwise would have occurred, to a significant degree.[143]

As addressed in section VI.B.3 above, the record indicates that there is a high degree of substitutability between subject imports and the domestic like product and that price is an important consideration in purchasing methionine.

The Commission collected quarterly pricing data from U.S. producers and importers for total quantity and f.o.b. values of one liquid and two dry methionine products shipped to unrelated U.S. customers over the POI.[144] Pricing product 2 (liquid product and 88 percent activity level) includes sales of liquid MHA in the U.S. market while pricing product 4 (dry product and 99 percent activity level) covers sales of dry DLM. Pricing product 1 (dry product and 84 percent activity level) covers sales of dry MHA.[145]

The two U.S. producers and two importers provided usable pricing data for sales of the pricing products 1, 2, and 4, although not all firms reported pricing for all products for all quarters.[146] Pricing data reported by these firms accounted for approximately 96.8 percent of U.S. producers' U.S. shipments and all importers' U.S. shipments of subject imports.[147]

The price comparison data show mixed underselling and overselling during the POI. Cumulated subject imports undersold the domestic like product in 24 of 59 (40.7 percent) quarterly comparisons, and oversold the domestic like product in the remaining 35 instances (59.3 percent).[148] Subject imports' margins of underselling averaged 6.5 percent and ranged up

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[143] 19 U.S.C. § 1677(7)(C)(ii).

[144] The pricing products were as follows: Product 1 – Methionine, whether DL-methionine or its hydroxy analog, 84% activity level, in dry form; Product 2 – Methionine, whether DL-methionine or its hydroxy analog, 88% activity level, in liquid form; and Product 4 – Methionine, whether DL-methionine or its hydroxy analog, 99% activity level, in dry form. CR/PR at V-4. The Commission also requested pricing for Product 3 - Methionine, whether DL-methionine or its hydroxy analog, 88% activity level, in dry form. CR/PR at V-4. There however was no production or imports of product 3 in the United States during the POI. CR/PR at V-3 n.7.

[145] *See* CR/PR at Table V-7.

[146] CR/PR at V-4.

[147] CR/PR at V-4.

[148] CR/PR at Table V-7.

to 22.1 percent; overselling margins averaged 9.1 percent and ranged up to 21.4 percent.[149] The quantity of subject imports that undersold the domestic like product during the POI was 66,555 short tons, with underselling concentrated in the liquid MHA product (pricing product 2); the underselling by quantity represented 51.4 percent of the total quantity of subject imports for which pricing data were reported (129,538 short tons).[150] The overselling quantity during the POI was 62,983 short tons and concentrated in the dry DLM product (pricing product 4).[151]

*** submitted lost sales and lost revenue allegations, identifying seven firms with which it lost sales.[152] The Commission collected information from these firms concerning their purchases of the domestic product and subject imports.[153] The two purchasers who purchased subject imports and responded to the lost sales/lost revenue survey reported that subject imports were lower-priced than the domestic like product.[154] One purchaser also indicated that price was a primary reason for the decision to purchase subject imports rather than domestically produced product.[155]

We have also considered price trends for the domestic like product and subject imports. Prices for each of the three domestically produced pricing products generally declined from the first quarter of 2017 to the first quarter of 2020, with domestic price decreases ranging from *** percent to *** percent, with the largest decrease for the product (Product 2) for which domestic sales quantities were the greatest and underselling by subject imports most frequent.[156] In addition, two of four responding purchasers confirmed that the domestic industry lowered prices to compete with subject imports during the POI.[157]

Reflecting the downwards trend in prices for domestically produced methionine, the domestic industry's net sales values also declined. The domestic industry's unit net sales values

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[149] CR/PR at Table V-7.

[150] CR/PR at Table V-7

[151] CR/PR at Table V-7.

[152] CR/PR at V-14.

[153] CR/PR at V-14.

[154] CR/PR at V-15.

[155] CR/PR at V- 15, Table V-10. This purchaser reported purchasing *** short tons of methionine from Japan.

[156] CR/PR at Table V-6. Over the POI, domestic prices decreased by *** percent for Product 1, *** percent for Product 2, and *** percent for Product 4. CR/PR at Table V-6. Subject import prices decreased by comparable amounts during the POI. For pricing product 2, prices declined by *** percent for subject imports from Japan and *** percent for subject imports from Spain. For pricing product 4, prices declined by *** percent for subject imports from France and *** percent for subject imports from Japan. CR/PR at Table V-7.

[157] CR/PR at V-17, Table V-11.

were *** percent lower in 2019 than in 2017.[158] By comparison, the domestic industry's unit COGS fell *** percent over the same period.[159] Thus, while the domestic industry experienced some overall modest cost reductions, the industry's costs do not explain the magnitude of the declines in prices and sales values for the domestic like product.[160]

Because the domestic industry's unit net sales values fell faster than its unit COGS, the industry's COGS as a ratio to net sales increased during the POI from *** percent in 2017 to *** percent in 2018 and *** percent in 2019.[161] The absolute price declines and declines relative to the industry's costs occurred when demand was generally strong, as apparent U.S. consumption increased by *** percent over the three-year period (2017-2019) and was higher in the first quarter of 2020 than in the first quarter of 2019.[162] Given this record, and the significant increase in the volume of subject imports, we find that, during the POI, low-priced subject imports depressed prices for domestically produced methionine to a significant degree.[163]

In sum, for the purposes of the preliminary phase of these investigations, we find that the record shows there was mixed underselling and overselling by subject imports,[164] and that

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[158] CR/PR at Table C-1. The domestic industry's unit net sales values also were *** percent lower in interim 2020 than in interim 2019. CR/PR at Table C-1. The unit values of U.S. shipments declined by an even greater amount, *** percent, than the decline in unit net sales values over the three-year period (2017-2019) because the unit values of export shipments did not decline as quickly as U.S. shipments. *See* CR/PR at Table C-1.

[159] CR/PR at Table C-1; Table VI-1. The domestic industry's unit COGS increased from $*** per short ton in 2017 to $*** per short ton in 2018, before falling to $*** per short ton in 2019. Unit COGS was $*** per ton in interim 2019 and $*** in interim 2020. *Id.* The domestic producers' raw material costs fluctuated and increased slightly over the three full years, increasing from $*** per short ton in 2017 to $*** per short ton in 2018, and then decreasing to $*** per short ton in 2019. CR/PR at VI-1. Raw material costs were $*** in interim 2019 and $*** in interim 2020. CR/PR at Table VI-1.

[160] Sumitomo observes that Novus announced a price increase for methionine in May 2018. Sumitomo's Brief at 34, Exhibit 22. Notwithstanding Novus's announcement, the record indicates that domestic prices continued to decline. *See* CR/PR at Figs. V-2 and V-3.

[161] CR/PR at Tables VI-3, C-1. The ratio was also higher at *** percent in interim 2020 than in interim 2019 at *** percent. *Id.*

[162] See CR/PR at Tables IV-8 and C-1. Apparent U.S. consumption was *** percent higher in interim 2020 than in interim 2019. *Id.*

[163] Adisseo argues that, rather than subject imports, global prices and capacity expansions depressed domestic methionine prices during the POI. Conf. Tr. 130-32 (Harari); Adisseo's Brief at 5-6. In any final phase of these investigations, we will examine the extent to which global factors may have affected domestic prices for methionine.

[164] Chair Kearns finds that underselling is significant, particularly given that the vast majority of the quantity of subject imports that were priced below U.S. prices was for the pricing product (Product 2) that accounted for a majority of the quantity of domestic pricing data, and that showed the largest percentage decline in price over the POI. CR/PR at Tables V-3 through V-6.

subject imports depressed domestic prices to a significant degree. We consequently find that subject imports had significant price effects.

E. Impact of the Subject Imports[165]

Section 771(7)(C)(iii) of the Tariff Act provides that the Commission, in examining the impact of the subject imports on the domestic industry, "shall evaluate all relevant economic factors which have a bearing on the state of the industry." These factors include output, sales, inventories, capacity utilization, market share, employment, wages, productivity, gross profits, net profits, operating profits, cash flow, return on investment, return on capital, ability to raise capital, ability to service debt, research and development, 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."[166]

Virtually all of the domestic industry's trade indicators increased over the POI, but the increases were relatively modest given the *** percent increase in apparent U.S. consumption and the almost complete withdrawal of nonsubject imports from the U.S. market.[167] The domestic industry's production increased by *** percent from 2017 to 2018, before decreasing by *** percent from 2018 to 2019, for an overall increase of *** percent over the three years 2017-2019.[168] The industry's production capacity was steady over the period and its capacity utilization rate increased by less than *** from 2017 to 2019.[169]

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[165] Commerce initiated its investigations based on estimated dumping margins of 16.17 percent for France, 104.23 percent for Japan, and 36.22 percent for Spain. *Methionine from France, Japan, and Spain: Initiation of Less-Than-Fair-Value Investigations*, 85 Fed. Reg. 52324, 52327 (Aug. 25, 2020).

[166] 19 U.S.C. § 1677(7)(C)(iii). This provision was amended by the Trade Preferences Extension Act of 2015, Pub. L. 114-27.

[167] Nonsubject imports of methionine from China decreased by 83.6 percent by quantity from 2017 to 2019. *See* CR/PR at IV-2. The market share held by nonsubject imports as a whole decreased from *** percent in 2017 to *** percent in 2018, and to *** percent in 2019. Their share was *** percent in interim 2019 and *** percent in interim 2020. CR/PR at Tables C-1 and IV-9. As noted above, Section 301 duties of 10 percent were imposed in September 2018 on imports from China, and subsequently increased to 25 percent in May 2019. CR/PR at II-8.

[168] The domestic industry's production increased from *** short tons in 2017 to *** short tons in 2018, but then declined to *** short tons in 2019. CR/PR at Tables III-4 and C-1. The industry's production was *** short tons in interim 2019 and *** short tons in interim 2020. *Id*.

[169] The domestic industry maintained sufficient excess capacity to supply substantially more of the U.S. market during 2017-2019; its unused production capacity exceeded the volume of subject imports each year. *See* CR/PR at Table C-1. The domestic industry's capacity utilization increased from *** percent in 2017 to *** percent in 2018, before declining to *** percent in 2019. CR/PR at Tables III-4 and C-1. The industry's capacity utilization rate was *** percent in interim 2019 and *** percent in

The volume of the domestic industry's U.S. shipments increased by *** percent from 2017 to 2019.[170] The industry's export shipments were relatively flat from 2017 to 2019.[171] The domestic industry's end-of-period inventories also increased by *** percent from 2017 to 2019, while end-of-period inventories as a share of total shipments increased by *** percentage points over the same period.[172]

With the exception of hourly wages[173] and productivity,[174] the domestic industry's employment-related indicators decreased over the three full-year portion of the POI. The number of production-related workers ("PRWs"),[175] total hours worked,[176] total wages paid,[177] and unit labor costs all decreased overall from 2017 to 2019.[178]

As noted, subject imports doubled in volume and increased their market share by *** percentage points during 2017-2019.[179] Thus, even with the increase in the domestic industry's U.S. shipments over the POI, the domestic industry's market share decreased by ***

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interim 2020. *Id.* As noted above, the domestic industry's production capacity was *** during the POI. *Id.*

[170] The domestic industry's U.S. shipments increased from *** short tons in 2017 to *** short tons in 2018 and *** short tons in 2019. CR/PR at Tables III-5 and C-1. U.S. shipments were *** short tons in interim 2019 and *** short tons in interim 2020. *Id.*

[171] Export shipments accounted for nearly half of the domestic industry's shipments during the POI. *See* CR/PR at Table III-5. The domestic industry's export shipments decreased from *** short tons in 2017 to *** short tons in 2018 and then increased to *** short tons in 2019. CR/PR at Tables III-5 and C-1. The industry's export shipments were *** short tons in interim 2019 and *** short tons in interim 2020. *Id.*

[172] The domestic industry's end-of-period inventories increased from *** short tons in 2017 to *** short tons in 2018 and *** short tons in 2019. Inventories were *** short tons in interim 2019 and *** short tons in interim 2020. CR/PR at Tables III-6 and C-1. The domestic industry's end-of-period inventories as a share of total shipments were *** percent in 2017, *** percent in 2018, and *** percent in 2019. *Id*. The ratio was *** percent in interim 2019 and *** percent in interim 2020. *Id.*

[173] Hourly wages increased from $*** per hour in 2017, to $*** per hour in 2018, and $*** per hour in 2019. CR/PR at Tables III-8 and C-1. Hourly wages were $*** per hour in interim 2019 and $*** per hour in interim 2020. *Id.*

[174] Productivity in short tons per 1,000 hours improved from *** in 2017 to *** in 2018 and *** in 2019. CR/PR at Tables III-8 and C-1. Productivity was *** in interim 2019 and *** in interim 2020. *Id.*

[175] The number of PRWs increased from *** PRWs in 2017 to *** PRWs in 2018 and then declined to *** PRWs in 2019. CR/PR at Tables III-8 and C-1. There were *** PRWs in interim 2019 and *** PRWs in interim 2020. *Id.*

[176] Total hours worked increased from *** in 2017 to *** in 2018 and then declined to *** in 2019. CR/PR at Tables III-8 and C-1. They were *** in interim 2019 and *** in interim 2020. *Id.*

[177] Wages paid increased from $*** in 2017 to $*** in 2018 and then declined to $*** in 2019. CR/PR at Tables III-11 and C-1. They totaled $*** in interim 2019 and $*** in interim 2020. *Id.*

[178] Unit labor costs in dollars per short ton decreased from $*** in 2017 to $*** in 2018 and 2019. CR/PR at Tables III-8 and C-1. They were $*** in interim 2019 and $*** in interim 2020. *Id.*

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

percentage points overall during the three full years of the POI, decreasing from *** percent in 2017 to *** percent in 2018 and then *** percent in 2019.[180]

Furthermore, virtually all of the domestic industry's financial indicators exhibited declines from 2017 to 2019. Sales revenues decreased by *** percent from 2017 to 2019.[181] Gross profits decreased by *** percent[182] as declines in the industry's net sales values outpaced declines in the industry's costs.[183] Operating income and net income in 2017 turned into operating and net losses later in the period.[184] The trends continued into interim 2020 and the industry reported an *** in the first quarter of 2020 ($***) nearly equal to that of all of 2019 ($***).[185] The domestic industry's operating income to net sales ratios decreased from *** percent in 2017 to *** percent in 2018; the industry reported an *** percent in 2019.[186] The domestic industry's net income ratio exhibited even sharper declines over the POI.[187] These declines occurred as the volume of subject imports increased and depressed domestic industry prices.

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[180] CR/PR at Tables IV-9 and C-1. The domestic industry's market share and the market share of the subject imports were both higher in interim 2020 than in interim 2019. The domestic industry's market share was *** percent in interim 2019 and *** percent in interim 2020 while subject imports' market share was *** percent in interim 2019 and *** percent in interim 2020. *Id.*

[181] The domestic industry's net sales revenues increased from $*** in 2017 to $*** in 2018, but then declined to $*** 2019. CR/PR at Tables VI-1 and C-1. Revenues were also lower in interim 2020 at $*** than in interim 2019 at $***. *Id.*

[182] The domestic industry's gross profits decreased from $*** in 2017 to $*** in 2018 and $*** in 2019. CR/PR at Tables VI-1 and C-1. Gross profits of $*** in interim 2019 turned into a *** in interim 2020. *Id.*

[183] Net sales values declined *** percent over the three full years. CR/PR at Tables VI-1 and C-1. Net sales values initially increased from $*** in 2017 to $*** in 2018, before declining to $*** in 2019. *Id.* They were $*** in interim 2019 and $*** in interim 2020. *Id.* As noted above, average COGS declined over the three-year period while raw material costs increased slightly. SG&A expenses also declined over the three full years of the POI. *See* CR/PR at Table VI-1.

[184] After reporting operating income of $*** in 2017 and $*** and 2018, the domestic industry reported an operating loss of $*** in 2019. CR/PR at Tables VI-1 and C-1. It had operating income of $*** in interim 2019 and an operating loss of $*** in interim 2020. *Id.* The industry reported net income of $*** million in 2017, and net losses of $*** in 2018 and $*** in 2019. CR/PR at Tables VI-1 and C-1. It reported net losses of $*** in interim 2019 and $*** in interim 2020. Novus's ***. CR/PR at VI-11.

[185] *See* CR/PR at Tables VI-1, C-1.

[186] The domestic industry reported an operating income ratio of *** percent in interim 2019 and an operating loss ratio of *** percent in interim 2020. CR/PR at Tables VI-1 and C-1.

[187] CR/PR at Tables VI-1 and C-1. The domestic industry's net income to sales ratio of *** percent in 2017 turned into net loss ratios of *** percent in 2018 and *** percent in 2019. *Id.* Its net loss ratios were *** percent in interim 2019 and *** percent in interim 2020. *Id.*

The domestic industry reported declining capital expenditures,[188] and its research and development (R&D) expenses increased during the three full years of the POI. [189] The industry's total net assets and return on total assets decreased over the POI as well.[190]

Thus, the record shows that the domestic industry's financial performance declined over the POI, and its trade indicators indicate that subject imports prevented domestic producers from taking advantage of the substantial increase in apparent U.S. consumption over the POI and the sharp decline in nonsubject imports.[191]

Moreover, the record indicates that the large volumes of low-priced subject imports that frequently undersold domestically produced methionine caused price declines in the U.S. market. Despite strong demand, the subject imports depressed the domestic industry's prices and sales values resulting in reduced sales revenues and deteriorating financial performance for the domestic industry. We therefore find that cumulated subject imports had a significant impact on the domestic industry.

Respondents argue that subject imports simply replaced nonsubject imports during the POI with no adverse impact on the domestic industry.[192] While respondents are correct that subject imports gained market share mostly at the expense of nonsubject imports, this does not mean that subject imports did not have an adverse impact on the domestic industry.[193] As explained above, we find that increasing volumes of subject imports significantly depressed domestic producer prices resulting in less revenue for the domestic industry than they would have otherwise received. Moreover, subject imports' increased market share was at least in part at the expense of domestic producers which lost *** percentage points market share over the POI[194] as subject imports increased by a greater amount than nonsubject imports declined.

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[188] The industry's capital expenditures totaled $*** in 2017, $*** in 2018, and $*** in 2019. CR/PR at Tables VI-5 and C-1. They were $*** in interim 2019 and $*** in interim 2020. *Id.*

We note that ***. CR/PR at Tables VI-7 and VI-8. Although ***. CR/PR at Table VI-8.

[189] Spending on R&D was $*** in 2017, $*** in 2018, and $*** in 2019. *Id.* Spending on R&D was $*** in interim 2019 and $*** in interim 2020. *Id.*

[190] *See* CR/PR at Table VI-5.

[191] Apparent U.S. consumption increased *** percent during 2017-2019. While subject imports more than doubled, the domestic industry's U.S. shipments increased *** percent and its production increased *** percent over the three years. CR/PR at Table C-1.

[192] Adisseo's Brief at 12-13; Sumitomo's Brief at 25-26. Respondents also argue that purchasers turn to imports to have multiple sources of supply in order to mitigate the risk of supply disruptions. *See* CR/PR at V-16; Adisseo's Brief at 10; Sumitomo's Brief at 19-20. In any final phase of these investigations, we will further examine the extent to which purchasers seek to secure multiple sources of supply of methionine and how this may have affected their purchasing decisions during the POI.

[193] Chair Kearns views the issue as whether the domestic industry would have performed materially better than it did, were it not for the effects of subject imports.

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

Subject imports increased by 32,121 short tons from 2017 to 2019 while nonsubject imports declined by 21,862 short tons over those three years.[195]

Respondents also argue that *** indicates that subject imports were not the cause of the industry's deteriorating performance.[196] We find this argument unpersuasive; under the relevant statute, the Commission must consider the domestic industry as whole.[197] Furthermore, *** over the POI despite increases in apparent U.S. consumption.[198]

Respondents also highlight the decline in the unit values of the domestic industry's export shipments, particularly the lower values during interim 2020 relative to interim 2019, contending these declines account for the industry's poor financial performance.[199] We do not find this argument persuasive, as the unit values of the domestic industry's U.S. shipments declined by *** percent from 2017 to 2019, while unit values of the domestic industry's export shipments declined by only *** percent over the same period.[200] Moreover, the volume of the domestic industry's U.S. shipments exceeded the volume of its export shipments during each full year of the POI.[201] Accordingly, it was primarily the domestic industry's declining U.S. shipment values that account for the industry's deteriorating financial performance during the majority of the POI.

We have also considered other factors to ensure that we are not attributing any injury from other factors to the subject imports. As noted above, apparent U.S. consumption for methionine increased during the POI, so any declines in the domestic industry's condition cannot be explained by declines in apparent U.S. consumption.[202] Moreover, as already discussed, nonsubject imports declined during the POI, particularly after Section 301 duties were imposed on methionine from China in September 2018.[203] Thus, the worsening of the domestic industry's condition cannot be explained by nonsubject imports.

For the foregoing reasons, we find a reasonable indication of material injury by reason of cumulated subject imports.

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

[196] Adisseo's Brief at 33-35; Sumitomo's Brief at 39-42.

[197] 19 U.S.C. § 1677(4)(A).

[198] *See* CR/PR at Table VI-3 (Evonik's ***). That *** does not detract from the effects of the subject imports on the domestic industry. *Id.* Further, while ***. Evonik's Comments at 5.

[199] Adisseo's Brief at 28-29; Sumitomo's Brief at 37.

[200] CR/PR at Tables III-5 and C-1.

[201] *See* CR/PR at Tables III-5 and C-1. It was only during interim 2020 that the industry's export shipments accounted for the majority of the industry's total shipments. *Id.*

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

[203] CR/PR at Tables IV-2 and C-1.

VII.

Conclusion

For the reasons stated above, we determine for the preliminary phase of these investigations that there is a reasonable indication that an industry in the United States is materially injured by reason of subject imports of methionine from France, Japan, and Spain that are allegedly sold in the United States at LTFV.

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 Novus International, Inc. ("Novus"), St. Charles, Missouri, on July 29, 2020, alleging that an industry in the United States is materially injured and threatened with material injury by reason of less-than-fair-value ("LTFV") imports of methionine[1] from France, Japan, and Spain. The following tabulation provides information relating to the background of these investigations.[2] [3]

Effective date	Action
July 29, 2020	Petitions filed with Commerce and the Commission; institution of Commission investigations (85 FR 47243, August 4, 2020)
August 18, 2020	Commerce's notice of initiation (85 FR 52324, August 25, 2020)
August 19, 2020	Commission's conference (conducted through video teleconference and written testimony August 18-19)
September 11, 2020	Commission's vote
September 14, 2020	Commission's determinations
September 21, 2020	Commission's views

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

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

[3] A list of witnesses that participated in the conference via video teleconference is presented in appendix B of this report.

Statutory criteria

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

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

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

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

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

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

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

Organization of report

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

Market summary

The leading U.S. producers of methionine are ***, while leading producers of methionine in the subject countries include *** of France, *** of Japan, and *** of Spain. The leading U.S. importer of methionine from France and Spain is ***, while the leading importer of methionine from Japan is ***. Leading importers of product from nonsubject countries include ***.

Apparent U.S. consumption of methionine totaled approximately *** short tons ($***) in 2019. Currently, two firms are known to produce methionine in the United States, Novus and Evonik.[6] U.S. producers' U.S. shipments of methionine totaled *** short tons ($***) in 2019, and accounted for *** percent of apparent U.S. consumption by quantity and *** percent by value. U.S. imports from subject sources totaled 61,278 short tons ($106.2 million) in 2019 and accounted for *** percent of apparent U.S.

[5] Amended by PL 114-27 (as signed, June 29, 2015), Trade Preferences Extension Act of 2015.
[6] Petition, I-2.

consumption by quantity and *** percent by value. U.S. imports from nonsubject sources totaled 9,054 short tons ($19.4 million) in 2019 and accounted for *** percent of apparent U.S. consumption by quantity and *** percent by value.

Summary data and data sources

A summary of data collected in these investigations is presented in appendix C, table C-1. Except as noted, U.S. industry data are based on questionnaire responses of two firms that accounted for the vast majority of known U.S. production of methionine during 2019. U.S. imports are based on official U.S. import statistics.

Previous and related investigations

Methionine has been the subject to prior antidumping duty investigations in the United States. In May 1973, the Commission determined that the methionine industry in the United States was being injured by reason of imports of synthetic methionine from Japan.[7] On July 10, 1973, the Department of Treasury issued an antidumping finding on synthetic methionine from Japan.[8] In May 1981, the Commission instituted a changed circumstance review of the antidumping duty order and determined that no industry in the United States would be materially injured or threatened with material injury by reason of imports of synthetic L-methionine from Japan if the order were modified to exclude synthetic L-methionine.[9]

[7] Synthetic Methionine from Japan, Inv. No. AA1921-115 (Review), USITC Publication 3205, July 1999, p. 1.
[8] Ibid.
[9] Ibid.

In April 1985, the Commission instituted an antidumping duty investigation to determine whether an industry in the United States was materially injured or threatened with material injury by reason of LTFV imports of animal feed grade DL-methionine from France.[10] In May 1985, the Commission determined that there was no reasonable indication that an industry in the United States was materially injured or threatened with material injury by reason of imports of animal feed grade DL-methionine from France.[11]

In August 1998, the Commission instituted a five-year review to determine whether revocation of the of the antidumping duty order on synthetic methionine from Japan would be likely to lead to continuation or recurrence of material injury and determined on November 1998 that it would conduct a full review.[12] In July 1999, the Commission determined that revocation of the antidumping finding on synthetic methionine from Japan would not be likely to lead to continuation or recurrence of material injury to an industry in the United States within a reasonably foreseeable time.[13] In August 1999, Commerce revoked its antidumping finding on synthetic methionine from Japan.[14]

Nature and extent of alleged sales at LTFV

Alleged sales at LTFV

On August 25, 2020, Commerce published a notice in the *Federal Register* of the initiation of its antidumping duty investigations on methionine from France, Japan, and Spain.[15] Commerce has initiated antidumping duty investigations based on estimated dumping margins of 16.17 percent for methionine from France, 104.23 percent for methionine from Japan, and 36.22 percent for methionine from Spain.

[10] Animal Feed Grade DL-Methionine from France, Inv. No. 731-TA-255 (Preliminary), USITC Publication 1699, May 1985, p. 1.

[11] Animal Feed Grade DL-Methionine from France, Inv. No. 731-TA-255 (Preliminary), USITC Publication 1699, May 1985, p. 1.

[12] 63 FR 41290, August 3, 1998 and 63 FR 63748, November 16, 1998

[13] 64 FR 38693, July 19, 1999.

[14] 64 FR 45510, August 20, 1999.

[15] 85 FR 52324, August 25, 2020.

The subject merchandise

Commerce's scope

In the current proceeding, Commerce has defined the scope as follows:[16]

> *The merchandise covered by these investigations is methionine and dl-Hydroxy analog of dlmethionine, also known as 2-Hydroxy 4-(Methylthio) Butanoic acid (HMTBa), regardless of purity, particle size, grade, or physical form. Methionine has the chemical formula $C_5H_{11}NO_2S$, liquid HMTBa has the chemical formula $C_5H_{10}O_3S$, and dry HMTBa has the chemical formula $(C_5H_9O_3S)_2Ca$.*
>
> *Subject merchandise also includes methionine processed in a third country including, but not limited to, refining, converting from liquid to dry or dry to liquid form, or any other processing that would not otherwise remove the merchandise from the scope of these investigations if performed in the country of manufacture of the in-scope methionine or dl-Hydroxy analog of dl-methionine.*
>
> *The scope also includes methionine that is commingled (i.e., mixed or combined) with methionine from sources not subject to these investigations. Only the subject component of such commingled products is covered by the scope of these investigations.*
>
> *Excluded from these investigations is United States Pharmacopoeia (USP) grade methionine. In order to qualify for this exclusion, USP grade methionine must meet or exceed all of the chemical, purity, performance, and labeling requirements of the United States Pharmacopeia and the National Formulary for USP grade methionine.*

[16] 85 FR 52324, August 25, 2020.

Tariff treatment

Based upon the proposed scope, information available to the Commission indicates that the merchandise subject to these investigations—methionine and a precursor to methionine, DL-hydroxy analog of DL-methionine—is classified under statistical reporting numbers 2930.40.0000 ("methionine") and 2930.90.46.00 ("*DL*-Hydroxy analog of *DL*-methionine") of the Harmonized Tariff Schedule of the United States ("HTS"). The 2019 general rate of duty for both subheadings is free. 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

Methionine, an organic chemical containing sulfur, is an essential amino acid with the chemical formula $C_5H_{11}NO_2S$.[17] Methionine hydroxy analogs ("MHA") are organic acids and have the following chemical formulas: if liquid, $C_5H_{10}O_3S$, or if dry, $(C_5H_9O_3S)_2Ca$.[18] Methionine, like other amino acids, exists in three forms—the D isomer, the L isomer, and a mixture of the L and D isomers called D,L-methionine ("DLM"). Whereas these stereoisomers of each chemical have the same chemical formulas mentioned above, the spatial (or 3D) configurations of the isomers differ, potentially providing the stereoisomers different properties.[19] Figure I-1 shows the isomeric forms of D-methionine and L-methionine as examples).[20] MHA is a precursor to DLM but, like DLM, as mentioned below, is also used in feed applications.

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[17] Michael D. Larrañaga, Richard J. Lewis Sr., and Robert A. Lewis, "Hawley's Condensed Chemical Dictionary, Sixteenth Edition," August 25, 2016, p. 887, found at https://onlinelibrary.wiley.com/doi/pdf/10.1002/9781119312468.ch13, retrieved September 3, 2020. Essential amino acids are not made in the body and, therefore, must be provided via food.

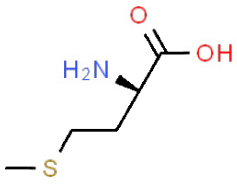
[18] Mercedes Vazquez-Añon, "Comparison of L-Methionine, DL-Methionine and Methionine Hydroxy Analog in a High Ambient Temperature Environment," Novus International, found at https://www.novusint.com/Portals/0/Documents/Methionine/Comparison%20of%20Methionine%20Sources_Full%20Article.pdf?timestamp=1443715076894, retrieved August 20, 2020. As noted in the article, MHA is an organic acid and not an amino acid because it doesn't contain an amine group.

[19] Michael D. Larrañaga, Richard J. Lewis Sr., and Robert A. Lewis, "Hawley's Condensed Chemical Dictionary, Sixteenth Edition," August 25, 2016, pp. 782 and 1011, found at https://onlinelibrary.wiley.com/doi/pdf/10.1002/9781119312468.ch9 and https://onlinelibrary.wiley.com/doi/pdf/10.1002/9781119312468.ch15, retrieved September 3, 2020.

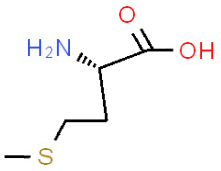
[20] Stereoisomers of a given chemical have the same composition, but the atoms are arranged differently resulting in mirror images of the isomers not being superimposable (much like one's left and

(continued...)

Figure I-1
The chemical structures of D-methionine and L-methionine



D-Methionine



L-Methionine

Source: D-Methionine structure, found on ChemSpider at http://www.chemspider.com/Chemical-Structure.76512.html?rid=1a02d31d-86c8-46d2-b203-6ae036c52b13, retrieved August 27, 2020; and L-methionine structure, found on ChemSpider at http://www.chemspider.com/Chemical-Structure.5907.html?rid=7e804181-0043-44d0-be86-ffcbf2f4f3c7, retrieved August 27, 2020.

The forms of methionine and MHA identified in the scope are primarily used in animal feed preparations (e.g., poultry and swine) and aquaculture. Evonik states that DLM and MHA are "completely interchangeable" in feed preparations.[21] DLM and MHA sold in animal feed applications are typically sold as technical grade products in either liquid or dry form. *** MHA reportedly accounts for about 70 percent of the U.S. market while DLM accounts for the remainder.[22] MHA used in feed is converted to DLM in the animal at varying conversion rates (i.e., activity level or bioefficacy) after the animal feed is ingested.[23]

(…continued)

right hands). The naming convention for isomers is L ("left-handed"), D ("right-handed"), or DL (mixtures of L isomers and D isomers). Pearson Education, "The Biology Place," found at http://www.phschool.com/science/biology_place/biocoach/biokit/stereo.html, retrieved August 20, 2020; Pearson Education, "L- and D-Amino Acids: Amino Acids Can Occur in L- and D-Forms, But Only L-Forms Are Used by Cells," found at http://www.phschool.com/science/biology_place/biocoach/bioprop/landd.html, retrieved August 20, 2020.

[21] Respondent Evonik's postconference brief, p. 1.

[22] Conference transcript (Klopfenstein), p. 102. ***.

[23] Michael D. Larrañaga, Richard J. Lewis Sr., and Robert A. Lewis, "Hawley's Condensed Chemical Dictionary, Sixteenth Edition," August 25, 2016, p. 887, found at https://onlinelibrary.wiley.com/doi/pdf/10.1002/9781119312468.ch13, retrieved September 3, 2020. Industry sources disagree about the degree of conversion of MHA after ingestion, potentially affecting the type and amount of MHA used. Also, several people inform the decision to use MHA or DLM (and the levels used), including nutritionists, product manufacturers, and the consuming entity.

