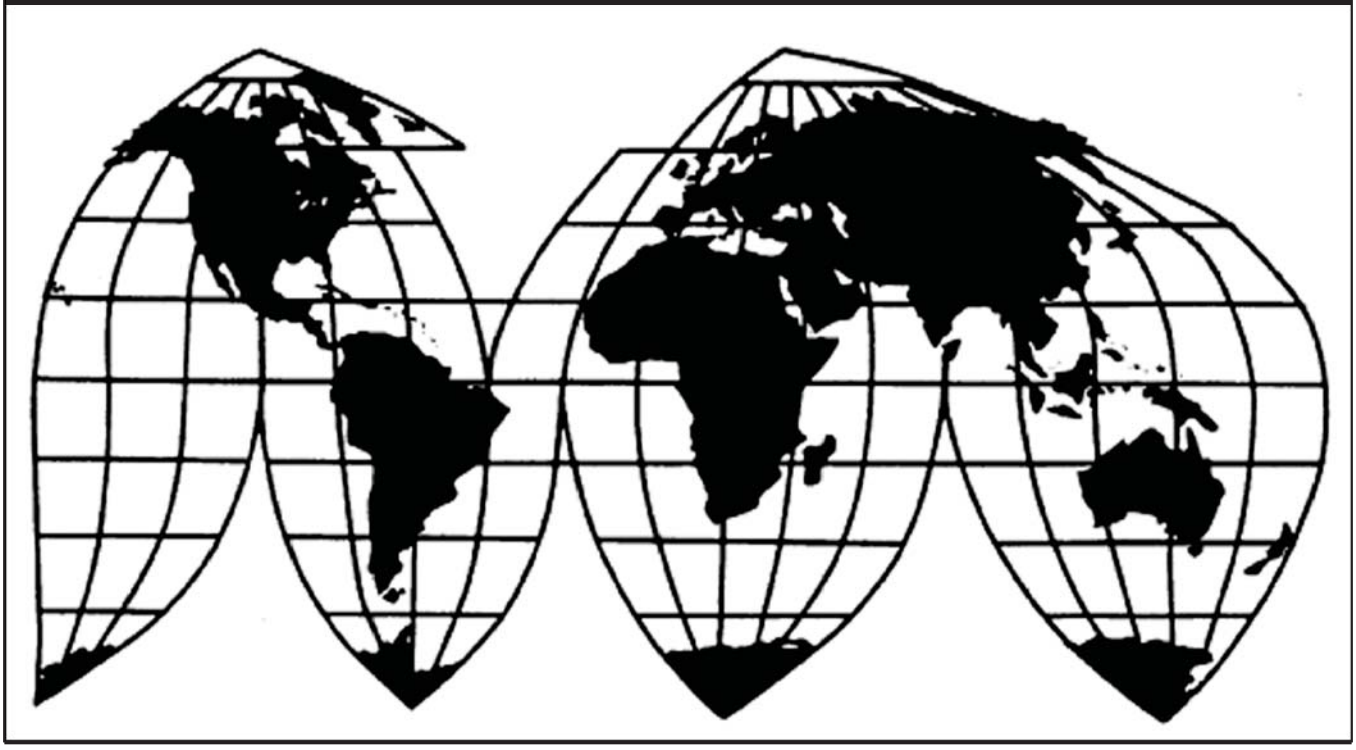
Ammonium Sulfate from China

Investigation Nos. 701-TA-562 and 731-TA-1329 (Preliminary)

Publication 4624 **July 2016**

U.S. International Trade Commission



Washington, DC 20436

U.S. International Trade Commission

COMMISSIONERS

Irving A. Williamson, Chairman
Dean A. Pinkert
David S. Johanson
Meredith M. Broadbent
F. Scott Kieff
Rhonda K. Schmidtlein

Catherine DeFilippo
Director of Operations

Staff assigned

Fred Ruggles, Investigator
Christopher Robinson, Industry Analyst
Emily Burke, Economist
Justin Jee, Accountant
Russell Duncan, Statistician
Carolyn Holmes, Statistical Assistant
David Goldfine, Attorney
Elizabeth Haines, Supervisory Investigator

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

U.S. International Trade Commission

Washington, DC 20436
www.usitc.gov

Ammonium Sulfate from China

Investigation Nos. 701-TA-562 and 731-TA-1329 (Preliminary)

Publication 4624

July 2016

CONTENTS

CONTENTS

Note.—Information that would reveal confidential operations of individual concerns may not be published and therefore has been deleted from this report. Such deletions are indicated by asterisks.

UNITED STATES INTERNATIONAL TRADE COMMISSION

Investigation Nos. 701-TA-562 and 731-TA-1329 (Preliminary)

Ammonium Sulfate from China

DETERMINATIONS

On the basis of the record 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 ammonium sulfate from China, provided for in subheading 3102.21.00 of the Harmonized Tariff Schedule of the United States, that are alleged to be subsidized by the government of China and sold in the United States at less than fair value ("LTFV").

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 Department of Commerce ("Commerce") of affirmative preliminary determinations in the investigations under sections 703(b) or 733(b) of the Act, or, if the preliminary determinations are negative, upon notice of affirmative final determinations in those investigations under sections 705(a) or 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 and countervailing duty 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.

BACKGROUND

On May 25, 2016, Pasadena Commodities International Nitrogen, LLC, Pasadena, Texas, filed a petition with the Commission and Commerce, alleging that an industry in the United States is materially injured or threatened with material injury by reason of subsidized and LTFV imports of certain ammonium sulfate from China. Accordingly, effective May 25, 2016, the Commission, pursuant to sections 703(a) and 733(a) of the Tariff Act of 1930 (19 U.S.C. §§ 1671b(a) and 1673b(a)), instituted countervailing duty investigation No. 701 TA 562 and antidumping duty investigation No. 731-TA-1329 (Preliminary).

Notice of the institution of the Commission's investigations and of a public conference to be held in connection therewith was given by posting copies of the notice in the Office of the Secretary, U.S. International Trade Commission, Washington, DC, and by publishing the notice in the *Federal Register* of June 1, 2016 (81 FR 35055). The conference was held in Washington, DC, on June 15, 2016, and all persons who requested the opportunity were permitted to appear in person or by counsel.

Views of the Commission

Based on the record in the preliminary phase of these investigations, we find that there is a reasonable indication that an industry in the United States is materially injured by reason of imports of ammonium sulfate from China that are allegedly sold in the United States at less than fair value ("LTFV") and that are allegedly subsidized by the government of China.

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

PCI Nitrogen, LLC ("PCI" or "Petitioner"), a domestic producer of ammonium sulfate, filed petitions in these investigations on May 25, 2016.[3] PCI participated in the staff conference and submitted a postconference brief. United Steel, Paper and Forestry, Rubber, Manufacturing, Energy, Allied Industrial and Service Workers International Union, AFL-CIO, CLC ("USW"), which represents workers engaged in the production of ammonium sulfate, also participated in the staff conference.

No respondent interested party participated in the staff conference or submitted a postconference brief.[4]

---

[1] 19 U.S.C. §§ 1671b(a), 1673b(a) (2000); *see also American Lamb Co. v. United States*, 785 F.2d 994, 1001-04 (Fed. Cir. 1986); *Aristech Chem. Corp. v. United States, 2*0 CIT 353, 354-55 (1996). No party argues that the establishment of an industry in the United States is materially retarded by the allegedly unfairly traded imports.

[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] Confidential Report, Memorandum INV-00-059 (July 1, 2016) ("CR") at I-1; Public Report, *Ammonium Sulfate from China*, Inv. Nos. 701-TA-562 and 731-TA-1329 (Preliminary), USITC Pub. 4624 ("PR") at I-1.

[4] In these preliminary phase investigations, the law firm of Husch Blackwell LLP ("Husch Blackwell") entered an appearance on behalf of Gavilon LLC ("Gavilon"), a U.S. importer of subject merchandise. Husch Blackwell, however, did not appear at the conference on behalf of Gavilon nor did it file a postconference brief on Gavilon's behalf.

U.S. industry data are based on the questionnaire responses of six producers, which accounted for the vast majority of U.S. production of ammonium sulfate in 2015.[5] U.S. import data are based on official Commerce import statistics under statistical reporting number 3102.21.0000 of the Harmonized Tariff Schedule of the United States.[6] The Commission issued questionnaires to 75 firms believed to produce and/or export ammonium sulfate from China, and received a response to its questionnaires from one firm, which accounted for less than *** percent of ammonium sulfate production in China in 2015 and did not export subject merchandise to the United States during the January 1, 2013-March 31, 2016 period of investigation ("POI").[7]

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."[8] 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."[9] 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."[10]

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.[11] No single factor is

[5] The six U.S. producers are Archer Daniels Midland Company ("ADM"), BASF and American Plant Food Corporation ("BASF"), Dakota Gasification Company ("Dakota"), Honeywell Resins and Chemicals LLC ("Honeywell"), Mountain State, and PCI. CR/PR at Table III-1.

[6] CR at I-4-5, PR at I-3. The Commission issued importer questionnaires to 20 firms believed to be importers of subject ammonium sulfate. Usable questionnaire responses were received from three importers, representing *** percent of U.S. imports of subject merchandise in 2015. CR at IV-1, PR at IV-1; CR/PR at Table IV-1.

[7] CR/PR at VII-3.

[8] 19 U.S.C. § 1677(4)(A).

[9] 19 U.S.C. § 1677(4)(A).

[10] 19 U.S.C. § 1677(10).

[11] *See, e.g., Cleo Inc. v. United States*, 501 F.3d 1291, 1299 (Fed. Cir. 2007); *NEC Corp. v. Department of Commerce*, 36 F. Supp. 2d 380, 383 (Ct. Int'l Trade 1998); *Nippon Steel Corp. v. United States*, 19 CIT 450, 455 (1995); *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, (Continued…)

dispositive, and the Commission may consider other factors it deems relevant based on the facts of a particular investigation.[12] The Commission looks for clear dividing lines among possible like products and disregards minor variations.[13] Although 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,[14] the Commission determines what domestic product is like the imported articles Commerce has identified.[15]

A. Scope Definition

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

> ammonium sulfate in all physical forms, with or without additives such as anti-caking agents. Ammonium sulfate, which may also be spelled as ammonium sulphate, has the chemical formula $(NH_4)_2SO_4$.
>
> The scope includes ammonium sulfate that is combined with other products, including by, for example, blending (*i.e.*, mixing granules of ammonium sulfate with granules of one or more other products), compounding (*i.e.*, when ammonium sulfate is compacted with one or more other products under high pressure), or granulating (incorporating multiple products into granules through, *e.g.*, a slurry process). For such combined

---

(…Continued)
(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).

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

[13] *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.").

[14] *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).

[15] *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); *Cleo*, 501 F.3d at 1298 n.1 ("Commerce's {scope} finding does not control the Commission's {like product} determination."); *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).

products, only the ammonium sulfate component is covered by the scope of this investigation.

Ammonium sulfate that has been combined with other products is included within the scope regardless of whether the combining occurs in countries other than China.

Ammonium sulfate that is otherwise subject to this investigation is not excluded when commingled (*i.e.*, mixed or combined) with ammonium sulfate from sources not subject to this investigation. Only the subject component of such commingled products is covered by the scope of this investigation.

The Chemical Abstracts Service (CAS) registry number for ammonium sulfate is 7783-20-2.

The merchandise covered by this investigation is currently classifiable under Harmonized Tariff Schedule of the United States (HTSUS) subheading 3102.21.0000. Although this HTSUS subheading and CAS registry number are provided for convenience and customs purposes, the written description of the scope of the investigation is dispositive.[16]

Ammonium sulfate is used primarily as a fertilizer, particularly where there is a need for supplemental nitrogen and sulfur to meet the nutritional requirements of growing plants or trees.[17] It is used on a variety of crops and turf including corn, alfalfa, cotton, canola, potatoes, soybeans, wheat, citrus, and rice, as well as fruit and nut trees.[18] Ammonium sulfate is blended sometimes with other solid fertilizers for field applications.[19] Ammonium sulfate also is used sometimes in industrial applications, including in the production of flame retardant materials, food and feed additives, biotechnology products, textiles, leather, wall board, and pulp and paper products.[20]

B. Parties' Arguments

Petitioner argues that the Commission should define a single domestic like product consisting of all ammonium sulfate corresponding to the scope.[21] It argues that all of the

[16] *Ammonium Sulfate from the People's Republic of China: Initiation of Less Than Fair Value Investigation*, 81 Fed. Reg. 40665 (June 22, 2016): *Ammonium Sulfate from the People's Republic of China: Initiation of Countervailing Duty Investigation*, 81 Fed. Reg. 40661 (June 22, 2016).

[17] CR/PR at I-3.

[18] CR at I-3-4, PR at I-3.

[19] CR at I-4, PR at I-3.

[20] CR at I-4, PR at I-3.

[21] Petitioner's Postconference Brief at 8-14.

pertinent factors support such a domestic like product definition.[22] No party argues to the contrary.

C. Analysis

Based on the record in the preliminary phase of these investigations, we define a single domestic like product consisting of all ammonium sulfate.

Physical Characteristics and Uses. All forms of ammonium sulfate have the same chemical composition: $(NH_4)_2SO_4$.[23] Ammonium sulfate is an inorganic salt that is typically comprised of 21 percent nitrogen and 24 percent sulfur.[24] It is manufactured in a variety of grades;[25] the two most common grades are "granular" and "standard," which vary in terms of particle size and shape.[26] Domestically produced ammonium sulfate is primarily used as a fertilizer that provides nitrogen and sulfur nutrients to the soil for growing crops, plants, and trees.[27] Ammonium sulfate is sometimes used in various industrial applications.[28]

Manufacturing Facilities, Production Processes and Employees. The three principal methods for producing ammonium sulfate each involve reacting sulfuric acid and ammonia.[29] All methods of ammonium sulfate production result in an end product that, regardless of grade, typically consists of 21 percent nitrogen and 24 percent sulfur.[30] Honeywell, the largest domestic producer of ammonium sulfate, produces both granular and standard grade ammonium sulfate using the same equipment and same workers at its facility in Hopewell,

---

[22] Petitioner's Postconference Brief at 8-14.

[23] Petitioner's Postconference Brief at 8-10.

[24] Petitioner's Postconference Brief at 9; Conf. Tr. at 27 (Hamilton).

[25] Petitioner's Postconference Brief at 9.

[26] Granular ammonium sulfate is in the form of granules of a generally uniform size. Standard ammonium sulfate is in the form of particles that are not as large as granules and do not necessarily have a uniform shape. Granular ammonium sulfate is the most prevalent form used in the United States because it permits easy blending with similarly-sized fertilizers containing other nutrients such as urea, potassium, and phosphate. Standard grade ammonium sulfate tends to be used when the granular grade is not required, including in regions of the world where more advanced application technologies are not available and fertilizers are sometimes applied by hand. S*ee, e.g.*, Petitioner's Postconference Brief at 9-10.