In addition to DLM and MHA, there are other forms of methionine. For example, two synthetic methionine products, pharmaceutical grade L-methionine and DLM (which has a higher purity level than technical grade DLM and, as such, reportedly costs more) are generally used to produce pharmaceuticals.[24] In addition to the pharmaceutical grade product, there is also a feed grade version of L-biomethonine that is produced using biobased inputs.[25]

Manufacturing processes

Although the two U.S. producers—Novus and Evonik—use different chemical syntheses to produce MHA and DLM, respectively, they both use 3-methylthiopropionaldehyde ("MMP"), formed from reacting acrolein with methyl mercaptan, and hydrogen cyanide ("HCN") as the basic starting materials. Novus produces liquid MHA at Alvin (Chocolate Bayou), Texas, ***; this facility was started up in 1983 and underwent "the most recent large expansion" in 1999.[26] The company produces MMP from inputs obtained from other companies and then reacts it with HCN to

[24] Petition, p. I-6.

[25] An emerging trend is for companies to produce biomethionine (feedgrade L-methionine) via fermentation. Arkema and CheilJedang are producing L-methionine commercially via fermentation in Malaysia by reacting a biobased intermediate product (derived from sugars and plants) with methyl mercaptan produced onsite by Arkema. Evonik is also reportedly exploring commercial use of a fermentation process to manufacture a 100-percent biobased biomethionine. *** Petitioner's postconference brief, "Questions from Staff," p. 23.

Using fermentation to produce methionine can reduce production costs, reduce waste, and, because such processes can be conducted under ambient temperatures and pressures, reduce energy needed for heating and pressurization. Such fermentation processes can also be safer and more environmentally friendly, in part because they can also limit/eliminate the need for HCN, a hazardous chemical used in the chemical synthesis of DLM and MHA. Arkema, "Innovation for Urbanization: 2019 Annual and Sustainable Performance Report," found at https://e-brochure.arkema.com/media/2019-annual-sustainable-performance-report/article/34/, retrieved August 21, 2020, p. 35; Evonik, "Evonik to Acquire Technology from METEX for the Fermentative Production of Methionine," press release, November 28, 2016, found at https://corporate.evonik.com/en/evonik-to-acquire-technology-from-metex-for-the-fermentative-production-of-methionine-106336.html; Arkema, "Innovation for Urbanization: 2019 Annual and Sustainable Performance Report," found at https://e-brochure.arkema.com/media/2019-annual-sustainable-performance-report/article/34/, p. 35; Michael McCoy, "Firms Target Biomethionine," April 18, 2011, found at https://cen.acs.org/articles/89/i16/Firms-Target-Biomethionine.html.

[26] Conference transcript, pp. (Klopfenstein) 24, (Klopfenstein) 53, and (Harari)144. ***.

form liquid MHA.[27] Novus then ships some of the liquid MHA to its facility in Little Rock, Arkansas, where it reacts it with calcium hydroxide to produce the MHA calcium salt, which is then bagged and shipped to customers.[28]

By comparison, Evonik uses the carbonate process to form dry DLM at Theodore, Alabama, ***.[29] Evonik is backward integrated, producing acrolein, MMP, and HCN at its Alabama site; [30] it purchases methyl mercaptan from "longtime methyl mercaptan suppliers" Arkema Inc. and Chevron Phillips Chemical Company LLC.[31] MMP, HCN, carbon dioxide (CO_2), and ammonia (NH_3) are reacted to form hydantoin.[32] The hydantoin is hydrolyzed to form potassium methioninate (KMET) and the KMET is converted to DL-methionine cake, which is then dried to a concentration of 99 percent by weight.[33] In addition to the lack of co-products produced by the carbonate process, Evonik also recycles the CO_2 and NH_3 back into the production process, potentially reducing production costs.[34] ***

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[27] Petition, pp. I-14 and I-51. ***. Petitioner's postconference brief, "Questions from Staff," p. 5.

[28] Conference transcript (Klopfenstein), pp. 24, 50.

[29] Evonik, "Mobile (Alabama, USA)," found at https://animal-nutrition.evonik.com/en/contact/locations/mobile, retrieved August 21, 2020. ***.

[30] Evonik, "Mobile (Alabama, USA)," found at https://animal-nutrition.evonik.com/en/contact/locations/mobile, retrieved August 21, 2020, for production information. ***.

[31] Kaija Wilkinson, "Evonik Inks Deal with Supplier, Taking $65M Expansion Off Table," March 28, 2019, found at https://www.al.com/press-register-business/2009/07/evonik_inks_deal_with_supplier.html, retrieved August 21, 2020; Evonik, "Mobile (Alabama, USA)," found at https://animal-nutrition.evonik.com/en/contact/locations/mobile, retrieved August 21, 2020. ***.

[32] *Chemical Engineering*, "Technology Profile: D,L-Methionine Production via the Carbonate Process," November 14, 2014. The article says the process presented is "similar to one developed by Evonik Industries AG."

[33] *Chemical Engineering*, "Technology Profile: D,L-Methionine Production via the Carbonate Process," November 14, 2014.

[34] *Chemical Engineering*, "Technology Profile: D,L-Methionine Production via the Carbonate Process," November 14, 2014; Elizabeth R. Nesbitt, "Using Waste Carbon Feedstocks to Produce Chemicals," April 2020, found at https://www.usitc.gov/sites/default/files/publications/332/working_papers/using_waste_carbon_feedstocks_to_produce_chemicals_0.pdf, retrieved August 21, 2020, and ***.

***.[35] Evonik says that "The degree of backward integration and handling of by-products is critical for the cash production costs."[36]

The top 6 largest companies—Evonik, Adisseo, Novus, Sumitomo, CJ CheilJedang, and Ningxia Unisplendour Tianhua—reportedly accounted for *** in 2018; ***.[37] Companies have been bringing new large-scale commercial methionine plants online with at least one company—Sumitomo—retiring an older plant that is considered a less efficient.[38] ***.[39] Reports indicate that Novus was reportedly considering bringing new methionine production capacity onstream in Texas, in partnership with INEOS Nitriles LLC, but cancelled the project in 2019 because of rising construction costs, in part due to the steel and aluminum tariffs and fuel costs.[40]

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[35] Respondent Evonik's postconference brief, pp. 3-4.

[36] Respondent Evonik's postconference brief, p. 3. See also eFeedLink, "Evonik Mulls US$65 Million Methionine Intermediate Plant in the US," June 10, 2008, found at https://www.efeedlink.com/contents/06-10-2008/5fc4afad-8529-4937-96f7-beccc02a6921-a181.html.

[37] Conference transcript (Harari), p. 144. ***.

[38] Sumitomo announced in 2019 that it was closing a methionine production facility that is 54 years old because of increasing maintenance and other costs; the plant to be closed is on the site of a new facility Sumitomo opened in 2018. It also announced it was seeking to increase exports of methionine from the site. Sumitomo Chemical, "Sumitomo Chemical to Strengthen the Competitiveness of its Feed Additive Methionine Business by Improving Production Efficiency," press release, October 1, 2019, found at https://www.sumitomo-chem.co.jp/english/news/detail/20191001e.html; Michael McCoy, "Sumitomo to Close a Methionine Plant," October 19, 2018, found at https://cen.acs.org/food/agriculture/Sumitomo-close-methionine-plant/97/i40; Sumitomo Chemical, "Feed Additive Methionine Logistics Operations Certified by Government as "Comprehensive Efficiency Plan," press release, April 15, 2019, found at https://www.sumitomo-chem.co.jp/english/news/detail/20190415e.html.

[39] Sumitomo's postconference brief, "Questions from Staff Conference," p. 1.

[40] "Novus International Selects Calhoun County, Texas For Manufacturing Expansion," November 10, 2017, found at https://www.prnewswire.com/news-releases/novus-international-selects-calhoun-county-texas-for-manufacturing-expansion-300553501.html; Jessica Priest, "Novus Cancels Plans to build Multimillion-Dollar Plant in Calhoun County," *Victoria Advocate*, April 26, 2019 found at https://www.victoriaadvocate.com/counties/calhoun/novus-cancels-plans-to-build-multimillion-dollar-plant-in-calhoun-county/article_2320323a-683e-11e9-9323-e3bd92c57551.html. ***

Domestic like product issues

The petitioner proposes a single like product, co-extensive with the scope of these investigations.[41] The petitioner states that all forms of methionine are chemically similar and biochemically identical, have identical uses as an animal additive, are interchangeable, are sold through the same channels of distribution, are viewed as one product category, are manufactured through similar production processes, and are priced similarly.[42]

Respondent Sumitomo Chemical argues that DL-methionine and hydroxy analog methionine should constitute separate like products.[43] Sumitomo Chemical contends that DL-methionine and the hydroxy are different chemical compounds with different physical, chemical, and metabolic properties, are added to feedstock in different quantities, are not interchangeable due to differences in bioefficacy and dosage, have different manufacturing processes that incur different costs, wastes, and handling procedures, and have different customer bases whose decisions are based on their nutritionist's recommendation.[44] Respondent Adisseo acknowledges Sumitomo Chemical's argument that DL-methionine and the hydroxy analog methionine constitute separate like products, but takes no position.[45] Respondent Adisseo does not contest the definition of the domestic like product as proposed by the petitioner.[46] Table I-1 presents U.S. producers' and U.S. importers' comparisons of DL-methionine and the hydroxy analog methionine.

[41] Petitioner's postconference, questions from staff, pp. 8-12.
[42] Ibid.
[43] Respondent Sumitomo Chemical's postconference brief, pp. 2-17.
[44] Ibid.
[45] Respondent Adisseo's postconference brief, p. 3
[46] Respondent Adisseo's postconference brief, p. 3

Table I-1
Methionine: U.S. producers' and U.S. importers' comparisons of in-scope DL methionine and Hydroxy analogs

Factor	U.S. producers				U.S. importers			
	F	M	S	N	F	M	S	N
Physical characteristics	***	***	***	***	***	***	***	***
Interchangeability	***	***	***	***	***	***	***	***
Channels	***	***	***	***	***	***	***	***
Manufacturing	***	***	***	***	***	***	***	***
Perceptions	***	***	***	***	***	***	***	***
Price	***	***	***	***	***	***	***	***

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

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

U.S. market characteristics

Methionine is used as a livestock feed additive.[1] It is primarily used in poultry feed ***, but also used in feed for swine, dairy cows, and aquaculture.[2] A small amount of methionine is of a higher purity and is used for pharmaceuticals.[3] Methionine is available in both dry and liquid forms. Included in the scope are DL-methionine ("DLM") and a methionine hydroxy analog ("MHA") which can both be used in the same applications.[4] Liquid methionine MHA typically is available in an 88 percent activity level (mixed with 12 percent water)[5] while dry MHA is available in a concentration of 84 percent and dry DLM is available in a 99 percent concentration.[6] Approximately *** percent of U.S. consumption is of the liquid methionine (88 percent activity level MHA).[7] Petitioner Novus produces MHA whereas the DLM product is available from the other U.S. producer Evonik. Both types are imported from subject countries. The activity level of the methionine is reportedly the most important factor in determining prices.[8]

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[1] ***.

[2] Ibid.

[3] Conference transcript, p. 18 (Klopfenstein).

[4] Other types of methionine also exist. L-methionine is not produced in the United States or imported from subject countries.

[5] Conference transcript, p. 15. (Klopfenstein).

[6] U.S. producer Evonik states that it can also produce liquid DLM under the name "Liquimeth." Liquimeth was not listed on Evonik's website under its "Methionine and Derivatives" products (https://animal-nutrition.evonik.com/en/products/methionine-and-derivatives, retrieved August 26, 2020), however, staff was able to access a Material Safety Data Sheet for Liquimeth.

[7] Conference transcript, p. 87 (Klopfenstein) and p. 201 (Harari), and ***.

[8] The activity level represents the concentration of methionine contained in the product. Petition, p. I-12.

Apparent U.S. consumption of methionine increased during 2017-19. Overall, apparent U.S. consumption in 2019 was *** percent higher than in 2017. Worldwide growth of methionine consumption reportedly has been approximately 6 percent while growth in the United States has been 3 to 4 percent.[9] According to one source, future growth of U.S. methionine consumption is expected to be *** percent annually through 2023.[10]

Channels of distribution

U.S. producers sold mainly to end users as did importers of methionine from Japan and Spain while importers of methionine from France sold mainly to distributors, as shown in table II-1.

[9] Conference transcript, p. 13 (Hux), p. 24 (Galo), p. 172 (Harari). One representative of respondent Sumitomo reported higher U.S. methionine consumption growth based on faster growth in certain market segments. Ibid., p. 171 (Barnes).

[10] ***.

Table II-1
Methionine: U.S. producers' and importers' U.S. commercial shipments, by sources and channels of distribution, 2017-19, January to June 2019 and January to June 2020

Item	Period				
	Calendar year			January-June	
	2017	2018	2019	2019	2020
	Share of reported shipments (percent)				
U.S. producer Evonik (DLM) U.S. commercial shipments:					
Distributors	***	***	***	***	***
End users	***	***	***	***	***
U.S. producer Novus (MHA) U.S. commercial shipments:					
Distributors	***	***	***	***	***
End users	***	***	***	***	***
U.S. producers' total U.S. commercial shipments of methionine:					
Distributors	***	***	***	***	***
End users	***	***	***	***	***
U.S. importers' U.S. commercial shipments of methionine from France:					
Distributors	***	***	***	***	***
End users	***	***	***	***	***
U.S. importers' U.S. commercial shipments of methionine from Japan:					
Distributors	***	***	***	***	***
End users	***	***	***	***	***
U.S. importers' U.S. commercial shipments of methionine from Spain:					
Distributors	***	***	***	***	***
End users	***	***	***	***	***
U.S. importers' U.S. commercial shipments of methionine from all other countries:					
Distributors	***	***	***	***	***
End users	***	***	***	***	***

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

Geographic distribution

U.S. producers and importers from at least one of the subject countries reported selling methionine to all regions in the contiguous United States (table II-2). Importers from all three subject countries reported shipments to the Northeast, Midwest, Central Southwest and Pacific Coast. For U.S. producers, *** percent of sales were within 100 miles of their production facility, *** percent were between 101 and 1,000 miles, and *** percent were over 1,000 miles. Importers sold *** percent within 100 miles of their U.S. point of shipment, *** percent between 101 and 1,000 miles, and *** percent over 1,000 miles.

Table II-2
Methionine: Geographic market areas in the United States served by U.S. producers and importers

Region	U.S. producers	France	Japan	Spain
Northeast	***	***	***	***
Midwest	***	***	***	***
Southeast	***	***	***	***
Central Southwest	***	***	***	***
Mountain	***	***	***	***
Pacific Coast	***	***	***	***
Other	***	***	***	***
All regions (except Other)	***	***	***	***
Reporting firms	2	1	1	1

Note: All other U.S. markets, including AK, HI, PR, and VI.

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

Supply and demand considerations

U.S. supply

Table II-3 provides a summary of the supply factors regarding methionine from U.S. producers and from subject countries. Domestic supply includes production of both MHA and DLM. Importer Adisseo's sister companies are the sole producers of methionine in France and Spain. It imports DLM from France and MHA from Spain. Sumitomo is the only producer and importer of methionine from Japan. Sumitomo imports and sells DLM in dry form and MHA in liquid form in the United States.

Table II-3
Methionine: Supply factors that affect the ability to increase shipments to the U.S. market

	Capacity (short tons)		Capacity utilization (percent)		Ratio of inventories to total shipments (percent)		Shipments by market, 2019 (percent)		Able to shift to alternate products
Country	2017	2019	2017	2019	2017	2019	Home market shipments	Exports to non-U.S. markets	No. of firms reporting "yes"
United States	***	***	***	***	***	***	***	***	0 of 2
France	***	***	***	***	***	***	***	***	0 of 1
Japan	***	***	***	***	***	***	***	***	0 of 1
Spain	***	***	***	***	***	***	***	***	0 of 1

Note: Responding U.S. producers accounted for all of U.S. production of methionine in 2019. Responding foreign producers accounted for all of U.S. imports and production of methionine from France, Japan, and Spain during 2019. 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."

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

Domestic production

Based on available information, U.S. producers of methionine have the ability to respond to changes in demand with moderate changes in the quantity of shipments of U.S.-produced methionine to the U.S. market. The main contributing factors to this degree of responsiveness of supply are the ability to shift shipments from alternate markets, the availability of some unused capacity, and some inventories. A factor mitigating responsiveness of supply is the inability to shift production to or from alternate products.

Capacity utilization increased *** between 2017 and 2019; capacity did not change and production increased ***. U.S. producers' principal export markets were Canada, Mexico, ***. No other products can be produced on the same equipment as methionine and no capacity constraints were reported. Exports maintained a relatively large share of total shipments despite decreasing from *** percent of total shipments in 2017 to *** percent in 2019. In the first quarter of 2020, however, exports were higher than in the first quarter of 2019 (*** percent compared with *** percent) and ***.

Subject imports from France

Based on available information, producers of methionine from France have the ability to respond to changes in demand with moderate-to-large changes in the quantity of shipments of methionine to the U.S. market. The main contributing factors to this degree of responsiveness of supply are the ability to shift shipments from alternate markets and the availability of some unused capacity. Factors mitigating responsiveness of supply include the limited availability inventories and the inability to shift production to or from alternate products.

French capacity ***. French capacity increased between 2017 and 2019 while production declined, reducing capacity utilization. Adisseo only produces dry DLM in its French methionine production plant.[11] On December 20, 2019, Adisseo declared a force majeure in France due to the national rail strikes reducing its ability to source raw materials and ship its product. The force majeure was lifted in February 2020.[12] Major export markets include ***. Adisseo France reported it cannot produce other products on the same equipment as methionine.[13] Production constraints included ***.

Subject imports from Japan

Based on available information, producers of methionine from Japan have the ability to respond to changes in demand with moderate changes in the quantity of shipments of methionine to the U.S. market. The main contributing factors to this degree of responsiveness of supply are the ability to shift production to or from alternate markets, the availability of some inventories, and some limited availability of unused capacity. One factor mitigating responsiveness of supply is the inability to shift production to or from alternate products.

[11] Conference transcript, p. 123 (Harari).

[12] "Adisseo Declares Force Majeure for Some Methionine Products in France," December 20, 2019, https://marketing.feedinfo.com/adisseo-declares-force-majeure-for-some-methionine-products-in-france/, retrieved August 27, 2020 and "Adisseo Lifts Force Majeure for Some Methionine Products in France, " February 20, 2020, https://marketing.feedinfo.com/adisseo-lifts-force-majeure-for-some-methionine-products-in-france/, retrieved August 27, 2020.

[13] ***.

Japanese capacity utilization decreased as production increased less than capacity increased. Due to the capacity expansion, unused capacity increased between 2017 and 2019 from ***. Sumitomo produces both MHA and DLM in Japan. Major export markets include ***. Sumitomo reported that there was a Chinese antidumping investigation covering only dry DLM. This product accounted for approximately *** of Sumitomo's sales of methionine in the United States during the period of investigation. Sumitomo cannot produce other products on the same equipment as methionine.

Subject imports from Spain

Based on available information, producers of methionine from Spain have the ability to respond to changes in demand with moderate to large changes in the quantity of shipments of methionine to the U.S. market. The main contributing factors to this degree of responsiveness of supply are the availability of some unused capacity, increased inventories since 2017, and the ability to shift shipments from alternate markets. A factor mitigating responsiveness of supply is the inability to shift production to or from alternate products.

Spanish capacity increased by *** percent between 2017 and 2019, but capacity utilization decreased as production increased by a lesser amount. Adisseo Spain only produces the MHA product, but sells both the liquid 88-percent activity level product and the dry 84-percent activity level product.[14] Major export markets include ***. Adisseo Spain reported it cannot produce other products on the same equipment as methionine.[15] Production constraints included ***.

[14] A representative for Adisseo stated that it only produces the liquid product at its facility in Spain. Conference transcript, p. 123 (Harari). U.S. producer Novus similarly only makes the liquid MHA at its Chocolate Bayou, Texas plant and ships some to its Little Rock, Arkansas plant to make the calcium salt of the hydroxy analog. Conference transcript, p. 42 (Klopfenstein).

[15] ***.

Imports from nonsubject sources

Nonsubject imports accounted for a decreasing share of imports of methionine since 2017, declining from 51.4 percent of imports to 15.5 percent in 2019, according to official import statistics. They were also lower in the first quarter of 2020 than in the first quarter of 2019 (7.4 percent compared with 26.6 percent). The largest source of any imports of methionine in 2017 and 2018 was China, which accounted for approximately 40 percent of total imports of methionine in those years. In September 2018, 10-percent Section 301 duties were place on imports of methionine from China. In May 2019, Section 301 duties on methionine from China were increased to 25 percent. As a share of total methionine imports, methionine imported from China decreased to 5.6 percent in 2019; for the first quarter of 2020, it was less than 1 percent.

Adisseo opened related production facilities to manufacture liquid MHA in 2013 in Nanjing, China. After the imposition of Section 301 duties, shipping from China reportedly became prohibitive.[16] Adisseo has been the only supplier of liquid MHA from China since 2017,[17] which accounted for *** percent of imports of methionine from China in 2017 and *** percent in 2018. The remainder of supply from China is dry methionine.

In 2019, the largest source of nonsubject imports was Malaysia, which accounted for 7.3 percent of total U.S. imports of methionine. The producer in Malaysia reportedly manufactures feed grade L-methionine, which, as noted earlier, is not produced in the United States.[18] New capacity has also started up in Singapore, and expansions in Singapore, Malaysia, and China have been announced.[19] Adisseo estimates that "global capacity" has increased by *** from 2017 to 2020, and will increase by another *** from 2020 to 2022.[20]

[16] "{A}ll the contracts that were being supplied with Chinese material we started to supply with our material coming from Spain, and those products are identical, and we kept all our customers happy. We just shifted from China to Spain." Conference transcript, pp. 137-138 (Harari).

[17] Conference transcript, p. 171 (Harari).

[18] Conference transcript, p. 60 (Klopfenstein) and p. 179 (Barnes).

[19] Conference transcript, p. 107 (Ishige) and p. 131 (Harari).

[20] Respondent Adisseo's postconference brief, p. 5.

Supply constraints

Neither of the U.S. producers and only one of the seven responding importers reported any supply constraints. ***.

U.S. demand

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

End uses and cost share

U.S. demand for methionine depends on the demand for U.S.-produced downstream products. Reported end uses include animal feed (poultry, swine, and ruminants).[21] Methionine reportedly accounts for a small share of animal feed costs (1 to 3 percent). *** reported that it uses it to produce downstream intermediate animal feed products ***. Up to 90 percent of methionine is used for poultry feed, mainly for broilers, which represent the largest proportion of the market, or for other end users.[22]

[21] Methionine used in feed for ruminants must be formulated somewhat differently due to the biological effects of having four stomachs. Conference transcript, pp 160-161 (Barnes).

[22] Conference transcript, pp. 161 and 201 (Harari) and p. 162 (Barnes).

Business cycles

Most firms reported that the market for methionine was not subject to business cycles of specific conditions of competition. However, one of two U.S. producers and one of seven importers indicated that it was subject to these cycles or conditions. Specifically, they indicated that demand is driven by production of animal protein, feed costs, and nutritional strategies. Further, the long-term trend for meat and poultry consumption is positive, and although meat consumption reached a peak a few years ago, it is growing again.

One U.S. producer and one importer reported changes in the market since 2017. The U.S. producer reported that production capacity outside the United States had increased. Importer *** agreed that capacity had increased, reporting that from 2000 to 2015 no new plants were built, but several have opened since 2015 and were reaching full capacity in 2017 in response to increasing global demand.

Demand trends

Most firms reported an increase in U.S. demand for methionine since January 1, 2017 (table II-4). Demand in the United States has been increasing in the range of 3 to 4 percent while worldwide growth of methionine reportedly has been approximately 6 percent.[23] Increased growth of the methionine market is being driven by various factors including the increased use of methionine in aquaculture, the increased incidence of animal disease such as Asian Swine Flu leading to increased production of chicken worldwide and exports of domestic chicken and swine, increased consumption of meat, eggs, and other protein in diets, and removal of antibiotics and/or animal byproducts in animal feed.[24]

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[23] Conference transcript, p. 13 (Hux), p. 24 (Galo), p. 172 (Harari). One representative of respondent Sumitomo reported higher U.S. methionine consumption growth based on faster growth in certain market segments. Ibid., p. 171 (Barnes). "Methionine Market - Growth, Trends, and Forecast (2020 - 2025)," https://www.mordorintelligence.com/industry-reports/methionine-market, retrieved August 27, 2020 and ***.

[24] ***, and conference transcript, p. 28 (Khalaf), p. 65 (Hux), p. 107 (Ishige), and pp. 173, 181, and 183 (Barnes).

Table II-4
Methionine: Firms' responses regarding U.S. demand and demand outside the United States

Item	Increase	No change	Decrease	Fluctuate
Demand in the United States				
U.S. producers	***	***	***	***
Importers	3	2	---	1
Demand outside the United States				
U.S. producers	***	***	***	***
Importers	3	1	---	---

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

Substitute products

Most U.S. producers and importers reported that there were no substitutes for methionine. However, one U.S. producer and two importers listed substitutes: MHA and L-methionine.[25] The firms reported that these are alternative sources of methionine for use in animal feed.

Substitutability issues

The degree of substitution between domestic and imported methionine depends upon such factors as relative prices, quality (e.g., grade standards, defect rates, etc.), and conditions of sale (e.g., price discounts/rebates, lead times between order and delivery dates, reliability of supply, product services, etc.). Based on available data, staff believes that there is a high degree of substitutability between domestically produced methionine and methionine imported from subject sources. This is reduced somewhat by the differing availability of methionine in dry and liquid forms from different sources, and some end users' preference for dry or liquid methionine.

Lead times

Methionine is sold from inventory. U.S. producers reported that 100 percent of their commercial shipments came from inventories, with lead times averaging *** days. U.S. importers reported that *** percent of their commercial shipments were from U.S. inventories, with lead times averaging *** days and the remaining *** percent of commercial shipments were from overseas inventories with lead times of *** days.

[25] MHA is specifically included in the scope of the investigations, whereas L-methionine is not. L-methionine is not produced in the United States or any subject country. Petition, p. I-8.

Factors affecting purchasing decisions

Purchasers responding to lost sales/lost revenue allegations[26] were asked to identify the main purchasing factors their firm considered in their purchasing decisions for methionine. The major purchasing factors identified most frequently by firms were price, quality, and reliability/availability of supply. Other factors reported by one purchaser each included: incentives, methionine in liquid or solid form as needed, risk management portfolio of supply, source, and technical support.

Comparison of U.S.-produced and imported methionine

In order to determine whether U.S.-produced methionine can generally be used in the same applications as imports from France, Japan, and Spain, U.S. producers and importers were asked whether the products can always, frequently, sometimes, or never be used interchangeably. As shown in table II-5, U.S. producers ***. Most responding importers (two of three) reported that product from all but one country pairs was sometimes interchangeable.[27] Most responding importers reported that imports from Spain and France were sometimes or never interchangeable. One importer reported product from Spain and France were never interchangeable because product from France is dry while product from Spain is liquid and some customers such as premixers, pet food producers, and poultry integrators cannot switch between dry and liquid.[28] Novus, however, noted that purchasers can switch, and estimated that "For a typical customer signing a 2-3 year contract worth between $2 and $3 million, the cost of providing {equipment to use Novus's product} to Novus would be between $70 and $80 thousand."[29]

[26] This information is compiled from responses by purchasers identified by Petitioners to the lost sales lost revenue allegations. See Part V for additional information.

[27] ***.

[28] This importer (***) reported that Spain produces liquid MHA at an 88 percent activity level and dry MHA at 84 percent which is only for dairy use. ***) added that U.S. producer Novus produced liquid and Evonik produced dry, while Sumitomo Japan produced both dry and liquid.

[29] Petitioner's postconference brief, Answers to staff questions, p. 15.

Table II-5
Methionine: Interchangeability between methionine produced in the United States and in other countries, by country pair

Country pair	Number of U.S. producers reporting				Number of U.S. importers reporting			
	A	F	S	N	A	F	S	N
U.S. vs. subject countries:								
U.S. vs. France	***	***	***	***	1	---	2	---
U.S. vs. Japan	***	***	***	***	1	---	2	---
U.S. vs. Spain	***	***	***	***	1	---	2	---
Subject countries comparisons:								
France vs. Japan	***	***	***	***	1	---	2	---
France vs Spain	***	***	***	***	1	---	1	1
Japan vs Spain	***	***	***	***	1	---	2	---
Nonsubject countries comparisons:								
U.S. vs. nonsubject	***	***	***	***	1	---	2	---
France vs. nonsubject	***	***	***	***	1	---	2	---
Japan vs. nonsubject	***	***	***	***	1	---	2	---
Spain vs. nonsubject	***	***	***	***	1	---	2	---

Note: A=Always, F=Frequently, S=Sometimes, N=Never.

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

In addition, U.S. producers and importers were asked about the significance differences other than price in sales of methionine across different sources. As seen in table II-6, *** differences other than price between U.S. and France, U.S. and Spain, France and Spain and Japan and nonsubject countries. For all other country pairs, *** reported that there were *** differences other than price and *** reported that there were *** differences other than price.

Table II-6
Methionine: Significance of differences other than price between methionine produced in the United States and in other countries, by country pair

Country pair	Number of U.S. producers reporting				Number of U.S. importers reporting			
	A	F	S	N	A	F	S	N
U.S. vs. subject countries:								
U.S. vs. France	***	***	***	***	---	1	1	1
U.S. vs. Japan	***	***	***	***	---	2	1	---
U.S. vs. Spain	***	***	***	***	---	1	1	1
Subject countries comparisons:								
France vs. Japan	***	***	***	***	---	2	1	---
France vs Spain	***	***	***	***	1	---	1	1
Japan vs Spain	***	***	***	***	---	2	1	---
Nonsubject countries comparisons:								
U.S. vs. nonsubject	***	***	***	***	---	2	1	---
France vs. nonsubject	***	***	***	***	---	2	1	---
Japan vs. nonsubject	***	***	***	***	---	1	1	1
Spain vs. nonsubject	***	***	***	***	1	1	1	---

Note: A = Always, F = Frequently, S = Sometimes, N = Never.

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

Importer responses were more mixed but most responding importers reported there were frequently or sometimes differences other than price for all country pairs. The "never" responses were provided by *** which focused on technical service differences: France and Spain offered technical services that were comparable to those provided by U.S. producers, while Japan and China did not. Other differences other than price included:[30] some suppliers provide and pay for equipment for storage including installation with multiyear contracts;[31] liquid methionine transportation costs are higher because transportation requires specialized equipment that cannot be used for other products on the return trip, thus increasing transportation costs; and more concentrated methionine is more cost effective to transport.[32]

[30] One importer (***) reported that Malaysia was the only nonsubject source it used as a reference point to nonsubject countries to because 25 percent Section 301 duties make imports from China prohibitively expensive. It stated that it replied *** when comparing Malaysia to Spain because Malaysia only produces dry L-methionine and liquid methionine from Spain is ***. It also noted that there are *** differences between France and Spain for a similar reason: liquid methionine (MHA) from Spain is ***.

[31] Sumitomo reported that it did not provide these technical services since it is such a small supplier. Conference transcript, p. 175 (Barnes). Adisseo and Novus may provide assistance with converting purchasers from dry to liquid or vice versa. The assistance and/or equipment they set up would be included in the cost of the contract with that purchaser. Conference transcript, pp. 55-58 (Galo) and p. 175 (Harari). *** also noted that some suppliers provided various technical services: wet chemistry feed analysis; NRI systems; feed analytics; and mixer profiles.

[32] For example, Evonik's marketing materials note that two truckloads "two truckloads of DLM are equivalent to three truckloads of MHA-FA." Evonik, "MetAMINO: Best Handling," included as Exhibit 3 of respondent Sumitomo's postconference brief, p. 4.

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

The Commission analyzes a number of factors in making injury determinations (see 19 U.S.C. §§ 1677(7)(B) and 1677(7)(C)). Information on the dumping margins was presented in *Part I* of this report and information on the volume and pricing of imports of the subject merchandise is presented in *Part IV* and *Part V*. Information on the other factors specified is presented in this section and/or *Part VI* and (except as noted) is based on the questionnaire responses of two firms that accounted for *** of U.S. production of methionine during 2019.

U.S. producers

The Commission issued a U.S. producers' questionnaire to two firms, Evonik and Novus, based on information contained in the petitions. Both firms provided usable data on their operations. Staff believes that these responses represent *** U.S. production of methionine. Table III-1 lists U.S. producers of methionine, their production locations, positions on the petitions, and shares of total production.

Table III-1
Methionine: U.S. producers of methionine, their positions on the petitions, production locations, and shares of reported production, 2019

Firm	Position on petitions	Production location(s)	Share of production (percent)
Evonik	***	Theodore, Alabama	***
Novus	Petitioner	Alvin, Texas Little Rock, Arkansas	***
Total			***

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

Table III-2 presents information on U.S. producers' ownership, related and/or affiliated firms. No responding U.S. producer is related to a producer/exporter of methionine in France, Japan, or Spain. Novus is related to Mitsui & Co. Ltd and Nippon Soda Co., Ltd., conglomerates in Japan that have chemical product businesses.[1] Mitsui and Nippon Soda acquired a controlling interest in Novus in 1991.[2] Evonik Corporation is subsidiary of Evonik AG, which is based in Germany.[3] ***. ***.

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

Item / Firm	Firm Name	Affiliated/Ownership
Ownership:		
***	***	***
***	***	***
***	***	***
***	***	***
Related producers:		
***	***	***
***	***	***
***	***	***

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

Table III-3 presents U.S. producers' reported changes in operations since January 1, 2017. In November 2017, Novus announced that it would invest $360 million and employ 600 people to build a plant on the Ineos Nitriles property south of Bloomington, Texas.[4] However, Novus cancelled the project in April 2019. Scott Hines, Novus's Vice President of Products and Solutions, stated that an unprecedented level of facilities being constructed in the natural gas and petrochemical plastic industries was partly responsible for the project's cancellation.[5] He

[1] *Novus History*, https://www.novusint.com/en-us/About/History, retrieved August 18, 2020.
[2] Ibid.
[3] *Evonik*, https://corporate.evonik.com/en/company/locations/north-america, retrieved August 20, 2020
[4] *Novus Cancels Plans to Build Multimillion-Dollar Plant in Calhoun County* https://www.victoriaadvocate.com/counties/calhoun/novus-cancels-plans-to-build-multimillion-dollar-plant-in-calhoun-county/article_2320323a-683e-11e9-9323-e3bd92c57551.html, retrieved August 13, 2020.
[5] Ibid.

also stated that a spike in engineering, procurement, and construction costs in the Gulf Coast region increased to a level that affected the project's cost estimate, which made it uneconomical to proceed as planned.[6] ***.[7]

Table III-3
Methionine: U.S. producers' reported changes in operations, since January 1, 2017

Item / Firm	Reported changed in operations
Expansions:	
***	***.
Other:	
***	***.

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

U.S. production, capacity, and capacity utilization

Table III-4 and figure III-1 present U.S. producers' production, capacity, and capacity utilization. Novus and Evonik *** in their production capacities from 2017 to 2019, *** short tons, respectively. Their production capacities in interim 2019 and interim 2020 *** short tons, respectively. Novus's and Evonik's aggregate production increased irregularly by *** percent during 2017-19 and was *** percent higher in interim 2020 than in interim 2019. Novus's production *** by *** percent from 2017 to 2019 *** Evonik's production *** in each year, ending *** percent higher in 2019 than in 2017. *** production were *** percent and *** percent ***, respectively, in interim 2020 than in interim 2019. Novus reported an *** in capacity utilization during 2017-19 (*** percent to *** percent) while Evonik reported an *** in capacity utilization

[6] *Novus Cancels Plans to Build Multimillion-Dollar Plant in Calhoun County*, https://www.victoriaadvocate.com/counties/calhoun/novus-cancels-plans-to-build-multimillion-dollar-plant-in-calhoun-county/article_2320323a-683e-11e9-9323-e3bd92c57551.html, retrieved August 13, 2020.

[7] Methionine from France, Japan and Spain; Evonik's Answers to Follow-Up Questions, August 18, 2020, p. 1.

(*** percent to *** percent). Novus's capacity utilization was *** percent in interim 2020, compared with *** percent in interim 2019 while Evonik's was *** percent in interim 2020, compared with *** percent in interim 2019.[8]

Table III-4
Methionine: U.S. producers' production, capacity, and capacity utilization, 2017-19, January to March 2019, and January to March 2020

Item	Calendar year			January to March	
	2017	2018	2019	2019	2020
	Capacity (short tons)				
Evonik	***	***	***	***	***
Novus	***	***	***	***	***
All firms	***	***	***	***	***
	Production (short tons)				
Evonik	***	***	***	***	***
Novus	***	***	***	***	***
All firms	***	***	***	***	***
	Capacity utilization (percent)				
Evonik	***	***	***	***	***
Novus	***	***	***	***	***
All firms	***	***	***	***	***
	Share of production (percent)				
Evonik	***	***	***	***	***
Novus	***	***	***	***	***
All firms	***	***	***	***	***

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

[8] ***. Email message from ***, August 18. 2020.

Figure III-1
Methionine: U.S. producers' production, capacity, and capacity utilization, 2017-19, January to March 2019 and January to March 2020

* * * * * * *

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

Alternative products

***.

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

Table III-5 presents U.S. producers' U.S. shipments, export shipments, and total shipments.

Table III-5
Methionine: U.S. producers' U.S. shipments, exports shipments, and total shipments, 2017-19, January to March 2019, and January to March 2020

Item	Calendar year			January to March	
	2017	2018	2019	2019	2020
	Quantity (short tons)				
U.S. shipments: Evonik	***	***	***	***	***
U.S. shipments: Novus	***	***	***	***	***
U.S. shipments: All producers	***	***	***	***	***
Export shipments	***	***	***	***	***
Total shipments	***	***	***	***	***
	Value (1,000 dollars)				
U.S. shipments: Evonik	***	***	***	***	***
U.S. shipments: Novus	***	***	***	***	***
U.S. shipments: All producers	***	***	***	***	***
Export shipments	***	***	***	***	***
Total shipments	***	***	***	***	***
	Unit value (dollars per short ton)				
U.S. shipments: Evonik	***	***	***	***	***
U.S. shipments: Novus	***	***	***	***	***
U.S. shipments: All producers	***	***	***	***	***
Export shipments	***	***	***	***	***
Total shipments	***	***	***	***	***
	Share of quantity (percent)				
U.S. shipments: Evonik	***	***	***	***	***
U.S. shipments: Novus	***	***	***	***	***
U.S. shipments: All producers	***	***	***	***	***
Export shipments	***	***	***	***	***
Total shipments	***	***	***	***	***
	Share of value (percent)				
U.S. shipments: Evonik	***	***	***	***	***
U.S. shipments: Novus	***	***	***	***	***
U.S. shipments: All producers	***	***	***	***	***
Export shipments	***	***	***	***	***
Total shipments	***	***	***	***	***

Note: Due to rounding, percentages may not add up to 100 percent.

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

U.S. shipments accounted for a slight majority of total shipments in each year during 2017-19, but exports accounted for a slight majority of total shipments in interim 2020.[9] Collectively, responding U.S. producers' U.S. shipments increased by *** percent during 2017-19 and was *** percent higher in interim 2020 than in interim 2019. Novus's U.S. shipments *** by *** percent from 2017 to 2019 while Evonik's U.S. shipments *** by *** percent.[10] Novus's and Evonik's U.S. shipments were *** percent and *** percent ***, respectively, in interim 2020 than in interim 2019. Conversely, the collective value of responding U.S. producers' U.S. shipments decreased by *** percent during 2017-19 and was *** percent lower in interim 2020 than in interim 2019.

The average unit value of responding U.S. producers' U.S. shipments decreased from $*** per short ton in 2017 to $*** per short ton in 2019. The unit value of Novus's U.S. shipments *** from $*** per short ton in 2017 to $*** per short ton in 2019 while the unit value of Evonik's U.S. shipments *** from $*** per short ton in 2017 to $*** per short ton in 2019. The unit value of Novus's U.S. shipments was $*** per short ton in interim 2020, compared with $*** per short ton in interim 2019 while the unit value of Evonik's U.S. shipments was $*** per short ton in interim 2020, compared with $*** per short ton in interim 2019.

By quantity, export shipments accounted for at least *** percent of responding U.S. producers' total shipments during 2017-19 and *** percent of their total shipments in interim 2020.[11] Responding U.S. producers' collective export shipments, by quantity, fluctuated year to year, decreasing by *** percent from 2017 to 2018, but then increasing by *** percent from 2018 to 2019, ending *** percent lower in 2019 than in 2017. The quantity of Novus's export shipments *** by *** percent during 2017-19, while the quantity of Evonik's export shipments *** by *** percent, with the majority of the *** occurring from 2017 to 2018. The quantity of Novus's and Evonik's export shipments were *** percent and *** percent ***, respectively, in interim 2020 than in interim

[9] ***.

[10] ***. See Part IV for additional information on U.S. producers' U.S. shipments of methionine by product type.

[11] According to Evonik's counsel, ***. Email from ***, August 19, 2020.

2019. The collective value of responding U.S. producers' export shipments decreased irregularly by *** percent during 2017-19 and was *** percent higher in interim 2020 than in interim 2019. The average unit value of responding U.S. producers' export shipments was lower than the average unit value of U.S. shipments in 2017 and interim 2020, but higher in 2018 and 2019.

U.S. producers' inventories

Table III-6 presents U.S. producers' end-of-period inventories and the ratio of these inventories to U.S. producers' production, U.S. shipments, and total shipments**.** Responding U.S. producers' end-of-period inventories fluctuated year to year, increasing by *** percent from 2017 to 2018, but then decreasing by *** percent from 2018 to 2019, ending *** percent higher in 2019 than in 2017. It was *** percent lower in interim 2020 than in interim 2019. The ratio of the responding U.S. producers' end-of-period inventories to their production ranged from *** percent to *** percent during 2017-19 and was *** percent in interim 2020, compared with *** percent in interim 2019. The ratio of the responding U.S. producers end-of-period inventories to their U.S. shipments ranged from *** percent to *** percent during 2017-19 and was *** percent in interim 2020, compared with *** percent in interim 2019.

Table III-6
Methionine: U.S. producers' end-of-period inventories, 2017-19, January to March 2019, and January to March 2020

Item	Calendar year			January to March	
	2017	2018	2019	2019	2020
	Quantity (short tons)				
U.S. producers' end-of-period inventories	***	***	***	***	***
	Ratio (percent)				
Ratio of inventories to.-- U.S. production	***	***	***	***	***
U.S. shipments	***	***	***	***	***
Total shipments	***	***	***	***	***

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

U.S. producers' imports and purchases

No responding U.S. producer imported methionine from subject sources since 2017 nor did they purchase any methionine from U.S. importers. However, ***. U.S. producers' imports of methionine are presented in table III-7.

Table III-7
Methionine: U.S. producers' U.S. production and imports, 2017-19, January to March 2019, and January to March 2020

Item	Calendar year			January to March	
	2017	2018	2019	2019	2020
	Quantity (short tons)				
Evonik's U.S. production	***	***	***	***	***
Evonik's U.S. imports from nonsubject sources (Netherlands)	***	***	***	***	***
	Ratio (percent)				
Evonik's ratio to U.S. production of imports from nonsubject sources (Netherlands)	***	***	***	***	***
	Narrative				
Evonik's reason for importing	***				

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

U.S. employment, wages, and productivity

Table III-8 presents U.S. producers' employment-related data. The number of production related workers ("PRWs") decreased irregularly by *** percent during 2017-19 and was *** percent lower in interim 2020 than in interim 2020. ***. Responding U.S. producers' productivity increased by *** percent during 2017-19 and was *** percent higher in interim 2020 than in 2019. Unit labor costs decreased irregularly by *** percent and was *** percent lower in interim 2020 than in interim 2019.

Table III-8
Methionine: U.S. producers' employment-related data, 2017-19, January to March 2019, and January to March 2020

Item	Calendar year			January to March	
	2017	2018	2019	2019	2020
Production and related workers (PRWs) (number)	***	***	***	***	***
Total hours worked (1,000 hours)	***	***	***	***	***
Hours worked per PRW (hours)	***	***	***	***	***
Wages paid ($1,000)	***	***	***	***	***
Hourly wages (dollars per hour)	***	***	***	***	***
Productivity (short tons per 1,000 hours)	***	***	***	***	***
Unit labor costs (dollars per short ton)	***	***	***	***	***

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

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

U.S. importers

The Commission issued U.S. importers' questionnaires to 83 firms believed to be importers of methionine, as well as to all U.S. producers of methionine.[1] Usable questionnaire responses were received from eight companies, representing *** U.S. imports from France, *** U.S. imports from Japan, and *** U.S. imports from Spain in 2019 under HTS statistical reporting numbers 2930.40.0000 and 2930.90.4600. Table IV-1 lists all responding U.S. importers of methionine from France, Japan, Spain, and other sources, their locations, and their shares of U.S. imports, in 2019.

Table IV-1
Methionine: U.S. importers by source, 2019

Firm	Headquarters	Share of imports by source (percent)					
		France	Japan	Spain	Subject sources	Nonsubject sources	All import sources
Adisseo USA	Alpharetta, GA	***	***	***	***	***	***
AIDP	City Of Industry, CA	***	***	***	***	***	***
Chem-Implex	Wood Dale, IL	***	***	***	***	***	***
Evonik	Parsippany, NJ	***	***	***	***	***	***
Origination	Maplewood, MN	***	***	***	***	***	***
Sumitomo America	New York, NY	***	***	***	***	***	***
Sunrise	Chino, CA	***	***	***	***	***	***
Unichem	Ontario, CA	***	***	***	***	***	***
Total		***	***	***	***	***	***

Note: ***.

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

[1] The Commission issued questionnaires to those firms identified in the petitions, along with firms that based on a review of data provided by U.S. Customs and Border Protection ("Customs"), may have accounted for more than one percent of total imports under HTS subheadings 2930.40.00 and 2930.90.46 in 2019.

U.S. imports

Table IV-2 presents data for U.S. imports of methionine from France, Japan, Spain, and all other sources.

Table IV-2
Methionine: U.S. imports by source, 2017-19, January to March 2019, and January to March 2020

Item	Calendar year			January to March	
	2017	2018	2019	2019	2020
	Quantity (short tons)				
U.S. imports from.--					
France	6,285	7,298	5,557	1,396	700
Japan	9,262	12,225	17,861	4,235	6,587
Spain	13,610	14,198	37,860	9,286	11,966
Subject sources	29,157	33,722	61,278	14,916	19,252
China	24,012	25,280	3,936	1,868	63
All other sources	6,904	3,593	5,118	4,008	222
Nonsubject sources	30,916	28,873	9,054	5,875	285
All import sources	60,073	62,594	70,332	20,791	19,537
	Value (1,000 dollars)				
U.S. imports from.--					
France	14,180	17,102	11,553	3,170	1,570
Japan	22,314	26,680	31,962	8,272	9,819
Spain	24,657	27,540	62,666	17,661	16,295
Subject sources	61,151	71,322	106,181	29,104	27,684
China	50,522	54,128	10,183	4,036	1,319
All other sources	14,167	7,121	9,249	6,872	355
Nonsubject sources	64,689	61,249	19,432	10,908	1,674
All import sources	125,841	132,571	125,613	40,012	29,357
	Unit value (dollars per short ton)				
U.S. imports from.--					
France	2,256	2,343	2,079	2,271	2,245
Japan	2,409	2,182	1,789	1,954	1,491
Spain	1,812	1,940	1,655	1,902	1,362
Subject sources	2,097	2,115	1,733	1,951	1,438
China	2,104	2,141	2,587	2,161	20,923
All other sources	2,052	1,982	1,807	1,715	1,598
Nonsubject sources	2,092	2,121	2,146	1,857	5,873
All import sources	2,095	2,118	1,786	1,924	1,503

Table continued on next page.

Table IV-2—Continued
Methionine: U.S. imports by source, 2017-19, January to March 2019, and January to March 2020

Item	Calendar year			January to March	
	2017	2018	2019	2019	2020
	Share of quantity (percent)				
U.S. imports from.--					
France	10.5	11.7	7.9	6.7	3.6
Japan	15.4	19.5	25.4	20.4	33.7
Spain	22.7	22.7	53.8	44.7	61.2
Subject sources	48.5	53.9	87.1	71.7	98.5
China	40.0	40.4	5.6	9.0	0.3
All other sources	11.5	5.7	7.3	19.3	1.1
Nonsubject sources	51.5	46.1	12.9	28.3	1.5
All import sources	100.0	100.0	100.0	100.0	100.0
	Share of value (percent)				
U.S. imports from.--					
France	11.3	12.9	9.2	7.9	5.3
Japan	17.7	20.1	25.4	20.7	33.4
Spain	19.6	20.8	49.9	44.1	55.5
Subject sources	48.6	53.8	84.5	72.7	94.3
China	40.1	40.8	8.1	10.1	4.5
All other sources	11.3	5.4	7.4	17.2	1.2
Nonsubject sources	51.4	46.2	15.5	27.3	5.7
All import sources	100.0	100.0	100.0	100.0	100.0
	Ratio to U.S. production				
U.S. imports from.--					
France	***	***	***	***	***
Japan	***	***	***	***	***
Spain	***	***	***	***	***
Subject sources	***	***	***	***	***
China	***	***	***	***	***
All other sources	***	***	***	***	***
Nonsubject sources	***	***	***	***	***
All import sources	***	***	***	***	***

Source: Official U.S. import statistics for HTS statistical reporting numbers 2930.40.0000 and 2930.90.4600, accessed August 11, 2020.

Overall, U.S. imports of methionine from subject sources accounted for a slight minority of total U.S. imports of methionine in 2017, but a majority in 2018 and the vast majority in 2019 and interim 2020. Subject import's share of total U.S. imports increased during 2017-19 as the share of U.S. imports of methionine from China decreased. By quantity, U.S. imports of methionine from France accounted for between 7.9 percent and 11.7 percent of all imports during 2017-19. It accounted for 3.6 percent of imports in interim 2020, compared with 6.7 percent in interim 2019. U.S. imports of methionine from Japan, by quantity, accounted for an increasingly larger share of total U.S. imports of methionine during 2017-19 (15.4 percent in 2017, 19.5 percent in 2018, and 25.4 percent in 2019). It accounted for 33.7 percent of total imports in interim 2020, compared with 20.4 percent in interim 2019. By quantity, U.S. imports of methionine from Spain accounted for the largest share of U.S. imports of methionine from subject sources in 2017 and 2018 and the largest among all sources in 2019 (22.7 percent in 2017 and 2018, and 53.8 percent in 2019). It accounted for 61.2 percent of total U.S. imports of methionine in interim 2020, compared with 44.7 percent in interim 2019.

During 2017-19, the quantity of U.S. imports of methionine from France fluctuated year to year, increasing by 16.1 percent from 2017 to 2018, but then decreasing by 23.9 percent from 2018 to 2019, ending 11.6 percent lower in 2019 than in 2017. It was 49.9 percent lower in interim 2020 than in interim 2019. Conversely, U.S. imports of methionine from Japan, by quantity, increased by 92.9 percent during 2017-19 and was 55.6 percent higher in interim 2020 than in interim 2019. The quantity of U.S. imports of methionine from Spain increased by an even greater percentage during 2017-19 (178.2 percent), with the majority of the increase occurring from 2018 to 2019 (166.7 percent). It was 28.9 percent higher in interim 2020 than in interim 2019. Overall, the quantity of subject imports increased by 110.2 percent from 2017 to 2019, with the change driven largely by the increase in U.S. imports of methionine from Spain between 2018 and 2019. Subject imports, by quantity, was 29.1 percent higher in interim 2020 than in interim 2019.

By value, U.S. imports of methionine from France decreased irregularly by 18.5 percent from 2017 to 2019 and was 50.5 percent lower in interim 2020 than in interim 2019. The value of U.S. imports of methionine from Japan increased by 43.2 percent from 2017 to 2019 and was 18.7 percent higher in interim 2020 than in interim 2019. By value, U.S. imports of methionine from Spain increased by 154.1 percent from 2017 to 2019 and was 7.7 percent lower in interim 2020 than in interim 2019. Overall, the value of U.S. imports of methionine from subject sources increased by 73.6 percent from 2017 to 2019 and was 4.9 percent lower in interim 2020 than in interim 2019.

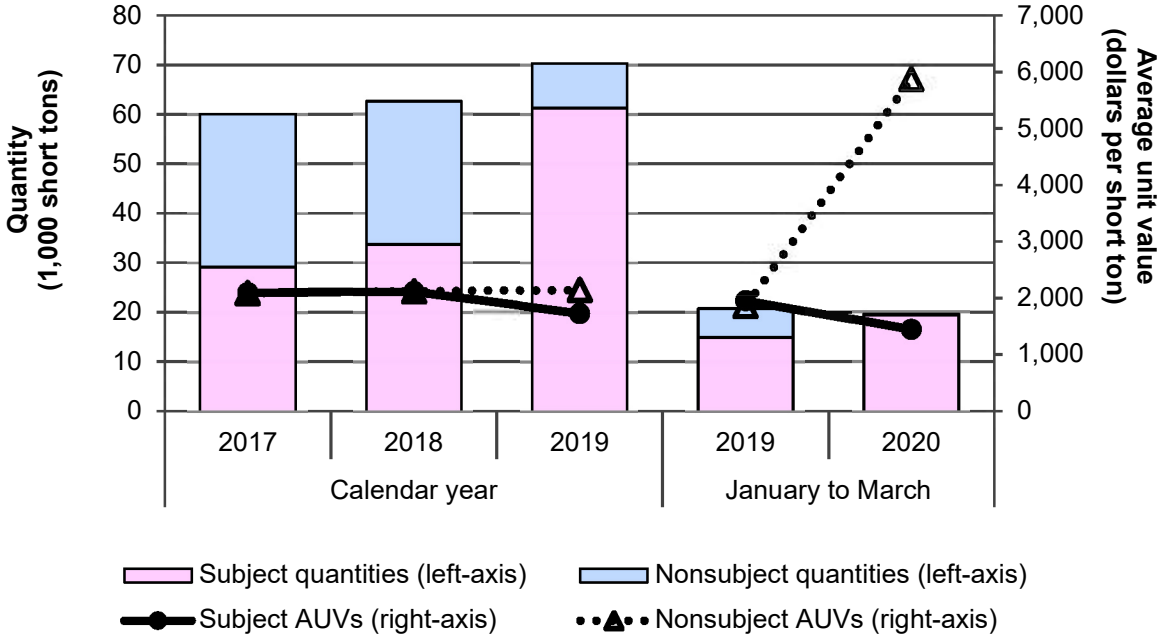
The unit value of U.S. imports from France decreased irregularly from $2,256 per short ton in 2017 to $2,079 per short ton in 2019. It was $2,245 per short ton in interim 2020, compared with $2,271 per short ton in interim 2019. The unit value of U.S. imports from Japan decreased during 2017-19 from $2,409 per short ton to $1,789 per short ton. It was $1,491 per short ton in interim 2020, compared with $1,954 per short ton in interim 2019. Exhibiting the same trend as U.S. imports from France, the unit value of U.S. imports from Spain decreased irregularly from $1,812 per short ton in 2017 to $1,655 per short ton in 2019. It was $1,362 per short ton in interim 2020, compared with $1,902 per short ton in interim 2019.

Overall, U.S. imports of methionine from nonsubject sources accounted for a majority and near majority of total U.S. imports in 2017 and 2018 (51.5 percent and 46.1 percent, respectively), but accounted for a small minority in 2019 (12.9 percent). It accounted for 1.5 percent of total U.S. imports in interim 2020, compared with 28.3 percent in interim 2019. U.S. imports of methionine from China accounted for the largest share of total U.S. imports of methionine in 2017 and 2018 (40.1 percent and 40.8 percent, respectively), but accounted for a smaller share than U.S. imports of methionine from Japan and U.S. imports of methionine from Spain in 2019 and a negligible share in interim 2020.

U.S. imports of methionine from nonsubject sources, by quantity, decreased by 70.7 percent from 2017 to 2019, with the majority of the decrease occurring from 2018 to 2019. It was 95.1 percent lower in interim 2020 than in interim 2019. The decrease in U.S. imports of methionine from nonsubject sources, particularly from 2018 to 2019, was driven by U.S. imports of methionine from China, which decreased by 84.4 percent from 2018 and 2019. The decrease in U.S. imports of methionine from China during 2018-19 corresponds with the Section 301 duties that were imposed on U.S. imports from China. In September 2018, 10-percent duties were place on U.S. imports of methionine from China as part of Section 301 duties. In May 2019, those duties were increased to 25 percent. The difference in the quantity of U.S. imports of methionine from China between interim 2020 and interim 2019 largely reflects the increase in the Section 301 duties on U.S. imports of methionine from China in 2019.

The unit value of U.S. imports of methionine from nonsubject sources was lower than the unit values of U.S. imports of methionine from France and U.S. imports of methionine from Japan in 2017 and 2018, but was higher in 2019 and in interim 2020. It was higher than in the unit value of U.S. imports of methionine from Spain in each year during 2017-19 and in interim 2020.

Figure IV-1
Methionine: U.S. imports by source, 2017-19, January to March 2019, and January to March 2020



Source: Official U.S. import statistics for HTS statistical reporting numbers 2930.40.0000 and 2930.90.4600, accessed August 11, 2020.

Negligibility

The statute requires that an investigation be terminated without an injury determination if imports of the subject merchandise are found to be negligible.[2] Negligible imports are generally defined in the Act, as amended, as imports from a country of merchandise corresponding to a domestic like product where such imports account for less than 3 percent of the volume of all such merchandise imported into the United States in the most recent 12-month period for which data are available that precedes the filing of the petition or the initiation of the investigation. However, if there are imports of such merchandise from a number of countries subject to investigations initiated on the same day that individually account for less than 3 percent of the total volume of the subject merchandise, and if the imports from those countries collectively account for more than 7 percent of the volume of all such merchandise imported into the United States during the applicable 12-month period, then

[2] 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)).

imports from such countries are deemed not to be negligible.[3] By quantity, imports from France, Japan, and Spain accounted for 7.1 percent, 26.9 percent, and 63.8 percent of total imports of methionine, respectively, during 2019. Table IV-3 presents the shares of total U.S. imports, by quantity, attributable to France, Japan, Spain, and nonsubject sources during the most recent 12-month period.

Table IV-3
Methionine: U.S. imports in the twelve-month period preceding the filing of the petitions, July 2019 through June 2020

Item	July 2019 through June 2020					
	DL methionine (HTS number 2930.04.00 00)	DL-hydroxy analog (HTS number 2930.90.46 00)	All product types (both HTS numbers)	DL methionine (HTS number 2930.04.00 00)	DL-hydroxy analog (HTS number 2930.90.46 00)	All product types (both HTS numbers)
	Quantity (short tons)			Share quantity (percent)		
U.S. imports from.--						
France	5,327	67	5,394	23.3	0.1	7.1
Japan	15,917	4,405	20,322	69.5	8.4	26.9
Spain	---	48,206	48,206	---	91.5	63.8
Subject sources	21,244	52,677	73,921	92.8	100.0	97.8
Nonsubject sources	1,641	16	1,658	7.2	0.0	2.2
All import sources	22,885	52,694	75,579	100.0	100.0	100.0

Source: Official U.S. import statistics for HTS statistical reporting numbers 2930.40.0000 and 2930.90.4600, accessed August 11, 2020.

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.

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

Fungibility

Table IV-4 and figure IV-2 present data on U.S. producers' and U.S. importers' U.S. shipments of methionine by product type.[4]

Table IV-4
Methionine: U.S. producers' and U.S. importers' U.S. shipments by product type, 2019

Item	Product type			
	DL methionine	DL hydroxy analog	Other products	All product types
	Quantity (short tons)			
U.S. producers' U.S. shipments	***	***	***	***
U.S. importers' U.S. shipments.--France	***	***	***	***
Japan	***	***	***	***
Spain	***	***	***	***
Subject sources	***	***	***	***
Nonsubject sources	***	***	***	***
All import sources	***	***	***	***
U.S. producers and U.S. importers combined	***	***	***	***
	Share across (percent)			
U.S. producers' U.S. shipments	***	***	***	***
U.S. importers' U.S. shipments.--France	***	***	***	***
Japan	***	***	***	***
Spain	***	***	***	***
Subject sources	***	***	***	***
Nonsubject sources	***	***	***	***
All import sources	***	***	***	***
U.S. producers and U.S. importers combined	***	***	***	***
	Share down (percent)			
U.S. producers' U.S. shipments	***	***	***	***
U.S. importers' U.S. shipments.--France	***	***	***	***
Japan	***	***	***	***
Spain	***	***	***	***
Subject sources	***	***	***	***
Nonsubject sources	***	***	***	***
All import sources	***	***	***	***
U.S. producers and U.S. importers combined	***	***	***	***

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

[4] See Part I for additional information on the different types of methionine.

Figure IV-2
Methionine: U.S. producers' and U.S. importers' U.S. shipments by product type, 2019

* * * * * * *

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

The majority of U.S. producers' U.S. shipments (*** percent) and *** the U.S. shipments of imports from Spain were the hydroxy analog methionine while *** the U.S. shipments of imports from France and the majority of U.S. shipments of imports from Japan (*** percent) were the DL methionine.

Table IV-5 and figure IV-3 present data on U.S. producers' and U.S. importers' U.S. shipments of methionine by physical form.[5] The majority of U.S. producers' U.S. shipments and the vast majority of U.S. shipments of imports from Spain (*** percent and *** percent, respectively) was methionine in liquid form while the vast majority of U.S. shipments of imports from Japan (*** percent) and *** U.S. shipments of imports from France were methionine in dry form.[6]

[5] See Part I for additional information on the different physical forms of methionine.

[6] ***. Appendix E presents U.S. producers' and U.S. importers' U.S. shipments by product type, form, and activity level.

Table IV-5
Methionine: U.S. producers' and U.S. importers' U.S. shipments by physical form, 2019

Item	Form type		
	Liquid	Dry	All forms
	Quantity (short tons)		
U.S. producers' U.S. shipments	***	***	***
U.S. importers' U.S. shipments.--France	***	***	***
Japan	***	***	***
Spain	***	***	***
Subject sources	***	***	***
Nonsubject sources	***	***	***
All import sources	***	***	***
U.S. producers and U.S. importers combined	***	***	***
	Share across (percent)		
U.S. producers' U.S. shipments	***	***	***
U.S. importers' U.S. shipments.--France	***	***	***
Japan	***	***	***
Spain	***	***	***
Subject sources	***	***	***
Nonsubject sources	***	***	***
All import sources	***	***	***
U.S. producers and U.S. importers combined	***	***	***
	Share down (percent)		
U.S. producers' U.S. shipments	***	***	***
U.S. importers' U.S. shipments.--France	***	***	***
Japan	***	***	***
Spain	***	***	***
Subject sources	***	***	***
Nonsubject sources	***	***	***
All import sources	***	***	***
U.S. producers and U.S. importers combined	***	***	***

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

Figure IV-3
Methionine: U.S. producers' and U.S. importers' U.S. shipments by physical form, 2019

* * * * * * *

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

Geographical markets

According to official U.S. import statistics, the majority of U.S. imports from France and Spain entered the United States in 2019 through ports located in the East while the majority of U.S. imports from Japan entered the United States in 2019 through ports located in the North.[7] Table IV-6 presents data on U.S. imports of methionine by border of entry in 2019.

[7] The top three ports of entry for U.S. imports of methionine from France classified under HTS statistical reporting numbers 2930.40.0000 and 2930.90.4600 in 2019 were Savannah, Georgia, St. Louis, Missouri, and Chicago, Illinois. The top three ports of entry for U.S. imports of methionine from Japan classified under HTS statistical reporting numbers 2930.40.0000 and 2930.90.4600 in 2019 were Chicago, Illinois, Minneapolis, Minnesota, and San Francisco, California. The top three port of entry for U.S. imports of methionine from Spain classified under HTS statistical reporting numbers 2930.40.0000 and 2930.90.4600 in 2019 were Savannah, Georgia, Norfolk, Virginia, and New Orleans, Louisiana.

Table IV-6
Methionine: U.S. imports by border of entry, 2019

Item	Border of entry				
	East	North	South	West	All borders
	Quantity (short tons)				
U.S. imports from.--					
France	3,126	1,961	168	302	5,557
Japan	125	12,435	1,975	3,325	17,861
Spain	31,384	844	5,633	---	37,860
Subject sources	34,635	15,240	7,776	3,627	61,278
Nonsubject sources	1,874	5,048	1,888	244	9,054
All import sources	36,509	20,288	9,664	3,871	70,332
	Share across (percent)				
U.S. imports from.--					
France	56.3	35.3	3.0	5.4	100.0
Japan	0.7	69.6	11.1	18.6	100.0
Spain	82.9	2.2	14.9	---	100.0
Subject sources	56.5	24.9	12.7	5.9	100.0
Nonsubject sources	20.7	55.8	20.9	2.7	100.0
All import sources	51.9	28.8	13.7	5.5	100.0
	Share down (percent)				
U.S. imports from.--					
France	8.6	9.7	1.7	7.8	7.9
Japan	0.3	61.3	20.4	85.9	25.4
Spain	86.0	4.2	58.3	---	53.8
Subject sources	94.9	75.1	80.5	93.7	87.1
Nonsubject sources	5.1	24.9	19.5	6.3	12.9
All import sources	100.0	100.0	100.0	100.0	100.0

Source: Official U.S. import statistics for HTS statistical reporting numbers 2930.40.0000 and 2930.90.4600, accessed August 11, 2020.

Presence in the market

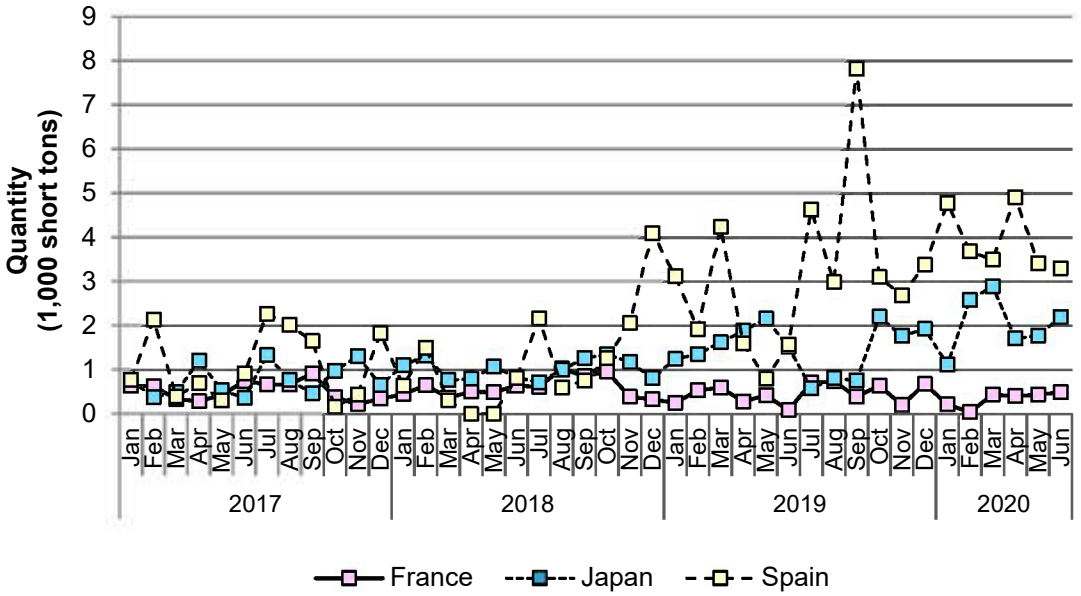
U.S. imports of methionine from France and Japan were present in each month during January 2017-June 2020 while U.S. imports from Spain were present in each month during the same period, except for April and May 2018. Table IV-7 and figures IV-4 and IV-5 present monthly data for subject and nonsubject imports of methionine during January 2017-June 2020.