[27] Petitioner's Postconference Brief at 9-10; Petitions, Vol. I at 3-4; Conf. Tr. at 11-12 (Vaughn).

[28] Petitions, Vol. I at 3-4; Conf. Tr. at 54 (Hamilton).

[29] *See, e.g.*, Petitions, Vol. I at 4-7. Approximately 90 percent of ammonium sulfate in the United States is produced using one of the following three different processes: (1) as a coproduct from the production of caprolactam; (2) synthetically by reacting anhydrous ammonia and sulfuric acid; and (3) as a co-product of coal gasification or coke production in the steel manufacturing process. The remainder of ammonium sulfate is produced as a by-product of either nickel or methyl methacrylate manufacturing, or from ammonia scrubbing of tailgas at sulfuric acid plants. *Id*.

[30] Petitioner's Postconference Brief at 1, 9; Conf. Tr. at 11 (Vaughn).

Virginia.[31] PCI produces only granular grade ammonium sulfate at its facility in Pasadena, Texas.[32]

Channels of Distribution. Information on the record indicates that domestically produced ammonium sulfate is sold through similar channels of distribution.[33] Domestic producers sell to distributors and/or retailers.[34]

Interchangeability. Petitioner asserts that all forms of ammonium sulfate are generally interchangeable with each other for similar applications.[35] Granular grade ammonium sulfate typically is applied over large areas by mechanized fertilizer spreaders while standard grade ammonium sulfate typically is used when granular grade is not required, such as in orchards where application over large distances is not possible.[36] At the conference, one witness testified on behalf of the domestic industry that purchasers could shift between granular ammonium sulfate and standard ammonium sulfate if differences in price justified such a transition, although another witness also testifying on behalf of the domestic industry indicated that switching was unlikely for certain applications where the granular product is preferred.[37]

Producer and Customer Perceptions. Although some purchasers prefer the granular grade of ammonium sulfate,[38] Petitioner asserts that producers and customers perceive all forms of ammonium sulfate to be essentially the same product.[39]

Price. The limited information on the record in these preliminary phase investigations indicates that domestically produced granular grade ammonium sulfate typically commands a price premium over other grades of ammonium sulfate.[40]

Conclusion. Evidence on the record of these preliminary phase investigations indicates that all domestically produced ammonium sulfate is produced using similar chemical reactions and shares the same physical characteristics and general uses, typically as a fertilizer. All ammonium sulfate is sold through similar channels of distribution. While the limited information available indicates that granular grade ammonium sulfate carries a price premium, Petitioner asserts that there is some degree of interchangeability between granular and

---

[31] Petitioner's Postconference Brief at 12-13.

[32] Conf. Tr. at 55 (Mazella, Sr.).

[33] CR/PR at Table II-1; Petitioner's Postconference Brief at 11.

[34] CR/PR at Table II-1; Petitioner's Postconference Brief at 11; Conf. Tr. at 12 (Vaughn).

[35] Petitioner's Postconference Brief at 11; Petitions, Vol. I at 12; Conf. Tr. at 59 (Mazella, Sr.) and 59-60 (Hamilton).

[36] Petitions, Vol. I at 13.

[37] Conf. Tr. at 19-20, 59 (Mazella, Sr.) & 59-60 (Hamilton).

[38] Conf. Tr. at 19-20, 59 (Mazella, Sr.), 59-60 (Hamilton).

[39] Petitioner's Postconference Brief at 11-12; Conf. Tr. at 49-50 (Vaughn).

[40] *See, e.g.*, Petitioner's Postconference Brief at 13; Conf. Tr. at 51 (Mazella, Jr.) & 51-52 (Hamilton). The record contains pricing data only on granular products. CR at V-3, PR at V-2.

standard grades of ammonium sulfate and that customers and producers perceive all forms of ammonium sulfate to be the same product. In light of the above and the lack of any contrary argument, we define a single domestic like product consisting of all ammonium sulfate as described in the scope for purposes of our preliminary determinations.

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."[41] In defining the domestic industry, the Commission's general practice has been to include in the industry producers of all domestic production of the like product, whether toll-produced, captively consumed, or sold in the domestic merchant market.

Petitioner argues that there is a single domestic industry consisting of all domestic producers of ammonium sulfate.[42] In light of our single domestic like product definition and the lack of any contrary argument, we define the domestic industry as comprising all domestic producers of ammonium sulfate.[43]

V. Negligible Imports

Pursuant to Section 771(24) of the Tariff Act, imports from a subject country of merchandise corresponding to a domestic like product that account for less than 3 percent of all such merchandise imported into the United States during the most recent 12 months for which data are available preceding the filing of the petition shall be deemed negligible.[44]

Based on importer questionnaire responses, subject imports from China accounted for *** percent of all imports of ammonium sulfate from May 2015 to April 2016, the 12-month period preceding filing of the petitions.[45] Because subject imports are above the statutory negligibility threshold, we find that subject imports are not negligible.

[41] 19 U.S.C. § 1677(4)(A).

[42] Petitioners' Postconference Br. at 5.

[43] CR/PR at Table III-1. No domestic producer is related to an exporter or importer of the subject merchandise, *see* CR/PR at Table III-1, and ***. CR at III-8, PR at III-4. Accordingly, there are no related party issues in the preliminary phase of these investigations.

[44] 19 U.S.C. §§ 1671b(a), 1673b(a), 1677(24)(A)(i), 1677(24)(B); *see also* 15 C.F.R. § 2013.1 (developing countries for purposes of 19 U.S.C. § 1677(36)).

[45] CR at IV-6, PR at IV-5.

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.[46] 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.[47] The statute defines "material injury" as "harm which is not inconsequential, immaterial, or unimportant."[48] In assessing whether there is a reasonable indication that the domestic industry is materially injured by reason of subject imports, we consider all relevant economic factors that bear on the state of the industry in the United States.[49] 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."[50]

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,[51] 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.[52] 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.[53]

---

[46] 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. We have applied these amendments here.

[47] 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).

[48] 19 U.S.C. § 1677(7)(A).

[49] 19 U.S.C. § 1677(7)(C)(iii).

[50] 19 U.S.C. § 1677(7)(C)(iii).

[51] 19 U.S.C. §§ 1671b(a), 1673b(a).

[52] *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).

[53] 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 (Continued…)

In many investigations, there are other economic factors at work, some or all of which may also be having adverse effects on the domestic industry. Such economic factors might include nonsubject imports; changes in technology, demand, or consumer tastes; competition among domestic producers; or management decisions by domestic producers. The legislative history explains that the Commission must examine factors other than subject imports to ensure that it is not attributing injury from other factors to the subject imports, thereby inflating an otherwise tangential cause of injury into one that satisfies the statutory material injury threshold.[54] In performing its examination, however, the Commission need not isolate the injury caused by other factors from injury caused by unfairly traded imports.[55] 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

---

(…Continued)
(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).

[54] 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.

[55] 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.").

as nonsubject imports, which may be contributing to overall injury to an industry.[56] It is clear that the existence of injury caused by other factors does not compel a negative determination.[57]

Assessment of whether material injury to the domestic industry is "by reason of" subject imports "does not require the Commission to address the causation issue in any particular way" as long as "the injury to the domestic industry can reasonably be attributed to the subject imports" and the Commission "ensure{s} that it is not attributing injury from other sources to the subject imports."[58] [59] Indeed, the Federal Circuit has examined and affirmed various Commission methodologies and has disavowed "rigid adherence to a specific formula."[60]

The Federal Circuit's decisions in *Gerald Metals*, *Bratsk,* and *Mittal Steel* all involved cases in which the relevant "other factor" was the presence in the market of significant volumes of price-competitive nonsubject imports. The Commission interpreted the Federal

---

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

[57] *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.").

[58] *Mittal Steel*, 542 F.3d at 877-78; *see also id.* at 873 ("While the Commission may not enter an affirmative determination unless it finds that a domestic industry is materially injured 'by reason of' subject imports, the Commission is not required to follow a single methodology for making that determination ... {and has} broad discretion with respect to its choice of methodology.") *citing United States Steel Group v. United States*, 96 F.3d 1352, 1362 (Fed. Cir. 1996) and S. Rep. 96-249 at 75. In its decision in *Swiff-Train v. United States*, 792 F.3d 1355 (Fed. Cir. 2015), the Federal Circuit affirmed the Commission's causation analysis as comporting with the Court's guidance in *Mittal*.

[59] Commissioners Pinkert and Kieff do not join this paragraph or the following three paragraphs. They point out that the Federal Circuit, in *Bratsk*, 444 F.3d 1369, and *Mittal Steel*, held that the Commission is *required*, in certain circumstances when analyzing present material injury, to consider a particular issue with respect to the role of nonsubject imports, without reliance upon presumptions or rigid formulas. The Court has not prescribed a specific method of exposition for this consideration. *Mittal Steel* explains as follows:

> What *Bratsk* held is that "where commodity products are at issue and fairly traded, price competitive, non-subject imports are in the market," the Commission would not fulfill its obligation to consider an important aspect of the problem if it failed to consider whether non-subject or non-LTFV imports would have replaced LTFV subject imports during the period of investigation without a continuing benefit to the domestic industry. 444 F.3d at 1369. Under those circumstances, *Bratsk* requires the Commission to consider whether replacement of the LTFV subject imports might have occurred during the period of investigation, and it requires the Commission to provide an explanation of its conclusion with respect to that factor.

542 F.3d at 878.

[60] *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.").

Circuit's guidance in *Bratsk* as requiring it to apply a particular additional methodology following its finding of material injury in cases involving commodity products and a significant market presence of price-competitive nonsubject imports.[61] The additional "replacement/benefit" test looked at whether nonsubject imports might have replaced subject imports without any benefit to the U.S. industry. The Commission applied that specific additional test in subsequent cases, including the *Carbon and Certain Alloy Steel Wire Rod from Trinidad and Tobago* determination that underlies the *Mittal Steel* litigation.

Mittal Steel clarifies that the Commission's interpretation of *Bratsk* was too rigid and makes clear that the Federal Circuit does not require the Commission to apply an additional test nor any one specific methodology; instead, the court requires the Commission to have "evidence in the record 'to show that the harm occurred 'by reason of' the LTFV imports,'" and requires that the Commission not attribute injury from nonsubject imports or other factors to subject imports.[62] Accordingly, we do not consider ourselves required to apply the replacement/benefit test that was included in Commission opinions subsequent to *Bratsk*.

The progression of *Gerald Metals*, *Bratsk*, and *Mittal Steel* clarifies that, in cases involving commodity products where price-competitive nonsubject imports are a significant factor in the U.S. market, the Court will require the Commission to give full consideration, with adequate explanation, to non-attribution issues when it performs its causation analysis.[63]

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.[64] Congress has delegated this factual finding to the Commission because of the agency's institutional expertise in resolving injury issues.[65]

---

[61] *Mittal Steel*, 542 F.3d at 875-79.

[62] *Mittal Steel*, 542 F.3d at 873 (quoting from *Gerald Metals*, 132 F.3d at 722), 875-79 & n.2 (recognizing the Commission's alternative interpretation of *Bratsk* as a reminder to conduct a non-attribution analysis).

[63] To that end, after the Federal Circuit issued its decision in *Bratsk*, the Commission began to present published information or send out information requests in the final phase of investigations to producers in nonsubject countries that accounted for substantial shares of U.S. imports of subject merchandise (if, in fact, there were large nonsubject import suppliers). In order to provide a more complete record for the Commission's causation analysis, these requests typically seek information on capacity, production, and shipments of the product under investigation in the major source countries that export to the United States. The Commission plans to continue utilizing published or requested information in the final phase of investigations in which there are substantial levels of nonsubject imports.

[64] We provide in our respective discussions of volume, price effects, and impact a full analysis of other factors alleged to have caused any material injury experienced by the domestic industry.

[65] *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.").

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 subject imports.

1. Demand Conditions

U.S. demand for ammonium sulfate is driven largely by demand for agricultural products that are grown using this fertilizer.[66] Most U.S. producers and importers reported that the market for ammonium sulfate is subject to seasonal (*i.e.*, spring and fall) business cycles driven by fertilizing and crop cycles.[67] Market participants generally reported that U.S. demand for ammonium sulfate increased during the POI.[68] Apparent U.S. consumption for ammonium sulfate increased from *** short tons in 2013 to *** short tons in 2014 and *** short tons in 2015, for an overall increase of *** percent.[69]

2. Supply Conditions

As discussed above, six firms accounted for the vast majority of domestic ammonium sulfate production in 2015: (1) ADM, (2) BASF, (3) Dakota, (4) Honeywell, (5) Mountain State, and (6) PCI.[70] In March 2016, PCI acquired the ammonium sulfate production facility of Rentech Nitrogen ("Rentech"), which is located in Pasadena, Texas.[71]

The domestic industry supplied the majority of ammonium sulfate to the U.S. market but lost market share throughout the POI. The domestic industry's share of apparent U.S. consumption declined from *** percent in 2013 to *** percent in 2014 and *** percent in 2015.[72]

While nonsubject imports were the second largest source of supply in 2013 and 2014, subject imports became the second largest supplier in 2015 for the remainder of the POI. Subject imports' market share increased from *** percent in 2013 to *** percent in 2014 and

[66] CR at II-7, PR at II-5.

[67] CR at II-7, PR at II-5.

[68] CR at II-8, PR at II-5. CR/PR at Table II-3.

[69] CR/PR at Tables IV-4, C-1. Apparent U.S. consumption for ammonium sulfate was higher in January-March ("interim") 2016, at *** short tons, than in interim 2015, at *** short tons. *Id*.

[70] CR/PR at Table III-1.

[71] CR at III-5, PR at III-3.

[72] CR/PR at Tables IV-4, C-1. The domestic industry's market share was lower in interim 2016, at *** percent, than in interim 2015, at *** percent. *Id*.

*** percent in 2015.[73] Nonsubject imports' market share declined from *** percent in 2013 to *** percent in 2014 and *** percent in 2015.[74]

3. Substitutability and Other Conditions

As discussed above, ammonium sulfate is sold primarily in two forms in the U.S. market: granular and standard grade. The current record suggests that ammonium sulfate products sold in different forms and/or sizes are substitutable for the most part, especially when the size differential is small.[75]

Available information in the preliminary phase of these investigations indicates that domestically produced ammonium sulfate and subject imports are at least moderately substitutable.[76] All U.S. producers reported that domestic and subject ammonium sulfate are "always" interchangeable.[77] Nevertheless, the questionnaire responses of importers were mixed. Only one importer reported that domestic and subject ammonium sulfate are "always" interchangeable while two importers reported that domestic and subject ammonium sulfate are "sometimes" or "never" interchangeable.[78] In any final phase of these investigations, we intend to examine further the issue of whether ammonium sulfate products sold in different forms and/or sizes within close ranges are substitutable, including whether the domestic like product and subject imports are sold in similar sizes.