Table IV-7
Methionine: U.S. imports by month, January 2017 to June 2020

U.S. imports	France	Japan	Spain	Subject sources	China	All other sources	Nonsubject sources	All import sources
	Quantity (short tons)							
2017.--January	635	769	772	2,176	620	219	838	3,014
February	632	380	2,139	3,151	291	195	486	3,638
March	338	494	397	1,229	707	285	992	2,220
April	288	1,208	705	2,201	2,391	402	2,793	4,994
May	437	535	302	1,274	2,032	317	2,348	3,623
June	747	365	920	2,032	3,117	312	3,430	5,462
July	671	1,332	2,273	4,276	1,583	684	2,267	6,543
August	668	767	2,019	3,454	3,563	953	4,517	7,971
September	923	471	1,651	3,046	2,326	944	3,270	6,316
October	378	979	154	1,512	2,716	1,689	4,405	5,917
November	220	1,313	441	1,974	2,483	414	2,897	4,871
December	347	648	1,836	2,831	2,183	490	2,673	5,504
2018.--January	451	1,108	633	2,192	2,846	477	3,323	5,515
February	653	1,315	1,503	3,471	2,633	91	2,724	6,195
March	369	764	309	1,442	2,665	630	3,295	4,738
April	505	795	---	1,300	3,442	295	3,737	5,037
May	491	1,070	---	1,561	2,801	136	2,937	4,498
June	640	833	818	2,291	2,069	579	2,648	4,939
July	613	719	2,163	3,495	581	468	1,049	4,544
August	1,032	1,002	603	2,636	2,098	293	2,391	5,027
September	858	1,271	755	2,883	1,968	176	2,144	5,027
October	967	1,351	1,260	3,577	3,596	112	3,708	7,285
November	388	1,183	2,063	3,634	48	157	205	3,839
December	332	814	4,093	5,238	533	178	711	5,949
2019.--January	256	1,250	3,125	4,631	711	867	1,578	6,208
February	537	1,358	1,922	3,818	851	1,768	2,619	6,437
March	604	1,627	4,238	6,468	306	1,372	1,678	8,146
April	280	1,888	1,597	3,765	13	836	849	4,614
May	429	2,160	795	3,383	1,429	---	1,429	4,812
June	87	1,524	1,576	3,187	576	223	799	3,986
July	712	578	4,629	5,919	6	2	8	5,927
August	736	812	2,985	4,533	13	9	22	4,555
September	388	757	7,822	8,967	5	30	34	9,001
October	644	2,207	3,104	5,955	10	10	20	5,975
November	202	1,770	2,686	4,658	15	---	15	4,673
December	683	1,930	3,380	5,994	2	0	2	5,997
2020.--January	216	1,113	4,782	6,111	15	0	15	6,126
February	40	2,581	3,686	6,306	15	220	236	6,542
March	444	2,893	3,498	6,835	33	1	34	6,869
April	402	1,707	4,911	7,020	27	---	27	7,047
May	439	1,777	3,420	5,636	31	437	468	6,104
June	489	2,195	3,302	5,986	36	740	776	6,762

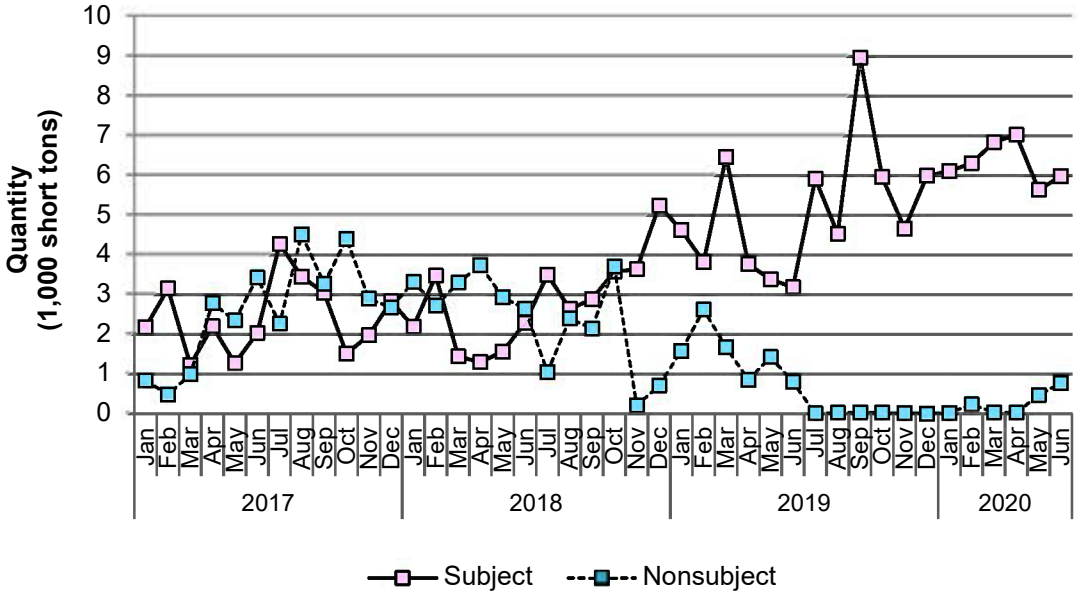
Source: Official U.S. import statistics for HTS statistical reporting numbers 2930.40.0000 and 2930.90.4600, accessed August 11, 2020.

Figure IV-4
Methionine: U.S. imports from individual subject sources, by month, January 2017 to June 2020



Source: Official U.S. import statistics for HTS statistical reporting numbers 2930.40.0000 and 2930.90.4600, accessed August 11, 2020.

Figure IV-5
Methionine: U.S. imports from aggregated subject and nonsubject sources, by month, January 2017 to June 2020



Source: Official U.S. import statistics for HTS statistical reporting numbers 2930.40.0000 and 2930.90.4600, accessed August 11, 2020.

Apparent U.S. consumption and market shares

Table IV-8 and figure IV-6 present data on apparent U.S. consumption for methionine.[8]

Table IV-8
Methionine: Apparent U.S. consumption, 2017-19, January to March 2019, and January to March 2020

Item	Calendar year			January to March	
	2017	2018	2019	2019	2020
	Quantity (short tons)				
U.S. producers' U.S. shipments	***	***	***	***	***
U.S. imports from.--					
France	6,285	7,298	5,557	1,396	700
Japan	9,262	12,225	17,861	4,235	6,587
Spain	13,610	14,198	37,860	9,286	11,966
Subject sources	29,157	33,722	61,278	14,916	19,252
Nonsubject sources	30,916	28,873	9,054	5,875	285
All import sources	60,073	62,594	70,332	20,791	19,537
Apparent U.S. consumption	***	***	***	***	***
	Value (1,000 dollars)				
U.S. producers' U.S. shipments	***	***	***	***	***
U.S. imports from.--					
France	14,180	17,102	11,553	3,170	1,570
Japan	22,314	26,680	31,962	8,272	9,819
Spain	24,657	27,540	62,666	17,661	16,295
Subject sources	61,151	71,322	106,181	29,104	27,684
Nonsubject sources	64,689	61,249	19,432	10,908	1,674
All import sources	125,841	132,571	125,613	40,012	29,357
Apparent U.S. consumption	***	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires and official U.S. import statistics for HTS statistical reporting numbers 2930.40.0000 and 2930.90.4600, accessed August 11, 2020.

[8] Demand for methionine is driven by the poultry industry as it is a feed additive used primarily in poultry feed to increase the productivity of chicken meat and eggs. See e.g. respondent Sumitomo's postconference brief, p. 17 and respondent Adisseo's postconference brief, p. 4. See part II for additional information on demand factors.

Figure IV-6
Methionine: Apparent U.S. consumption, 2017-19, January to March 2019, and January to March 2020

* * * * * * *

Source: Compiled from data submitted in response to Commission questionnaires and official U.S. import statistics for HTS statistical reporting numbers 2930.40.0000 and 2930.90.4600, accessed August 11, 2020.

Apparent U.S. consumption, by quantity, increased in each year during 2017-19, ending *** percent higher in 2019 than in 2017. It was *** percent higher in interim 2020 than in interim 2019. The increase in apparent U.S. consumption during 2017-19 is a reflection of the increase in U.S. producers' U.S. shipments and increases in U.S. imports from Japan and Spain. The difference in apparent U.S. consumption between the two interim periods is also a reflection of U.S. producers' U.S. shipments and U.S. imports from Japan and Spain, which were all higher in interim 2020 than in interim 2019. Conversely, apparent U.S. consumption, by value, decreased by *** percent from 2017 to 2019 and was *** percent lower in interim 2020 than in interim 2019. The decrease in the value of apparent U.S. consumption is a reflection in the value of U.S. producers' U.S. shipments, which decreased in each year during 2017-19.

Table IV-9 presents data on U.S. market shares for methionine. U.S. producers' market share, by quantity, decreased from *** percent in 2017 to *** percent in 2019. It was *** percent in interim 2020, compared with *** percent in interim 2019. The market share of U.S. imports from France decreased irregularly from *** percent in 2017 to *** percent in 2019 and was *** percent in interim 2020, compared with *** percent in interim 2019. Conversely, the market share of U.S. imports from Japan increased from *** percent to *** percent during 2017-19 and the market share of U.S. imports from Spain increased from *** percent to *** percent. The market shares of U.S. imports from Japan and Spain were *** percent and *** percent, respectively, in interim 2020, compared with *** percent and *** percent, respectively, in interim 2019. Overall, the market share of subject imports increased from *** percent in 2017 to *** percent in 2019 and was *** percent in interim 2020, compared with *** percent in interim 2019. Conversely, the market share of nonsubject imports, by quantity, decreased from *** percent in 2017 to *** percent in 2019 and was *** percent in interim 2020, compared with *** percent in interim 2019.[9]

[9] The decrease in the market share of nonsubject imports during 2017-19 and the difference between the two interim periods largely reflects the decrease in the quantity of U.S. imports of methionine from China due to the imposition of the Section 301 duties in September 2018 (10 percent) and the subsequent increase of those duties in May 2019 (25 percent). According to official import statistics, Malaysia is now the largest source of U.S. imports of methionine from nonsubject countries.

Table IV-9
Methionine: Market shares, 2017-19, January to March 2019, and January to March 2020

Item	Calendar year			January to March	
	2017	2018	2019	2019	2020
	Quantity (short tons)				
Apparent U.S. consumption	***	***	***	***	***
	Share of quantity (percent)				
U.S. producers' U.S. shipments	***	***	***	***	***
U.S. imports from.--					
France	***	***	***	***	***
Japan	***	***	***	***	***
Spain	***	***	***	***	***
Subject sources	***	***	***	***	***
Nonsubject sources	***	***	***	***	***
All import sources	***	***	***	***	***
	Value (1,000 dollars)				
Apparent U.S. consumption	***	***	***	***	***
	Share of value (percent)				
U.S. producers' U.S. shipments	***	***	***	***	***
U.S. imports from.--					
France	***	***	***	***	***
Japan	***	***	***	***	***
Spain	***	***	***	***	***
Subject sources	***	***	***	***	***
Nonsubject sources	***	***	***	***	***
All import sources	***	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires and official U.S. import statistics for HTS statistical reporting numbers 2930.40.0000 and 2930.90.4600, accessed August 11, 2020.

Apparent U.S. consumption and market shares of DL-methionine

Table IV-10 presents data on apparent U.S. consumption for DL-methionine.

Table IV-10
DL-methionine: Apparent U.S. consumption, 2017-19, January to March 2019, and January to March 2020

Item	Calendar year			January to March	
	2017	2018	2019	2019	2020
	Quantity (short tons)				
U.S. producers' U.S. shipments	***	***	***	***	***
U.S. imports from.--					
France	6,285	7,298	5,557	1,396	690
Japan	6,416	8,223	14,338	3,504	5,534
Spain	16	16	---	---	---
Subject sources	12,717	15,537	19,894	4,900	6,224
Subject sources less Spain	12,701	15,521	19,894	4,900	6,224
Nonsubject sources	14,336	8,677	7,535	5,777	279
Nonsubject sources plus Spain	14,352	8,693	7,535	5,777	279
All import sources	27,053	24,214	27,429	10,677	6,503
Apparent U.S. consumption	***	***	***	***	***
	Value (1,000 dollars)				
U.S. producers' U.S. shipments	***	***	***	***	***
U.S. imports from.--					
France	14,180	17,102	11,553	3,170	1,541
Japan	16,339	19,270	26,805	7,154	8,414
Spain	28	28	---	---	---
Subject sources	30,547	36,400	38,358	10,324	9,956
Subject sources less Spain	30,520	36,372	38,358	10,324	9,956
Nonsubject sources	30,350	18,378	14,263	10,227	756
Nonsubject sources plus Spain	30,378	18,406	14,263	10,227	756
All import sources	60,897	54,779	52,621	20,551	10,711
Apparent U.S. consumption	***	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires and official U.S. import statistics for HTS statistical reporting number 2930.40.0000, accessed August 11, 2020.

Apparent U.S. consumption of DL-methionine, by quantity, decreased irregularly by *** percent and was *** percent lower in interim 2020 than in interim 2019. The decrease in apparent U.S. consumption during 2017-19 is a reflection of the decreases in U.S. producers' U.S. shipments and U.S. imports from France. The difference in apparent U.S. consumption between the two interim periods reflects U.S. imports from France, which were lower in interim 2020 than in interim 2019. Apparent U.S. consumption of DL-methionine, by value, decreased by *** percent from 2017 to 2019 and was *** percent lower in interim 2020 than in interim 2019. The decrease in the value of apparent U.S. consumption is a reflection of the value of U.S. producers' U.S. shipments, which decreased each year during 2017-19.

Table IV-11 presents data on U.S. market shares for DL-methionine. U.S. producers' market share, by quantity, decreased irregularly from *** percent in 2017 to *** percent in 2019. It was *** percent in interim 2020, however, compared with *** percent in interim 2019. The market share of U.S. imports from France decreased irregularly from *** percent in 2017 to *** percent in 2019 and was *** percent in interim 2020, compared with *** percent in interim 2019. Conversely, the market share of U.S. imports from Japan increased from *** percent to *** percent during 2017-19 and was *** percent in interim 2020, compared with *** percent in interim 2019. The market share of imports from Spain was *** throughout 2017-19 and in interim 2020. Overall, the market share of subject imports increased from *** percent in 2017 to *** percent in 2019 and was *** percent in interim 2020, compared with *** percent in interim 2019. Conversely, the market share of nonsubject imports, by quantity, decreased from *** percent in 2017 to *** percent in 2019 and was *** percent in interim 2020, compared with *** percent in interim 2019.

Table IV-11
DL-methionine: Market shares for DL-methionine, 2017-19, January to March 2019, and January to March 2020

Item	Calendar year			January to March	
	2017	2018	2019	2019	2020
	Quantity (short tons)				
Apparent U.S. consumption	***	***	***	***	***
	Share of quantity (percent)				
U.S. producers' U.S. shipments	***	***	***	***	***
U.S. imports from.--					
France	***	***	***	***	***
Japan	***	***	***	***	***
Spain	***	***	***	***	***
Subject sources	***	***	***	***	***
Subject sources less Spain	***	***	***	***	***
Nonsubject sources	***	***	***	***	***
Nonsubject sources plus Spain	***	***	***	***	***
All import sources	***	***	***	***	***
	Value (1,000 dollars)				
Apparent U.S. consumption	***	***	***	***	***
	Share of value (percent)				
U.S. producers' U.S. shipments	***	***	***	***	***
U.S. imports from.--					
France	***	***	***	***	***
Japan	***	***	***	***	***
Spain	***	***	***	***	***
Subject sources	***	***	***	***	***
Subject sources less Spain	***	***	***	***	***
Nonsubject sources	***	***	***	***	***
Nonsubject sources plus Spain	***	***	***	***	***
All import sources	***	***	***	***	***

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

Source: Compiled from data submitted in response to Commission questionnaires and official U.S. import statistics for HTS statistical reporting number 2930.40.0000, accessed August 11, 2020.

Apparent U.S. consumption and market shares of hydroxy analog methionine

Table IV-12 presents data on apparent U.S. consumption for the hydroxy analog methionine.

Table IV-12
DL hydroxy analog: Apparent U.S. consumption, 2017-19, January to March 2019, and January to March 2020

Item	Calendar year			January to March	
	2017	2018	2019	2019	2020
	Quantity (short tons)				
U.S. producers' U.S. shipments	***	***	***	***	***
U.S. imports from.--					
France	---	---	---	---	9
Japan	2,846	4,002	3,524	731	1,053
Spain	13,594	14,183	37,860	9,286	11,966
Subject sources	16,440	18,184	41,384	10,016	13,028
Subject sources less France	16,440	18,184	41,384	10,016	13,019
Nonsubject sources	16,580	20,196	1,519	98	6
Nonsubject sources plus France	16,580	20,196	1,519	98	15
All import sources	33,020	38,381	42,903	10,114	13,034
Apparent U.S. consumption	***	***	***	***	***
	Value (1,000 dollars)				
U.S. producers' U.S. shipments	***	***	***	***	***
U.S. imports from.--					
France	---	---	---	---	29
Japan	5,975	7,410	5,157	1,119	1,404
Spain	24,629	27,512	62,666	17,661	16,295
Subject sources	30,604	34,922	67,823	18,780	17,728
Subject sources less France	30,604	34,922	67,823	18,780	17,699
Nonsubject sources	34,339	42,870	5,169	680	918
Nonsubject sources plus France	34,339	42,870	5,169	680	947
All import sources	64,944	77,792	72,992	19,460	18,646
Apparent U.S. consumption	***	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires and official U.S. import statistics for HTS statistical reporting number 2930.90.4600, accessed August 11, 2020.

Apparent U.S. consumption of the hydroxy analog methionine, by quantity, increased in each year during 2017-19, ending *** percent higher in 2019 than in 2017. It was *** percent higher in interim 2020 than in interim 2019. The increase in apparent U.S. consumption during 2017-19 reflects the increases in U.S. producers' U.S. shipments and U.S. imports from Spain, more than offsetting the decrease in U.S. imports from China. The difference in apparent U.S. consumption between the two interim periods also reflects U.S. producers' U.S. shipments and U.S. imports from Spain, which were higher in interim 2020 than in interim 2019. Apparent U.S. consumption of the hydroxy analog methionine, by value, increased irregularly by *** percent from 2017 to 2019 and was *** percent lower in interim 2020 than in interim 2019. The decrease in the value of U.S. producers' U.S. shipments, was offset by the increase in the value of U.S. imports from Spain.

Table IV-13 presents data on U.S. market shares for the hydroxy analog methionine. U.S. producers' market share, by quantity, decreased from *** percent in 2017 to *** percent in 2019. It was *** percent in interim 2020, compared with *** percent in interim 2019. The market share of U.S. imports from Japan increased from *** percent in 2017 to *** percent in 2018 and then *** percent in 2019. The market shares of U.S. imports from Japan was *** percent in interim 2020, compared with *** percent in interim 2019. The market share of imports from Spain increased from *** percent in 2017 to *** percent in 2019 and was *** percent in interim 2020, compared with *** percent in interim 2019. *** throughout 2017-19 and it accounted for *** in interim 2020. Overall, the market share of subject imports increased from *** percent in 2017 to *** percent in 2019 and was *** percent in interim 2020, compared with *** percent in interim 2019. Conversely, the market share of nonsubject imports, by quantity, decreased irregularly from *** percent in 2017 to *** percent in 2019 and was *** in interim 2019 and interim 2020.

Table IV-13
DL hydroxy analog: Market shares, 2017-19, January to March 2019, and January to March 2020

Item	Calendar year			January to March	
	2017	2018	2019	2019	2020
	Quantity (short tons)				
Apparent U.S. consumption	***	***	***	***	***
	Share of quantity (percent)				
U.S. producers' U.S. shipments	***	***	***	***	***
U.S. imports from.--					
France	***	***	***	***	***
Japan	***	***	***	***	***
Spain	***	***	***	***	***
Subject sources	***	***	***	***	***
Subject sources less France	***	***	***	***	***
Nonsubject sources	***	***	***	***	***
Nonsubject sources plus France	***	***	***	***	***
All import sources	***	***	***	***	***
	Value (1,000 dollars)				
Apparent U.S. consumption	***	***	***	***	***
	Share of value (percent)				
U.S. producers' U.S. shipments	***	***	***	***	***
U.S. imports from.--					
France	***	***	***	***	***
Japan	***	***	***	***	***
Spain	***	***	***	***	***
Subject sources	***	***	***	***	***
Subject sources less France	***	***	***	***	***
Nonsubject sources	***	***	***	***	***
Nonsubject sources plus France	***	***	***	***	***
All import sources	***	***	***	***	***

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

Source: Compiled from data submitted in response to Commission questionnaires and official U.S. import statistics for HTS statistical reporting number 2930.90.4600, accessed August 11, 2020.

Part V: Pricing data

Factors affecting prices

Raw material costs

The main raw materials in the production of methionine are acrolein (a petroleum-based product) and methyl mercaptan. In 2019 these chemicals accounted for *** percent of U.S. producers' raw material costs. Raw material costs increased irregularly from $1,122 per short ton (*** percent of the cost of goods sold) in 2017 to $1,136 per short ton (*** percent) in 2019.[1]

Transportation costs to the U.S. market

Transportation costs for methionine shipped from subject countries to the United States averaged 8.3 percent for France, 0.1 percent for Japan,[2] and 10.0 percent for Spain during 2019. These estimates were derived from official import data and represent the transportation and other charges on imports.[3]

U.S. inland transportation costs

*** four of the seven responding importers reported that they typically arrange transportation to their customers. *** percent while the two responding importers reported costs of 3.5 to 8 percent.[4]

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[1] For further information regarding other cost factors in the production of methionine, see Part VI.

[2] Transportation costs from Japan since 2010 have changed substantially. In 2010-15, they ranged between 4.2 and 5.8 percent. In 2016, they decreased to 1.6 percent, and starting in 2017, they have been 0.1 percent.

[3] The estimated transportation costs were obtained by subtracting the customs value from the c.i.f. value of the imports for 2019 and then dividing by the customs value based on the HTS statistical reporting numbers 2930.40.0000 and 2930.90.4600.

[4] ***.

Pricing practices

Pricing methods

U.S. producers and importers reported setting prices using transaction-by-transaction negotiations, contracts, and price lists (table V-1).

Table V-1
Methionine: U.S. producers' and importers' reported price setting methods, by number of responding firms

Method	U.S. producers	Importers
Transaction-by-transaction	***	7
Contract	***	4
Set price list	***	2
Other	***	---
Responding firms	***	8

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.

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

U.S. producers reported selling *** of their methionine via contract, with most of their methionine under short-term and annual contracts (table V-2). In contrast, importers reported selling most of their methionine under long-term contracts. The second-largest type of sale for importers was on the spot market, whereas *** sales were made on the spot market by U.S. producers.

Table V-2
Methionine: U.S. producers' and importers' shares of U.S. commercial shipments by type of sale, 2019

Type of sale	U.S. producers	Importers
Long-term contracts	***	***
Annual contracts	***	***
Short-term contracts	***	***
Spot sales	***	***
Total	***	***

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

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

***. ***. Importers' long-term contracts were reported to average two years, and most fix quantity and allow price renegotiations during the contract and are not indexed to raw material costs.[5] Petitioner Novus noted that prices are transparent in the contract negotiation phase, particularly during the "last call" phase where some purchasers allow Novus to meet competitors' prices.[6]

Sales terms and discounts

*** importers typically quote prices on a delivered basis. Novus reported ***. Evonik reported ***. Most importers reported maintaining no discount policies. Two importers, however, reported offering other discounts. *** and ***.

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 methionine products shipped to unrelated U.S. customers during January 2017 to March 2020.[7]

[5] Importer annual contracts typically had the same provisions as long-term contracts. *** reported short-term contracts ***.

[6] Conference transcript, p. 23 (Galo).

[7] There was no production or imports of product 3 in the United States during this time frame. As such, no further reference to it is included in this report. In the USITC questionnaires, Product 1 was originally requested as a liquid product. However, there is no production or imports of that definition in the U.S. market, but there is 84-percent activity level methionine in dry form. Parties were subsequently informed to report requested pricing data for that product. ***.

Product 1.--Methionine, whether DL-methionine or its hydroxy analog, 84% activity level, in dry form.

Product 2.-- Methionine, whether DL-methionine or its hydroxy analog, 88% activity level, in liquid form.

Product 3.-- Methionine, whether DL-methionine or its hydroxy analog, 88% activity level, in dry form.

Product 4.-- Methionine, whether DL-methionine or its hydroxy analog, 99% activity level, in dry form.

Two U.S. producers and two importers provided usable pricing data for sales of the requested products, although not all firms reported pricing for all products for all quarters.[8] Pricing data reported by these firms accounted for approximately 96.8 percent of U.S. producers' shipments of methionine and 100.0 percent of U.S. commercial shipments of subject imports from France, Japan, and Spain. Price data for products 1, 2, and 4 are presented in tables V-3 to V-5 and figures V-1 to V-3.[9]

[8] 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.

[9] Prices were requested on a 100-percent activity level equivalent basis, as that is how prices are standardly reported in the methionine market. Petition, p. I-15. Producers and importers adjusted up the shipping weight of their product by multiplying by (1/activity level percentage). A decades-long debate continues within the methionine community as to how well animals are able to convert MHA and DLM into a useable chemical for the animal's body, referred to as "bioefficacy" or "conversion rate." For more information regarding this, see Part I. Based on the purchaser's nutritionist's view, that purchaser's willingness to pay for a certain level of methionine "to achieve the optimum composition" in a product may differ. Respondent Sumitomo's postconference brief, p. 11. Authors associated with domestic producers Novus (which produces MHA) and Evonik (which produces DLM) have presented differing views on this matter. See, e.g., "Evonik to reveal findings from methionine trial at IPPE 2019," January 23, 2019, https://animal-nutrition.evonik.com/en/media/press-releases/evonik-to-reveal-findings-from-methionine-trial-at-ippe-2019-105244.html, "Protect broiler performance with HMTBa methionine," November 3, 2017, https://www.poultryworld.net/Nutrition/Partner/2017/11/Protect-broiler-performance-with-HMTBa-methionine-206122E/, and "Measuring Up: Methionine Sources," December 4, 2018, https://thepoultrysite.com/articles/measuring-up-methionine-sources, retrieved August 26, 2020.

Table V-3
Methionine: Weighted-average f.o.b. prices and quantities of domestic and imported product 1 and margins of underselling/(overselling), by quarter, January 2017-March 2020

Period	United States		Spain		
	Price (dollars per short ton)	Quantity (short tons)	Price (dollars per short ton)	Quantity (short tons)	Margin (percent)
2017:					
Jan.-Mar.	***	***	--	0	--
Apr.-June	***	***	--	0	--
July-Sept.	***	***	--	0	--
Oct.-Dec.	***	***	--	0	--
2018:					
Jan.-Mar.	***	***	--	0	--
Apr.-June	***	***	--	0	--
July-Sept.	***	***	***	***	***
Oct.-Dec.	***	***	***	***	***
2019:					
Jan.-Mar.	***	***	***	***	***
Apr.-June	***	***	***	***	***
July-Sept.	***	***	***	***	***
Oct.-Dec.	***	***	***	***	***
2020:					
Jan.-Mar.	***	***	***	***	***

Note: Product 1: Methionine, whether DL-methionine or its hydroxy analog, 84% activity level, in dry form.

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

Table V-4
Methionine: Weighted-average f.o.b. prices and quantities of domestic and imported product 2 and margins of underselling/(overselling), by quarter, January 2017-March 2020

Period	United States		Japan			Spain		
	Price (dollars per short ton)	Quantity (short tons)	Price (dollars per short ton)	Quantity (short tons)	Margin (percent)	Price (dollars per short ton)	Quantity (short tons)	Margin (percent)
2017: Jan.-Mar.	***	***	***	***	***	***	***	***
Apr.-June	***	***	***	***	***	***	***	***
July-Sept.	***	***	***	***	***	***	***	***
Oct.-Dec.	***	***	***	***	***	***	***	***
2018: Jan.-Mar.	***	***	***	***	***	***	***	***
Apr.-June	***	***	***	***	***	***	***	***
July-Sept.	***	***	***	***	***	***	***	***
Oct.-Dec.	***	***	***	***	***	***	***	***
2019: Jan.-Mar.	***	***	***	***	***	***	***	***
Apr.-June	***	***	***	***	***	***	***	***
July-Sept.	***	***	***	***	***	***	***	***
Oct.-Dec.	***	***	***	***	***	***	***	***
2020: Jan.-Mar.	***	***	***	***	***	***	***	***

Note: Product 2: Methionine, whether DL-methionine or its hydroxy analog, 88% activity level, in liquid form.

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

Table V-5
Methionine: Weighted-average f.o.b. prices and quantities of domestic and imported product 4 and margins of underselling/(overselling), by quarter, January 2017-March 2020

Period	United States		France			Japan		
	Price (dollars per short ton)	Quantity (short tons)	Price (dollars per short ton)	Quantity (short tons)	Margin (percent)	Price (dollars per short ton)	Quantity (short tons)	Margin (percent)
2017: Jan.-Mar.	***	***	***	***	***	***	***	***
Apr.-June	***	***	***	***	***	***	***	***
July-Sept.	***	***	***	***	***	***	***	***
Oct.-Dec.	***	***	***	***	***	***	***	***
2018: Jan.-Mar.	***	***	***	***	***	***	***	***
Apr.-June	***	***	***	***	***	***	***	***
July-Sept.	***	***	***	***	***	***	***	***
Oct.-Dec.	***	***	***	***	***	***	***	***
2019: Jan.-Mar.	***	***	***	***	***	***	***	***
Apr.-June	***	***	***	***	***	***	***	***
July-Sept.	***	***	***	***	***	***	***	***
Oct.-Dec.	***	***	***	***	***	***	***	***
2020: Jan.-Mar.	***	***	***	***	***	***	***	***

Note: Product 4: Methionine, whether DL-methionine or its hydroxy analog, 99% activity level, in dry form.

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

Figure V-1
Methionine: Weighted-average f.o.b. prices and quantities of domestic and imported product 1, by quarter, January 2017-March 2020

* * * * * * *

Product 1: Methionine, whether DL-methionine or its hydroxy analog, 84% activity level, in dry form.

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

Figure V-2
Methionine: Weighted-average f.o.b. prices and quantities of domestic and imported product 2, by quarter, January 2017-March 2020

* * * * * * *

Product 2: Methionine, whether DL-methionine or its hydroxy analog, 88% activity level, in liquid form.

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

Figure V-3
Methionine: Weighted-average f.o.b. prices and quantities of domestic and imported product 4, by quarter, January 2017-March 2020

* * * * * * *

Product 4: Methionine, whether DL-methionine or its hydroxy analog, 99% activity level, in dry form.

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

Price trends

In general, prices decreased during January 2017-March 2020. Table V-6 summarizes the price trends, by country and by product. As shown in the table, domestic price decreases ranged from *** to *** percent during January 2017-March 2020 while import price decreases ranged from *** to *** percent. Price decreases for product 1 (84 percent MHA) were the smallest, while price decreases for product 2 (88 percent liquid MHA or DLM) were the largest (over 30 percent), with price decreases for product 4 (99 percent DLM) between 25 and 30 percent.

Table V-6
Methionine: Summary of weighted-average f.o.b. prices for products 1-2 and 4 from the United States and France, Japan, and Spain

Item	Number of quarters	Low price (per short ton)	High price (per short ton)	Change in price (percent)
Product 1:				
United States	***	***	***	▼ ***
Spain	***	***	***	***
Product 2:				
United States	***	***	***	▼ ***
Japan	***	***	***	▼ ***
Spain	***	***	***	▼ ***
Product 4:				
United States	***	***	***	▼ ***
France	***	***	***	▼ ***
Japan	***	***	***	▼ ***

Note: Percentage change from the first quarter in which data were available to the last quarter in which price data were available.

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

Price trends in published sources reveal historical trends on an annual basis. ***.[10] ***.[11] One industry publication, feedinfo.com, presents DLM prices that can be used by buyers and sellers as a reference point for worldwide methionine spot prices or contract negotiations.[12]

[10] ***.

[11] Ibid.

[12] Conference transcript, pp. 64-65 (Hux) and p. 128 (Harari).

One recent article noted that prices in the global methionine market improved at the end of the first quarter and beginning of the second quarter of 2020.[13] It was noted that "African Swine Flu was pushing livestock suppliers to boost poultry production." A representative of Adisseo mentioned increasing prices in the second quarter of 2020 as well.[14]

Price comparisons

As shown in table V-7, prices for product imported from France were never below those for U.S.-produced product. In all 13 instances (*** short tons), prices for product from France were between *** and *** percent above prices for the domestic product. Prices for product imported from Japan were above those for U.S.-produced product in a majority of instances as well (21 of 26 instances; *** short tons); margins of overselling ranged from *** to *** percent. In the remaining 5 instances (*** short tons), prices for product from Japan were between *** and *** percent below prices for the domestic product. Prices for product imported from Spain, in contrast, were below those for U.S.-produced product in 19 of 20 instances (*** short tons); margins of underselling ranged from *** to *** percent. In the remaining quarter, the price for product from Spain was *** percent above prices for the domestic product (*** short tons).

[13] "Evonik beats quarterly profit forecast citing cost cuts," Reuters, August 4, 2020, https://uk.reuters.com/article/uk-evonik-industrie-results/evonik-beats-quarterly-profit-forecast-citing-cost-cuts-idUKKCN2500FD, retrieved August 27, 2020.

[14] Conference transcript, p. 132 (Harari).

Table V-7
Methionine: Instances of underselling/overselling and the range and average of margins, by country, January 2017 to March 2020

Source	Underselling				
	Number of quarters	Quantity (short tons)	Average margin (percent)	Margin range (percent)	
				Min	Max
France					
Product 4	---	---	---	---	---
Japan					
Product 2	4	***	***	***	***
Product 4	1	***	***	***	***
Japan total	5	***	***	***	***
Spain					
Product 1	7	***	***	***	***
Product 2	12	***	***	***	***
Spain total	19	***	***	***	***
MHA products (1 & 2)	23	***	***	***	***
DLM product (4)	1	***	***	***	***
Total, underselling	24	66,555	6.5	0.4	22.1
Source	**(Overselling)**				
	Number of quarters	Quantity[1] (short tons)	Average margin (percent)	Margin range (percent)	
				Min	Max
France					
Product 4	13	***	***	***	***
Japan					
Product 2	9	***	***	***	***
Product 4	12	***	***	***	***
Japan total	21	***	***	***	***
Spain					
Product 1	---	---	---	---	---
Product 2	1	***	***	***	***
Spain total	1	***	***	***	***
MHA products (1 & 2)	10	***	***	***	***
DLM product (4)	25	***	***	***	***
Total, overselling	35	62,983	(9.1)	(0.8)	(21.4)

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

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

Overall, there were 24 quarters of underselling (66,555 short tons) and 35 quarters of overselling (62,983 short tons). Most quarters of underselling (23 of the 24) were observed with respect to MHA products, whether dry or liquid, and most quarters of overselling (25 of the 35) were observed for DLM products. ***.

Lost sales and lost revenue

The Commission requested that U.S. producers of methionine report purchasers with which they experienced instances of lost sales or revenue due to competition from imports of methionine from France, Japan, and Spain during January 2017 to March 2020. Both responding U.S. producers reported that they had to either reduce prices or roll back announced price increases, and both firms reported that they had lost sales. One U.S. producer (***) submitted lost sales and lost revenue allegations. This U.S. producer identified nine firms with which it lost sales or revenue (two consisting of lost revenue allegations, and seven consisting of both lost sales and lost revenue allegations). Japan was reported as the source in two of these combined lost sales and lost revenue allegations. Spain was reported to be the source in four allegations: two lost revenues and two of these combined lost sales and lost revenue allegations. One combined lost sales and lost revenue allegations was both for Spain and an unknown source, and two combined lost sales and lost revenue allegations were for an unknown source. Allegations covered 2017 through 2020.

Staff contacted nine purchasers and received usable responses from five. Responding purchasers reported purchasing *** short tons of methionine during 2017-19 (table V-8).[15] During 2019, responding purchasers purchased 98.5 percent from U.S. producers, 0.0 percent from France, 0.3 percent from Japan, 0.0 percent from Spain, 0.6 percent from nonsubject countries, and 0.6 percent from "unknown source" countries.[16]

[15] None of the purchasers reported importing methionine.

[16] *** did not report directly its purchases from Spain. Instead, it reported them mixed with those from other, unknown sources. These purchases increased *** in 2017-19.

Table V-8
Methionine: Purchasers' reported purchases, 2017-19

Purchaser	Purchases in 2017-19 (short tons)			Change in domestic share (pp, 2017-19)	Change in subject country share (pp, 2017-19)
	Domestic	Subject	All other		
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
Total	***	***	***	***	***

Note: All other includes all other sources and unknown sources. *** were included in the "all other" category, as it was unable to separate.
Note: Percentage points (pp) change: Change in the share of the firm's total purchases of domestic and/or subject country imports between first and last years.

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

Purchasers were asked about changes in their purchasing patterns from different sources since 2017. Of the four responding purchasers, one reported decreasing purchases from domestic producers, one reported increasing purchases, one reported no change, and one reported fluctuating purchases.[17] The explanation for increasing purchases of domestic product by *** was ***; this firm also reported increased purchases from ***. The explanation for decreasing purchases of domestic product by *** was that more capacity was coming online overseas; this purchaser also reported increased purchases from ***. The two purchasers reporting that U.S. purchases fluctuated or were unchanged both reported purchasing only U.S. product.

Of the four responding purchasers, two reported that, since 2017, they had purchased imported methionine from subject countries instead of U.S.-produced methionine. Both of these purchasers reported that subject import prices were lower than U.S.-produced product, and one of these purchasers reported that price was a primary reason for the decision to purchase imported product (from Japan) rather than U.S.-produced product. This purchaser estimated that it purchased *** short tons of methionine from Japan instead of domestic product (tables V-9 and V-10). The other purchaser (***) reported purchasing methionine imported from Spain instead of U.S. methionine.

[17] Of the five responding purchasers, one purchaser (***) indicated that it did not know the source some of the methionine it purchased.

Table V-9
Methionine: Purchasers' responses to purchasing subject imports instead of domestic product

Purchaser	Purchased imports instead of domestic (Y/N)	Imports were lower priced	If purchased imports instead of domestic, was price a primary reason		
			Y/N	If Yes, quantity purchased instead of domestic (short tons)	If No, non-price reason
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
Total	Yes--2; No--2	Yes--2; No--0	Yes--1; No—1	***	

Note: ***.

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

Table V-10
Methionine: Purchasers' responses to purchasing subject imports instead of domestic product by country

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 subject purchased (short tons)
France	---	---	---	***
Japan	2	2	1	***
Spain	1	1	---	***
Any subject source	2	2	1	***

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

Purchasers identified the risk of having a single supplier and differing activity levels as non-price reasons for purchasing imported rather than U.S.-produced product. *** stated that the single-plant, single-source for its liquid methionine purchases is an inherent risk. Also, *** stated that Novus's dry MHA product (84-percent activity level) is not competitive for its ***. *** added a second supplier because it had two suppliers for all products except methionine, although it added that price was also a factor.

Of the four responding purchasers, two reported that U.S. producers had reduced prices in order to compete with lower-priced imports from subject countries, one each for Japan and Spain (table V-11).[18] Purchasers did not estimate the U.S. price reduction caused by competition from subject countries. Two purchasers however reported details about the price reductions that had occurred between 2017 and 2019 or in 2020. *** reported an overall price reduction between the first quarter of 2017 to the second quarter of 2020 of ***. *** reported that U.S. prices fell from ***.

Table V-11
Methionine: Purchasers' responses to U.S. producer price reductions

		If U.S. producers reduced prices	
Purchaser	U.S. producers reduced priced to compete with subject imports	Estimated U.S. price reduction (percent)	Additional information, if available
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
Total	Yes--2; No—0	***	

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

[18] One purchaser each reported that U.S. producers did not reduce prices to compete with lower-priced imported methionine from France and Japan. The other two reported that they did not know.

In responding to the lost sales/lost revenue survey, two purchasers provided additional information on purchases and market dynamics. ***. ***.

Part VI: Financial experience of U.S. producers

Background

Evonik and Novus are the two known U.S. producers of methionine and both provided usable financial data. Both responding U.S. producers reported financial results on a calendar year basis and provided their financial data on the basis of generally accepted accounting principles (GAAP).[1] These two questionnaire responses are believed to account for all sales of methionine by U.S. producers.

Methionine production is highly concentrated, with two producers in the United States and an estimated seven producers globally.[2] Figure VI-1 presents each responding firm's share of the total reported net sales quantity in 2019. Revenue primarily reflects commercial sales, but also includes a small amount of internal consumption reported by ***.[3] Internal consumption accounted for *** percent of net sales quantity and value during the period examined, and is not shown separately in this section of the report.

Figure VI-1
Methionine: Share of net sales quantity, by firm, 2019

* * * * * * *

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

[1] ***.

[2] Conference transcript, p. 124 (Harari).

[3] *** U.S. producer reported transfers to related firms during the period for which data were collected.

Operations on methionine

Table VI-1 presents aggregated data on U.S. producers' operations in relation to methionine over the period examined, while table VI-2 presents corresponding changes in average unit values. Table VI-3 presents selected company-specific financial data.

Table VI-1
Methionine: Results of operations of U.S. producers, 2017-19, January to March 2019, and January to March 2020

Item	Calendar year			January to March	
	2017	2018	2019	2019	2020
	Quantity (short tons)				
Total net sales	***	***	***	***	***
	Value (1,000 dollars)				
Total net sales	***	***	***	***	***
Cost of goods sold.-- Raw materials	***	***	***	***	***
Direct labor	***	***	***	***	***
Other factory costs	***	***	***	***	***
Total COGS	***	***	***	***	***
Gross profit	***	***	***	***	***
SG&A expense	***	***	***	***	***
Operating income or (loss)	***	***	***	***	***
All other expenses/(income), net	***	***	***	***	***
Net income or (loss)	***	***	***	***	***
Depreciation/amortization	***	***	***	***	***
Cash flow	***	***	***	***	***
	Ratio to net sales (percent)				
Cost of goods sold.-- Raw materials	***	***	***	***	***
Direct labor	***	***	***	***	***
Other factory costs	***	***	***	***	***
Average COGS	***	***	***	***	***
Gross profit	***	***	***	***	***
SG&A expense	***	***	***	***	***
Operating income or (loss)	***	***	***	***	***
Net income or (loss)	***	***	***	***	***

Table continued on next page.

Table VI-1—Continued
Methionine: Results of operations of U.S. producers, 2017-19, January to March 2019, and January to March 2020

Item	Calendar year			January to March	
	2017	2018	2019	2019	2020
	Ratio to total COGS (percent)				
Cost of goods sold.-- Raw materials	***	***	***	***	***
Direct labor	***	***	***	***	***
Other factory costs	***	***	***	***	***
Average COGS	***	***	***	***	***
	Unit value (dollars per short ton)				
Total net sales	***	***	***	***	***
Cost of goods sold.-- Raw materials	***	***	***	***	***
Direct labor	***	***	***	***	***
Other factory costs	***	***	***	***	***
Average COGS	***	***	***	***	***
Gross profit	***	***	***	***	***
SG&A expense	***	***	***	***	***
Operating income or (loss)	***	***	***	***	***
Net income or (loss)	***	***	***	***	***
	Number of firms reporting				
Operating losses	***	***	***	***	***
Net losses	***	***	***	***	***
Data	***	***	***	***	***

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

Table VI-2
Methionine: Changes in AUVs between calendar years and partial year periods

Item	Between calendar years			Between partial year period
	2017-19	2017-18	2018-19	2019-20
	Change in AUVs (percent)			
Total net sales	▼***	▲***	▼***	▼***
Cost of goods sold.-- Raw materials	▲***	▲***	▼***	▼***
Direct labor	▼***	▲***	▼***	▼***
Other factory costs	▼***	▲***	▼***	▼***
Average COGS	▼***	▲***	▼***	▼***
	Change in AUVs (dollars per short ton)			
Total net sales	▼***	▲***	▼***	▼***
Cost of goods sold.-- Raw materials	▲***	▲***	▼***	▼***
Direct labor	▼***	▲***	▼***	▼***
Other factory costs	▼***	▲***	▼***	▼***
Average COGS	▼***	▲***	▼***	▼***
Gross profit	▼***	▼***	▼***	▼***
SG&A expense	▼***	▼***	▼***	▼***
Operating income or (loss)	▼***	▼***	▼***	▼***
Net income or (loss)	▼***	▼***	▼***	▲***

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

Table VI-3
Methionine: Results of operations of U.S. producers, by firm, 2017-19, January to March 2019, and January to March 2020

Item	Calendar year			January to March	
	2017	2018	2019	2019	2020
	Total net sales (short tons)				
Evonik	***	***	***	***	***
Novus	***	***	***	***	***
All firms	***	***	***	***	***
	Total net sales (1,000 dollars)				
Evonik	***	***	***	***	***
Novus	***	***	***	***	***
All firms	***	***	***	***	***
	Cost of goods sold (1,000 dollars)				
Evonik	***	***	***	***	***
Novus	***	***	***	***	***
All firms	***	***	***	***	***
	Gross profit or (loss) (1,000 dollars)				
Evonik	***	***	***	***	***
Novus	***	***	***	***	***
All firms	***	***	***	***	***
	SG&A expenses (1,000 dollars)				
Evonik	***	***	***	***	***
Novus	***	***	***	***	***
All firms	***	***	***	***	***
	Operating income or (loss) (1,000 dollars)				
Evonik	***	***	***	***	***
Novus	***	***	***	***	***
All firms	***	***	***	***	***
	Net income or (loss) (1,000 dollars)				
Evonik	***	***	***	***	***
Novus	***	***	***	***	***
All firms	***	***	***	***	***
	COGS to net sales ratio (percent)				
Evonik	***	***	***	***	***
Novus	***	***	***	***	***
All firms	***	***	***	***	***

Table continued on next page.

Table VI-3—Continued
Methionine: Results of operations of U.S. producers, by firm, 2017-19, January to March 2019, and January to March 2020

Item	Calendar year			January to March	
	2017	2018	2019	2019	2020
	Gross profit or (loss) to net sales ratio (percent)				
Evonik	***	***	***	***	***
Novus	***	***	***	***	***
All firms	***	***	***	***	***
	SG&A expense to net sales ratio (percent)				
Evonik	***	***	***	***	***
Novus	***	***	***	***	***
All firms	***	***	***	***	***
	Operating income or (loss) to net sales ratio (percent)				
Evonik	***	***	***	***	***
Novus	***	***	***	***	***
All firms	***	***	***	***	***
	Net income or (loss) to net sales ratio (percent)				
Evonik	***	***	***	***	***
Novus	***	***	***	***	***
All firms	***	***	***	***	***
	Unit net sales value (dollars per short ton)				
Evonik	***	***	***	***	***
Novus	***	***	***	***	***
All firms	***	***	***	***	***
	Unit raw materials (dollars per short ton)				
Evonik	***	***	***	***	***
Novus	***	***	***	***	***
All firms	***	***	***	***	***
	Unit direct labor (dollars per short ton)				
Evonik	***	***	***	***	***
Novus	***	***	***	***	***
All firms	***	***	***	***	***
	Unit other factory costs (dollars per short ton)				
Evonik	***	***	***	***	***
Novus	***	***	***	***	***
All firms	***	***	***	***	***

Table continued on next page.

Table VI-3—Continued
Methionine: Results of operations of U.S. producers, by firm, 2017-19, January to March 2019, and January to March 2020

Item	Calendar year			January to March	
	2017	2018	2019	2019	2020
	Unit COGS (dollars per short ton)				
Evonik	***	***	***	***	***
Novus	***	***	***	***	***
All firms	***	***	***	***	***
	Unit gross profit or (loss) (dollars per short ton)				
Evonik	***	***	***	***	***
Novus	***	***	***	***	***
All firms	***	***	***	***	***
	Unit SG&A expenses (dollars per short ton)				
Evonik	***	***	***	***	***
Novus	***	***	***	***	***
All firms	***	***	***	***	***
	Unit operating income or (loss) (dollars per short ton)				
Evonik	***	***	***	***	***
Novus	***	***	***	***	***
All firms	***	***	***	***	***
	Unit net income or (loss) (dollars per short ton)				
Evonik	***	***	***	***	***
Novus	***	***	***	***	***
All firms	***	***	***	***	***

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

Net sales

As shown in table VI-1, total net sales quantity increased by *** percent from 2017 to 2018 and by *** percent from 2018 to 2019 while total net sales value increased by *** percent from 2017 to 2018 before decreasing by *** percent from 2018 to 2019. Net sales quantity was higher while net sales value was lower in January-March 2020 ("interim 2020") than in January-March 2019 ("interim 2019"). Average unit net sales values fluctuated, from $*** in 2017 to $*** in 2018 and then declined to $*** in 2019. The low per-unit value in 2019 reflects faster growth in sales volume compared to sales value, that is, U.S. producers sold more methionine but at a lower price.[4] Average unit net sales value was lower in interim 2020 than in interim 2019.

[4] ***.

Methionine sales include a variety of product mix based on chemical type (hydroxy analogue (also referred to as "MHA") or DL-Methionine (also referred to as "DLM")), physical form (dry or liquid), and activity level (84 percent, 88 percent, or 99 percent), resulting in production cost variations between the two U.S. producers.

Cost of goods sold and gross profit or (loss)

As shown in table VI-1, total cost of goods sold ("COGS") *** increased in absolute value from 2017 to 2019, but *** decreased on a per-unit basis and *** increased as a ratio to net sales. Average per unit value of COGS increased from $*** in 2017 to $*** in 2018 and then declined to $*** in 2019 and was lower in interim 2020 than in interim 2019. As a ratio to net sales total COGS increased from *** percent in 2017 to *** in 2018 and then to *** share of total COGS, ranging from *** to *** percent of total COGS from 2017 to 2019. Raw materials costs *** increased by *** percent in absolute values from 2017 to 2019 and were higher in interim 2020 than in interim 2019, primarily reflecting the increase in sales volume. On a per unit basis, raw materials costs fluctuated within a narrow range, from $*** to $*** from 2017 to 2019; average per unit raw material costs were lower in interim 2020 than in interim 2019. As a ratio to net sales, raw materials costs increased from *** percent in 2017 to *** percent in 2019 and were higher in interim 2020 than in interim 2019, primarily reflecting the decline in revenue over the same period. As shown in table VI-3, ***.[5] Witnesses at the conferences representing Novus testified that there are long-term contracts for raw material sourcing and petitioner's brief added that ***.[6]

Table VI-4 presents details on specific raw material inputs as a share of total raw material costs in 2019. Acrolein accounted for the largest share of raw material costs at *** percent, followed closely by methyl mercaptan at *** percent and then by reaction chemical hydrogen cyanide (*** percent). Other material inputs accounted for *** percent and include sulfuric acid, potassium hydroxide, and utilities.

[5] ***. In addition, ***. Conference transcript, pp. 75-78 (Klopfenstein), pp. 82-83 (Klopfenstein); and Evonik postconference brief, pp. 3-4.

[6] Conference transcript, p. 97 (Galo) and petitioner's postconference brief, p. 22.

Table VI-4
Methionine: Raw materials by type, 2017-19, January to March 2019, and January to March 2020

Raw materials	Calendar year 2019		
	Value (1,000 dollars)	Unit value (dollars per short ton)	Share of value (percent)
Acrolein	***	***	***
Methyl mercaptan	***	***	***
Hydrogen cyanide (reaction chemical)	***	***	***
Other material inputs	***	***	***
Total, raw materials	***	***	***

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

Other factory costs represent the *** share of total COGS and were also ***, ranging from *** percent to *** percent from 2017 to 2019. Other factory costs irregularly declined in absolute value and on a per unit basis from 2017 to 2019, but increased as a ratio to net sales. All three indicators were lower in interim 2020 compared to interim 2019. On a per unit basis, other factory costs fluctuated from $*** in 2017 to $*** in 2018 then down to $*** in 2019; per unit other factory costs were lower in interim 2020 than in interim 2019.

Direct labor costs represent the *** share of total COGS and were ***, ranging from *** percent to *** percent from 2017 to 2019. Direct labor costs increased by *** percent from 2017 to 2018 and then decreased by *** percent from 2018 to 2019; direct labor costs were lower in interim 2020 than in interim 2019 in absolute values. As a ratio to net sales, direct labor costs fluctuated within a narrow range, from *** percent to *** percent and were lower in interim 2020 than in interim 2019. Average per unit direct labor costs irregularly declined from low of $*** per unit in 2017 to $*** per unit in 2019; per unit direct labor costs were lower in interim 2020 than in interim 2019. ***.[7]

As presented in table VI-1, gross profit *** by *** percent from 2017 to 2019 (***). Gross margins also *** declined, from *** percent in 2017 to *** percent in 2018 and *** to *** percent in 2019. Gross profit and gross margins were both lower in interim 2020 than in interim 2019. Gross profit declined because revenue irregularly declined while COGS irregularly increased from 2017 to 2019. Revenue was lower and COGS was higher in interim 2020 compared to interim 2019.

[7] Evonik postconference brief, pp. 3-4.

SG&A expenses and operating income or (loss)

U.S. producers' selling, general, and administrative ("SG&A") expense ratios (i.e., total SG&A expenses divided by net sales) declined from a high of *** percent in 2017 to a low of *** percent in 2019. Absolute and per unit SG&A costs also declined each year from 2017 to 2019; both absolute and per unit SG&A expenses were lower in interim 2020 than in interim 2019.[8]

As presented in table VI-1, U.S. producers' operating income *** its gross profit trends, declining by *** percent from 2017 to 2018 and then declining further into an operating loss in 2019. Operating margins (i.e. operating income divided by net sales) followed the same directional pattern as ***, declining from a positive *** percent in 2017 to *** percent in 2018 and *** to a loss of *** percent in 2019. Operating results in both absolute and per unit measures as well as operating margins were all worse in interim 2020 than in interim 2019.

All other expenses and net income or (loss)

Classified below the operating income level are interest expenses, other expenses, and other income. In table VI-1, these items are aggregated with the net amount shown. The net "all other expenses" increased dramatically from 2017 to 2019 and was lower in interim 2020 than in interim 2019.[9] ***.

, the U.S. industry reported a positive net income of $ million in 2017, a net loss of $*** million in 2018, and a deeper net loss of $*** million in 2019; net losses were lower in interim 2020 than in interim 2019. The steep net losses reported by the U.S. industry in 2019 is primarily attributable to ***.[10]

---

[8] ***.

[9] *** U.S. producers reported interest expenses, with *** accounting for *** interest expenses from 2017 to 2019 and in interim 2020.

[10] A variance analysis is not shown due to the large variety of product mixes and differences in production processes.

Capital expenditures and research and development expenses, assets, and return on assets

Table VI-5 presents capital expenditures, research and development ("R&D") expenses, assets, and return on assets ("ROA") of U.S. producers, by firm. Table VI-6 provides U.S. producers' narrative responses regarding the nature and focus of their capital expenditures and R&D expenses as well as substantial changes in assets. Conference testimony on both panels emphasized the capital intensive nature of methionine production, with an estimate of $700 million to $2 billion capital investment cost for the construction of a new methionine facility.[11]

Table VI-5
Methionine: Capital expenditures, research and development expenses, total net assets, and operating return on assets for U.S. producers, by firm, 2017-19, January to March 2019, and January to March 2020

Item	Calendar year			January to March	
	2017	2018	2019	2019	2020
	Capital expenditures (1,000 dollars)				
Evonik	***	***	***	***	***
Novus	***	***	***	***	***
All firms	***	***	***	***	***
	Research and development expenses (1,000 dollars)				
Evonik	***	***	***	***	***
Novus	***	***	***	***	***
All firms	***	***	***	***	***
	Total net assets (1,000 dollars)				
Evonik	***	***	***		
Novus	***	***	***		
All firms	***	***	***		
	Operating return on assets (percent)				
Evonik	***	***	***		
Novus	***	***	***		
All firms	***	***	***		

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

[11] Conference transcript, p. 17 (Hux), p. 27 (Khalaf), and petitioner's postconference brief, p. 20.

Table VI-6
Methionine: Firms' narrative responses relating to capital expenditures, R&D expenses, and assets since January 1, 2017

Firm	Nature and focus of capital expenditures
***	***
***	***
	Nature and focus of R&D expenses
***	***
***	***
	Substantial changes in net assets
***	***
***	***

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

Capital and investment

The Commission requested U.S. producers of methionine to describe any actual or potential negative effects of imports of methionine from France, Japan, and Spain on their firms' growth, investment, ability to raise capital, development and production efforts, or the scale of capital investments. Table VI-7 presents the number of firms reporting an impact in each category and table VI-8 provides the U.S. producers' narrative responses.

Table VI-7
Methionine: Actual and anticipated negative effects of imports on investment, growth, and development, since January 1, 2017

Item	No	Yes
Negative effects on investment	1	1
Cancellation, postponement, or rejection of expansion projects		1
Denial or rejection of investment proposal		1
Reduction in the size of capital investments		1
Return on specific investments negatively impacted		1
Other		0
Negative effects on growth and development	1	1
Rejection of bank loans		0
Lowering of credit rating		0
Problem related to the issue of stocks or bonds		0
Ability to service debt		0
Other		1
Anticipated negative effects of imports	0	2

Note: ***.

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

Table VI-8
Methionine: Narratives relating to actual and anticipated negative effects of imports on investment, growth, and development, since January 1, 2017

Item / Firm	Narrative
Cancellation, postponement, or rejection of expansion projects:	
***	***
Denial or rejection of investment proposal:	
***	***
Reduction in the size of capital investments:	
***	***
Return on specific investments negatively impacted:	
***	***
Other effects on growth and development:	
***	***
Anticipated effects of imports:	
***	***
***	***

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

Part VII: Threat considerations and information on nonsubject countries

Section 771(7)(F)(i) of the Act (19 U.S.C. § 1677(7)(F)(i)) provides that—

> *In determining whether an industry in the United States is threatened with material injury by reason of imports (or sales for importation) of the subject merchandise, the Commission shall consider, among other relevant economic factors*[1]*--*
>
> *(I) if a countervailable subsidy is involved, such information as may be presented to it by the administering authority as to the nature of the subsidy (particularly as to whether the countervailable subsidy is a subsidy described in Article 3 or 6.1 of the Subsidies Agreement), and whether imports of the subject merchandise are likely to increase,*
>
> *(II) any existing unused production capacity or imminent, substantial increase in production capacity in the exporting country indicating the likelihood of substantially increased imports of the subject merchandise into the United States, taking into account the availability of other export markets to absorb any additional exports,*
>
> *(III) a significant rate of increase of the volume or market penetration of imports of the subject merchandise indicating the likelihood of substantially increased imports,*
>
> *(IV) whether imports of the subject merchandise are entering at prices that are likely to have a significant depressing or suppressing effect on domestic prices, and are likely to increase demand for further imports,*
>
> *(V) inventories of the subject merchandise,*

[1] Section 771(7)(F)(ii) of the Act (19 U.S.C. § 1677(7)(F)(ii)) provides that "The Commission shall consider {these factors} . . . as a whole in making a determination of whether further dumped or subsidized imports are imminent and whether material injury by reason of imports would occur unless an order is issued or a suspension agreement is accepted under this title. The presence or absence of any factor which the Commission is required to consider . . . shall not necessarily give decisive guidance with respect to the determination. Such a determination may not be made on the basis of mere conjecture or supposition."

(VI) the potential for product-shifting if production facilities in the foreign country, which can be used to produce the subject merchandise, are currently being used to produce other products,

(VII) in any investigation under this title which involves imports of both a raw agricultural product (within the meaning of paragraph (4)(E)(iv)) and any product processed from such raw agricultural product, the likelihood that there will be increased imports, by reason of product shifting, if there is an affirmative determination by the Commission under section 705(b)(1) or 735(b)(1) with respect to either the raw agricultural product or the processed agricultural product (but not both),

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

(IX) any other demonstrable adverse trends that indicate the probability that there is likely to be material injury by reason of imports (or sale for importation) of the subject merchandise (whether or not it is actually being imported at the time).[2]

Information on the nature of the alleged dumping 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 U.S. producers' existing development and production efforts is presented in *Part VI*. Information on inventories of the subject merchandise; foreign producers' operations, including the potential for "product-shifting;" any other threat indicators, if applicable; and any dumping in third-country markets, follows. Also presented in this section of the report is information obtained for consideration by the Commission on nonsubject countries.

[2] Section 771(7)(F)(iii) of the Act (19 U.S.C. § 1677(7)(F)(iii)) further provides that, in antidumping investigations, ". . . the Commission shall consider whether dumping in the markets of foreign countries (as evidenced by dumping findings or antidumping remedies in other WTO member markets against the same class or kind of merchandise manufactured or exported by the same party as under investigation) suggests a threat of material injury to the domestic industry."

The industry in France

The Commission issued foreign producers' or exporters' questionnaires to one firm, Adisseo France, who is believed to produce and/or export methionine from France.[3] Adisseo France provided a usable response to the Commission's questionnaire. Adisseo France's exports to the United States accounted for *** percent of U.S. imports of methionine from France in 2019. According to estimates provided by Adisseo France, its production of methionine in France accounts for approximately *** percent of overall production of methionine in France. Table VII-1 presents information on the Adisseo France's methionine operations.

Table VII-1
Methionine: Summary data for producers in France, 2019

Firm	Production (short tons)	Share of reported production (percent)	Exports to the United States (short tons)	Share of reported exports to the United States (percent)	Total shipments (short tons)	Share of firm's total shipments exported to the United States (percent)
Adisseo France	***	***	***	***	***	***

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

Changes in operations

In December 2019, Adisseo France reported the conclusion of the Polar Project, which was a 110 million Euro investment project aimed to increase the production capacity of liquid methionine in Europe.[4] The three-year operational construction phase concluded with the activation of a new effluent treatment and a new unloading station for methyl mercaptan (MSH) wagons on the Saint Clair du Rhône site.[5] On December 20, 2019, Adisseo declared a force majeure in France due to the national rail strikes reducing its ability to source raw materials and ship its product. The force majeure was lifted in February 2020.[6]

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[3] These firms were identified through a review of information submitted in the petitions and contained in *** records.

[4] Adisseo Sustainability Report, 2019.

[5] Ibid.

[6] *Adisseo Declares Force Majeure for Some Methionine Products in France*, December 20, 2019, https://marketing.feedinfo.com/adisseo-declares-force-majeure-for-some-methionine-products-in-france/, retrieved August 27, 2020 and "Adisseo Lifts Force Majeure for Some Methionine Products in France, " February 20, 2020, https://marketing.feedinfo.com/adisseo-lifts-force-majeure-for-some-methionine-products-in-france/, retrieved August 27, 2020.

Operations on methionine

Table VII-2 presents information on Adisseo France's methionine operations in France.

Table VII-2
Methionine: Data on industry in France, 2017-19, January to March 2019, January to March 2020, and projection calendar years 2020 and 2021

Item	Actual experience					Projections	
	Calendar year			January to March		Calendar year	
	2017	2018	2019	2019	2020	2020	2021
	Quantity (short tons)						
Capacity	***	***	***	***	***	***	***
Production	***	***	***	***	***	***	***
End-of-period inventories	***	***	***	***	***	***	***
Shipments:							
Home market shipments:							
Internal consumption/ transfers	***	***	***	***	***	***	***
Commercial home market shipments	***	***	***	***	***	***	***
Total home market shipments	***	***	***	***	***	***	***
Export shipments to:							
United States	***	***	***	***	***	***	***
All other markets	***	***	***	***	***	***	***
Total exports	***	***	***	***	***	***	***
Total shipments	***	***	***	***	***	***	***
	Ratios and shares (percent)						
Capacity utilization	***	***	***	***	***	***	***
Inventories/production	***	***	***	***	***	***	***
Inventories/total shipments	***	***	***	***	***	***	***
Share of shipments:							
Home market shipments:							
Internal consumption/ transfers	***	***	***	***	***	***	***
Commercial home market shipments	***	***	***	***	***	***	***
Total home market shipments	***	***	***	***	***	***	***
Export shipments to:							
United States	***	***	***	***	***	***	***
All other markets	***	***	***	***	***	***	***
Total exports	***	***	***	***	***	***	***
Total shipments	***	***	***	***	***	***	***

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

After *** by *** percent from 2017 to 2018, Adisseo France's production capacity *** by *** percent from 2018 to 2019, ending *** percent *** in 2019 than in 2017. Adisseo France's production capacity was *** percent *** in interim 2020 than in interim 2019. It is projected to *** by *** percent in 2020, but then *** by *** percent from 2020 to 2021. Adisseo France's production fluctuated year to year, *** by *** percent from 2017 to 2018, but then *** by *** percent from 2018 to 2019, ending *** percent *** in 2019 than in 2017. However, Adisseo France's production was *** percent *** in interim 2020 than in interim 2019. It is projected to *** by *** percent in 2020, but then *** by *** percent from 2020 to 2021.

As a result of its production capacity *** while its production *** during 2017-19, Adisseo France's capacity utilization *** from *** percent in 2017 to *** percent in 2019. It was *** percent in interim 2020, compared with *** percent in interim 2019. Adisseo France's capacity utilization is projected to be *** percent in 2020 and *** percent in 2021.

Adisseo France's home market shipments *** by *** percent during 2017-19, with the majority of the *** occurring from 2017 to 2018. Its home market shipments were *** percent *** in interim 2020 than in interim 2019. Adisseo France's home market shipments are projected to *** by *** percent in 2020 and by *** percent from 2020 to 2021.

Export shipments accounted for *** of Adisseo France's total shipments (*** percent in each year during 2017-19 and *** percent in interim 2020). Export shipments to the United States accounted for *** share of Adisseo France's total exports (no more than *** percent in any year during 2017-19). ***, Adisseo France's export shipments to the United States *** by *** percent from 2017 to 2018, but then *** by *** percent from 2018 to 2019, ending *** percent *** in 2019 than in 2017. Adisseo France's export shipments were *** percent *** in interim 2020 than in interim 2019. They are projected to *** by *** percent in 2020, but *** by *** percent from 2020 to 2021.

Alternative products

***.

Exports of methionine and organo-compounds

Table VII-3 presents data for exports of methionine and organo-compounds from France in descending order of quantity for 2019. The leading export markets for methionine and organo-compounds from France, by quantity, in 2019 were Belgium, Netherlands, Italy, and Germany, accounting for 22.7 percent, 13.8 percent, 9.8 percent, and 8.4 percent, respectively. The United States was the fifth largest export market for methionine and organo-compounds from France, accounting for 6.9 percent of all exports.