---

[73] CR/PR at Tables IV-4, C-1. Subject imports' market share was higher in interim 2016, at *** percent, than in interim 2015, at *** percent. *Id*.

[74] CR/PR at Table IV-4, C-1. Nonsubject imports' market share was lower in interim 2016, at *** percent, than in interim 2015, at *** percent. *Id*. Canada was the primary source of nonsubject imports during the POI. CR/PR at Table IV-2.

[75] The *** of U.S. producers stated that granules of different sizes (*e.g.*, less than two millimeters, two millimeters to less than three millimeters, three millimeters to less than four millimeters, and four millimeters and above) are *** interchangeable. *** U.S. producers reported that granules less than two millimeters are *** interchangeable with larger sizes. Of the two responding importers, *** reported that different granule sizes of ammonium sulfate are *** interchangeable with each other, while *** stated that granules of different sizes are *** interchangeable. CR at II-10, PR at II-7. At the conference, one of the witnesses testifying on behalf of the domestic industry indicated that purchasers could switch back and forth from granular ammonium sulfate to standard ammonium sulfate if differences in price justified such a transition, although another witness testifying on behalf of the domestic industry indicated it was unlikely for certain applications where the granular product is preferred. Conf. Tr. at 19-20, 59 (Mazella, Sr.) & 59-60 (Hamilton).

[76] CR/PR at Table II-4; CR at II-9, PR at II-6.

[77] CR/PR at Table II-4.

[78] CR/PR at Table II-4. Importer *** reported that domestically produced ammonium sulfate is *** interchangeable with Chinese-produced ammonium sulfate due to ***. Importer *** stated that that ammonium sulfate from the United States and China is *** interchangeable because the Chinese product ***. CR at II-10-11, PR at II-7

We further find that price is an important factor in purchasing decisions for ammonium sulfate.[79] The preliminary record suggests that the market for ammonium sulfate has traditional seasonal pricing cycles, with prices typically increasing from fall to spring because demand for ammonium sulfate generally peaks in the spring when fertilizer is most likely to be applied.[80]

The primary raw material inputs for ammonium sulfate are ammonia and sulfur.[81] Raw materials accounted for a relatively large share of ammonium sulfate production costs. During 2013-2015, raw materials accounted for *** percent to *** percent of the cost of goods sold ("COGS") for ammonium sulfate.[82] Raw material costs for ammonium sulfate declined throughout the POI.[83]

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."[84]

We find that the volume and increase in volume of subject imports from China is significant, both absolutely and relative to apparent U.S. consumption. Subject imports increased from *** short tons in 2013 to *** short tons in 2014 and *** short tons in 2015.[85]

Subject imports as a share of apparent U.S. consumption increased from *** percent in 2013 to *** percent in 2014 and *** percent in 2015.[86] During a period of increasing demand, subject imports captured market share principally from the domestic industry, although also taking market share from nonsubject imports.[87] As subject import market share increased

---

[79] In responses to the lost sales and lost revenue survey, purchasers most frequently cited price, quality, and supplier relationship as the factors affecting their purchasing decisions. They most frequently cited price as the most important purchasing factor. All *** responding purchasers listed price as among the top two purchasing factors in their purchasing decisions. Lost Sales/Lost Revenue Survey (EDIS No. 583451).

[80] *See, e.g.*, Conf. Tr. at 14 (Vaughn) & Petitioner's Postconference Brief at Exh. 2, p.13; *see generally* CR at II-7-8, PR at II-5.

[81] CR/PR at V-1.

[82] CR/PR at V-1.

[83] Raw material costs for U.S. producers of ammonium sulfate declined from $*** per short ton in 2013 to $*** per short ton in 2014 and $*** per short ton in 2015; they were lower in interim 2016, at $*** per short ton, than in interim 2015, at $*** per short ton. CR/PR at Table VI-3.

[84] 19 U.S.C. § 1677(7)(C)(i).

[85] CR/PR at Table IV-2. Subject imports were higher in interim 2016, at *** short tons, than in interim 2015, at *** short tons. *Id*.

[86] CR/PR at Table IV-4. They were higher in interim 2016, at *** percent, than in interim 2015, at *** percent. *Id*.

[87] Nonsubject imports' market share declined from *** percent in 2013 to *** percent in 2014 and *** percent in 2015; it was lower in interim 2016, at *** percent, than in interim 2015, at *** percent. CR/PR at Table IV-4.

during the POI, domestic industry market share declined from *** percent in 2013 to *** percent in 2014 and *** percent in 2015.[88] Thus, the domestic industry lost *** percentage points of market share overall from 2013 to 2015, while subject imports increased their share by *** percentage points.[89]

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

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.[90]

As addressed in section VI.B.3 above, the record indicates that the domestic like product and subject imports are at least moderately substitutable and that price is an important consideration in purchasing decisions. As discussed above in section VI.B in our consideration of conditions of competition, the current record indicates that the market for ammonium sulfate has seasonal pricing cycles.

Four domestic producers and three importers of subject merchandise from China provided usable quarterly data on the total quantity and f.o.b. value of their U.S. shipments to unrelated customers during the POI for two ammonium sulfate products, although not all firms reported pricing for all products for all quarters.[91] Reported pricing data accounted for approximately *** percent of the domestic industry's U.S. shipments of ammonium sulfate and *** percent of U.S. shipments of subject imports from China in 2015.[92]

---

[88] CR/PR at Table IV-4. The domestic industry's market share was lower in interim 2016, at *** percent, than in interim 2015, at *** percent. *Id*.

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

[90] 19 U.S.C. § 1677(7)(C)(ii).

[91] CR at V-3 -4, PR at V-2 -3. The two pricing products are:

Product 1.—Ammonium sulfate in granular form (particles with a diameter of 2.0 millimeters or greater) and sold in bulk, sold to distributors.

Product 2. —Ammonium sulfate in granular form (particles with a diameter of 2.0 millimeters or greater) and sold in bulk, sold to retailers.

CR at V-3, PR at V-2.

[92] CR at V-4, PR at V-2.

Subject imports undersold the domestic like product in the vast majority of quarterly comparisons for Product 1 and in all possible quarterly comparisons for Product 2.[93] Subject imports undersold the domestic like product in *** of *** quarterly comparisons, or *** percent of the time, at margins averaging *** percent.[94] By comparison, subject imports oversold the domestic like product in just *** of *** quarterly comparisons, or *** percent of the time, at margins averaging *** percent.[95] There were *** short tons of subject imports associated with instances of underselling, a figure *** larger than the *** short tons of subject imports associated with overselling.[96] Based upon the current record, we find subject import underselling to be significant.

The record in the preliminary phase of these investigations indicates that the growing volume and market share of low-priced subject imports led to declining prices for the domestic like product. Domestic producer sales prices for *** declined between the first quarter of 2013 and the first quarter of 2016 by *** percent and *** percent, respectively.[97] We do not find that demand trends explain these price declines given strengthening apparent U.S. consumption of ammonium sulfate throughout the POI.[98] Consequently, for purposes of these preliminary determinations, we find that the subject imports depressed prices of the domestic like product to a significant degree.[99]

We also have considered whether subject imports prevented price increases for the domestic like product, which otherwise would have occurred, to a significant degree. Although the domestic industry's raw material costs declined over the POI, as discussed above, its total

[93] CR/PR at Table V-6. For Product 1, subject imports undersold the domestic like product in *** of *** quarterly price comparisons. For Product 2, subject imports undersold the domestic like product in *** quarterly price comparisons. *Id*.

[94] CR/PR at Table V-6.

[95] CR/PR at Table V-6.

[96] CR/PR at Table V-6. Three of four responding purchasers also reported shifting purchases from domestic product to subject imports, and all three of these purchasers reported that price was the reason for their shift. CR at V-10, PR at V-4-5.

[97] CR/PR at Table V-5.

[98] CR/PR at Tables IV-4, C-1. According to the Petitioner, prices for ammonium sulfate typically are lower in the fall and higher in the spring as fertilizer demand peaks. Notwithstanding this, Petitioner asserts that downward pricing pressure from subject imports resulted in price declines for domestically produced ammonium sulfate between the fall of 2015 and the spring of 2016. *See, e.g.*, Petitioner's Postconference Brief at 26-27. Petitioner also contends that purchasers delayed their purchases of ammonium sulfate during the peak season by drawing down inventory as they waited to determine how the market would react to competition from increasing volumes of aggressively priced subject imports. *See, e.g.*, Conf. Tr. at 77-78 (Mazella, Jr.). In any final phase of these investigations, we intend to examine whether subject imports disrupted any cyclical purchasing behavior and pricing for ammonium sulfate in the U.S. market.

[99] Of the four purchasers responding to the lost sales/lost revenue allegations, three reported that U.S. producers had reduced prices in order to compete with lower-priced subject imports. CR at V-11, PR at V-5.

costs increased during this period.[100] During a period of declining net sales values, the domestic industry's COGS to net sales ratio increased from *** percent in 2013 to *** percent in 2014 and *** percent in 2015.[101] These data suggest that, as its costs increased during the POI, the domestic industry faced a cost-price squeeze. We intend to explore in any final phase of these investigations the extent to which subject imports contributed to any cost-price squeeze and prevented price increases for the domestic like product, which would have otherwise occurred, to a significant degree.

In light of our findings of significant underselling and significant price depression, we conclude for purposes of these preliminary determinations that subject imports had significant adverse price effects.

E. Impact of the Subject Imports[102]

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."[103]

As discussed above, subject imports captured market share at the expense of the domestic industry throughout the POI. As a share of apparent U.S. consumption, subject imports increased from *** percent in 2013 to *** percent in 2014 and then to *** percent in 2015, for an increase of *** percentage points from 2013 to 2015.[104] By comparison, the

---

[100] Raw materials accounted for between *** and *** percent of the domestic industry's total COGS during 2013-15. CR/PR at V-1. The domestic industry's raw material costs declined steadily throughout the POI, from $*** per short ton in 2013 to $*** per short ton in 2014 and $*** per short ton in 2015; they were higher in interim 2015 ($*** per short ton) than in interim 2016 ($*** per short ton). CR/PR at Table VI-3. Nevertheless, the domestic industry's unit COGS *** from 2013 to 2015, declining from $*** in 2013 to $*** in 2014 and then increasing to $*** in 2015. *Id*. Unit COGS was higher in interim 2015 ($***) than in interim 2016 ($***). *Id*. Available information on the record indicates that the increase in unit COGS from 2013 to 2015 was driven primarily by *** factory overhead costs and to a lesser extent *** labor costs. *Id*.

[101] CR/PR at Table VI-1. We note, however, that the domestic industry's ratio of COGS to net sales was higher in interim 2015 (*** percent) than in interim 2016 (*** percent). *Id*.

[102] Commerce initiated investigations based on estimated antidumping duty margins of 250.81 to 493.46 percent for imports from China. *Ammonium Sulfate from the People's Republic of China: Initiation of Antidumping Duty Investigation*, 81 Fed. Reg. 40665 (June 22, 2016).

[103] 19 U.S.C. § 1677(7)(C)(iii). This provision was amended by the Trade Preferences Extension Act of 2015, Pub. L. 114-27.

[104] CR/PR at Tables IV-4, C-1. As a share of apparent U.S. consumption, subject imports were higher in interim 2016, at *** percent, than in interim 2015, at *** percent. *Id*.

domestic industry lost *** percentage points of market share from 2013 to 2015 as its market share decreased from *** percent in 2013 to *** percent in 2014 and *** percent in 2015.[105]

Indicators of domestic industry output generally declined (*e.g.*, production and capacity utilization) or did not rise commensurately with increasing demand (*e.g.*, shipments) over the POI.[106] The domestic industry's production was constant at *** short tons in 2013 and 2014, then declined to *** short tons in 2015.[107] While the domestic industry's capacity increased from *** short tons in 2013 to *** short tons in 2014 and 2015,[108] the industry's capacity utilization declined from *** percent in 2013 to *** percent in 2014 and *** percent in 2015.[109] Furthermore, the domestic industry's shipments did not rise commensurately with apparent U.S. consumption during the POI. While apparent U.S. consumption increased by *** percent from 2013 to 2015,[110] the domestic industry's U.S. shipments (by quantity) increased by only *** percent during the same timeframe.[111]

Employment-related data trends for the domestic industry fluctuated but were relatively stable overall during the POI. The number of production and related workers ("PRW"), total hours worked, wages paid, hourly wages, and unit labor costs each increased slightly overall from 2013 to 2015, while productivity slightly declined.[112]

---

[105] CR/PR at Tables IV-4, C-1. The domestic industry's market share was *** percentage points lower in interim 2016, at *** percent, than in interim 2015, at *** percent. *Id*.

[106] We note that the domestic industry's end-of-period inventories declined from 2013 to 2015, although they were higher in interim 2016 than in interim 2015. The industry's end-of-period inventories declined from *** short tons in 2013 to *** short tons in 2014, and then increased to *** short tons in 2015, for an overall decline of *** percent between 2013 and 2015. CR/PR at Table III-4. They were higher in interim 2016, at *** short tons, than in interim 2015, at *** short tons. *Id*.

[107] CR/PR at Tables III-2, C-1. The domestic industry's production was higher in interim 2016, at *** short tons, than in interim 2015, at *** short tons. *Id*.

[108] CR/PR at Tables III-2, C-1. The domestic industry's capacity was higher in interim 2016, at *** short tons, than in interim 2015, at *** short tons. *Id*.

[109] CR/PR at Tables III-2, C-1. The domestic industry's capacity utilization was higher in interim 2016, at *** percent, than in interim 2015, at *** percent. *Id*.

[110] As discussed above, apparent U.S. consumption for ammonium sulfate increased from *** short tons in 2013 to *** short tons in 2014 and *** short tons in 2015, for an overall increase of *** percent from 2013 to 2015. CR/PR at IV-4, C-1.

[111] By quantity, the domestic industry's U.S. shipments increased from *** short tons in 2013 to *** short tons in 2014 and 2015. CR/PR at Table IV-4. They were lower in interim 2016, at *** short tons, than in interim 2015, at *** short tons. *Id*. By value, the domestic industry's U.S. shipments declined overall by *** percent from 2013 to 2015, declining from $*** in 2013 to $*** in 2014, and then increasing to $*** in 2015. *Id*. They were lower in interim 2016, at $***, than in interim 2015, at $***. *Id*.