Table VII-3
Methionine and organo-compounds: Exports from France by destination market, 2017-19

Destination market	Calendar year		
	2017	2018	2019
	Quantity (short tons)		
United States	6,609	3,647	4,674
Belgium	13,351	14,172	15,320
Netherlands	10,850	9,861	9,360
Italy	6,348	5,764	6,605
Germany	6,287	5,898	5,703
Spain	100,469	102,233	3,963
United Kingdom	2,341	2,773	2,349
Hungary	1,873	2,038	1,960
China	2,163	1,921	1,900
All other destination markets	17,135	15,491	15,757
All destination markets	167,426	163,798	67,591
	Value (1,000 dollars)		
United States	20,057	19,126	19,834
Belgium	18,299	19,593	20,972
Netherlands	25,324	27,466	25,138
Italy	14,622	16,443	16,427
Germany	18,726	19,781	18,082
Spain	120,594	140,530	14,161
United Kingdom	5,586	9,522	5,655
Hungary	2,363	2,715	3,098
China	5,910	6,718	7,724
All other destination markets	55,138	52,317	61,212
All destination markets	286,620	314,209	192,302

Table continued on next page.

Table VII-3—Continued
Methionine and organo-compounds: Exports from France by destination market, 2017-19

Destination market	Calendar year		
	2017	2018	2019
	Unit value (dollars per short ton)		
United States	3,035	5,244	4,243
Belgium	1,371	1,382	1,369
Netherlands	2,334	2,785	2,686
Italy	2,303	2,853	2,487
Germany	2,978	3,354	3,171
Spain	1,200	1,375	3,573
United Kingdom	2,386	3,434	2,407
Hungary	1,261	1,332	1,580
China	2,732	3,497	4,065
All other destination markets	3,218	3,377	3,885
All destination markets	1,712	1,918	2,845
	Share of quantity (percent)		
United States	3.9	2.2	6.9
Belgium	8.0	8.7	22.7
Netherlands	6.5	6.0	13.8
Italy	3.8	3.5	9.8
Germany	3.8	3.6	8.4
Spain	60.0	62.4	5.9
United Kingdom	1.4	1.7	3.5
Hungary	1.1	1.2	2.9
China	1.3	1.2	2.8
All other destination markets	10.2	9.5	23.3
All destination markets	100.0	100.0	100.0

Note: United States is shown at the top, all remaining top export destinations shown in descending order of 2019 data. HS subheadings 2930.40 and 2930.90 contain products outside the scope of these investigations.

Source: Official exports statistics under HS subheadings 2930.40 and 2930.90, as reported by Eurostat in the Global Trade Atlas database, accessed August 13, 2020.

The industry in Japan

The Commission issued foreign producers' or exporters' questionnaires to one firm, Sumitomo Chemical, who is believed to produce and/or export methionine from Japan.[7] Sumitomo Chemical provided a usable response to the Commission's questionnaire. Sumitomo Chemical's exports to the United States accounted for *** U.S. imports of methionine from Japan in 2019. According to estimates provided by Sumitomo Chemical, its production of methionine in Japan accounts for approximately *** percent of overall production of methionine in Japan. Table VII-4 presents information on the Sumitomo Chemical's methionine operations.

Table VII-4
Methionine: Summary data for producers in Japan, 2019

Firm	Production (short tons)	Share of reported production (percent)	Exports to the United States (short tons)	Share of reported exports to the United States (percent)	Total shipments (short tons)	Share of firm's total shipments exported to the United States (percent)
Sumitomo	***	***	***	***	***	***

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

Changes in operations

Table VII-5 presents Sumitomo Chemical's reported changes in operations since January 1, 2017. In October 2018, Sumitomo Chemical expanded the methionine production capacity of its facility at Ehime, Japan from approximately 150,000 metric tons per year to approximately 250,000 metric tons per year.[8] In September 2019, Sumitomo Chemical idled production at one of its oldest methionine facilities in Ehime due to high maintenance costs and lower efficiency.[9]

[7] These firms were identified through a review of information submitted in the petitions and contained in *** records.

[8] *Feed Additive Methionine Logistics Operations Certified by Government as "Comprehensive Efficiency Plan*, https://www.sumitomo-chem.co.jp/english/news/detail/20190415e.html, retrieved August 19, 2020.

[9] *Sumitomo Boosts Methionine Production Efficiency*, https://www.powderbulksolids.com/wire-cloth/sumitomo-boosts-methionine-production-efficiency, retrieved August 21, 2020.

Table VII-5
Methionine: Reported changes in operations by producers in Japan, since January 1, 2017

Item / Firm	Reported changed in operations
Plant closings:	
***	***
Expansions:	
***	***

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

Operations on methionine

Table VII-6 presents information on Sumitomo Chemical's methionine operations in Japan. Sumitomo Chemical's production capacity *** in each year during 2017-19, ending *** percent *** in 2019 than in 2017.[10] However, Sumitomo Chemical's production capacity was *** percent *** in interim 2020 than in interim 2019. It is projected to *** by *** percent in 2020 and *** from 2020 to 2021. Sumitomo Chemical's production *** by *** percent from 2017 to 2019, with the majority of the *** occurring from 2018 to 2019. However, Sumitomo Chemical's production was *** percent *** in interim 2020 than in interim 2019. It is projected to *** by *** percent in 2020 and *** from 2020 to 2021.

As a result of its production capacity increasing at a higher rate than its production during 2017-19, Sumitomo Chemical's capacity utilization *** from *** percent in 2017 to *** percent in 2019. It was *** percent in interim 2020, compared with *** percent in interim 2019. Sumitomo Chemical's capacity utilization is projected to be *** percent in 2020 and in 2021.

[10] According to ***. Email message from ***, August 17, 2020.

Table VII-6
Methionine: Data on industry in Japan, 2017-19, January to March 2019, January to March 2020, and projection calendar years 2020 and 2021

Item	Actual experience					Projections	
	Calendar year			January to March		Calendar year	
	2017	2018	2019	2019	2020	2020	2021
	Quantity (short tons)						
Capacity	***	***	***	***	***	***	***
Production	***	***	***	***	***	***	***
End-of-period inventories	***	***	***	***	***	***	***
Shipments:							
Home market shipments:							
Internal consumption/ transfers	***	***	***	***	***	***	***
Commercial home market shipments	***	***	***	***	***	***	***
Total home market shipments	***	***	***	***	***	***	***
Export shipments to:							
United States	***	***	***	***	***	***	***
All other markets	***	***	***	***	***	***	***
Total exports	***	***	***	***	***	***	***
Total shipments	***	***	***	***	***	***	***
	Ratios and shares (percent)						
Capacity utilization	***	***	***	***	***	***	***
Inventories/production	***	***	***	***	***	***	***
Inventories/total shipments	***	***	***	***	***	***	***
Share of shipments:							
Home market shipments:							
Internal consumption/ transfers	***	***	***	***	***	***	***
Commercial home market shipments	***	***	***	***	***	***	***
Total home market shipments	***	***	***	***	***	***	***
Export shipments to:							
United States	***	***	***	***	***	***	***
All other markets	***	***	***	***	***	***	***
Total exports	***	***	***	***	***	***	***
Total shipments	***	***	***	***	***	***	***

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

Sumitomo Chemical's home market shipments accounted for *** of its total shipments during 2017-19 and in interim 2020 (no more than *** percent). ***, Sumitomo Chemical's home market shipments *** by *** percent from 2017 to 2018, but then *** by *** percent from 2018 to 2019, ending *** percent *** in 2019 than in 2017. Sumitomo Chemical's home market shipments were *** percent *** in interim 2020 than in interim 2019. It is projected to *** by *** percent in 2020 and *** from 2020 to 2021.

Export shipments accounted for *** of Sumitomo Chemical's total shipments during 2017-19 and in interim 2020 (at least *** percent in each period). Export shipment to the United States accounted for a *** share of Sumitomo Chemical's total export shipments during 2017-19 (no more than *** percent). ***, exports to the United States accounted for a larger share of Sumitomo Chemical's export shipments in interim 2020 (*** percent). Sumitomo Chemical's export shipments to the United States *** in each year during 2017-19, ending *** percent *** in 2019 than in 2017. It was *** percent *** in interim 2020 than in interim 2019. Sumitomo Chemical's export shipments to the United States are projected to *** by *** percent in 2020 and *** from 2020 to 2021.

Alternative products

***.

Exports of methionine and organo-compounds

Table VII-7 presents data for exports of methionine and organo-compounds from Japan in descending order of quantity for 2019. The leading export markets for methionine and organo-compounds from Japan in 2019, by quantity, were China, Belgium, the United States, and Indonesia, accounting for 17.8 percent, 10.1 percent, 7.8 percent, and 5.8 percent, respectively.

Table VII-7
Methionine: Exports from Japan by destination market, 2017-19

Destination market	Calendar year		
	2017	2018	2019
	Quantity (short tons)		
United States	12,850	14,238	19,669
China	49,257	41,277	44,851
Belgium	10,667	11,505	25,380
Indonesia	10,833	10,023	14,661
Brazil	5,811	6,326	14,234
Vietnam	7,441	6,318	12,876
South Korea	8,496	9,822	11,956
India	7,737	8,643	11,503
Thailand	8,088	7,195	11,158
All other destination markets	48,934	52,300	85,208
All destination markets	170,114	167,647	251,496
	Value (1,000 dollars)		
United States	73,649	72,696	86,278
China	163,031	147,685	148,180
Belgium	26,409	28,361	55,654
Indonesia	23,850	22,076	26,164
Brazil	14,371	15,428	26,495
Vietnam	27,924	27,756	41,921
South Korea	61,009	68,623	68,200
India	21,666	24,797	29,866
Thailand	37,983	39,858	45,579
All other destination markets	164,765	167,787	208,115
All destination markets	614,656	615,069	736,453

Table continued on next page.

Table VII-7—Continued
Methionine: Exports from Japan by destination market, 2017-19

Destination market	Calendar year		
	2017	2018	2019
	Unit value (dollars per short ton)		
United States	5,731	5,106	4,387
China	3,310	3,578	3,304
Belgium	2,476	2,465	2,193
Indonesia	2,202	2,203	1,785
Brazil	2,473	2,439	1,861
Vietnam	3,753	4,393	3,256
South Korea	7,181	6,987	5,704
India	2,800	2,869	2,596
Thailand	4,696	5,540	4,085
All other destination markets	3,367	3,208	2,442
All destination markets	3,613	3,669	2,928
	Share of quantity (percent)		
United States	7.6	8.5	7.8
China	29.0	24.6	17.8
Belgium	6.3	6.9	10.1
Indonesia	6.4	6.0	5.8
Brazil	3.4	3.8	5.7
Vietnam	4.4	3.8	5.1
South Korea	5.0	5.9	4.8
India	4.5	5.2	4.6
Thailand	4.8	4.3	4.4
All other destination markets	28.8	31.2	33.9
All destination markets	100.0	100.0	100.0

Note: United States is shown at the top, all remaining top export destinations shown in descending order of 2019 data. HTS subheadings 2930.40 and 2930.90 contain products outside the scope of these investigations.

Source: Official exports statistics under HS subheadings 2930.40 and 2930.90, as reported by Japan Ministry of Finance in the Global Trade Atlas database, accessed August 13, 2020.

The industry in Spain

The Commission issued foreign producers' or exporters' questionnaires to one firm, Adisseo España, who is believed to produce and/or export methionine from Spain.[11] Adisseo España provided a usable response to the Commission's questionnaire. Adisseo España exports to the United States accounted for *** percent of U.S. imports of methionine from Spain in 2019. According to estimates provided by Adisseo España, its production of methionine accounts for approximately *** percent of overall production of methionine in Spain. Table VII-8 presents information on the Adisseo España's methionine operations.

Table VII-8
Methionine: Summary data for producers in Spain, 2019

Firm	Production (short tons)	Share of reported production (percent)	Exports to the United States (short tons)	Share of reported exports to the United States (percent)	Total shipments (short tons)	Share of firm's total shipments exported to the United States (percent)
Adisseo España	***	***	***	***	***	***

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

Changes in operations

Table VII-9 presents Adisseo España's reported changes in operations since January 1, 2017. In 2019, Adisseo announced the completion of a new ADRY+ production unit at the its plant in Burgos, Spain.[12] Adisseo states that ADRY+ is a strategic project that will expand the market for its Rhodimet® AT88 liquid methionine, as well as consolidate the long-term future of the Burgos facility.[13] According to Adisseo, Rhodimet® AT88 is a calcium salt of Rhodimet® enriched with AT88 to deliver the benefits of this product (the same efficacity value › 88%) to customers whose process cannot use the liquid form of methionine.[14]

[11] These firms were identified through a review of information submitted in the petitions and contained in *** records.

[12] *ADRY+: A New Type of Methionine Is Born*, https://www.adisseo.com/en/sites/adisseo-burgos-spain/, retrieved August 21, 2020.

[13] Ibid.

[14] Ibid.

Table VII-9
Methionine: Reported changes in operations by producers in Spain, since January 1, 2017

Item / Firm	Reported changed in operations
Plant openings:	
***	***
Expansions:	
***	***

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

Operations on methionine

Table VII-10 presents information on Adisseo España's methionine operations in Spain. Adisseo España's production capacity *** in each year during 2017-19, ending *** percent higher in 2019 than in 2017. Adisseo España's production capacity was *** percent *** in interim 2020 than in interim 2019. It is projected to *** by *** percent in 2020 and *** by *** percent from 2020 to 2021. Adisseo España's production *** by *** percent from 2017 to 2019 and was *** percent *** in interim 2020 than in interim 2019. It is projected to *** by *** percent in 2020 and *** by *** percent from 2020 to 2021.

As a result of its production *** at a *** rate than its production capacity during 2017-19, Adisseo España's capacity utilization *** from *** percent in 2017 to *** percent in 2019. It was *** percent in interim 2020, compared with *** percent in interim 2019. Adisseo España's capacity utilization is projected to be *** percent in 2020 and *** percent in 2021 as ***.

Adisseo España's home market shipments accounted for a *** of its total U.S. shipments during 2017-19 and in interim 2020 (no more than *** percent in any period). However, Adisseo España's home market shipments *** by *** percent during 2017-19, with the majority of the *** occurring from 2018 to 2019. Adisseo España's home market shipments were *** percent *** in interim 2020 than in interim 2019. It is projected to *** by *** percent in 2020 and by *** percent from 2020 to 2021.

Table VII-10
Methionine: Data on industry in Spain, 2017-19, January to March 2019, January to March 2020, and projection calendar years 2020 and 2021

Item	Actual experience					Projections	
	Calendar year			January to March		Calendar year	
	2017	2018	2019	2019	2020	2020	2021
	Quantity (short tons)						
Capacity	***	***	***	***	***	***	***
Production	***	***	***	***	***	***	***
End-of-period inventories	***	***	***	***	***	***	***
Shipments:							
Home market shipments:							
Internal consumption/ transfers	***	***	***	***	***	***	***
Commercial home market shipments	***	***	***	***	***	***	***
Total home market shipments	***	***	***	***	***	***	***
Export shipments to:							
United States	***	***	***	***	***	***	***
All other markets	***	***	***	***	***	***	***
Total exports	***	***	***	***	***	***	***
Total shipments	***	***	***	***	***	***	***
	Ratios and shares (percent)						
Capacity utilization	***	***	***	***	***	***	***
Inventories/production	***	***	***	***	***	***	***
Inventories/total shipments	***	***	***	***	***	***	***
Share of shipments:							
Home market shipments:							
Internal consumption/ transfers	***	***	***	***	***	***	***
Commercial home market shipments	***	***	***	***	***	***	***
Total home market shipments	***	***	***	***	***	***	***
Export shipments to:							
United States	***	***	***	***	***	***	***
All other markets	***	***	***	***	***	***	***
Total exports	***	***	***	***	***	***	***
Total shipments	***	***	***	***	***	***	***

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

Export shipments accounted for *** of Adisseo España's total shipments during 2017-19 and in interim 2020 (*** percent in each year and *** percent in interim 2020). Export shipments to the United States accounted for ***, but ***, share of Adisseo España's total export shipments during 2017-19 and in interim 2020. Adisseo España's export shipments to the United States *** during 2017-19, with most of the *** occurring from 2018 to 2019. It was *** percent *** in interim 2020 than in interim 2019. Adisseo España's export shipments to the United States are projected to *** by *** percent in 2020 and by *** percent from 2020 to 2021.

Alternative products

***.

Exports of methionine and organo-compounds

Table VII-11 presents data for exports of methionine and organo-compounds from Spain in descending order of quantity for 2019. The leading export markets for methionine and organo-compounds from Spain in 2019, by quantity, were Brazil, the United States, Belgium, and France, accounting for 28.5 percent, 25.3 percent, 7.0 percent, and 6.8 percent, respectively.

Table VII-11
Methionine: Exports from Spain by destination market, 2017-19

Destination market	Calendar year		
	2017	2018	2019
	Quantity (short tons)		
United States	12,822	13,184	34,786
Brazil	45,181	48,726	39,099
Belgium	19,251	14,332	9,545
France	9,588	10,891	9,366
Austria	5,896	4,295	7,692
Morocco	4,806	4,144	4,269
Ukraine	923	2,287	3,474
Colombia	1,073	3,855	3,384
Italy	4,517	3,496	3,296
All other destination markets	34,511	32,082	22,387
All destination markets	138,568	137,292	137,298
	Value (1,000 dollars)		
United States	26,489	28,378	60,249
Brazil	75,640	82,944	56,174
Belgium	24,737	18,872	12,475
France	19,172	21,829	15,199
Austria	5,336	5,584	9,915
Morocco	10,126	8,619	7,033
Ukraine	2,132	5,102	5,731
Colombia	2,819	8,442	6,373
Italy	17,188	16,087	11,009
All other destination markets	89,666	84,025	61,962
All destination markets	273,306	279,882	246,120

Table continued on next page.

Table VII-11—Continued
Methionine: Exports from Spain by destination market, 2017-19

Destination market	Calendar year		
	2017	2018	2019
	Unit value (dollars per short ton)		
United States	2,066	2,152	1,732
Brazil	1,674	1,702	1,437
Belgium	1,285	1,317	1,307
France	2,000	2,004	1,623
Austria	905	1,300	1,289
Morocco	2,107	2,080	1,647
Ukraine	2,309	2,231	1,650
Colombia	2,627	2,190	1,883
Italy	3,805	4,602	3,340
All other destination markets	2,598	2,619	2,768
All destination markets	1,972	2,039	1,793
	Share of quantity (percent)		
United States	9.3	9.6	25.3
Brazil	32.6	35.5	28.5
Belgium	13.9	10.4	7.0
France	6.9	7.9	6.8
Austria	4.3	3.1	5.6
Morocco	3.5	3.0	3.1
Ukraine	0.7	1.7	2.5
Colombia	0.8	2.8	2.5
Italy	3.3	2.5	2.4
All other destination markets	24.9	23.4	16.3
All destination markets	100.0	100.0	100.0

Note: United States is shown at the top, all remaining top export destinations shown in descending order of 2019 data. HTS subheadings 2930.40 and 2930.90 contain products outside the scope of these investigations.

Source: Official mirror import statistics under HS subheading 2930.40 and 2930.90, as reported by UN Comtrade in the Global Trade Atlas database, accessed August 21, 2020.

Subject countries combined

Table VII-12 presents summary data on methionine operations of the reporting foreign producers in the subject countries.

Table VII-12
Methionine: Data on the industry in subject countries, 2017-19, January to March 2019, January to March 2020, and projection calendar years 2020 and 2021

Item	Actual experience					Projections	
	Calendar year			January to March		Calendar year	
	2017	2018	2019	2019	2020	2020	2021
	Quantity (short tons)						
Capacity	***	***	***	***	***	***	***
Production	***	***	***	***	***	***	***
End-of-period inventories	***	***	***	***	***	***	***
Shipments:							
Home market shipments:							
Internal consumption/ transfers	***	***	***	***	***	***	***
Commercial home market shipments	***	***	***	***	***	***	***
Total home market shipments	***	***	***	***	***	***	***
Export shipments to:							
United States	***	***	***	***	***	***	***
All other markets	***	***	***	***	***	***	***
Total exports	***	***	***	***	***	***	***
Total shipments	***	***	***	***	***	***	***
	Ratios and shares (percent)						
Capacity utilization	***	***	***	***	***	***	***
Inventories/production	***	***	***	***	***	***	***
Inventories/total shipments	***	***	***	***	***	***	***
Share of shipments:							
Home market shipments:							
Internal consumption/ transfers	***	***	***	***	***	***	***
Commercial home market shipments	***	***	***	***	***	***	***
Total home market shipments	***	***	***	***	***	***	***
Export shipments to:							
United States	***	***	***	***	***	***	***
All other markets	***	***	***	***	***	***	***
Total exports	***	***	***	***	***	***	***
Total shipments	***	***	***	***	***	***	***

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

The collective annual production capacity for the responding foreign producers in the subject countries increased by *** percent during 2017-19 and was *** percent higher in interim 2020 than in interim 2019. Their collective annual production capacity is projected to increase by *** percent in 2020 and decrease by *** percent from 2020 to 2021. Responding foreign producers' collective production in the subject countries increased by *** percent during 2017-19 and was *** percent higher in interim 2020 than in interim 2019. It is projected to increase by *** percent in 2020, but decrease by *** percent from 2020 to 2021. Responding foreign producers' capacity utilization in the subject countries decreased from *** percent in 2019 to *** percent in 2017. It was *** percent in interim 2020, compared with *** percent in interim 2019. Responding foreign producers' capacity utilization in the subject countries is projected to be *** percent in 2020 and *** percent in 2021.

Responding foreign producers' collective home market shipments in the subject countries increased by *** percent during 2017-19 and was *** percent lower in interim 2020 than in interim 2019. It is projected to increase by *** percent in 2020 and by *** percent from 2020 to 2021. Responding foreign producers' collective exports to the United States *** during 2017-19 and were *** percent higher in interim 2020 than in interim 2019. They are projected to increase by *** percent in 2020 and by *** percent from 2020 to 2021.

U.S. inventories of imported merchandise

Table VII-13 presents data on U.S. importers' reported end-of-period inventories of methionine. U.S. importers' end-of-period inventories of imports from France decreased by *** percent during 2017-19 while U.S. importers' end-of-period inventories of imports from Japan and of imports from Spain increased by *** percent and *** percent, respectively.[15] End-of-period inventories of imports from France and of imports from Spain were *** percent and *** percent higher in interim 2020 than in interim 2019 while end-of-period inventories of imports from Japan were *** percent lower in interim 2020 than in interim 2019.

[15] The increase in end-of-period inventories of imports from Spain during 2017-19 is driven, in part, by the *** increase in the quantity of imports from Spain during the period.

Table VII-13
Methionine: U.S. importers' end-of-period inventories of imports by source, 2017-19, January to March 2019, and January to March 2020

Item	Calendar year			January to March	
	2017	2018	2019	2019	2020
	Inventories (short tons); Ratios (percent)				
Imports from France					
Inventories	***	***	***	***	***
Ratio to U.S. imports	***	***	***	***	***
Ratio to U.S. shipments of imports	***	***	***	***	***
Ratio to total shipments of imports	***	***	***	***	***
Imports from Japan					
Inventories	***	***	***	***	***
Ratio to U.S. imports	***	***	***	***	***
Ratio to U.S. shipments of imports	***	***	***	***	***
Ratio to total shipments of imports	***	***	***	***	***
Imports from Spain					
Inventories	***	***	***	***	***
Ratio to U.S. imports	***	***	***	***	***
Ratio to U.S. shipments of imports	***	***	***	***	***
Ratio to total shipments of imports	***	***	***	***	***
Imports from subject sources:					
Inventories	***	***	***	***	***
Ratio to U.S. imports	***	***	***	***	***
Ratio to U.S. shipments of imports	***	***	***	***	***
Ratio to total shipments of imports	***	***	***	***	***
Imports from nonsubject sources:					
Inventories	***	***	***	***	***
Ratio to U.S. imports	***	***	***	***	***
Ratio to U.S. shipments of imports	***	***	***	***	***
Ratio to total shipments of imports	***	***	***	***	***
Imports from all import sources:					
Inventories	***	***	***	***	***
Ratio to U.S. imports	***	***	***	***	***
Ratio to U.S. shipments of imports	***	***	***	***	***
Ratio to total shipments of imports	***	***	***	***	***

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

U.S. importers' outstanding orders

The Commission requested importers to indicate whether they imported or arranged for the importation of methionine from France, Japan, or Spain after March 31, 2020. In each period for which data were collected, imports from Spain accounted for the largest share of arranged imports. Imports from Japan accounted for the second largest share of arranged imports for April-September 2020 while imports from France accounted for the second largest share of arranged imports for October 2020-March 2021. Table VII-14 presents data for the quantity of methionine arranged for U.S. importation after March 31, 2020.

Table VII-14
Methionine: Arranged imports, April 2020 through March 2021

Item	Period				
	Apr-Jun 2020	Jul-Sep 2020	Oct-Dec 2020	Jan-Mar 2021	Total
	Quantity (short tons)				
Arranged U.S. imports from.--					
France	***	***	***	***	***
Japan	***	***	***	***	***
Spain	***	***	***	***	***
Subject sources	***	***	***	***	***
Nonsubject sources	***	***	***	***	***
All import sources	***	***	***	***	***

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

Antidumping or countervailing duty orders in third-country markets

On April 10, 2019, China announced an antidumping case of imports of methionine from Singapore, Japan, and Malaysia.[16] On April 3, 2020, MOFCOM announced it would extend the period of investigation by 6 months until October 10, 2020.[17]

[16] Ministry of Commerce, People's Republic of China (MOFCOM), MOFCOM Announcement No. 16 of 2019 on Filing Anti-dumping Investigation against Imports of Methionine Originating in Singapore, Malaysia and Japan," April 11, 2019, found at http://english.mofcom.gov.cn/article/policyrelease/buwei/201904/20190402854006.shtml, retrieved August 22, 2020.

[17] Evonik, "MOFCOM, China Expands the Investigation Period of Methionine Anti-Dumping Case by Six Months," Press Release, April 3, 2020, found at https://animal-nutrition.evonik.com/en/mofcom-china-expands-the-investigation-period-of-methionine-anti-dumping-case-by-six-months-127761.html, retrieved August 22, 2020.

Information on nonsubject countries

Nonsubject imports declined significantly during 2017-19 from 30,916 short tons (accounting for about 50 percent of total U.S. methionine imports) in 2017 to 9,054 short tons (13 percent) in 2019. China and Malaysia were consistent nonsubject suppliers of methionine during 2017-19, but while such imports from Malaysia increased slightly during the period from 4,455 short tons to 5,102 short tons (accounting for about 56 percent of total U.S. nonsubject imports in 2019), imports from China declined significantly from 24,012 short tons to 3,936 short tons (about 43 percent of total U.S. nonsubject imports in 2019). In 2019 alone, U.S. imports of methionine from China declined from 3,885 short tons during January-June to 51 short tons during July-December 2019. In comparison, such imports during January-June 2020 amounted to 158 short tons.

Methionine manufacturing capacity worldwide increased significantly in recent years, particularly in Asia (the overall increase was reportedly spurred by increasing demand for methionine in Asia, Eastern Europe, South America, and other world regions).[18] Tables VII-15 and VII-16 list capacity and production levels in some of the major producing countries:

[18] Prescient & Strategic Intelligence, Methionine Market Research Report: by Form (Powder, Liquid), by Application (Animal Feed Additives, Pharmaceuticals, Food Processing, Aquaculture), Type (DL-Methionine, L-Methionine, Methionine Hydroxy Analog) – Global Market Size, Share, Development, Growth, and Demand Forecast, 2013–2023, found at https://www.psmarketresearch.com/market-analysis/methionine-market, retrieved August 22, 2020. ***. This market research report indicates that Asia Pacific is "the fastest growing region" for methionine, estimating the market will grow by 10.3 percent during 2018-23. It adds that of all the forms, liquid methionine is expected to see the largest growth, estimating a compound annual growth rate of 32.2 percent.

Table VII-15
Methionine: Production capacity levels in major producing countries, 2019

Region or country	DLM	MHA	L-Methionine (feed grade)
	Quantity (short tons)		
France	***	***	***
Japan	***	***	***
Spain	***	***	***
Subject sources	***	***	***
China	***	***	***
Malaysia	***	***	***
Singapore	***	***	***
Belgium	***	***	***
Germany	***	***	***
Nonsubject sources	***	***	***
All import sources	***	***	***

Note: These data reflect capacity estimates at different points in time in 2019 versus the annual data in Part IV of this report.

Source: ***; Singapore data: Evonik, "Evonik Commissions Second Complex for MetAMINO® Production in Singapore," press release, June 18, 2019, found at **https://corporate.evonik.com/en/evonik-commissions-second-complex-for-metamino-production-in-singapore-113765.html**, retrieved August 22, 2020.

Table VII-16
Methionine: Production levels in major producing countries/regions, 2014-18

Country	Year				
	2014	2015	2016	2017	2018
	Quantity (short tons)				
China	***	***	***	***	***
Japan	***	***	***	***	***
Malaysia	***	***	***	***	***
Singapore	***	***	***	***	***
Western Europe	***	***	***	***	***

Note: As noted for each country, ***.

Source: ***

Separately, Evonik announced on November 12, 2019, that it had declared force majeure for its methionine production in Belgium because of problems with its HCN supply.[19] It reportedly resumed production on November 26, 2019.[20]

***.

[19] Evonik, "Evonik Declares Force Majeure for Its Methionine Production in Antwerp," press release, November 12, 2019, found at https://animal-nutrition.evonik.com/en/evonik-declares-force-majeure-for-its-methionine-production-in-antwerp-119787.html, retrieved August 22, 2020.

[20] Jane Byrne, "Production Resumes at Evonik Methionine Plants in Antwerp," FeedNavigator.com, November 26, 2019, found at https://www.feednavigator.com/Article/2019/11/26/Production-resumes-at-Evonik-methionine-plants#:~:text=Production%20resumes%20at%20Evonik%20methionine%20plants%20in%20Antwerp&text=Evonik%20says%20the%20force%20majeure,hydrocyanic%20acid%20(HCN)%20supply, retrieved August 22, 2020.

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
85 FR 47243, August 4, 2020	*Methionine From France, Japan, and Spain; Institution of Anti-Dumping Duty Investigations and Scheduling of Preliminary Phase Investigations*	https://www.govinfo.gov/content/pkg/FR-2020-08-04/pdf/2020-16923.pdf
85 FR 52324, August 25, 2020	*Methionine From France, Japan, and Spain: Initiation of Less-Than-Fair-Value Investigations*	https://www.govinfo.gov/content/pkg/FR-2020-08-25/pdf/2020-18592.pdf

APPENDIX B

LIST OF STAFF CONFERENCE WITNESSES

CALENDAR OF PUBLIC PRELIMINARY CONFERENCE

Those listed below participated in the United States International Trade Commission's preliminary conference via videoconference:

Subject: Methionine from France, Japan, and Spain

Inv. Nos.: 731-TA-1534-1536 (Preliminary)

Date and Time: August 19, 2020 - 9:30 a.m.

OPENING REMARKS:

In Support of Imposition (**Christopher T. Cloutier**, Schagrin Associates)
In Opposition to Imposition (**Christine M. Streatfeild**, Baker & McKenzie LLP)

In Support of the Imposition of Antidumping Duty Orders:

Schagrin Associates
Washington, DC
on behalf of

Novus International, Inc.

Jared Hux, Director, Methionine Business, Novus International, Inc.

Jeff Klopfenstein, Senior Consultant, Novus International, Inc.

Ed Galo, Chief Commercial Officer, Novus International, Inc.

Randy Khalaf, Chief Financial Officer, Novus International, Inc.

Christopher T. Cloutier)
) – OF COUNSEL
Elizabeth J. Drake)

In Opposition to the Imposition of
Antidumping Duty Orders:

Steptoe & Johnson LLP
Washington, DC
on behalf of

Adisseo France SAS
Adisseo Espana SA
Adisseo USA Inc.

Guy Harari, Senior Global Director and President,
Adisseo USA Inc.