[112] The domestic industry employed *** PRWs in 2013, *** in 2014, *** in 2015, *** in interim 2015, and *** in interim 2016. Total hours worked were *** hours in 2013, *** hours in 2014, *** hours in 2015, *** hours in interim 2015, and *** hours in interim 2016. Hours worked per PRW were *** in 2013, *** in 2014, *** in 2015, *** in interim 2015, and *** in interim 2016. Wages paid were $*** in 2013, $*** in 2014, $*** in 2015, $*** in interim 2015, and $*** in interim 2016. Hourly wages increased from $*** in 2013 to $*** in 2014, $*** in 2015, $*** in interim 2015, and $*** in interim

(Continued…)

During the POI, the domestic industry became increasingly unprofitable. Because the industry's COGS increased while its net sales value declined,[113] the domestic industry's operating losses worsened from *** in 2013 to *** in 2014 and *** in 2015.[114] At the same time, the domestic industry's operating losses as a share of net sales worsened from *** percent in 2013 to *** percent in 2014 and *** percent in 2015.[115] Its gross profits and net income similarly declined sharply from 2013 to 2015.[116] Its capital expenditures declined from 2013 to 2015 whereas its research and development ("R&D") expenses, ***, increased over this period.[117]

Subject import volume increased significantly in absolute terms and as a share of apparent U.S. consumption.[118] As a result, the domestic industry lost market share to subject

---

(…Continued)
2016. Unit labor costs were $*** per short ton in 2013, $*** per short ton in 2014, $*** per short ton in 2015, $*** per short ton in interim 2015, and $*** per short ton in interim 2016. Productivity was *** short tons per hour in 2013, *** short tons per hour in 2014, *** short tons per hour in 2015, *** short tons per hour in interim 2015, and *** short tons per hour in interim 2016. CR/PR at Tables III-5, C-1.

[113] The domestic industry's unit COGS *** from 2013 to 2015, declining from $*** in 2013 to $*** in 2014 and then increasing to $*** in 2015. CR/PR at Table VI-1. Unit COGS was lower in interim 2016, at $***, than in interim 2015, at $***. *Id*. By value, the domestic industry's net sales declined by *** percent from 2013 to 2015, declining from $*** in 2013 to $*** in 2014 and $*** in 2015. CR/PR at Table VI-2. Net sales (by value) were lower in interim 2016, at $***, than in interim 2015, at $***. *Id*. By quantity, the domestic industry's net sales increased from *** short tons in 2013 to *** short tons in 2014 and then declined to *** short tons in 2015. *Id*. Net sales (by quantity) were higher in interim 2016, at *** short tons, than in in interim 2015, at *** short tons. *Id*.

[114] CR/PR at Table VI-1, C-1. Despite continued increasing volumes of subject imports, the domestic industry's operating income was higher in interim 2016 than in interim 2015. CR/PR at Tables IV-2, VI-1, C-1. While the domestic industry had an operating loss of $*** in interim 2015, it recorded an operating income of $*** in interim 2016. CR/PR at Table VI-1. Similarly, as discussed below, the domestic industry's net income was higher in interim 2016 ($***) than in interim 2015 (***). CR/PR at Table VI-1. Petitioner contends that any improvement in the domestic industry's profitability in interim 2016 is likely to be temporary, particularly since, according to Petitioner, raw material costs for ammonium sulfate are expected to increase and the domestic industry's operating income is forecasted to decline in 2016. *See, e.g.*, Petitioner's Postconference Brief at 33-34; Conf. Tr. at 89 (Byers).

[115] CR/PR at Table VI-1. As a ratio to net sales, the domestic industry's operating income was higher in interim 2016, at *** percent, than in interim 2015, at a *** percent operating loss. *Id*.

[116] The domestic industry's gross profits worsened from $*** in 2013 to losses of $*** in 2014 and $*** in 2015; its gross profits were $*** in interim 2015 and *** in interim 2016. The domestic industry's net income losses increased from $*** in 2013 to $*** in 2014 and $*** in 2015. Its net income was higher in interim 2016, at $***, than in interim 2015, at a $*** net loss. CR/PR at Table VI-1.

[117] The domestic industry's capital expenditures increased from $*** in 2013 to $*** in 2014, and then declined to $*** in 2015. CR/PR at Table VI-5. They were lower in interim 2016, at $***, than in interim 2015, at $***. *Id*. The industry's R&D expenses increased from $*** in 2013 to $*** in 2014 and $*** in 2015. *Id*. They were higher in interim 2016, at $***, than in interim 2015, at $***. *Id*.

[118] CR/PR at Tables IV-2, IV-4.

imports throughout the POI despite increasing demand, and its improvement across certain output-related factors, including capacity and U.S. shipments, did not rise commensurately with the increase in apparent U.S. consumption, or declined (e.g., capacity utilization).[119] In addition, subject import underselling was significant and low-priced subject import competition depressed domestic like product prices to a significant degree. Because of this price depression, the domestic industry's financial performance generally declined throughout the POI, including its net sales, total revenues, gross profits, operating income, and net income.[120]

We have considered whether there are other factors that may have had an adverse impact on the domestic industry during the POI to ensure that we are not attributing injury from such other factors to the subject imports. Nonsubject imports had a declining presence in the U.S. market during the POI and declined as a share of apparent U.S. consumption from *** percent in 2013 to *** percent in 2014 and *** percent in 2015.[121] In light of their declining presence in the market, nonsubject imports did not cause the adverse effects we have attributed to subject imports.[122]

For the foregoing reasons, we find that the record of the preliminary phase of these investigations supports a determination that there is a reasonable indication of material injury by reason of subject imports.

VII. Conclusion

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

---

[120] In any final phase of these investigations, we intend to examine the most appropriate classification of certain asset impairments reported by PCI in connection with its acquisition of Rentech (CR at VI-4, PR at VI-1-2), whether that be under COGS/factory overhead —as currently presented (CR/PR at Tables VI-2 & VI-3) — or under Selling, General, and Administrative (SG&A) expenses. We also intend to examine the extent to which these asset impairments are by reason of subject imports.

[121] CR/PR at Table IV-4. As a share of apparent U.S. consumption, nonsubject imports were lower in interim 2016, at *** percent, than in interim 2015, at *** percent. *Id*.

[122]With respect to *Bratsk/Mittal*, Commissioners Pinkert and Kieff note that, although nonsubject imports represented a significant share of the U.S. market during the POI, no party has addressed whether nonsubject imports would have replaced the subject imports without benefit to the domestic industry had the subject imports exited the market. They invite the parties to do so in any final investigations.

PART I: INTRODUCTION

BACKGROUND

These investigations result from a petition filed with the U.S. Department of Commerce ("Commerce") and the U.S. International Trade Commission ("USITC" or "Commission") by Pasadena Commodities International, Pasadena, Texas, on May 25, 2016, alleging that an industry in the United States is materially injured and threatened with material injury by reason of subsidized and less-than-fair-value ("LTFV") imports of ammonium sulfate [1] from China. The following tabulation provides information relating to the background of these investigations.[2] [3]

Effective date	Action
May 25, 2016	Petition filed with Commerce and the Commission; institution of Commission investigation (81 FR 35055, June 1, 2016)
June 14, 2016	Commerce's notices of initiation, countervailing duty (81 FR 40661, June 22, 2016) and antidumping (81 FR 40665, June 22, 2016)
June 15, 2016	Commission's conference
July 8, 2016	Commission's vote
July 11, 2016	Commission's determination
July 18, 2016	Commission's views

STATUTORY CRITERIA AND ORGANIZATION OF THE 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*

[1] See the section entitled "The Subject Merchandise" in *Part I* of this report for a complete description of the merchandise subject to this/these investigation(s).

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

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

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.

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.

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

Organization of report

Part I of this report presents information on the subject merchandise, alleged subsidy and 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

Ammonium sulfate is used primarily as a fertilizer, particularly in situations where there is a need for supplemental nitrogen and sulfur to meet the nutritional requirements of growing plants or trees. It is used on a variety of crops and turf including corn, alfalfa, cotton, canola, potatoes, soybeans, wheat, citrus, and rice, as well as fruit and nut trees. Ammonium sulfate is normally blended with other solid fertilizers for field applications. Ammonium sulfate can also be used in industrial applications, including in the production of flame retardant materials, food and feed additives, biotechnology products, textiles, leather, wall board, and pulp and paper products. Industrial use only makes up a small portion of the market for ammonium sulfate in the United States. The leading U.S. producers of ammonium sulfate are ***. The leading U.S. importer of ammonium sulfate from China is ***.

Apparent U.S. consumption of ammonium sulfate totaled approximately *** million short tons ($*** million) in 2015. Responding U.S. producers' U.S. shipments of ammonium sulfate totaled *** million short tons ($*** million) in 2015, and accounted for *** percent of apparent U.S. consumption by quantity and *** percent by value. U.S. imports from subject sources totaled 369,569 short tons ($68.2 million) in 2015 and accounted for *** percent of apparent U.S. consumption by quantity and *** percent by value. U.S. imports from nonsubject sources totaled 232,837 short tons ($47.4 million) in 2015 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 six firms that accounted for a majority of U.S. production of ammonium sulfate during 2015. U.S. imports are based on official U.S. import statistics under statistical reporting number 3102.21.0000, accessed June 2, 2016.

PREVIOUS AND RELATED INVESTIGATIONS

Ammonium sulfate has not been the subject of any prior countervailing and/or antidumping duty investigations in the United States. Ammonium sulfate is similar to other types of nitrogen fertilizer, such as urea, urea ammonium nitrate ("UAN"), and anhydrous ammonia. The Commission has conducted investigations and reviews of these other forms of nitrogen fertilizers, and, in each instance, has determined that each type is its own separate like product.[6]

NATURE AND EXTENT OF ALLEGED SUBSIDIES AND SALES AT LTFV

Alleged subsidies

On June 22, 2016, Commerce published a notice in the *Federal Register* of the initiation of its countervailing duty investigation on ammonium sulfate from China.[7] Commerce identified the following government programs in China:

- **Preferential Lending**: Policy Loans; Preferential Export Financing; Preferential Loans for State-Owned Enterprises; Preferential Loans for Key Projects and Technologies; and Loans and Interest Forgiveness for State-Owned Enterprises.

- **Income Tax Programs:** Preferential Income Tax Program for High or New Technology Enterprises ("HNTEs"); Preferential Income Tax Program for HNTEs in Designated Zones; Preferential Income Tax for Comprehensive Utilization of Resources; Preferential Deduction of Research and Development (R&D) Expenditures for HNTEs; Income Tax Credits for Domestically-Owned Companies

---

[6] *Urea Ammonium Nitrate Solutions from Belarus, Lithuania, Russia, and Ukraine, Inv. Nos. 731-TA-1006-1009 (Preliminary)*, USITC Pub. 3517 (June 2002), Urea Ammonium Nitrate Solutions from Belarus, Lithuania, Russia, and Ukraine, Inv. Nos. 731-TA-1006-1009 (Final), USITC Pub. 3591 (April 2003), ("Respondents argued that the domestic like product should be expanded to include other chemicals that are used as nitrogen-based fertilizers: urea, ammonium nitrate, and anhydrous ammonia. The Commission found significant differences in physical and chemical properties, uses, and prices, as well as limited interchangeability among these other chemicals and UAN. Accordingly, the Commission defined the domestic like product coextensively with the product described in the scope of these investigations, i.e., UAN. *Urea from the German Democratic Republic, Romania, and the Union of Soviet Socialist Republics, Inv. Nos. 731-TA-338-340 (Final)*, USITC Pub. 1992 (July 1987) (The Commission found one like product consisting of solid urea). *Ammonium Nitrate from Russia, Inv. No. 731-TA-856 (Final)*, USITC Pub. 3338 (Aug. 2000). ("The record in the final phase investigation, as that in the preliminary phase, indicates clear distinctions between ammonium nitrate and other nitrogen-based fertilizers with respect to product characteristics.").

[7] *Ammonium Sulfate From the People's Republic of China: Initiation of Countervailing Duty Investigation*, 81 FR 40661, June 22, 2016.

Purchasing Domestically-Produced Equipment; Reduction in, or Exemption from, the Fixed Assets Investment Orientation Regulatory Tax; Preferential Income Tax Subsidies for Foreign Invested Enterprises ("FIEs") – Productive FIEs; Preferential Income Tax Rate for FIEs – High or New Technology FIEs; and Preferential Income Tax Subsidies for FIEs – Export-Oriented FIEs; Income Tax Benefits for Domestically-Owned Enterprises Engaging in R&D

- **Indirect Tax Programs:** Value Added Tax ("VAT") and Tariff Exemptions for Imported Equipment; VAT Refunds for FIEs Purchasing Domestically-Produced Equipment; VAT Exemptions for Certain Nitrogen Fertilizers; VAT Rebates Related to the Comprehensive Utilization of Resources and Other Products; and Exemptions from Administrative Charges for Companies in Industrial Zones; Stamp Tax Exemption on Share Transfer Under Non-Tradable Share Reform

- **The Fertilizer Off-Season Commercial Reserve Program**

- **Exemption from Payments to the Railway Construction Fund for Agriculture-Use Fertilizers**

- **Government Provision of Goods and Services for Less Than Adequate Remuneration ("LTAR"):** Provision of Land to Enterprises in Encouraged Industries for LTAR; Provision of Land to SOEs for LTAR; Provision of Land to Enterprises in Industrial Zones for LTAR; Provision of Electricity for LTAR; Provision of Coal for LTAR; Provision of Natural Gas for LTAR; Provision of Ammonia for LTAR; and Provision of Freight for LTAR

- **Grants:** State Key Technology Renovation Fund; Environmental Protection Special Fund; Grants to Cover Legal Fees in Trade Remedy Cases; Special Fund for Energy Saving Technology Reform; Clean Production Technology Fund; and Grants for Listing Shares

Alleged sales at LTFV

On June 22, 2016, Commerce published a notice in the *Federal Register* of the initiation of its antidumping duty investigation on ammonium sulfate from China.[8] Commerce has initiated antidumping duty investigations based on estimated dumping margins from 250.81 to 493.46 percent for ammonium sulfate from China.

[8] *Ammonium Sulfate From the People's Republic of China: Initiation of Less-Than-Fair-Value Investigation*, 81 FR 40665, June 22, 2016.

THE SUBJECT MERCHANDISE

Commerce's scope[9]

Commerce has defined the scope of this investigation as follows:

> The merchandise covered by this investigation is ammonium sulfate in all physical forms, with or without additives such as anti-caking agents. Ammonium sulfate, which may also be spelled as ammonium sulphate, has the chemical formula $(NH_4)_2SO_4$.
>
> The scope includes ammonium sulfate that is combined with other products, including by, for example, blending (i.e., mixing granules of ammonium sulfate with granules of one or more other products), compounding (i.e., when ammonium sulfate is compacted with one or more other products under high pressure), or granulating (incorporating multiple products into granules through, e.g., a slurry process). For such combined products, only the ammonium sulfate component is covered by the scope of this investigation.
>
> Ammonium sulfate that has been combined with other products is included within the scope regardless of whether the combining occurs in countries other than China.
>
> Ammonium sulfate that is otherwise subject to this investigation is not excluded when commingled (i.e., mixed or combined) with ammonium sulfate from sources not subject to this investigation. Only the subject component of such commingled products is covered by the scope of this investigation.
>
> The Chemical Abstracts Service (CAS) registry number for ammonium sulfate is 7783-20-2.