Frank Chmitelin, Executive Vice President of Sales and Marketing,
Adisseo

Eric C. Emerson)
) – OF COUNSEL
Luke Tillman)

Baker & McKenzie LLP
Washington, DC
on behalf of

Sumitomo Chemical Company, Ltd. ("Sumitomo Chemical")

Dr. Fumiharu Ishige, General Manager, Animal Nutrition,
Sumitomo Chemical

Scott Mitchell, President, Sumitomo Chemical

Dan Barnes, General Manager - North America, Sumitomo Chemical

Kevin M. O'Brien)
Christine M. Streatfeild) – OF COUNSEL
Maleena Paal)

REBUTTAL/CLOSING REMARKS:

In Support of Imposition (**Elizabeth J. Drake** and
Christopher T. Cloutier Schagrin Associates)
In Opposition to Imposition (**Eric C. Emerson**, Steptoe & Johnson LLP)

-END-

APPENDIX C

SUMMARY DATA

Single like product: Co-extensive

Table C-1

Methionine: Summary data concerning the U.S. market, 2017-19, January to March 2019, and January to March 2020

(Quantity=short tons; Value=1,000 dollars; Unit values, unit labor costs, and unit expenses=dollars per short ton; Period changes=percent--exceptions noted)

	Reported data					Period changes			
	Calendar year			January to March		Comparison years			Jan-Mar
	2017	2018	2019	2019	2020	2017-19	2017-18	2018-19	2019-20
U.S. consumption quantity:									
Amount	***	***	***	***	***	▲***	▲***	▲***	▲***
Producers' share (fn1)	***	***	***	***	***	▼***	▼***	▼***	▲***
Importers' share (fn1):									
France	***	***	***	***	***	▼***	▲***	▼***	▼***
Japan	***	***	***	***	***	▲***	▲***	▲***	▲***
Spain	***	***	***	***	***	▲***	▲***	▲***	▲***
Subject sources	***	***	***	***	***	▲***	▲***	▲***	▲***
Nonsubject sources	***	***	***	***	***	▼***	▼***	▼***	▼***
All import sources	***	***	***	***	***	▲***	▲***	▲***	▼***
U.S. consumption value:									
Amount	***	***	***	***	***	▼***	▼***	▼***	▼***
Producers' share (fn1)	***	***	***	***	***	▼***	▼***	▼***	▲***
Importers' share (fn1):									
France	***	***	***	***	***	▼***	▲***	▼***	▼***
Japan	***	***	***	***	***	▲***	▲***	▲***	▲***
Spain	***	***	***	***	***	▲***	▲***	▲***	▲***
Subject sources	***	***	***	***	***	▲***	▲***	▲***	▲***
Nonsubject sources	***	***	***	***	***	▼***	▼***	▼***	▼***
All import sources	***	***	***	***	***	▲***	▲***	▲***	▼***
U.S. imports from.--									
France:									
Quantity	6,285	7,298	5,557	1,396	700	▼(11.6)	▲16.1	▼(23.9)	▼(49.9)
Value	14,180	17,102	11,553	3,170	1,570	▼(18.5)	▲20.6	▼(32.4)	▼(50.5)
Unit value	$2,256	$2,343	$2,079	$2,271	$2,245	▼(7.8)	▲3.9	▼(11.3)	▼(1.2)
Ending inventory quantity	***	***	***	***	***	▼***	▲***	▼***	▲***
Japan:									
Quantity	9,262	12,225	17,861	4,235	6,587	▲92.9	▲32.0	▲46.1	▲55.6
Value	22,314	26,680	31,962	8,272	9,819	▲43.2	▲19.6	▲19.8	▲18.7
Unit value	$2,409	$2,182	$1,789	$1,954	$1,491	▼(25.7)	▼(9.4)	▼(18.0)	▼(23.7)
Ending inventory quantity	***	***	***	***	***	▲***	▼***	▲***	▼***
Spain:									
Quantity	13,610	14,198	37,860	9,286	11,966	▲178.2	▲4.3	▲166.7	▲28.9
Value	24,657	27,540	62,666	17,661	16,295	▲154.1	▲11.7	▲127.5	▼(7.7)
Unit value	$1,812	$1,940	$1,655	$1,902	$1,362	▼(8.6)	▲7.1	▼(14.7)	▼(28.4)
Ending inventory quantity	***	***	***	***	***	▲***	▲***	▲***	▲***
Subject sources:									
Quantity	29,157	33,722	61,278	14,916	19,252	▲110.2	▲15.7	▲81.7	▲29.1
Value	61,151	71,322	106,181	29,104	27,684	▲73.6	▲16.6	▲48.9	▼(4.9)
Unit value	$2,097	$2,115	$1,733	$1,951	$1,438	▼(17.4)	▲0.8	▼(18.1)	▼(26.3)
Ending inventory quantity	***	***	***	***	***	▲***	▲***	▲***	▲***
Nonsubject sources:									
Quantity	30,916	28,873	9,054	5,875	285	▼(70.7)	▼(6.6)	▼(68.6)	▼(95.1)
Value	64,689	61,249	19,432	10,908	1,674	▼(70.0)	▼(5.3)	▼(68.3)	▼(84.7)
Unit value	$2,092	$2,121	$2,146	$1,857	$5,873	▲2.6	▲1.4	▲1.2	▲216.3
Ending inventory quantity	***	***	***	***	***	▼***	▼***	▼***	▼***
All import sources:									
Quantity	60,073	62,594	70,332	20,791	19,537	▲17.1	▲4.2	▲12.4	▼(6.0)
Value	125,841	132,571	125,613	40,012	29,357	▼(0.2)	▲5.3	▼(5.2)	▼(26.6)
Unit value	$2,095	$2,118	$1,786	$1,924	$1,503	▼(14.7)	▲1.1	▼(15.7)	▼(21.9)
Ending inventory quantity	***	***	***	***	***	▲***	▼***	▲***	▲***

Table continued on next page.

Table C-1--Continued
Methionine: Summary data concerning the U.S. market, 2017-19, January to March 2019, and January to March 2020
(Quantity=short tons; Value=1,000 dollars; Unit values, unit labor costs, and unit expenses=dollars per short ton; Period changes=percent--exceptions noted)

	Reported data					Period changes			
	Calendar year			January to March		Comparison years			Jan-Mar
	2017	2018	2019	2019	2020	2017-19	2017-18	2018-19	2019-20
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 (short tons per 1,000 hours)	***	***	***	***	***	▲***	▲***	▲***	▲***
Unit labor costs	***	***	***	***	***	▼***	▼***	▲***	▼***
Net sales:									
Quantity	***	***	***	***	***	▲***	▲***	▲***	▲***
Value	***	***	***	***	***	▼***	▲***	▼***	▼***
Unit value	***	***	***	***	***	▼***	▲***	▼***	▼***
Cost of goods sold (COGS)	***	***	***	***	***	▲***	▲***	▼***	▲***
Gross profit or (loss) (fn2)	***	***	***	***	***	▼***	▼***	▼***	▼***
SG&A expenses	***	***	***	***	***	▼***	▼***	▼***	▼***
Operating income or (loss) (fn2)	***	***	***	***	***	▼***	▼***	▼***	▼***
Net income or (loss) (fn2)	***	***	***	***	***	▼***	▼***	▼***	▲***
Capital expenditures	***	***	***	***	***	▼***	▲***	▼***	▼***
Research and development expenses	***	***	***	***	***	▲***	▲***	▼***	▼***
Net assets	***	***	***	***	***	▼***	▲***	▼***	***
Unit COGS	***	***	***	***	***	▼***	▲***	▼***	▼***
Unit SG&A expenses	***	***	***	***	***	▼***	▼***	▼***	▼***
Unit operating income or (loss) (fn2)	***	***	***	***	***	▼***	▼***	▼***	▼***
Unit net income or (loss) (fn2)	***	***	***	***	***	▼***	▼***	▼***	▲***
COGS/sales (fn1)	***	***	***	***	***	▲***	▲***	▲***	▲***
Operating income or (loss)/sales (fn1)	***	***	***	***	***	▼***	▼***	▼***	▼***
Net income or (loss)/sales (fn1)	***	***	***	***	***	▼***	▼***	▼***	▲***

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

fn1.--Reported data are in percent and period changes are in percentage points.
fn2.--Percent changes only calculated when both comparison values represent profits; The directional change in profitability provided when one or both comparison values represent a loss.

Source: Compiled from data submitted in response to Commission questionnaires and official U.S. import statistics for HTS statistical reporting numbers 2930.40.0000 and 2930.90.4600, accessed August 11, 2020.

Split like product 1: DL-methionine

Table C-2
DL-methionine: Summary data concerning the U.S. market, 2017-19, January to March 2019, and January to March 2020
(Quantity=short tons; Value=1,000 dollars; Unit values, unit labor costs, and unit expenses=dollars per short ton; Period changes=percent--exceptions noted)

	Reported data					Period changes			
	Calendar year			January to March		Comparison years			Jan-Mar
	2017	2018	2019	2019	2020	2017-19	2017-18	2018-19	2019-20
U.S. consumption quantity:									
Amount	***	***	***	***	***	▼***	▼***	▲***	▼***
Producers' share (fn1)	***	***	***	***	***	▼***	▲***	▼***	▲***
Importers' share (fn1):									
France	***	***	***	***	***	▼***	▲***	▼***	▼***
Japan	***	***	***	***	***	▲***	▲***	▲***	▲***
Spain	***	***	***	***	***	▼***	▲***	▼***	***
Subject sources	***	***	***	***	***	▲***	▲***	▲***	▲***
Subject sources less Spain	***	***	***	***	***	▲***	▲***	▲***	▲***
Nonsubject sources	***	***	***	***	***	▼***	▼***	▼***	▼***
Nonsubject sources plus Spain	***	***	***	***	***	▼***	▼***	▼***	▼***
All import sources	***	***	***	***	***	▲***	▼***	▲***	▼***
U.S. consumption value:									
Amount	***	***	***	***	***	▼***	▼***	▼***	▼***
Producers' share (fn1)	***	***	***	***	***	▼***	▼***	▼***	▲***
Importers' share (fn1):									
France	***	***	***	***	***	▲***	▲***	▼***	▼***
Japan	***	***	***	***	***	▲***	▲***	▲***	▲***
Spain	***	***	***	***	***	▼***	▲***	▼***	***
Subject sources	***	***	***	***	***	▲***	▲***	▲***	▲***
Subject sources less Spain	***	***	***	***	***	▲***	▲***	▲***	▲***
Nonsubject sources	***	***	***	***	***	▼***	▼***	▼***	▼***
Nonsubject sources plus Spain	***	***	***	***	***	▼***	▼***	▼***	▼***
All import sources	***	***	***	***	***	▲***	▲***	▲***	▼***
U.S. imports from.--									
France:									
Quantity	6,285	7,298	5,557	1,396	690	▼(11.6)	▲16.1	▼(23.9)	▼(50.6)
Value	14,180	17,102	11,553	3,170	1,541	▼(18.5)	▲20.6	▼(32.4)	▼(51.4)
Unit value	$2,256	$2,343	$2,079	$2,271	$2,233	▼(7.8)	▲3.9	▼(11.3)	▼(1.6)
Japan:									
Quantity	6,416	8,223	14,338	3,504	5,534	▲123.5	▲28.2	▲74.4	▲57.9
Value	16,339	19,270	26,805	7,154	8,414	▲64.1	▲17.9	▲39.1	▲17.6
Unit value	$2,547	$2,343	$1,870	$2,042	$1,521	▼(26.6)	▼(8.0)	▼(20.2)	▼(25.5)
Spain:									
Quantity	16	16	---	---	---	▼(100.0)	---	▼(100.0)	---
Value	28	28	---	---	---	▼(100.0)	▲1.0	▼(100.0)	---
Unit value	$1,743	$1,760	---	---	---	▼(100.0)	▲1.0	▼(100.0)	---
Subject sources:									
Quantity	12,717	15,537	19,894	4,900	6,224	▲56.4	▲22.2	▲28.0	▲27.0
Value	30,547	36,400	38,358	10,324	9,956	▲25.6	▲19.2	▲5.4	▼(3.6)
Unit value	$2,402	$2,343	$1,928	$2,107	$1,600	▼(19.7)	▼(2.5)	▼(17.7)	▼(24.1)
Subject sources less Spain:									
Quantity	12,701	15,521	19,894	4,900	6,224	▲56.6	▲22.2	▲28.2	▲27.0
Value	30,520	36,372	38,358	10,324	9,956	▲25.7	▲19.2	▲5.5	▼(3.6)
Unit value	$2,403	$2,343	$1,928	$2,107	$1,600	▼(19.8)	▼(2.5)	▼(17.7)	▼(24.1)
Nonsubject sources:									
Quantity	14,336	8,677	7,535	5,777	279	▼(47.4)	▼(39.5)	▼(13.2)	▼(95.2)
Value	30,350	18,378	14,263	10,227	756	▼(53.0)	▼(39.4)	▼(22.4)	▼(92.6)
Unit value	$2,117	$2,118	$1,893	$1,770	$2,706	▼(10.6)	▲0.1	▼(10.6)	▲52.8
Nonsubject sources plus Spain:									
Quantity	14,352	8,693	7,535	5,777	279	▼(47.5)	▼(39.4)	▼(13.3)	▼(95.2)
Value	30,378	18,406	14,263	10,227	756	▼(53.0)	▼(39.4)	▼(22.5)	▼(92.6)
Unit value	$2,117	$2,117	$1,893	$1,770	$2,706	▼(10.6)	▲0.0	▼(10.6)	▲52.8
All import sources:									
Quantity	27,053	24,214	27,429	10,677	6,503	▲1.4	▼(10.5)	▲13.3	▼(39.1)
Value	60,897	54,779	52,621	20,551	10,711	▼(13.6)	▼(10.0)	▼(3.9)	▼(47.9)
Unit value	$2,251	$2,262	$1,918	$1,925	$1,647	▼(14.8)	▲0.5	▼(15.2)	▼(14.4)

Table continued on next page.

Table C-2--Continued
DL-methionine: Summary data concerning the U.S. market, 2017-19, January to March 2019, and January to March 2020
(Quantity=short tons; Value=1,000 dollars; Unit values, unit labor costs, and unit expenses=dollars per short ton; Period changes=percent--exceptions noted)

	Reported data					Period changes			
	Calendar year			January to March		Comparison years			Jan-Mar
	2017	2018	2019	2019	2020	2017-19	2017-18	2018-19	2019-20
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 (short tons per 1,000 hours)	***	***	***	***	***	▲***	▲***	▲***	▲***
Unit labor costs	***	***	***	***	***	▼***	▼***	▼***	▼***
Net sales:									
Quantity	***	***	***	***	***	▲***	▲***	▲***	▲***
Value	***	***	***	***	***	▼***	▲***	▼***	▼***
Unit value	***	***	***	***	***	▼***	▼***	▼***	▼***
Cost of goods sold (COGS)	***	***	***	***	***	▼***	▲***	▼***	▼***
Gross profit or (loss) (fn2)	***	***	***	***	***	▼***	▼***	▲***	▼***
SG&A expenses	***	***	***	***	***	▼***	▼***	▼***	▼***
Operating income or (loss) (fn2)	***	***	***	***	***	▼***	▼***	▲***	▼***
Net income or (loss) (fn2)	***	***	***	***	***	▼***	▼***	▲***	▼***
Capital expenditures	***	***	***	***	***	▲***	▲***	▼***	▼***
Research and development expenses	***	***	***	***	***	***	***	***	***
Net assets	***	***	***	***	***	▲***	▲***	▲***	***
Unit COGS	***	***	***	***	***	▼***	▲***	▼***	▼***
Unit SG&A expenses	***	***	***	***	***	▼***	▼***	▼***	▼***
Unit operating income or (loss) (fn2)	***	***	***	***	***	▼***	▼***	▲***	▼***
Unit net income or (loss) (fn2)	***	***	***	***	***	▼***	▼***	▲***	▼***
COGS/sales (fn1)	***	***	***	***	***	▲***	▲***	▼***	▼***
Operating income or (loss)/sales (fn1)	***	***	***	***	***	▼***	▼***	▲***	▲***
Net income or (loss)/sales (fn1)	***	***	***	***	***	▼***	▼***	▲***	▼***

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

fn1.--Reported data are in percent and period changes are in percentage points.
fn2.--Percent changes only calculated when both comparison values represent profits; The directional change in profitability provided when one or both comparison values represent a loss.

Source: Compiled from data submitted in response to Commission questionnaires and official U.S. import statistics for HTS statistical reporting number 2930.40.0000, accessed August 11, 2020.

Split like product 2: DL-hydroxy analogue

Table C-3
DL-hydroxy analogue: Summary data concerning the U.S. market, 2017-19, January to March 2019, and January to March 2020
(Quantity=short tons; Value=1,000 dollars; Unit values, unit labor costs, and unit expenses=dollars per short ton; Period changes=percent--exceptions noted)

	Reported data					Period changes			
	Calendar year			January to March		Comparison years			Jan-Mar
	2017	2018	2019	2019	2020	2017-19	2017-18	2018-19	2019-20
U.S. consumption quantity:									
Amount	***	***	***	***	***	▲***	▲***	▲***	▲***
Producers' share (fn1)	***	***	***	***	***	▼***	▼***	▼***	▼***
Importers' share (fn1):									
France	***	***	***	***	***	***	***	***	▲***
Japan	***	***	***	***	***	▲***	▲***	▼***	▲***
Spain	***	***	***	***	***	▲***	▼***	▲***	▲***
Subject sources	***	***	***	***	***	▲***	▲***	▲***	▲***
Subject sources less France	***	***	***	***	***	▲***	▲***	▲***	▲***
Nonsubject sources	***	***	***	***	***	▼***	▲***	▼***	▼***
Nonsubject sources plus France	***	***	***	***	***	▼***	▲***	▼***	▼***
All import sources	***	***	***	***	***	▲***	▲***	▲***	▲***
U.S. consumption value:									
Amount	***	***	***	***	***	▲***	▲***	▼***	▼***
Producers' share (fn1)	***	***	***	***	***	▼***	▼***	▲***	▼***
Importers' share (fn1):									
France	***	***	***	***	***	***	***	***	▲***
Japan	***	***	***	***	***	▼***	▲***	▼***	▲***
Spain	***	***	***	***	***	▲***	▲***	▲***	▲***
Subject sources	***	***	***	***	***	▲***	▲***	▲***	▲***
Subject sources less France	***	***	***	***	***	▲***	▲***	▲***	▲***
Nonsubject sources	***	***	***	***	***	▼***	▲***	▼***	▲***
Nonsubject sources plus France	***	***	***	***	***	▼***	▲***	▼***	▲***
All import sources	***	***	***	***	***	▲***	▲***	▼***	▲***
U.S. imports from.--									
France:									
Quantity	---	---	---	---	9	---	---	---	▲---
Value	---	---	---	---	29	---	---	---	▲---
Unit value	---	---	---	---	$3,063	---	---	---	▲---
Japan:									
Quantity	2,846	4,002	3,524	731	1,053	▲23.8	▲40.6	▼(11.9)	▲44.1
Value	5,975	7,410	5,157	1,119	1,404	▼(13.7)	▲24.0	▼(30.4)	▲25.6
Unit value	$2,100	$1,852	$1,464	$1,530	$1,333	▼(30.3)	▼(11.8)	▼(21.0)	▼(12.9)
Spain:									
Quantity	13,594	14,183	37,860	9,286	11,966	▲178.5	▲4.3	▲166.9	▲28.9
Value	24,629	27,512	62,666	17,661	16,295	▲154.4	▲11.7	▲127.8	▼(7.7)
Unit value	$1,812	$1,940	$1,655	$1,902	$1,362	▼(8.6)	▲7.1	▼(14.7)	▼(28.4)
Subject sources:									
Quantity	16,440	18,184	41,384	10,016	13,028	▲151.7	▲10.6	▲127.6	▲30.1
Value	30,604	34,922	67,823	18,780	17,728	▲121.6	▲14.1	▲94.2	▼(5.6)
Unit value	$1,862	$1,920	$1,639	$1,875	$1,361	▼(12.0)	▲3.2	▼(14.7)	▼(27.4)
Subject sources less France:									
Quantity	16,440	18,184	41,384	10,016	13,019	▲151.7	▲10.6	▲127.6	▲30.0
Value	30,604	34,922	67,823	18,780	17,699	▲121.6	▲14.1	▲94.2	▼(5.8)
Unit value	$1,862	$1,920	$1,639	$1,875	$1,359	▼(12.0)	▲3.2	▼(14.7)	▼(27.5)
Nonsubject sources:									
Quantity	16,580	20,196	1,519	98	6	▼(90.8)	▲21.8	▼(92.5)	▼(94.1)
Value	34,339	42,870	5,169	680	918	▼(84.9)	▲24.8	▼(87.9)	▲34.9
Unit value	$2,071	$2,123	$3,403	$6,951	$158,926	▲64.3	▲2.5	▲60.3	▲2,186.3
Nonsubject sources plus France:									
Quantity	16,580	20,196	1,519	98	15	▼(90.8)	▲21.8	▼(92.5)	▼(84.5)
Value	34,339	42,870	5,169	680	947	▼(84.9)	▲24.8	▼(87.9)	▲39.2
Unit value	$2,071	$2,123	$3,403	$6,951	$62,231	▲64.3	▲2.5	▲60.3	▲795.3
All import sources:									
Quantity	33,020	38,381	42,903	10,114	13,034	▲29.9	▲16.2	▲11.8	▲28.9
Value	64,944	77,792	72,992	19,460	18,646	▲12.4	▲19.8	▼(6.2)	▼(4.2)
Unit value	$1,967	$2,027	$1,701	$1,924	$1,431	▼(13.5)	▲3.1	▼(16.1)	▼(25.6)

Table continued on next page.

Table C-3--Continued
DL-hydroxy analogue: Summary data concerning the U.S. market, 2017-19, January to March 2019, and January to March 2020
(Quantity=short tons; Value=1,000 dollars; Unit values, unit labor costs, and unit expenses=dollars per short ton; Period changes=percent--exceptions noted)

	Reported data					Period changes			
	Calendar year			January to March		Comparison years			Jan-Mar
	2017	2018	2019	2019	2020	2017-19	2017-18	2018-19	2019-20
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 (short tons per 1,000 hours)	***	***	***	***	***	▲***	▼***	▲***	▲***
Unit labor costs	***	***	***	***	***	▼***	▼***	▼***	▼***
Net sales:									
Quantity	***	***	***	***	***	▲***	▼***	▲***	▲***
Value	***	***	***	***	***	▼***	▲***	▼***	▲***
Unit value	***	***	***	***	***	▼***	▲***	▼***	▼***
Cost of goods sold (COGS)	***	***	***	***	***	▲***	▲***	▼***	▲***
Gross profit or (loss) (fn2)	***	***	***	***	***	▼***	▼***	▼***	▼***
SG&A expenses	***	***	***	***	***	▼***	▼***	▼***	▼***
Operating income or (loss) (fn2)	***	***	***	***	***	▼***	▼***	▼***	▼***
Net income or (loss) (fn2)	***	***	***	***	***	▼***	▼***	▼***	▲***
Capital expenditures	***	***	***	***	***	▼***	▲***	▼***	▼***
Research and development expenses	***	***	***	***	***	▲***	▲***	▼***	▼***
Net assets	***	***	***	***	***	▼***	▲***	▼***	***
Unit COGS	***	***	***	***	***	▲***	▲***	▼***	▼***
Unit SG&A expenses	***	***	***	***	***	▼***	▼***	▼***	▼***
Unit operating income or (loss) (fn2)	***	***	***	***	***	▼***	▼***	▼***	▼***
Unit net income or (loss) (fn2)	***	***	***	***	***	▼***	▼***	▼***	▲***
COGS/sales (fn1)	***	***	***	***	***	▲***	▲***	▲***	▲***
Operating income or (loss)/sales (fn1)	***	***	***	***	***	▼***	▼***	▼***	▼***
Net income or (loss)/sales (fn1)	***	***	***	***	***	▼***	▼***	▼***	▲***

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

fn1.--Reported data are in percent and period changes are in percentage points.
fn2.--Percent changes only calculated when both comparison values represent profits; The directional change in profitability provided when one or both comparison values represent a loss.

Source: Compiled from data submitted in response to Commission questionnaires and official U.S. import statistics for HTS statistical reporting numbers 2930.90.4600, accessed August 11, 2020.

APPENDIX D

NARRATIVE COMPARISONS OF METHIONINE PRODUCTS BY THE LIKE PRODUCT FACTORS

Table D-1
Methionine: U.S. producers' comparisons of methionine products by the like product factors

Item / Firm	Narrative
U.S. producers: Physical characteristics	
***	***
***	***
U.S. producers: Interchangeability	
***	***
***	***
U.S. producers: Channels	
***	***
***	***
U.S. producers: Manufacturing	
***	***
***	***
U.S. producers: Perceptions	
***	***
***	***
U.S. producers: Price	
***	***
***	***

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

Table D-2
Methionine: U.S. importers' comparisons of methionine products by the like product factors

Item / Firm	Narrative
U.S. importers: Physical characteristics	
***	***
***	***
***	***
U.S. importers: Interchangeability	
***	***
***	***
***	***
U.S. importers: Channels	
***	***
***	***
***	***
U.S. importers: Manufacturing	
***	***
***	***
***	***

Table continued on next page.

Table D-2—Continued
Methionine: U.S. importers' comparisons of methionine products by the like product factors

Item / Firm	Narrative
U.S. importers: Perceptions	
***	***
***	***
***	***
U.S. importers: Price	
***	***
***	***
***	***

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

APPENDIX E

DETAILED U.S. PRODUCERS' AND U.S. IMPORTERS' U.S. SHIPMENTS BY PRODUCT TYPE

Table E-1
Methionine: U.S. producers' and U.S. importers' U.S. shipments by product type, 2019

Item	Physical form			Physical form		
	Liquid	Dry	All forms	Liquid	Dry	All forms
	Quantity (short tons)			Share of quantity across (percent)		
U.S. producers' U.S. shipments.—DL-methionine at 84 activity level	***	***	***	***	***	***
DL-methionine at 88 activity level	***	***	***	***	***	***
DL-methionine at 99 activity level	***	***	***	***	***	***
DL-methionine at all other activity levels	***	***	***	***	***	***
DL-hydroxy analogues at 84 activity level	***	***	***	***	***	***
DL-hydroxy analogues at 88 activity level	***	***	***	***	***	***
DL-hydroxy analogues at 99 activity level	***	***	***	***	***	***
DL-hydroxy analogues at all other activity levels	***	***	***	***	***	***
All other products at all activities levels	***	***	***	***	***	***
DL-methionine at all activities levels	***	***	***	***	***	***
DL-hydroxy analogues at all activities levels	***	***	***	***	***	***
All products, all activity levels	***	***	***	***	***	***
	Share of quantity down (percent)			Share of overall quantity (percent)		
U.S. producers' U.S. shipments.—DL-methionine at 84 activity level	***	***	***	***	***	***
DL-methionine at 88 activity level	***	***	***	***	***	***
DL-methionine at 99 activity level	***	***	***	***	***	***
DL-methionine at all other activity levels	***	***	***	***	***	***
DL-hydroxy analogues at 84 activity level	***	***	***	***	***	***
DL-hydroxy analogues at 88 activity level	***	***	***	***	***	***
DL-hydroxy analogues at 99 activity level	***	***	***	***	***	***
DL-hydroxy analogues at all other activity levels	***	***	***	***	***	***
All other products at all activities levels	***	***	***	***	***	***
DL-methionine at all activities levels	***	***	***	***	***	***
DL-hydroxy analogues at all activities levels	***	***	***	***	***	***
All products, all activity levels	***	***	***	***	***	***

Table continued on next page.

Table E-1—Continued
Methionine: U.S. producers' and U.S. importers' U.S. shipments by product type, 2019

Item	Physical form			Physical form		
	Liquid	Dry	All forms	Liquid	Dry	All forms
	Value (1,000 dollars)			Share value across (percent)		
U.S. producers' U.S. shipments.—DL-methionine at 84 activity level	***	***	***	***	***	***
DL-methionine at 88 activity level	***	***	***	***	***	***
DL-methionine at 99 activity level	***	***	***	***	***	***
DL-methionine at all other activity levels	***	***	***	***	***	***
DL-hydroxy analogues at 84 activity level	***	***	***	***	***	***
DL-hydroxy analogues at 88 activity level	***	***	***	***	***	***
DL-hydroxy analogues at 99 activity level	***	***	***	***	***	***
DL-hydroxy analogues at all other activity levels	***	***	***	***	***	***
All other products at all activities levels	***	***	***	***	***	***
DL-methionine at all activities levels	***	***	***	***	***	***
DL-hydroxy analogues at all activities levels	***	***	***	***	***	***
All products, all activity levels	***	***	***	***	***	***
	Share of value down (percent)			Share of overall value (percent)		
U.S. producers' U.S. shipments.—DL-methionine at 84 activity level	***	***	***	***	***	***
DL-methionine at 88 activity level	***	***	***	***	***	***
DL-methionine at 99 activity level	***	***	***	***	***	***
DL-methionine at all other activity levels	***	***	***	***	***	***
DL-hydroxy analogues at 84 activity level	***	***	***	***	***	***
DL-hydroxy analogues at 88 activity level	***	***	***	***	***	***
DL-hydroxy analogues at 99 activity level	***	***	***	***	***	***
DL-hydroxy analogues at all other activity levels	***	***	***	***	***	***
All other products at all activities levels	***	***	***	***	***	***
DL-methionine at all activities levels	***	***	***	***	***	***
DL-hydroxy analogues at all activities levels	***	***	***	***	***	***
All products, all activity levels	***	***	***	***	***	***

Table continued on next page.

Table E-1—Continued
Methionine: U.S. producers' and U.S. importers' U.S. shipments by product type, 2019

Item	Physical form			Physical form		
	Liquid	Dry	All forms	Liquid	Dry	All forms
	Unit value (dollars per short ton)			Deviation from all forms subtotals (dollars per short ton)		
U.S. producers' U.S. shipments.—DL-methionine at 84 activity level	***	***	***	***	***	NA
DL-methionine at 88 activity level	***	***	***	***	***	NA
DL-methionine at 99 activity level	***	***	***	***	***	NA
DL-methionine at all other activity levels	***	***	***	***	***	NA
DL-hydroxy analogues at 84 activity level	***	***	***	***	***	NA
DL-hydroxy analogues at 88 activity level	***	***	***	***	***	NA
DL-hydroxy analogues at 99 activity level	***	***	***	***	***	NA
DL-hydroxy analogues at all other activity levels	***	***	***	***	***	NA
All other products at all activities levels	***	***	***	***	***	NA
DL-methionine at all activities levels	***	***	***	***	***	NA
DL-hydroxy analogues at all activities levels	***	***	***	***	***	NA
All products, all activity levels	***	***	***	***	***	NA
	Deviation from all products, all activity levels subtotals (dollars per short ton)			Deviation from all products, all activity levels, and all forms grand total (dollars per short ton)		
U.S. producers' U.S. shipments.—DL-methionine at 84 activity level	***	***	***	***	***	***
DL-methionine at 88 activity level	***	***	***	***	***	***
DL-methionine at 99 activity level	***	***	***	***	***	***
DL-methionine at all other activity levels	***	***	***	***	***	***
DL-hydroxy analogues at 84 activity level	***	***	***	***	***	***
DL-hydroxy analogues at 88 activity level	***	***	***	***	***	***
DL-hydroxy analogues at 99 activity level	***	***	***	***	***	***
DL-hydroxy analogues at all other activity levels	***	***	***	***	***	***
All other products at all activities levels	***	***	***	***	***	***
DL-methionine at all activities levels	***	***	***	***	***	***
DL-hydroxy analogues at all activities levels	***	***	***	***	***	***
All products, all activity levels	NA	NA	NA	***	***	NA

Table continued on next page.

Table E-1—Continued
Methionine: U.S. producers' and U.S. importers' U.S. shipments by product type, 2019

Item	Physical form			Physical form		
	Liquid	Dry	All forms	Liquid	Dry	All forms
	Quantity (short tons)			Share of quantity across (percent)		
U.S. importers' U.S. shipments (France).—						
DL-methionine at 84 activity level	***	***	***	***	***	***
DL-methionine at 88 activity level	***	***	***	***	***	***
DL-methionine at 99 activity level	***	***	***	***	***	***
DL-methionine at all other activity levels	***	***	***	***	***	***
DL-hydroxy analogues at 84 activity level	***	***	***	***	***	***
DL-hydroxy analogues at 88 activity level	***	***	***	***	***	***
DL-hydroxy analogues at 99 activity level	***	***	***	***	***	***
DL-hydroxy analogues at all other activity levels	***	***	***	***	***	***
All other products at all activities levels	***	***	***	***	***	***
DL-methionine at all activities levels	***	***	***	***	***	***
DL-hydroxy analogues at all activities levels	***	***	***	***	***	***
All products, all activity levels	***	***	***	***	***	***
	Share of quantity down (percent)			Share of overall quantity (percent)		
U.S. importers' U.S. shipments (France).—						
DL-methionine at 84 activity level	***	***	***	***	***	***
DL-methionine at 88 activity level	***	***	***	***	***	***
DL-methionine at 99 activity level	***	***	***	***	***	***
DL-methionine at all other activity levels	***	***	***	***	***	***
DL-hydroxy analogues at 84 activity level	***	***	***	***	***	***
DL-hydroxy analogues at 88 activity level	***	***	***	***	***	***
DL-hydroxy analogues at 99 activity level	***	***	***	***	***	***
DL-hydroxy analogues at all other activity levels	***	***	***	***	***	***
All other products at all activities levels	***	***	***	***	***	***
DL-methionine at all activities levels	***	***	***	***	***	***
DL-hydroxy analogues at all activities levels	***	***	***	***	***	***
All products, all activity levels	***	***	***	***	***	***

Table continued on next page.

Table E-1—Continued
Methionine: U.S. producers' and U.S. importers' U.S. shipments by product type, 2019

Item	Physical form			Physical form		
	Liquid	Dry	All forms	Liquid	Dry	All forms
	Value (1,000 dollars)			Share value across (percent)		
U.S. importers' U.S. shipments (France).—						
DL-methionine at 84 activity level	***	***	***	***	***	***
DL-methionine at 88 activity level	***	***	***	***	***	***
DL-methionine at 99 activity level	***	***	***	***	***	***
DL-methionine at all other activity levels	***	***	***	***	***	***
DL-hydroxy analogues at 84 activity level	***	***	***	***	***	***
DL-hydroxy analogues at 88 activity level	***	***	***	***	***	***
DL-hydroxy analogues at 99 activity level	***	***	***	***	***	***
DL-hydroxy analogues at all other activity levels	***	***	***	***	***	***
All other products at all activities levels	***	***	***	***	***	***
DL-methionine at all activities levels	***	***	***	***	***	***
DL-hydroxy analogues at all activities levels	***	***	***	***	***	***
All products, all activity levels	***	***	***	***	***	***
	Share of value down (percent)			Share of overall value (percent)		
U.S. importers' U.S. shipments (France).—						
DL-methionine at 84 activity level	***	***	***	***	***	***
DL-methionine at 88 activity level	***	***	***	***	***	***
DL-methionine at 99 activity level	***	***	***	***	***	***
DL-methionine at all other activity levels	***	***	***	***	***	***
DL-hydroxy analogues at 84 activity level	***	***	***	***	***	***
DL-hydroxy analogues at 88 activity level	***	***	***	***	***	***
DL-hydroxy analogues at 99 activity level	***	***	***	***	***	***
DL-hydroxy analogues at all other activity levels	***	***	***	***	***	***
All other products at all activities levels	***	***	***	***	***	***
DL-methionine at all activities levels	***	***	***	***	***	***
DL-hydroxy analogues at all activities levels	***	***	***	***	***	***
All products, all activity levels	***	***	***	***	***	***

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Table E-1—Continued
Methionine: U.S. producers' and U.S. importers' U.S. shipments by product type, 2019

Item	Physical form			Physical form		
	Liquid	Dry	All forms	Liquid	Dry	All forms
	Unit value (dollars per short ton)			Deviation from all forms subtotals (dollars per short ton)		
U.S. importers' U.S. shipments (France).—						
DL-methionine at 84 activity level	***	***	***	***	***	NA
DL-methionine at 88 activity level	***	***	***	***	***	NA
DL-methionine at 99 activity level	***	***	***	***	***	NA
DL-methionine at all other activity levels	***	***	***	***	***	NA
DL-hydroxy analogues at 84 activity level	***	***	***	***	***	NA
DL-hydroxy analogues at 88 activity level	***	***	***	***	***	NA
DL-hydroxy analogues at 99 activity level	***	***	***	***	***	NA
DL-hydroxy analogues at all other activity levels	***	***	***	***	***	NA
All other products at all activities levels	***	***	***	***	***	NA
DL-methionine at all activities levels	***	***	***	***	***	NA
DL-hydroxy analogues at all activities levels	***	***	***	***	***	NA
All products, all activity levels	***	***	***	***	***	NA
	Deviation from all products, all activity levels subtotals (dollars per short ton)			Deviation from all products, all activity levels, and all forms grand total (dollars per short ton)		
U.S. importers' U.S. shipments (France).—						
DL-methionine at 84 activity level	***	***	***	***	***	***
DL-methionine at 88 activity level	***	***	***	***	***	***
DL-methionine at 99 activity level	***	***	***	***	***	***
DL-methionine at all other activity levels	***	***	***	***	***	***
DL-hydroxy analogues at 84 activity level	***	***	***	***	***	***
DL-hydroxy analogues at 88 activity level	***	***	***	***	***	***
DL-hydroxy analogues at 99 activity level	***	***	***	***	***	***
DL-hydroxy analogues at all other activity levels	***	***	***	***	***	***
All other products at all activities levels	***	***	***	***	***	***
DL-methionine at all activities levels	***	***	***	***	***	***
DL-hydroxy analogues at all activities levels	***	***	***	***	***	***
All products, all activity levels	NA	NA	NA	***	***	NA

Table continued on next page.

Table E-1—Continued
Methionine: U.S. producers' and U.S. importers' U.S. shipments by product type, 2019

Item	Physical form			Physical form		
	Liquid	Dry	All forms	Liquid	Dry	All forms
	Quantity (short tons)			Share of quantity across (percent)		
U.S. importers' U.S. shipments (Japan).—						
DL-methionine at 84 activity level	***	***	***	***	***	***
DL-methionine at 88 activity level	***	***	***	***	***	***
DL-methionine at 99 activity level	***	***	***	***	***	***
DL-methionine at all other activity levels	***	***	***	***	***	***
DL-hydroxy analogues at 84 activity level	***	***	***	***	***	***
DL-hydroxy analogues at 88 activity level	***	***	***	***	***	***
DL-hydroxy analogues at 99 activity level	***	***	***	***	***	***
DL-hydroxy analogues at all other activity levels	***	***	***	***	***	***
All other products at all activities levels	***	***	***	***	***	***
DL-methionine at all activities levels	***	***	***	***	***	***
DL-hydroxy analogues at all activities levels	***	***	***	***	***	***
All products, all activity levels	***	***	***	***	***	***
	Share of quantity down (percent)			Share of overall quantity (percent)		
U.S. importers' U.S. shipments (Japan).—						
DL-methionine at 84 activity level	***	***	***	***	***	***
DL-methionine at 88 activity level	***	***	***	***	***	***
DL-methionine at 99 activity level	***	***	***	***	***	***
DL-methionine at all other activity levels	***	***	***	***	***	***
DL-hydroxy analogues at 84 activity level	***	***	***	***	***	***
DL-hydroxy analogues at 88 activity level	***	***	***	***	***	***
DL-hydroxy analogues at 99 activity level	***	***	***	***	***	***
DL-hydroxy analogues at all other activity levels	***	***	***	***	***	***
All other products at all activities levels	***	***	***	***	***	***
DL-methionine at all activities levels	***	***	***	***	***	***
DL-hydroxy analogues at all activities levels	***	***	***	***	***	***
All products, all activity levels	***	***	***	***	***	***

Table continued on next page.

Table E-1—Continued
Methionine: U.S. producers' and U.S. importers' U.S. shipments by product type, 2019

Item	Physical form			Physical form		
	Liquid	Dry	All forms	Liquid	Dry	All forms
	Value (1,000 dollars)			Share value across (percent)		
U.S. importers' U.S. shipments (Japan).—						
DL-methionine at 84 activity level	***	***	***	***	***	***
DL-methionine at 88 activity level	***	***	***	***	***	***
DL-methionine at 99 activity level	***	***	***	***	***	***
DL-methionine at all other activity levels	***	***	***	***	***	***
DL-hydroxy analogues at 84 activity level	***	***	***	***	***	***
DL-hydroxy analogues at 88 activity level	***	***	***	***	***	***
DL-hydroxy analogues at 99 activity level	***	***	***	***	***	***
DL-hydroxy analogues at all other activity levels	***	***	***	***	***	***
All other products at all activities levels	***	***	***	***	***	***
DL-methionine at all activities levels	***	***	***	***	***	***
DL-hydroxy analogues at all activities levels	***	***	***	***	***	***
All products, all activity levels	***	***	***	***	***	***
	Share of value down (percent)			Share of overall value (percent)		
U.S. importers' U.S. shipments (Japan).—						
DL-methionine at 84 activity level	***	***	***	***	***	***
DL-methionine at 88 activity level	***	***	***	***	***	***
DL-methionine at 99 activity level	***	***	***	***	***	***
DL-methionine at all other activity levels	***	***	***	***	***	***
DL-hydroxy analogues at 84 activity level	***	***	***	***	***	***
DL-hydroxy analogues at 88 activity level	***	***	***	***	***	***
DL-hydroxy analogues at 99 activity level	***	***	***	***	***	***
DL-hydroxy analogues at all other activity levels	***	***	***	***	***	***
All other products at all activities levels	***	***	***	***	***	***
DL-methionine at all activities levels	***	***	***	***	***	***
DL-hydroxy analogues at all activities levels	***	***	***	***	***	***
All products, all activity levels	***	***	***	***	***	***

Table continued on next page.

Table E-1—Continued
Methionine: U.S. producers' and U.S. importers' U.S. shipments by product type, 2019

Item	Physical form			Physical form		
	Liquid	Dry	All forms	Liquid	Dry	All forms
	Unit value (dollars per short ton)			Deviation from all forms subtotals (dollars per short ton)		
U.S. importers' U.S. shipments (Japan).—						
DL-methionine at 84 activity level	***	***	***	***	***	NA
DL-methionine at 88 activity level	***	***	***	***	***	NA
DL-methionine at 99 activity level	***	***	***	***	***	NA
DL-methionine at all other activity levels	***	***	***	***	***	NA
DL-hydroxy analogues at 84 activity level	***	***	***	***	***	NA
DL-hydroxy analogues at 88 activity level	***	***	***	***	***	NA
DL-hydroxy analogues at 99 activity level	***	***	***	***	***	NA
DL-hydroxy analogues at all other activity levels	***	***	***	***	***	NA
All other products at all activities levels	***	***	***	***	***	NA
DL-methionine at all activities levels	***	***	***	***	***	NA
DL-hydroxy analogues at all activities levels	***	***	***	***	***	NA
All products, all activity levels	***	***	***	***	***	NA
	Deviation from all products, all activity levels subtotals (dollars per short ton)			Deviation from all products, all activity levels, and all forms grand total (dollars per short ton)		
U.S. importers' U.S. shipments (Japan).—						
DL-methionine at 84 activity level	***	***	***	***	***	***
DL-methionine at 88 activity level	***	***	***	***	***	***
DL-methionine at 99 activity level	***	***	***	***	***	***
DL-methionine at all other activity levels	***	***	***	***	***	***
DL-hydroxy analogues at 84 activity level	***	***	***	***	***	***
DL-hydroxy analogues at 88 activity level	***	***	***	***	***	***
DL-hydroxy analogues at 99 activity level	***	***	***	***	***	***
DL-hydroxy analogues at all other activity levels	***	***	***	***	***	***
All other products at all activities levels	***	***	***	***	***	***
DL-methionine at all activities levels	***	***	***	***	***	***
DL-hydroxy analogues at all activities levels	***	***	***	***	***	***
All products, all activity levels	NA	NA	NA	***	***	NA

Table continued on next page.

Table E-1—Continued
Methionine: U.S. producers' and U.S. importers' U.S. shipments by product type, 2019

Item	Physical form			Physical form		
	Liquid	Dry	All forms	Liquid	Dry	All forms
	Quantity (short tons)			Share of quantity across (percent)		
U.S. importers' U.S. shipments (Spain).—						
DL-methionine at 84 activity level	***	***	***	***	***	***
DL-methionine at 88 activity level	***	***	***	***	***	***
DL-methionine at 99 activity level	***	***	***	***	***	***
DL-methionine at all other activity levels	***	***	***	***	***	***
DL-hydroxy analogues at 84 activity level	***	***	***	***	***	***
DL-hydroxy analogues at 88 activity level	***	***	***	***	***	***
DL-hydroxy analogues at 99 activity level	***	***	***	***	***	***
DL-hydroxy analogues at all other activity levels	***	***	***	***	***	***
All other products at all activities levels	***	***	***	***	***	***
DL-methionine at all activities levels	***	***	***	***	***	***
DL-hydroxy analogues at all activities levels	***	***	***	***	***	***
All products, all activity levels	***	***	***	***	***	***
	Share of quantity down (percent)			Share of overall quantity (percent)		
U.S. importers' U.S. shipments (Spain).—						
DL-methionine at 84 activity level	***	***	***	***	***	***
DL-methionine at 88 activity level	***	***	***	***	***	***
DL-methionine at 99 activity level	***	***	***	***	***	***
DL-methionine at all other activity levels	***	***	***	***	***	***
DL-hydroxy analogues at 84 activity level	***	***	***	***	***	***
DL-hydroxy analogues at 88 activity level	***	***	***	***	***	***
DL-hydroxy analogues at 99 activity level	***	***	***	***	***	***
DL-hydroxy analogues at all other activity levels	***	***	***	***	***	***
All other products at all activities levels	***	***	***	***	***	***
DL-methionine at all activities levels	***	***	***	***	***	***
DL-hydroxy analogues at all activities levels	***	***	***	***	***	***
All products, all activity levels	***	***	***	***	***	***

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Table E-1—Continued
Methionine: U.S. producers' and U.S. importers' U.S. shipments by product type, 2019

Item	Physical form			Physical form		
	Liquid	Dry	All forms	Liquid	Dry	All forms
	Value (1,000 dollars)			Share value across (percent)		
U.S. importers' U.S. shipments (Spain).—						
DL-methionine at 84 activity level	***	***	***	***	***	***
DL-methionine at 88 activity level	***	***	***	***	***	***
DL-methionine at 99 activity level	***	***	***	***	***	***
DL-methionine at all other activity levels	***	***	***	***	***	***
DL-hydroxy analogues at 84 activity level	***	***	***	***	***	***
DL-hydroxy analogues at 88 activity level	***	***	***	***	***	***
DL-hydroxy analogues at 99 activity level	***	***	***	***	***	***
DL-hydroxy analogues at all other activity levels	***	***	***	***	***	***
All other products at all activities levels	***	***	***	***	***	***
DL-methionine at all activities levels	***	***	***	***	***	***
DL-hydroxy analogues at all activities levels	***	***	***	***	***	***
All products, all activity levels	***	***	***	***	***	***
	Share of value down (percent)			Share of overall value (percent)		
U.S. importers' U.S. shipments (Spain).—						
DL-methionine at 84 activity level	***	***	***	***	***	***
DL-methionine at 88 activity level	***	***	***	***	***	***
DL-methionine at 99 activity level	***	***	***	***	***	***
DL-methionine at all other activity levels	***	***	***	***	***	***
DL-hydroxy analogues at 84 activity level	***	***	***	***	***	***
DL-hydroxy analogues at 88 activity level	***	***	***	***	***	***
DL-hydroxy analogues at 99 activity level	***	***	***	***	***	***
DL-hydroxy analogues at all other activity levels	***	***	***	***	***	***
All other products at all activities levels	***	***	***	***	***	***
DL-methionine at all activities levels	***	***	***	***	***	***
DL-hydroxy analogues at all activities levels	***	***	***	***	***	***
All products, all activity levels	***	***	***	***	***	***

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Table E-1—Continued
Methionine: U.S. producers' and U.S. importers' U.S. shipments by product type, 2019

Item	Physical form			Physical form		
	Liquid	Dry	All forms	Liquid	Dry	All forms
	Unit value (dollars per short ton)			Deviation from all forms subtotals (dollars per short ton)		
U.S. importers' U.S. shipments (Spain).—						
DL-methionine at 84 activity level	***	***	***	***	***	NA
DL-methionine at 88 activity level	***	***	***	***	***	NA
DL-methionine at 99 activity level	***	***	***	***	***	NA
DL-methionine at all other activity levels	***	***	***	***	***	NA
DL-hydroxy analogues at 84 activity level	***	***	***	***	***	NA
DL-hydroxy analogues at 88 activity level	***	***	***	***	***	NA
DL-hydroxy analogues at 99 activity level	***	***	***	***	***	NA
DL-hydroxy analogues at all other activity levels	***	***	***	***	***	NA
All other products at all activities levels	***	***	***	***	***	NA
DL-methionine at all activities levels	***	***	***	***	***	NA
DL-hydroxy analogues at all activities levels	***	***	***	***	***	NA
All products, all activity levels	***	***	***	***	***	NA
	Deviation from all products, all activity levels subtotals (dollars per short ton)			Deviation from all products, all activity levels, and all forms grand total (dollars per short ton)		
U.S. importers' U.S. shipments (Spain).—						
DL-methionine at 84 activity level	***	***	***	***	***	***
DL-methionine at 88 activity level	***	***	***	***	***	***
DL-methionine at 99 activity level	***	***	***	***	***	***
DL-methionine at all other activity levels	***	***	***	***	***	***
DL-hydroxy analogues at 84 activity level	***	***	***	***	***	***
DL-hydroxy analogues at 88 activity level	***	***	***	***	***	***
DL-hydroxy analogues at 99 activity level	***	***	***	***	***	***
DL-hydroxy analogues at all other activity levels	***	***	***	***	***	***
All other products at all activities levels	***	***	***	***	***	***
DL-methionine at all activities levels	***	***	***	***	***	***
DL-hydroxy analogues at all activities levels	***	***	***	***	***	***
All products, all activity levels	NA	NA	NA	***	***	NA

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Table E-1—Continued
Methionine: U.S. producers' and U.S. importers' U.S. shipments by product type, 2019

Item	Physical form			Physical form		
	Liquid	Dry	All forms	Liquid	Dry	All forms
	Quantity (short tons)			Share of quantity across (percent)		
U.S. importers' U.S. shipments (Subject sources).—						
DL-methionine at 84 activity level	***	***	***	***	***	***
DL-methionine at 88 activity level	***	***	***	***	***	***
DL-methionine at 99 activity level	***	***	***	***	***	***
DL-methionine at all other activity levels	***	***	***	***	***	***
DL-hydroxy analogues at 84 activity level	***	***	***	***	***	***
DL-hydroxy analogues at 88 activity level	***	***	***	***	***	***
DL-hydroxy analogues at 99 activity level	***	***	***	***	***	***
DL-hydroxy analogues at all other activity levels	***	***	***	***	***	***
All other products at all activities levels	***	***	***	***	***	***
DL-methionine at all activities levels	***	***	***	***	***	***
DL-hydroxy analogues at all activities levels	***	***	***	***	***	***
All products, all activity levels	***	***	***	***	***	***
	Share of quantity down (percent)			Share of overall quantity (percent)		
U.S. importers' U.S. shipments (Subject sources).—						
DL-methionine at 84 activity level	***	***	***	***	***	***
DL-methionine at 88 activity level	***	***	***	***	***	***
DL-methionine at 99 activity level	***	***	***	***	***	***
DL-methionine at all other activity levels	***	***	***	***	***	***
DL-hydroxy analogues at 84 activity level	***	***	***	***	***	***
DL-hydroxy analogues at 88 activity level	***	***	***	***	***	***
DL-hydroxy analogues at 99 activity level	***	***	***	***	***	***
DL-hydroxy analogues at all other activity levels	***	***	***	***	***	***
All other products at all activities levels	***	***	***	***	***	***
DL-methionine at all activities levels	***	***	***	***	***	***
DL-hydroxy analogues at all activities levels	***	***	***	***	***	***
All products, all activity levels	***	***	***	***	***	***

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Table E-1—Continued
Methionine: U.S. producers' and U.S. importers' U.S. shipments by product type, 2019

Item	Physical form			Physical form		
	Liquid	Dry	All forms	Liquid	Dry	All forms
	Value (1,000 dollars)			Share value across (percent)		
U.S. importers' U.S. shipments (Subject sources).—						
DL-methionine at 84 activity level	***	***	***	***	***	***
DL-methionine at 88 activity level	***	***	***	***	***	***
DL-methionine at 99 activity level	***	***	***	***	***	***
DL-methionine at all other activity levels	***	***	***	***	***	***
DL-hydroxy analogues at 84 activity level	***	***	***	***	***	***
DL-hydroxy analogues at 88 activity level	***	***	***	***	***	***
DL-hydroxy analogues at 99 activity level	***	***	***	***	***	***
DL-hydroxy analogues at all other activity levels	***	***	***	***	***	***
All other products at all activities levels	***	***	***	***	***	***
DL-methionine at all activities levels	***	***	***	***	***	***
DL-hydroxy analogues at all activities levels	***	***	***	***	***	***
All products, all activity levels	***	***	***	***	***	***
	Share of value down (percent)			Share of overall value (percent)		
U.S. importers' U.S. shipments (Subject sources).—						
DL-methionine at 84 activity level	***	***	***	***	***	***
DL-methionine at 88 activity level	***	***	***	***	***	***
DL-methionine at 99 activity level	***	***	***	***	***	***
DL-methionine at all other activity levels	***	***	***	***	***	***
DL-hydroxy analogues at 84 activity level	***	***	***	***	***	***
DL-hydroxy analogues at 88 activity level	***	***	***	***	***	***
DL-hydroxy analogues at 99 activity level	***	***	***	***	***	***
DL-hydroxy analogues at all other activity levels	***	***	***	***	***	***
All other products at all activities levels	***	***	***	***	***	***
DL-methionine at all activities levels	***	***	***	***	***	***
DL-hydroxy analogues at all activities levels	***	***	***	***	***	***
All products, all activity levels	***	***	***	***	***	***

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Table E-1—Continued
Methionine: U.S. producers' and U.S. importers' U.S. shipments by product type, 2019

Item	Physical form			Physical form		
	Liquid	Dry	All forms	Liquid	Dry	All forms
	Unit value (dollars per short ton)			Deviation from all forms subtotals (dollars per short ton)		
U.S. importers' U.S. shipments (Subject sources).—						
DL-methionine at 84 activity level	***	***	***	***	***	NA
DL-methionine at 88 activity level	***	***	***	***	***	NA
DL-methionine at 99 activity level	***	***	***	***	***	NA
DL-methionine at all other activity levels	***	***	***	***	***	NA
DL-hydroxy analogues at 84 activity level	***	***	***	***	***	NA
DL-hydroxy analogues at 88 activity level	***	***	***	***	***	NA
DL-hydroxy analogues at 99 activity level	***	***	***	***	***	NA
DL-hydroxy analogues at all other activity levels	***	***	***	***	***	NA
All other products at all activities levels	***	***	***	***	***	NA
DL-methionine at all activities levels	***	***	***	***	***	NA
DL-hydroxy analogues at all activities levels	***	***	***	***	***	NA
All products, all activity levels	***	***	***	***	***	NA
	Deviation from all products, all activity levels subtotals (dollars per short ton)			Deviation from all products, all activity levels, and all forms grand total (dollars per short ton)		
U.S. importers' U.S. shipments (Subject sources).—						
DL-methionine at 84 activity level	***	***	***	***	***	***
DL-methionine at 88 activity level	***	***	***	***	***	***
DL-methionine at 99 activity level	***	***	***	***	***	***
DL-methionine at all other activity levels	***	***	***	***	***	***
DL-hydroxy analogues at 84 activity level	***	***	***	***	***	***
DL-hydroxy analogues at 88 activity level	***	***	***	***	***	***
DL-hydroxy analogues at 99 activity level	***	***	***	***	***	***
DL-hydroxy analogues at all other activity levels	***	***	***	***	***	***
All other products at all activities levels	***	***	***	***	***	***
DL-methionine at all activities levels	***	***	***	***	***	***
DL-hydroxy analogues at all activities levels	***	***	***	***	***	***
All products, all activity levels	NA	NA	NA	***	***	NA

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Table E-1—Continued
Methionine: U.S. producers' and U.S. importers' U.S. shipments by product type, 2019

Item	Physical form			Physical form		
	Liquid	Dry	All forms	Liquid	Dry	All forms
	Quantity (short tons)			Share of quantity across (percent)		
U.S. importers' U.S. shipments (Nonsubject sources).—						
DL-methionine at 84 activity level	***	***	***	***	***	***
DL-methionine at 88 activity level	***	***	***	***	***	***
DL-methionine at 99 activity level	***	***	***	***	***	***
DL-methionine at all other activity levels	***	***	***	***	***	***
DL-hydroxy analogues at 84 activity level	***	***	***	***	***	***
DL-hydroxy analogues at 88 activity level	***	***	***	***	***	***
DL-hydroxy analogues at 99 activity level	***	***	***	***	***	***
DL-hydroxy analogues at all other activity levels	***	***	***	***	***	***
All other products at all activities levels	***	***	***	***	***	***
DL-methionine at all activities levels	***	***	***	***	***	***
DL-hydroxy analogues at all activities levels	***	***	***	***	***	***
All products, all activity levels	***	***	***	***	***	***
	Share of quantity down (percent)			Share of overall quantity (percent)		
U.S. importers' U.S. shipments (Nonsubject sources).—						
DL-methionine at 84 activity level	***	***	***	***	***	***
DL-methionine at 88 activity level	***	***	***	***	***	***
DL-methionine at 99 activity level	***	***	***	***	***	***
DL-methionine at all other activity levels	***	***	***	***	***	***
DL-hydroxy analogues at 84 activity level	***	***	***	***	***	***
DL-hydroxy analogues at 88 activity level	***	***	***	***	***	***
DL-hydroxy analogues at 99 activity level	***	***	***	***	***	***
DL-hydroxy analogues at all other activity levels	***	***	***	***	***	***
All other products at all activities levels	***	***	***	***	***	***
DL-methionine at all activities levels	***	***	***	***	***	***
DL-hydroxy analogues at all activities levels	***	***	***	***	***	***
All products, all activity levels	***	***	***	***	***	***

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Table E-1—Continued
Methionine: U.S. producers' and U.S. importers' U.S. shipments by product type, 2019

Item	Physical form			Physical form		
	Liquid	Dry	All forms	Liquid	Dry	All forms
	Value (1,000 dollars)			Share value across (percent)		
U.S. importers' U.S. shipments (Nonsubject sources).—						
DL-methionine at 84 activity level	***	***	***	***	***	***
DL-methionine at 88 activity level	***	***	***	***	***	***
DL-methionine at 99 activity level	***	***	***	***	***	***
DL-methionine at all other activity levels	***	***	***	***	***	***
DL-hydroxy analogues at 84 activity level	***	***	***	***	***	***
DL-hydroxy analogues at 88 activity level	***	***	***	***	***	***
DL-hydroxy analogues at 99 activity level	***	***	***	***	***	***
DL-hydroxy analogues at all other activity levels	***	***	***	***	***	***
All other products at all activities levels	***	***	***	***	***	***
DL-methionine at all activities levels	***	***	***	***	***	***
DL-hydroxy analogues at all activities levels	***	***	***	***	***	***
All products, all activity levels	***	***	***	***	***	***
	Share of value down (percent)			Share of overall value (percent)		
U.S. importers' U.S. shipments (Nonsubject sources).—						
DL-methionine at 84 activity level	***	***	***	***	***	***
DL-methionine at 88 activity level	***	***	***	***	***	***
DL-methionine at 99 activity level	***	***	***	***	***	***
DL-methionine at all other activity levels	***	***	***	***	***	***
DL-hydroxy analogues at 84 activity level	***	***	***	***	***	***
DL-hydroxy analogues at 88 activity level	***	***	***	***	***	***
DL-hydroxy analogues at 99 activity level	***	***	***	***	***	***
DL-hydroxy analogues at all other activity levels	***	***	***	***	***	***
All other products at all activities levels	***	***	***	***	***	***
DL-methionine at all activities levels	***	***	***	***	***	***
DL-hydroxy analogues at all activities levels	***	***	***	***	***	***
All products, all activity levels	***	***	***	***	***	***

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Table E-1—Continued
Methionine: U.S. producers' and U.S. importers' U.S. shipments by product type, 2019

Item	Physical form			Physical form		
	Liquid	Dry	All forms	Liquid	Dry	All forms
	Unit value (dollars per short ton)			Deviation from all forms subtotals (dollars per short ton)		
U.S. importers' U.S. shipments (Nonsubject sources).—						
DL-methionine at 84 activity level	***	***	***	***	***	NA
DL-methionine at 88 activity level	***	***	***	***	***	NA
DL-methionine at 99 activity level	***	***	***	***	***	NA
DL-methionine at all other activity levels	***	***	***	***	***	NA
DL-hydroxy analogues at 84 activity level	***	***	***	***	***	NA
DL-hydroxy analogues at 88 activity level	***	***	***	***	***	NA
DL-hydroxy analogues at 99 activity level	***	***	***	***	***	NA
DL-hydroxy analogues at all other activity levels	***	***	***	***	***	NA
All other products at all activities levels	***	***	***	***	***	NA
DL-methionine at all activities levels	***	***	***	***	***	NA
DL-hydroxy analogues at all activities levels	***	***	***	***	***	NA
All products, all activity levels	***	***	***	***	***	NA
	Deviation from all products, all activity levels subtotals (dollars per short ton)			Deviation from all products, all activity levels, and all forms grand total (dollars per short ton)		
U.S. importers' U.S. shipments (Nonsubject sources).—						
DL-methionine at 84 activity level	***	***	***	***	***	***
DL-methionine at 88 activity level	***	***	***	***	***	***
DL-methionine at 99 activity level	***	***	***	***	***	***
DL-methionine at all other activity levels	***	***	***	***	***	***
DL-hydroxy analogues at 84 activity level	***	***	***	***	***	***
DL-hydroxy analogues at 88 activity level	***	***	***	***	***	***
DL-hydroxy analogues at 99 activity level	***	***	***	***	***	***
DL-hydroxy analogues at all other activity levels	***	***	***	***	***	***
All other products at all activities levels	***	***	***	***	***	***
DL-methionine at all activities levels	***	***	***	***	***	***
DL-hydroxy analogues at all activities levels	***	***	***	***	***	***
All products, all activity levels	NA	NA	NA	***	***	NA

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Table E-1—Continued
Methionine: U.S. producers' and U.S. importers' U.S. shipments by product type, 2019

Item	Physical form			Physical form		
	Liquid	Dry	All forms	Liquid	Dry	All forms
	Quantity (short tons)			Share of quantity across (percent)		
U.S. importers' U.S. shipments (All import sources).—						
DL-methionine at 84 activity level	***	***	***	***	***	***
DL-methionine at 88 activity level	***	***	***	***	***	***
DL-methionine at 99 activity level	***	***	***	***	***	***
DL-methionine at all other activity levels	***	***	***	***	***	***
DL-hydroxy analogues at 84 activity level	***	***	***	***	***	***
DL-hydroxy analogues at 88 activity level	***	***	***	***	***	***
DL-hydroxy analogues at 99 activity level	***	***	***	***	***	***
DL-hydroxy analogues at all other activity levels	***	***	***	***	***	***
All other products at all activities levels	***	***	***	***	***	***
DL-methionine at all activities levels	***	***	***	***	***	***
DL-hydroxy analogues at all activities levels	***	***	***	***	***	***
All products, all activity levels	***	***	***	***	***	***
	Share of quantity down (percent)			Share of overall quantity (percent)		
U.S. importers' U.S. shipments (All import sources).—						
DL-methionine at 84 activity level	***	***	***	***	***	***
DL-methionine at 88 activity level	***	***	***	***	***	***
DL-methionine at 99 activity level	***	***	***	***	***	***
DL-methionine at all other activity levels	***	***	***	***	***	***
DL-hydroxy analogues at 84 activity level	***	***	***	***	***	***
DL-hydroxy analogues at 88 activity level	***	***	***	***	***	***
DL-hydroxy analogues at 99 activity level	***	***	***	***	***	***
DL-hydroxy analogues at all other activity levels	***	***	***	***	***	***
All other products at all activities levels	***	***	***	***	***	***
DL-methionine at all activities levels	***	***	***	***	***	***
DL-hydroxy analogues at all activities levels	***	***	***	***	***	***
All products, all activity levels	***	***	***	***	***	***

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Table E-1—Continued
Methionine: U.S. producers' and U.S. importers' U.S. shipments by product type, 2019

Item	Physical form			Physical form		
	Liquid	Dry	All forms	Liquid	Dry	All forms
	Value (1,000 dollars)			Share value across (percent)		
U.S. importers' U.S. shipments (All import sources).—						
DL-methionine at 84 activity level	***	***	***	***	***	***
DL-methionine at 88 activity level	***	***	***	***	***	***
DL-methionine at 99 activity level	***	***	***	***	***	***
DL-methionine at all other activity levels	***	***	***	***	***	***
DL-hydroxy analogues at 84 activity level	***	***	***	***	***	***
DL-hydroxy analogues at 88 activity level	***	***	***	***	***	***
DL-hydroxy analogues at 99 activity level	***	***	***	***	***	***
DL-hydroxy analogues at all other activity levels	***	***	***	***	***	***
All other products at all activities levels	***	***	***	***	***	***
DL-methionine at all activities levels	***	***	***	***	***	***
DL-hydroxy analogues at all activities levels	***	***	***	***	***	***
All products, all activity levels	***	***	***	***	***	***
	Share of value down (percent)			Share of overall value (percent)		
U.S. importers' U.S. shipments (All import sources).—						
DL-methionine at 84 activity level	***	***	***	***	***	***
DL-methionine at 88 activity level	***	***	***	***	***	***
DL-methionine at 99 activity level	***	***	***	***	***	***
DL-methionine at all other activity levels	***	***	***	***	***	***
DL-hydroxy analogues at 84 activity level	***	***	***	***	***	***
DL-hydroxy analogues at 88 activity level	***	***	***	***	***	***
DL-hydroxy analogues at 99 activity level	***	***	***	***	***	***
DL-hydroxy analogues at all other activity levels	***	***	***	***	***	***
All other products at all activities levels	***	***	***	***	***	***
DL-methionine at all activities levels	***	***	***	***	***	***
DL-hydroxy analogues at all activities levels	***	***	***	***	***	***
All products, all activity levels	***	***	***	***	***	***

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Table E-1—Continued
Methionine: U.S. producers' and U.S. importers' U.S. shipments by product type, 2019

Item	Physical form			Physical form		
	Liquid	Dry	All forms	Liquid	Dry	All forms
	Unit value (dollars per short ton)			Deviation from all forms subtotals (dollars per short ton)		
U.S. importers' U.S. shipments (All import sources).—						
DL-methionine at 84 activity level	***	***	***	***	***	NA
DL-methionine at 88 activity level	***	***	***	***	***	NA
DL-methionine at 99 activity level	***	***	***	***	***	NA
DL-methionine at all other activity levels	***	***	***	***	***	NA
DL-hydroxy analogues at 84 activity level	***	***	***	***	***	NA
DL-hydroxy analogues at 88 activity level	***	***	***	***	***	NA
DL-hydroxy analogues at 99 activity level	***	***	***	***	***	NA
DL-hydroxy analogues at all other activity levels	***	***	***	***	***	NA
All other products at all activities levels	***	***	***	***	***	NA
DL-methionine at all activities levels	***	***	***	***	***	NA
DL-hydroxy analogues at all activities levels	***	***	***	***	***	NA
All products, all activity levels	***	***	***	***	***	NA
	Deviation from all products, all activity levels subtotals (dollars per short ton)			Deviation from all products, all activity levels, and all forms grand total (dollars per short ton)		
U.S. importers' U.S. shipments (All import sources).—						
DL-methionine at 84 activity level	***	***	***	***	***	***
DL-methionine at 88 activity level	***	***	***	***	***	***
DL-methionine at 99 activity level	***	***	***	***	***	***
DL-methionine at all other activity levels	***	***	***	***	***	***
DL-hydroxy analogues at 84 activity level	***	***	***	***	***	***
DL-hydroxy analogues at 88 activity level	***	***	***	***	***	***
DL-hydroxy analogues at 99 activity level	***	***	***	***	***	***
DL-hydroxy analogues at all other activity levels	***	***	***	***	***	***
All other products at all activities levels	***	***	***	***	***	***
DL-methionine at all activities levels	***	***	***	***	***	***
DL-hydroxy analogues at all activities levels	***	***	***	***	***	***
All products, all activity levels	NA	NA	NA	***	***	NA

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