The merchandise covered by this investigation is currently classifiable under Harmonized Tariff Schedule of the United States (HTSUS) subheading 3102.21.0000. Although this HTSUS subheading and CAS registry number are provided for convenience and customs purposes, the written description of the scope of the investigation is dispositive.

[9] *Ammonium Sulfate From the People's Republic of China: Initiation of Countervailing Duty Investigation*, 81 FR 40661, June 22, 2016.

Tariff treatment

Based upon the scope set forth by the Department of Commerce, information available to the Commission indicates that the merchandise subject to these investigations is provided for in subheading 3102.21.00 of the Harmonized Tariff Schedule of the United States ("HTS"), a provision naming this compound as a nitrogenous mineral or chemical fertilizer. The general duty rate for this subheading is free.

THE PRODUCT

Description and applications

Ammonium sulfate is a solid, crystalline salt, primarily used as a fertilizer. Like other fertilizers such as ammonium nitrate, ammonium phosphate, and urea, ammonium sulfate is a source of nitrogen for soil. However, unlike many other nitrogenous fertilizers, ammonium sulfate is a also source of sulfur, an increasingly important fertilizer component as sulfur depositions in soil have decreased due to tighter control of air pollution.[10] Ammonium sulfate is used to fertilize a variety of crops and is especially applicable for use in growing rice, tea, citrus, and vines,[11] and its low pH can make it effective in improving alkaline soils.[12] In addition to crop fertilization, small amounts are used in producing flame retardant materials, food and feed additives, biotechnology products, textiles, leather, wall board, and pulp and paper products. Ammonium sulfate comes in a variety of grades including granular, standard, soluble fines, and in aqueous solution. Granular grade, which due to its relatively large particle size (typically 2.5 millimeters), is well-suited for mixing with other fertilizers and spreading machines[13] and accounts for the vast majority of the U.S. market. Standard grade, with smaller particle size (less than 2 millimeters), is well suited to applications that do not utilize mechanical spreading, including in orchards or lower technology farms in developing countries.[14]

Manufacturing processes

Ammonium sulfate is produced by the reaction of ammonia and sulfuric acid. This is either done through direct synthesis, or as a co-product of manufacturing processes that, for either environmental protection or commercial reasons, benefit from the capture of produced ammonia or sulfuric acid. Estimates of the relative importance of the different production

[10] Conference transcript, pp. 26-27 (Hamilton).
[11] ***.
[12] ***.
[13] Conference transcript, p. 27 (Hamilton).
[14] Conference transcript, p. 28 (Hamilton).

processes vary, but three processes likely account for approximately 90 percent of ammonium sulfate production, both globally and in the United States:[15]

- Co-product of caprolactam production. Ammonium sulfate is produced at several stages of the traditional process for making caprolactam,[16] a precursor to nylon. Roughly half of global ammonium sulfate production capacity is caprolactam co-production, making it is the most important manufacturing process. The classical caprolactam synthesis process produces approximately 4 to 4.5 tons of ammonium sulfate are produced for every ton of caprolactam. However, newer caprolactam manufacturing processes produce less ammonium sulfate per ton of caprolactam.[17]

- Direct synthesis. As a primary product, ammonium sulfate is produced by the neutralization of ammonium with sulfuric acid.[18] Ammonium sulfate is recovered by crystallization, allowing for relatively large particle size with little variation.

- Coking. The coking of coal produces gas that contains ammonia. Treating this gas with sulfuric acid yields ammonium sulfate.[19] ***.[20]

---

[15] ***. *Fertilizer International* estimates: caprolactam, 46 percent; coke-oven gas, 16 percent; emissions, 13 percent; synthetic, 11 percent.

[16] First, ammonium sulfate is formed when an initial ammonium nitrite solution is converted to hydroxylamine sulfate via sulfur dioxide. Second, the hydroxylamine sulfate is reacted with ammonia to convert cyclohexanone to oxime, producing additional ammonium sulfate. Finally, caprolactam is formed by a rearrangement reaction using oleum as the catalyst. This material is then neutralized with ammonia, forming free caprolactam and ammonium sulfate.

Ammonium sulfate crystals are formed by circulating ammonium sulfate liquor through a water evaporator, which thickens the solution. The crystals are then separated from the liquor in a centrifuge. The crystals, which contain about 1 to 2.5 percent moisture by weight after the centrifuge, are fed to either a fluidized-bed or a rotary drum dryer. Fluidized-bed dryers are continuously steam heated, while the rotary dryers are fired directly with either oil or natural gas or may use steam-heated air. After being dried, the ammonium sulfate crystals are screened into different sized crystals. This screening is done in an enclosed area to restrict fugitive dust from forming. Petition, Vol. 1, pp. 5-7.

[17] Including processes that use direct oximation and/or alternative rearrangement catalysts.

[18] In the synthetic production process, ammonium sulfate solution is formed by directly reacting anhydrous ammonia with sulfuric acid in a reactor/saturator. This is an exothermic chemical reaction. The hot ammonium sulfate slurry is then sprayed onto solid recycle granules in a special, rotating vessel called a granulator. Coating recycled granules with the slurry solution in the presence of ammonia vapor forms finished ammonium sulfate granules. The granules are transferred to the screening, crushing and cooling section and are separated into three sizes by vibrating screens. Oversize granules are transferred to chain mills that crush them into smaller sizes. They are then mixed with the undersize granules and recycled to the granulator. Acceptable sized granules are cooled further, coated with an anti-dust chemical and transferred to storage. Petition, Vol. 1, pp. 5-7.

Other production methods include treatment of sulfuric acid in emissions produced in burning coal; as a co-product during lysine production, methyl methacrylate manufacture and nickel pressure acid leaching (Ni-PAL); and treatment of ammonium extracted from sewage.[21] [22] [23]

Higher-value granular ammonium sulfate can either result directly from production or be formed after production by compacting standard grade under high pressure to achieve larger, more uniform, particle sizes.[24] ***. Petitioner claims that the majority of ammonium sulfate imported from China is compacted granular material.[25]

DOMESTIC LIKE PRODUCT ISSUES

No issues with respect to domestic like product have been raised in these investigations.

(…*continued*)

[19] Coke oven gas contains about 1 percent NH_3 by volume. This gas is cooled and passed into saturators containing H_2SO_4, forming $(NH_4)_2SO_4$ crystals. This process is employed in steel plants where large coke-oven batteries are in operation.

In the coking process, ammonium sulfate crystals are formed by circulating ammonium sulfate liquor through a water evaporator, which thickens the solution. Ammonium sulfate crystals are then separated from the liquor in a centrifuge. The crystals, which contain about 1 to 2.5 percent moisture by weight after the centrifuge, are fed to either a fluidized-bed or a rotary drum dryer. Fluidized-bed dryers are continuously steam heated, while the rotary dryers are fired directly with either oil or natural gas or may use steam-heated air. Rotary vacuum filters may be used in place of a centrifuge and dryer. The crystal layer is deposited on the filter and is removed as product. These crystals are then carried by conveyors to bulk storage. After being dried, the ammonium sulfate crystals are screened into different sized crystals. This screening is done in an enclosed area to restrict fugitive dust from forming. Petition, Vol. 1, pp. 5-7.

[20] ***.

[21] "Ammonium sulphate heads from east to west," *Fertilizer International*, November-December, 2015, p. 20.

[22] Background Report AP-42 Section 6.18 Ammonium Sulfate, U.S. Environmental Protection Agency (1996), p. 2, Petition exhibit I-8.

[23] Background Report AP-42 Section 6.18 Ammonium Sulfate, U.S. Environmental Protection Agency (1996), p. 2, Petition exhibit I-8.

[24] Conference transcript, p. 68 (Mazzella Sr.).

[25] Petition, Vol. 1, p. 14.

PART II: CONDITIONS OF COMPETITION IN THE U.S. MARKET

U.S. MARKET CHARACTERISTICS

Ammonium sulfate is used primarily in agricultural and, to a lesser extent, industrial applications. Demand for ammonium sulfate is generally driven by demand from the agricultural industry for use in fertilizer, specifically for the replenishment of sulfur in soils. Ammonium sulfate is typically sold in granular and standard form consisting of the same nutrient values[1] and differentiated by particle size (approximately 2.5 millimeters for granular form and under 2 millimeters for standard form).[2] Higher grades of ammonium sulfate, large crystal and granular forms, typically command a price premium due to their use in mechanized, sophisticated farming.[3]

Apparent U.S. consumption of ammonium sulfate increased during 2013-2015 from *** to *** short tons. Overall, apparent U.S. consumption in 2015 was *** percent higher than in 2013.

CHANNELS OF DISTRIBUTION

U.S. producers and importers of ammonium sulfate from China sold mainly to distributors, as shown in table II-1.

Table II-1
Ammonium sulfate: U.S. producers' and importers' U.S. commercial shipments, by sources and channels of distribution, 2013-2015, January to March 2015, and January to March 2016

* * * * * * *

GEOGRAPHIC DISTRIBUTION

U.S. producers reported selling ammonium sulfate to all regions in the contiguous United States (table II-2). Importers reported selling to the Northeast, Midwest, Southeast, 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.

[1] Conference transcript, p. 12 (Vaughn).
[2] Conference transcript, p. 27-28 (Hamilton).
[3] Fertilizer International, *Ammonium Sulphate Heads from East to West*, Dec. 2015, p. 20; Conference transcript, p. 50 (Vaughn).

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

Region	U.S. producers	Subject U.S. importers
Northeast	3	2
Midwest	5	2
Southeast	5	3
Central Southwest	3	2
Mountains	3	0
Pacific Coast	2	1
Other[1]	0	0
All regions (except Other)	1	0
Reporting firms	5	3

[1] 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

Domestic production

Based on available information, U.S. producers of ammonium sulfate have the ability to respond to changes in demand with moderate-to-large changes in the quantity of shipments of U.S.-produced ammonium sulfate to the U.S. market. The main contributing factors to this degree of responsiveness of supply are some availability of unused capacity and the relatively large shipments to alternate markets.

Industry capacity

Domestic capacity utilization decreased from *** percent in 2013 to *** percent in 2015. This relatively moderate and declining level of capacity utilization suggests that U.S. producers may have moderate ability to increase production of ammonium sulfate in response to an increase in prices.

Alternative markets

U.S. producers' exports, as a percentage of total shipments, decreased from *** percent in 2013 to *** percent in 2015. U.S. producers' export shipments declined from *** short tons to *** short tons during 2013-2015, indicating that U.S. producers may have some ability to shift shipments between the U.S. market and other markets in response to price changes. Main export market destinations were ***.

Inventory levels

U.S. producers' inventories, as a ratio of total shipments, declined from *** percent in 2013 to *** percent in 2015, falling from *** short tons to *** short tons. These inventory levels suggest that U.S. producers may have some ability to respond to changes in demand with changes in the quantity shipped from inventories.

Production alternatives

U.S. producers stated that they could not switch production from ammonium sulfate to any other product.

Supply constraints

Two of the six U.S. producers reported supply constraints since January 2013. *** reported a temporary constraint in early 2015 due to production and equipment related issues that have since been resolved. *** reported purchasing ammonium sulfate in 2014 to meet sales commitments due to production issues.

Subject imports from China[4]

Based on available information, producers of ammonium sulfate from China have the ability to respond to changes in demand with moderate-to-large changes in the quantity of shipments of ammonium sulfate to the U.S. market. The main contributing factors to this degree of responsiveness of supply are the availability of unused capacity and the existence of alternate markets.

Industry capacity

The responding Chinese producer, who reported not exporting ammonium sulfate to the United States, reported that capacity utilization increased from *** percent in 2013 to *** percent in 2015. A report from the China National Chemical Information Center stated that Chinese capacity utilization was 79.1 percent in 2013.[5] This moderate-to-high level of capacity utilization suggests that Chinese producers may have some ability to increase production of ammonium sulfate in response to an increase in prices.

[4] For data on the number of responding foreign firms and their share of U.S. imports from China, please refer to Part I, "Summary Data and Data Sources."

[5] Petitioner's postconference brief, Exhibit 11, p. 16.

Alternative markets

The only responding Chinese producer reported that the firm does not export ammonium sulfate to the United States. According to Chinese customs data, Chinese exports to the United States accounted for *** percent of total Chinese exports of ammonium sulfate.[6]

Inventory levels

The responding Chinese producer reported the firm's inventory level, *** short tons, remained constant between 2013 and 2015. This inventory level indicates that it has *** ability to increase shipments from inventory.

Production alternatives

The only responding Chinese producer stated that it *** switch production from ammonium sulfate to any other product.

Supply constraints

The responding Chinese producer stated that the supply of raw materials could limit ammonium sulfate capacity. One importer of Chinese ammonium sulfate (***) reported that the firm has been sold out of ammonium sulfate, and that it can take several months for new imports to arrive.

Nonsubject imports

The largest source of nonsubject imports during 2013 to 2015 was Canada. Canadian imports decreased from *** percent of total U.S. imports in 2013 to *** percent in 2015.[7]

U.S. demand

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

---

[6] Official Chinese exports statistics under HTS subheading 3102.21 as reported by China Customs in the GTIS/GTA database, accessed June 6, 2016.

[7] Official U.S. import statistics under statistical reporting number 3102.21.0000, accessed June 2, 2016.

End uses

U.S. demand for ammonium sulfate depends on the demand for U.S.-produced downstream products. The largest end-use market for ammonium sulfate is the agricultural industry. The main reported agricultural end use is fertilizer for crops. Firms reported that for agricultural end uses, granular and standard grade ammonium sulfate are required. The industrial industry is another smaller end-use market, with reported end uses of wall board, leather tanning, fire extinguisher chemicals, textile dyeing, and fermentation.[8]

Cost share

U.S. producers and importers reported widely different cost shares for ammonium sulfate in agricultural end uses, ranging from *** percent to *** percent, with many (4 of 10) responses in the range of *** percent to *** percent. Ammonium sulfate accounts for both a small, ***, and large, ***, share of the cost of reported industrial end-use products.

Business cycles

Four of five U.S. producers and two of three importers indicated that the market was subject to business cycles or conditions of competition. Specifically, *** reported that ammonium sulfate is subject to seasonal (i.e., spring and fall) business cycles driven by fertilizing and crop cycles. One producer, ***, reported that ammonium sulfate is subject to distinct conditions of competition due to being a commodity product sold on price. An importer, ***, stated that ammonium sulfate is subject to distinct conditions of competition due to ***. Most U.S. producers and one importer indicated that there have been changes to the conditions of competition since 2013, citing ***.

Demand trends

Most firms reported an increase in U.S. demand for ammonium sulfate since January 1, 2013 (table II-3). The majority of responding U.S. producers reported demand increasing outside the United States, while all responding importers reported demand fluctuating outside the United States.

[8] Fertilizer International, *Ammonium Sulphate Heads From East to West*, Dec. 2015, p. 20.

Table II-3
Ammonium sulfate: Firms' responses regarding U.S. demand and demand outside the United States

Item	Number of firms reporting			
	Increase	No change	Decrease	Fluctuate
Demand inside the United States: U.S. producers	4	0	0	1
Importers	1	0	0	1
Demand outside the United States: U.S. producers	3	0	1	0
Importers	0	0	0	2

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

Substitute products

Of the nine responding firms, only two U.S. producers indicated that there were substitutes for ammonium sulfate. *** reported *** as substitutes for ammonium sulfate, but indicated that ***. *** also reported *** as a substitute, but stated that *** to ammonium sulfate. The two responding producers reported that a change in the price of substitutes did not affect the price of ammonium sulfate.

SUBSTITUTABILITY ISSUES

The degree of substitution between domestic and imported ammonium sulfate depends upon such factors as relative prices, quality (e.g., grade standards, reliability of supply, defect rates, etc.), and conditions of sale (e.g., price discounts/rebates, lead times between order and delivery dates, payment terms, ammonium sulfate services, etc.). Based on available data, staff believes that there is high degree of substitutability between domestically produced ammonium sulfate and ammonium sulfate imported from China.

Lead times

According to reporting U.S. producers and importers, ammonium sulfate is sold from inventory. U.S. producers and importers reported that *** percent of their commercial shipments were produced-to-order. *** percent of their commercial shipments came from inventories, with lead times averaging *** days for importers and *** days for producers.

Factors affecting purchasing decisions

Purchasers responding to lost sales lost revenue allegations[9] were asked to identify the main purchasing factors their firm considered in their purchasing decisions for ammonium

[9] This information is compiled from responses by purchasers identified by Petitioners or other U.S. producers to the lost sales lost revenue allegations. See Part V for additional information.

sulfate. The major purchasing factors identified by firms include the price and quality of product, the relationship between the purchaser and the supplier, how much of the product the supplier carries, and the location of the supplier. Firms were asked about the interchangeability of ammonium sulfate for different granule sizes. The *** of U.S. producers stated that granules of different sizes (e.g., less than two millimeters, two millimeters to less than three millimeters, three millimeters to less than four millimeters, and four millimeters and above) are *** interchangeable. *** U.S. producers reported granules less than two millimeters *** being interchangeable with larger sizes. Of the two responding importers, *** reported that different granule sizes of ammonium sulfate are *** interchangeable with each other, while *** stated that granules of different sizes are *** interchangeable. As stated above, granular and standard ammonium sulfate are differentiated based on their granule size and use; however, U.S. producers reported that purchasers would switch from granular to standard form based on price.[10]

Comparison of U.S.-produced and imported ammonium sulfate

In order to determine whether U.S.-produced ammonium sulfate can generally be used in the same applications as imports from China, U.S. producers and importers were asked whether the products can "always," "frequently," "sometimes," or "never" be used interchangeably. As shown in table II-4, *** responding producers and *** responding importers reported that ammonium sulfate from different country sources was "always" or "sometimes" interchangeable. Importer *** reported that U.S.-produced ammonium sulfate is *** interchangeable with Chinese-produced ammonium sulfate due to ***. Importer *** stated that that ammonium sulfate from the United States and China is *** interchangeable because the Chinese product ***.

Table II-4
Ammonium sulfate: Interchangeability between ammonium sulfate produced in the United States and in other countries, by country pairs

Country pair	U.S. Producers				U.S. importers			
	A	F	S	N	A	F	S	N
United States vs. China	4	0	0	0	1	0	1	1
United States vs. Canada	4	0	0	0	1	0	0	0
United States vs. Other	4	0	0	0	1	0	0	0
China vs. Canada	4	0	0	0	1	0	0	0
China vs. Other	3	0	0	0	1	0	0	0
Canada vs. Other	4	0	0	0	1	0	0	0

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

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

[10] Conference transcript, p. 59 (Mazzella Sr.).

In addition, producers and importers were asked to assess how often differences other than price were significant in sales of ammonium sulfate from the United States, China, or nonsubject countries. As seen in table II-5, most responding U.S. producers indicated that factors other than price were never significant, whereas most importers indicated that factors other than price were "sometimes" significant in sales of ammonium sulfate when compared to product from China, and "sometimes" when compared to other sources.

Table II-5
Ammonium sulfate: Significance of differences other than price between ammonium sulfate produced in the United States and in other countries, by country pairs

Country pair	U.S. Producers				U.S. importers			
	A	F	S	N	A	F	S	N
United States vs. China	0	0	0	4	2	0	1	0
United States vs. Canada	0	0	0	4	0	0	1	0
United States vs. Other	0	0	0	3	0	0	1	0
China vs. Canada	0	0	0	4	0	0	1	0
China vs. Other	0	0	0	3	0	0	1	0
Canada vs. Other	0	0	0	4	0	0	1	0

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

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

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 subsidies and dumping margins was presented in *Part I* of this report and information on the volume and pricing of imports of the subject merchandise is presented in *Part IV* and *Part V*. Information on the other factors specified is presented in this section and/or *Part VI* and (except as noted) is based on the questionnaire responses of six firms that accounted for the vast majority of U.S. production of ammonium sulfate during 2015.[1]

U.S. PRODUCERS

The Commission issued a U.S. producer questionnaire to 23 firms based on information contained in the petition, and staff searches. Six firms provided useable data on their productive operations. Staff believes that these responses represent the vast majority of U.S. production of ammonium sulfate.

Table III-1 lists U.S. producers of ammonium sulfate, their production locations, positions on the petition, and shares of total production. U.S. producers did not directly import or purchase the subject merchandise.

[1] ADM", has its ***. ***.

Vertellus Health & Specialty Products LLC ("Vertellus") is a leading provider in the world of specialty chemicals for the agriculture, nutrition, pharmaceutical, fine chemicals, medical, personal care, plastics, coatings and many other industrial markets. Their products are in everyday items such as toothpaste, deodorants, vitamins, pharmaceuticals, detergents, plastics, adhesives, inks, tires and more. They are a specialty manufacturer of pharmaceutical products. Their average pricing for ammonium sulfate ***. They have***. Because their *** they are not included in this report.

Table III-1
Ammonium sulfate: U.S. producers of ammonium sulfate, their positions on the petition, production locations, and shares of reported production, 2015

Firm	Position on petition	Production location(s)	Share of reported production (percent)
ADM[1]	***	Decatur, Illinois	***
BASF[2]	***	Freeport, Texas	***
Dakota Gasification Company[3]	***	Beulah, North Dakota	***
Honeywell	***	Hopewell, Virginia	***
Mountain State[4]	***	Follansbee, West Virginia	***
PCI	Petitioner	Pasadena, Texas	***
Total			100.0

[1] "***."
[2] "***."
[3] ***.
[4] Mountain State is ***.

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

U.S. PRODUCTION, CAPACITY, AND CAPACITY UTILIZATION

Table III-2 and figure III-1 present U.S. producers' production, capacity, and capacity utilization.

Table III-2
Ammonium sulfate: U.S. producers' production, capacity, and capacity utilization, 2013-15, January-March 2015, and January-March 2016

* * * * * * *

Figure III-1
Ammonium sulfate: U.S. producers' capacity, production, and capacity utilization, 2013-15, January to March 2015, and January to March 2016

* * * * * * *

ADM's ammonium sulfate is a by-product that is created in the production of lysine. Their production capacity numbers provided are based upon operating *** hours per week, *** weeks per year, and the production capacity of lysine, as such, its production capacity is constrained by ***.

BASF reported capacity is based on ***. Additionally, they calculate its capacity based on "***. Production ***."

Dakota Gasification Company bases its capacity on *** hours per week for *** weeks per year which averages to ***. Dakota states, "***."

Honeywell has a process to produce ammonium sulfate and caprolactam as co-products and this production process does not allow for shifting of production to other products. Honeywell states, "***." Honeywell's plant is a complex integrated ammonium sulfate/caprolactam manufacturing that has evolved over 70 years and there is no nameplate capacity. The best estimate of capacity is based on *** hours per week and *** weeks per year.

Mountain State calculates its capacity based on operating ***.

PCI "***." Additionally "***." PCI further states, "***." PCI's capacity calculation is based upon *** hours per week and *** weeks per year for nameplate capacity of *** short tons/day *** capacity threshold for routine cleaning & repairs.

U.S. PRODUCERS' U.S. SHIPMENTS AND EXPORTS

Table III-3 presents U.S. producers' U.S. shipments, export shipments, and total shipments. BASF reported exports to ***. Dakota reported exports to ***. Honeywell reported exports to ***.[2] PCI reported exports to ***.

Table III-3
Ammonium sulfate: U.S. producers' U.S. shipments, exports shipments, and total shipments, 2013-15, January-March 2015, and January-March 2016

* * * * * * *

U.S. PRODUCERS' INVENTORIES

Table III-4 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.

[2] "***."

Table III-4
Product: U.S. producers' inventories, 2013-15, January-March 2015, and January-March 2016

* * * * * * *

U.S. PRODUCERS' IMPORTS AND PURCHASES

***. No other firm reported any imports or purchases during the POI.

U.S. EMPLOYMENT, WAGES, AND PRODUCTIVITY

Table III-5 shows U.S. producers' employment-related data. Given the fact ammonium sulfate is a by-product of the lysine production, *** to the ammonium sulfate production. BASF has initiated ***.

Table III-5
Ammonium sulfate: Average number of production and related workers, hours worked, wages paid to such employees, hourly wages, productivity, and unit labor costs, 2013-15, January-March 2015, and January-March 2016

* * * * * * *

PART IV: U.S. IMPORTS, APPARENT U.S. CONSUMPTION, AND MARKET SHARES

U.S. IMPORTERS

The Commission issued importer questionnaires to 20 firms believed to be importers of subject ammonium sulfate, as well as to all U.S. producers of ammonium sulfate.[1] Usable questionnaire responses were received from three companies, representing 72.4 percent of U.S. imports from China in 2015 under HTS subheading 3102.21.00. Table IV-1 lists all responding U.S. importers of ammonium sulfate from China, their locations, and their shares of U.S. imports, in 2015.

Table IV-1
Ammonium sulfate: U.S. importers by source, 2015

Firm	Headquarters	Share of imports by source (*percent*)		
		China	All other sources	Total imports
Gavilon Fertilizer, LLC	Savannah, GA	***	***	***
JM Fertilizer LLC	Tampa, FL	***	***	***
Trammo, Inc.	New York, NY	***	***	***
Total		100.0	***	100.0

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

U.S. IMPORTS

Table IV-2 and figure IV-1 presents data for U.S. imports of ammonium sulfate from China and all other sources. Table IV-3 and figure IV-2 presents monthly imports from China and all other sources from January 2013 through April 2016.

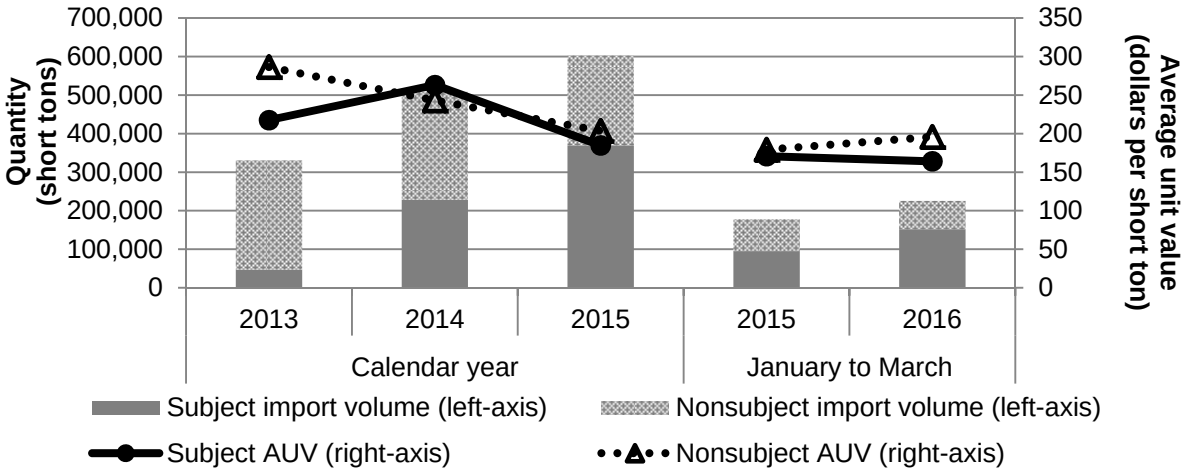
[1] The Commission issued questionnaires to those firms identified in the petition, along with firms that, based on a review of data provided by ***, may have accounted for more than one percent of total imports under HTS subheading 3102.21.00 in 2015.

Table IV-2
Ammonium sulfate: U.S. imports by source, 2013-15, January-March 2015, and January-March 2016

Item	Calendar year			January to March	
	2013	2014	2015	2015	2016
	Quantity (*short tons*)				
U.S. imports from.--					
China	47,236	228,999	369,569	94,909	152,068
Canada	276,619	277,633	202,825	82,300	50,865
All other sources	6,751	1,905	30,011	596	22,710
Nonsubject sources	283,370	279,538	232,837	82,896	73,575
Total U.S. imports	330,606	508,537	602,406	177,805	225,643
	Value (*1,000 dollars*)				
U.S. imports from.--					
China	10,277	60,221	68,251	16,202	24,945
Canada	78,899	67,073	40,356	14,544	9,976
All other sources	2,252	875	7,038	307	4,428
Nonsubject sources	81,151	67,948	47,394	14,851	14,404
Total U.S. imports	91,428	128,169	115,645	31,053	39,350
	Unit value (*dollars per short ton*)				
U.S. imports from.--					
China	$218	$263	$185	$171	$164
Canada	285	242	199	177	196
All other sources	334	459	234	515	195
Nonsubject sources	286	243	204	179	196
Total U.S. imports	277	252	192	175	174
	Share of quantity (*percent*)				
U.S. imports from.--					
China	14.3	45.0	61.3	53.4	67.4
Canada	83.7	54.6	33.7	46.3	22.5
All other sources	2.0	0.4	5.0	0.3	10.1
Nonsubject sources	85.7	55.0	38.7	46.6	32.6
Total U.S. imports	100.0	100.0	100.0	100.0	100.0
	Share of value (*percent*)				
U.S. imports from.--					
China	11.2	47.0	59.0	52.2	63.4
Canada	86.3	52.3	34.9	46.8	25.4
All other sources	2.5	0.7	6.1	1.0	11.3
Nonsubject sources	88.8	53.0	41.0	47.8	36.6
Total U.S. imports	100.0	100.0	100.0	100.0	100.0
	Ratio to U.S. production				
U.S. imports from.--					
China	1.4	7.0	11.9	12.7	19.2
Canada	8.4	8.4	6.5	11.0	6.4
All other sources	0.2	0.1	1.0	0.1	2.9
Nonsubject sources	8.7	8.5	7.5	11.1	9.3
Total U.S. imports	10.1	15.5	19.3	23.8	28.5

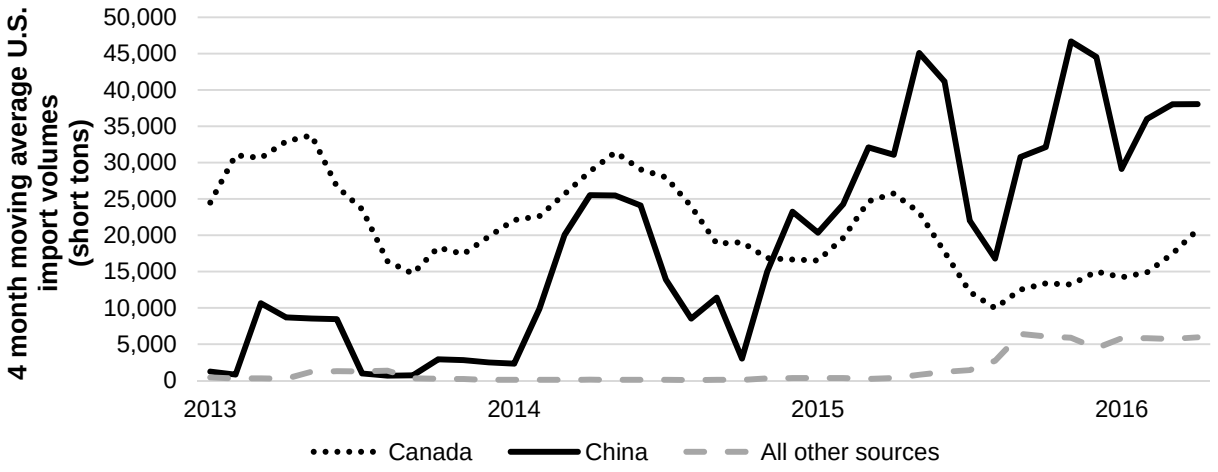
Source: Official U.S. import statistics under statistical reporting number 3102.21.0000,accessed June 2, 2016.

Figure IV-1
Ammonium sulfate: U.S. import volumes and prices, 2013-15, January to March 2015, and January to March 2016



Source: Official U.S. import statistics under statistical reporting number 3102.21.0000, accessed June 2, 2016.

Figure IV-2
Ammonium sulfate: Monthly U.S. import volumes, January 2013 through April 2016



Source: Official U.S. import statistics under statistical reporting number 3102.21.0000, accessed June 2, 2016.

Table IV-3
Ammonium sulfate: U.S. imports, by source, January 2013 through April 2016

Item	Calendar year			
	2013	2014	2015	2016
	Quantity (*short tons*)			
U.S. imports from China.--				
January	1,226	132	0	50,367
February	413	39,039	15,713	33,059
March	30,284	40,773	79,195	68,642
April	2,802	22,046	29,450	88
May	608	0	55,997	
June	24	33,530	7	
July	386	20	2,535	
August	1,587	524	8,543	
September	773	11,524	112,022	
October	8,825	21	5,478	
November	22	47,938	60,627	
December	285	33,452	0	
Total U.S. imports from China	47,236	228,999	369,569	152,156
U.S. imports from Canada.--				
January	24,483	30,058	19,624	16,192
February	37,535	25,931	29,488	13,923
March	29,908	25,934	33,187	20,750
April	39,768	33,234	20,687	32,167
May	27,732	40,598	9,123	
June	9,442	16,448	7,809	
July	17,358	21,615	11,170	
August	11,097	17,236	11,741	
September	20,948	20,136	19,332	
October	23,835	17,099	11,213	
November	13,669	12,947	10,585	
December	20,844	16,399	18,866	
Total U.S. imports from Canada	276,619	277,633	202,825	83,032

Table continued on next page.

Table IV-3--*Continued*
Ammonium sulfate: U.S. imports, by source, January 2013 through April 2016

Item	Calendar year			
	2013	2014	2015	2016
	Quantity (*short tons*)			
U.S. imports from all other sources.--				
January	411	46	68	22,097
February	132	117	117	419
March	278	23	411	194
April	240	214	822	1,041
May	4,189	2	1,792	
June	383	66	1,750	
July	164	12	1,295	
August	588	122	6,004	
September	49	104	16,605	
October	173	72	397	
November	3	868	528	
December	141	259	220	
Total U.S. imports from all other sources	6,751	1,905	30,011	23,750

Source: Official U.S. import statistics under statistical reporting number 3102.21.0000, accessed June 2, 2016.

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 Tariff Act of 1930, as amended, as imports from a country of merchandise corresponding to a domestic like product where such imports account for less than 3 percent of the volume of all such merchandise imported into the United States in the most recent 12-month period for which data are available that precedes the filing of the petition or the initiation of the investigation. However, if there are imports of such merchandise from a number of countries subject to investigations initiated on the same day that individually account for less than 3 percent of the total volume of the subject merchandise, and if the imports from those countries collectively account for more than 7 percent of the volume of all such merchandise imported into the United States during the applicable 12-month period, then imports from such countries are deemed not to be negligible.[3] Imports from China accounted for 61.3 percent of total imports of ammonium sulfate by quantity during 2015. Subject imports from China accounted for 60.3 percent, by quantity, of total imports during May 2015-April 2016.

[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)).

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

APPARENT U.S. CONSUMPTION

Table IV-4 and figure IV-3 presents data on apparent U.S. consumption and U.S. market shares for ammonium sulfate.

Table IV-4
Ammonium sulfate: U.S. shipments of domestic product, U.S. shipments of imports, and apparent U.S. consumption, 2013-15, January-March 2015, and January-March 2016

Item	Calendar year			January to March	
	2013	2014	2015	2015	2016
	Quantity (*short tons*)				
U.S. producers' U.S. shipments	***	***	***	***	***
U.S. imports from.--					
China	47,236	228,999	369,569	94,909	152,068
Canada	276,619	277,633	202,825	82,300	50,865
All other sources	6,751	1,905	30,011	596	22,710
Nonsubject sources	283,370	279,538	232,837	82,896	73,575
Total U.S. imports	330,606	508,537	602,406	177,805	225,643
Apparent U.S. consumption	***	***	***	***	***
	Value (*1,000 dollars*)				
U.S. producers' U.S. shipments	***	***	***	***	***
U.S. imports from.--					
China	10,277	60,221	68,251	16,202	24,945
Canada	78,899	67,073	40,356	14,544	9,976
All other sources	2,252	875	7,038	307	4,428
Nonsubject sources	81,151	67,948	47,394	14,851	14,404
Total U.S. imports	91,428	128,169	115,645	31,053	39,350
Apparent U.S. consumption	***	***	***	***	***
	Share of quantity (*percent*)				
U.S. producers' U.S. shipments	***	***	***	***	***
U.S. imports from.--					
China	***	***	***	***	***
Canada	***	***	***	***	***
All other sources	***	***	***	***	***
Nonsubject sources	***	***	***	***	***
Total U.S. imports	***	***	***	***	***
	Share of value (*percent*)				
U.S. producers' U.S. shipments	***	***	***	***	***
U.S. imports from.--					
China	***	***	***	***	***
Canada	***	***	***	***	***
All other sources	***	***	***	***	***
Nonsubject sources	***	***	***	***	***
Total U.S. imports	***	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires and official Commerce statistics.

Figure IV-3
Ammonium sulfate: Apparent U.S. consumption, 2013-15, January to March 2015, and January to March 2016

* * * * * * *

PART V: PRICING DATA

FACTORS AFFECTING PRICES

Raw material costs

Raw material costs are a relatively large cost component of ammonium sulfate production, with raw materials representing between *** percent and *** percent of the costs of goods sold for ammonium sulfate between 2013 and 2015. The primary raw material inputs to ammonium sulfate are ammonia and sulfur.

U.S. inland transportation costs

*** responding U.S. producers and *** importers reported that they typically arrange transportation to their customers. U.S. producers reported that their U.S. inland transportation costs ranged from *** percent to *** percent while importers reported costs of *** percent to *** percent.[1]

PRICING PRACTICES

Pricing methods

U.S. producers and importers reported using transaction-by-transaction negotiations and contracts. As presented in table V-1, U.S. producers and importers sell primarily on a transaction-by-transaction method.

Table V-1
Ammonium sulfate: U.S. producers and importers reported price setting methods, by number of responding firms[1]

Method	U.S. producers	U.S. importers
Transaction-by-transaction	4	3
Contract	2	0
Set price list	0	0
Other	0	0

[1] 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.

[1] U.S. producer *** reported that *** of its total delivered cost is accounted for by its U.S. inland transportation cost.

As shown in table V-2, U.S. producers and importers reported selling a *** of their sales in the spot market, while also selling *** contract in 2015.

Table V-2
Ammonium sulfate: U.S. producers' and importers' shares of U.S. commercial shipments by type of sale, 2015

* * * * * * *

*** described setting its *** prices on the current market value at the time of the sale. *** reported that *** percent of its 2015 sales use ***, while *** reported that a *** and *** reported that *** of their 2015 sales use ***. *** reported that *** percent of its 2015 sales are on a *** basis.

Sales terms and discounts

*** responding U.S. producers quote prices on a delivered basis, and *** and *** also quote prices f.o.b. from their ***. *** responding importers typically quote prices on an f.o.b. basis, and *** reported quoting prices on a delivered basis. *** reported no discount policy. *** indicated that ***. *** reported both *** policies for customers ***. *** reported sales terms of net 30 days, while *** reported sales terms of net 15 days.

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 ammonium sulfate products shipped to unrelated U.S. customers during January 2013 – March 2016.

Product 1.—Ammonium sulfate in granular form (particles with a diameter of 2.0 millimeters or greater) and sold in bulk, sold to Distributors.

Product 2. —Ammonium sulfate in granular form (particles with a diameter of 2.0 millimeters or greater) and sold in bulk, sold to Retailers.

Four U.S. producers and three importers provided usable pricing data for sales of the requested products, although not all firms reported pricing for all products for all quarters.[2] Pricing data reported by these firms accounted for approximately *** percent of U.S.

[2] 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.

producers' shipments of ammonium sulfate and *** percent of U.S. shipments of subject imports from China in 2015.

Price data for products 1-2 are presented in tables V-3 to V-4 and figures V-1 to V-2.

Table V-3
Ammonium sulfate: Weighted-average f.o.b. prices and quantities of domestic and imported product 1[1] and margins of underselling/ (overselling), by quarters, January 2013-March 2016

* * * * * * *

Table V-4
Ammonium sulfate: Weighted-average f.o.b. prices and quantities of domestic and imported product 2[1] and margins of underselling/ (overselling), by quarters, January 2013-March 2016

* * * * * * *

Figure V-1
Ammonium sulfate: Weighted-average prices and quantities of domestic and imported product 1, by quarters, January 2013-March 2016

* * * * * * *

Figure V-2
Ammonium sulfate: Weighted-average prices and quantities of domestic and imported product 2, by quarters, January 2013-March 2016

* * * * * * *

Price trends

Prices decreased during January 2013- March 2016. Table V-5 summarizes the price trends, by country and by pricing product. As shown in the table, domestic price decreases ranged from *** percent to *** percent during January 2013- March 2016 while the import price decrease *** was *** percent. As seen in tables V-3 and V-4, though not consistent, there appears to be an increase in volume of ammonium sulfate in the first or second quarter of each year, which follows the seasonal business cycles reported by U.S. producers and importers. The smallest difference between U.S. and Chinese ammonium sulfate for product 1 occurs in the second quarter (April – June) for all three years (2013, 2014, and 2015).

Table V-5
Ammonium sulfate: Summary of weighted-average f.o.b. prices for products 1-2 from the United States and China

* * * * * * *

Price comparisons

As shown in table V-6, prices for ammonium sulfate imported from China were below those for U.S.-produced ammonium sulfate in 14 of 17 instances (*** short tons); margins of underselling ranged from *** percent for *** and *** percent for ***. In the remaining 3 instances, prices for ammonium sulfate from China were between *** and *** percent above prices for the domestic ammonium sulfate.

Table V-6
Ammonium sulfate: Instances of underselling/overselling and the range and average of margins, by product, January 2013 – March 2016

	Underselling				
				Margin Range (percent)	
Source	Number of quarters	Quantity (short tons)	Average margin (percent)	Min	Max
Product 1	***	***	***	***	***
Product 2	***	***	***	***	***
Total, underselling	14	***	***	***	***
	(Overselling)				
				Margin Range (percent)	
Source	Number of quarters	Quantity (short tons)	Average margin (percent)	Min	Max
Product 1	***	***	***	***	***
Product 2	***	***	***	***	***
Total, overselling	3	***	***	***	***

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

LOST SALES AND LOST REVENUE

The Commission requested U.S. producers of ammonium sulfate to report purchasers where they experienced instances of lost sales or revenue due to competition from imports of ammonium sulfate from China during January 2013- March 2016.[3] Of the five responding U.S. producers, four reported that they had to either reduce prices or roll back announced price increases, and four firms reported that they had lost sales. Two U.S. producers submitted lost sales and lost revenue allegations. The two responding U.S. producers identified 35 firms where they lost sales or revenue (13 consisting lost sales allegations, 14 consisting of lost revenue allegations, and 8 consisting of both types of allegations). The allegations consisted of primarily ammonium sulfate in granular and mid-grade form.

Staff contacted 35 purchasers and received responses from four purchasers. Responding purchasers reported purchasing *** short tons of ammonium sulfate in 2015 (table V-7). During 2015, purchasers purchased *** percent from U.S. producers, *** percent from China, *** percent from nonsubject countries (Canada and the Netherlands), and *** percent from "unknown source" countries. Of the responding purchasers, *** reported decreasing purchases

[3] Petitioners submitted lost sale and lost revenue allegations using the transaction-specific template that, due to changes in Commission rules, is no longer used as of October 1, 2015.

from domestic producers, *** reported increasing purchases, and *** reported fluctuating purchases.[4] Explanations for increasing purchases of domestic ammonium sulfate included ***. Explanations for decreasing purchases of domestic ammonium sulfate included ***. Other purchasers reported ***.

Of the four responding purchasers, three reported that they had shifted purchases of ammonium sulfate from U.S. producers to subject imports since 2013. All of these purchasers reported that price was the reason for the shift, and the reported estimated share of total purchases shifted ranged from *** percent to *** percent (table V-8).

Table V-7
Ammonium sulfate: Purchasers' responses to purchasing patterns

* * * * * * *

Table V-8
Ammonium sulfate: Purchasers' responses to shifting supply sources

* * * * * * *

Of the four responding purchasers, three reported that U.S. producers had reduced prices in order to compete with lower-priced imports from subject countries (table V-9). The reported estimated price reduction ranged from 8.0 percent to 28.0 percent. In describing the price reductions, purchasers indicated that seasonal business cycles and pressure of Chinese ammonium sulfate in the river system market may have led to a reduction in prices.

Table V-9
Ammonium sulfate: Purchasers' responses to U.S. producer price reductions

* * * * * * *

In responding to the lost sales lost revenue survey, some purchasers provided additional information on purchases and market dynamics. *** stated it did not have access to Chinese product, ***, because suppliers of Chinese ammonium sulfate preferred to sell directly to retailers rather than resellers.[5] *** stated when purchasing ***. *** also stated that if Chinese ammonium sulfate were not available in the U.S. market ***.[6]

[4] Of the four responding purchasers, three purchasers indicated that they did not know the source of the ammonium sulfate they purchased.

[5] Staff telephone Interview with ***.

[6] Staff telephone Interview with ***.

PART VI: FINANCIAL EXPERIENCE OF U.S. PRODUCERS

BACKGROUND

Three U.S. producers[1] which accounted for the majority of U.S. production/sales of ammonium sulfate during the period of investigation, supplied usable financial data on their ammonium sulfate operations.[2] *** of ammonium sulfate.

OPERATIONS ON AMMONIUM SULFATE

Table VI-1 presents aggregate income-and-loss data for the U.S. producers. While net sales quantities increased from 2013 to 2014 and, then, decreased from 2014 to 2015, net sales values continuously decreased between 2013 and 2015. The financial condition of the domestic ammonium sulfate industry deteriorated continuously between 2013 and 2015. Operating loss of the U.S. producers increased substantially during the same period. While the domestic industry reported *** between 2013 and 2015, the level rose from *** in 2013 to *** in 2014, and further increased to *** in 2015. Between 2013 and 2015, the increase in per-short ton total cost (by *** per short ton)[3], as well as the decrease in per-short ton sales value (by *** per short ton), resulted in a much higher per-short ton *** in 2015 (by *** per short ton compared to 2013). Accordingly, the operating loss margin increased from *** in 2013 to *** in 2015.

Even though net sales quantities were higher in January-March ("interim") 2016 than interim 2015, net sales values were lower in interim 2016 because the average net sales values were lower. However, an operating loss in interim 2015 (***) changed to *** in interim 2016, due mainly to *** percent in interim 2015, was *** percent in interim 2016.

Table VI-1
Ammonium sulfate: Results of operations of U.S. producers, fiscal years 2013-15, January-March 2015, and January-March 2016

* * * * * * *

Table VI-2 presents selected company-by-company data. Total net sales (quantities and values), operating income (loss), the ratio of operating income (loss) to net sales, and per-short ton values (sales, COGS, SG&A, and operating income), are presented in this table on a firm-by-firm basis. ***.

---

[1] ***.

[2] The producer with fiscal year ends other than December 31 is ***. However, *** were reported on calendar year basis.

[3] Total cost is cost of goods sold ("COGS") and selling, general, and administrative ("SG&A") expenses combined.

No producer reported any inputs received/purchased from related firm. For non-recurring items, ***.[4]

***. PCI explained in its supplemental response that ***.[5]

Table VI-2
Ammonium sulfate: Results of operations of U.S. producers, by firm, fiscal years 2013-15, January-March 2015, and January-March 2016

* * * * * * *

Selected aggregate per-short ton cost data of the producers on their operations, i.e., COGS and SG&A expenses, are presented in table VI-3. Overall per-short ton COGS and total cost (which includes SG&A expenses) increased between 2013 and 2015 (though they decreased somewhat from 2013 to 2014), driven mainly by changes in other factory costs (mainly due to PCI's asset impairments in 2015). Per-short ton COGS and per-short ton total costs were much lower in interim 2016 compared to interim 2015, due to the *** between 2013 and 2015 (from *** percent to *** percent), and was lower in interim 2016 than in interim 2015 (*** percent compared to *** percent).

Table VI-3
Ammonium sulfate: Average short ton costs of U.S. producers, fiscal years 2013-15, January-March 2015, and January-March 2016

* * * * * * *

A variance analysis showing the effects of prices and volume on the producers' sales of ammonium sulfate, and the effects of costs and volume on their total costs is presented in table VI-4.[6] The information for this variance analysis is derived from table VI-1. The analysis indicates that the increase in operating loss between 2013 and 2015 (by ***) was the result of the negative effects of increased per-short ton costs and expenses and decreased sales price. The summary at the bottom of the table illustrates the negative effects of increased costs and

[4] Email from ***, June 10, 2016. It states that ***.

[5] Email from ***, June 10, 2016.

[6] The Commission's variance analysis is calculated in three parts: Sales variance, cost of sales variance (COGS variance), and SG&A expense variance. Each part consists of a price variance (in the case of the sales variance) or a cost or expense variance (in the case of the COGS and SG&A expense variance), and a volume variance. The sales or cost/expense variance is calculated as the change in unit price or per-unit cost/expense times the new volume, while the volume variance is calculated as the change in volume times the old unit price or per-unit cost/expense. Summarized at the bottom of the table, the price variance is from sales; the cost/expense variance is the sum of those items from COGS and SG&A variances, respectively, and the net volume variance is the sum of the price, COGS, SG&A volume variance. All things equal, a stable overall product mix generally enhances the utility of the Commission's variance analysis.

expenses (***) and decreased prices (***). Comparing those two interim periods, the variance analysis indicates that operating income was higher by (***), which mainly resulted from the positive effect of much lower costs and expenses.

Table VI-4
Ammonium sulfate: Variance analysis of operations of U.S. producers, fiscal years 2013-15, January-March 2015, and January-March 2016

* * * * * * *

CAPITAL EXPENDITURES AND RESEARCH AND DEVELOPMENT EXPENSES

Table VI-5 presents aggregate data on capital expenditures and research and development ("R&D") expenses. All producers reported capital expenditures. Capital expenditures decreased between 2013 and 2015. Data for capital expenditures on a firm-by-firm basis are shown in table VI-6. The majority of capital expenditures were reported by ***.[7] *** reported R&D expenses.

Table VI-5
Ammonium sulfate: Capital expenditures and R&D expenses by U.S. producers, fiscal years 2013-15, January-March 2015, and January-March 2016

* * * * * * *

Table VI-6
Ammonium sulfate: Capital expenditures by U.S. producers, by firm, fiscal years 2013-15, January-March 2015, and January-March 2016

* * * * * * *

ASSETS AND RETURN ON ASSETS

Table VI-7 presents data on the U.S. producers' total net assets and their return on assets. Total net assets increased from 2013 to 2014 and decreased substantially from 2014 to 2015, due primarily to ***.[8] At the same time, the return on assets decreased substantially between 2013 and 2015 due to *** in 2015. The trend of return on assets during 2013-15 was the same as the trend of the operating income (loss) margin shown in table VI-1.

[7] Emails from ***, June 10, 2016 and ***, June 10, 2016.
[8] Email from ***, June 10, 2016.

Table VI-7
Ammonium sulfate: Value of assets and return on assets of U.S. producers, fiscal years 2013-15

* * * * * * *

CAPITAL AND INVESTMENT

The Commission requested U.S. producers to describe any actual negative effects on their return on investment or the scale of capital investments, as well as any negative effects on their firms' growth, ability to raise capital, or existing development and production efforts as a result of imports of ammonium sulfate from China. A summary of U.S. producers' responses are shown in table VI-8. Firm-specific responses are also provided below.

Table VI-8
Ammonium sulfate: Negative effects of imports as reported by U.S. producers, by factor

* * * * * * *

Actual Negative Effects

BASF.–***

Honeywell.–***

PCI.–***

Anticipated Negative Effects

BASF.–***

Honeywell.–***

PCI.–***

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 subsidies was presented earlier in this report; information on the volume and pricing of imports of the subject merchandise is presented in *Parts IV* and *V*; and information on the effects of imports of the subject merchandise on 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 CHINA

The Commission issued foreign producers' or exporters' questionnaires to 75 firms believed to produce and/or export ammonium sulfate from China.[3] Useable responses to the Commission's questionnaire were received from one firm: ***. This firms *** over the period being examined. According to estimates requested of this firm, their production of ammonium sulfate accounts for *** of overall production in China. Additionally, ammonium sulfate accounts for ***. The ammonium sulfate they produce is,"***." Table VII-1 presents information on the ammonium sulfate operations of the responding producer in China. Table VII-2 presents Chinese exports as reported by China Customs in the GTIS/GTA database.

China's ammonium sulfate production capacity has expanded rapidly, with one estimate of capacity growing by 43 percent from 2010-14.[4] This expansion has been largely driven by the country's efforts to become self-sufficient in caprolactam production. The International Fertilizer Association estimates that in 2010 the majority of China's ammonium sulfate production was based on emissions processing, with caprolactam co-production accounting for only 13 percent.[5] Since that time, China has expanded its caprolactam production capacity ***.[6] ***.[7]

In China, as in other markets, ammonium sulfate is primarily used in agricultural applications, ***.[8] China's production capacity appears to exceed its domestic consumption. Fertilizer International estimates China's 2013 production at 4,725,000 tons, with domestic consumption estimated at 1,500,000 tons.[9]

From 2013-15, China's exports increased as it added new markets. In 2013, the primary export markets for Chinese ammonium sulfate were Southeast Asian countries: Vietnam, Malaysia, Indonesia, and the Philippines (Table VII-2). However, since then Brazil, Turkey, the United States, and India have emerged as increasingly important export markets for Chinese product. During 2013-15, China's total exports increased by 81 percent from 3,217,000 tons to 5,825,000 tons. During the same period, exports to the United States increased more than six-fold, from 50 thousand tons to 317 thousand tons. This increase in exports to the United States coincided with both the increase in Chinese production capacity and a rise in Chinese

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

[4] "Ammonium sulphate heads from east to west," *Fertilizer International*, November-December, 2015, p. 22.

[5] "Ammonium sulphate heads from east to west," *Fertilizer International*, November-December, 2015, p. 22.

[6] ***.

[7] ***.

[8] ***.

[9] "Ammonium sulphate heads from east to west," *Fertilizer International*, November-December, 2015, p. 20.

compacting capacity, allowing for export of higher-value granular ammonium sulfate, the main form consumed in the U.S. market.[10]

Table VII-1
Ammonium sulfate: Data on industry in China, 2013-15, January-March 2015, and January-March 2016

* * * * * * *

Table VII-2
Ammonium sulfate: Chinese exports by destination market, 2013-15

Item	Calendar year		
	2013	2014	2015
	Quantity (*short tons*)		
China's exports to the United States	50,144	96,552	317,099
China's exports to other major destination markets.--			
Indonesia	379,444	543,633	1,138,165
Vietnam	706,109	658,592	805,594
Brazil	105,501	186,993	649,973
Turkey	101,292	424,345	403,049
Philippines	286,107	436,766	393,645
Malaysia	401,193	544,166	364,878
El Salvador	55,592	139,329	168,825
India	1,847	111,275	147,045
All other destination markets	1,129,729	1,442,989	1,436,354
Total China exports	3,216,958	4,584,640	5,824,626
	Value (*1,000 dollars*)		
China's exports to the United States	10,281	15,616	50,620
China's exports to other major destination markets.--			
Indonesia	49,566	56,176	124,619
Vietnam	89,159	66,132	84,319
Brazil	20,200	24,751	90,270
Turkey	10,367	43,322	38,729
Philippines	38,018	48,410	44,619
Malaysia	56,788	57,546	39,758
El Salvador	7,610	14,959	19,218
India	235	11,964	16,208
All other destination markets	181,194	187,276	195,262
Total China exports	463,419	526,152	703,623

Table continued on next page.

[10] Conference transcript, p. 28 (Hamilton).

Table VII-2 --*Continued*
Ammonium sulfate: Chinese exports by destination market, 2013-15

Item	Calendar year		
	2013	2014	2015
	Unit value (*dollars per short ton*)		
China's exports to the United States	$205	$162	$160
China's exports to other major destination markets.--			
Indonesia	131	103	109
Vietnam	126	100	105
Brazil	191	132	139
Turkey	102	102	96
Philippines	133	111	113
Malaysia	142	106	109
El Salvador	137	107	114
India	127	108	110
All other destination markets	160	130	136
Total China exports	144	115	121
	Share of quantity (*percent*)		
China's exports to the United States	1.6	2.1	5.4
China's exports to other major destination markets.--			
Indonesia	11.8	11.9	19.5
Vietnam	21.9	14.4	13.8
Brazil	3.3	4.1	11.2
Turkey	3.1	9.3	6.9
Philippines	8.9	9.5	6.8
Malaysia	12.5	11.9	6.3
El Salvador	1.7	3.0	2.9
India	0.1	2.4	2.5
All other destination markets	35.1	31.5	24.7
Total China exports	100.0	100.0	100.0

Source: Official Chinese exports statistics under HTS subheading 3102.21 as reported by China Customs in the GTIS/GTA database, accessed June 6, 2016.

U.S. INVENTORIES OF IMPORTED MERCHANDISE

Table VII-3 presents data on U.S. importers' reported inventories of ammonium sulfate.

Table VII-3
Ammonium sulfate: U.S. importers' inventories, 2013-15, January-March 2015, and January-March 2016

* * * * * * *

U.S. IMPORTERS' OUTSTANDING ORDERS

The Commission requested importers to indicate whether they imported or arranged for the importation of ammonium sulfate from China and ***.

ANTIDUMPING OR COUNTERVAILING DUTY ORDERS IN THIRD-COUNTRY MARKETS

On August 14, 2014, the Mexican government initiated an anti-dumping investigation targeting imports of ammonium sulfate from China and the United States. Effective October 10, 2015, following its final determination, the Mexican government began applying antidumping duties on imports from the United States ($0.0759 per kg for Honeywell and $0.1619 for all others) and on imports from China ($0.0929 per kg for Wuzhoufeng and $0.1703 per kg for all others). Honeywell has appealed the findings to a NAFTA binational panel.

INFORMATION ON NONSUBJECT COUNTRIES

In assessing whether the domestic industry is materially injured or threatened with material injury "by reason of subject imports," the legislative history states "that the Commission must examine all relevant evidence, including any known factors, other than the dumped or subsidized imports, that may be injuring the domestic industry, and that the Commission must examine those other factors (including non-subject imports) 'to ensure that it is not attributing injury from other sources to the subject imports.'"[11]

Table VII-4 presents official exports statistics under HTS subheading 3102.21 as reported by various national statistical authorities in the GTIS/GTA database.

Ammonium sulfate is a minor part of global fertilizer markets, reportedly representing less than 4 percent of global nitrogen production.[12] However in a few key markets, it serves as a significant source of nitrogen and sulfur. Major consumer nations include the United States, Brazil, Mexico, Indonesia, China, Vietnam, Turkey, Malaysia, Canada, and Germany.[13]

According to GTA data, exports of ammonium sulfate became more concentrated during 2013-15 with each of the eight leading export countries (China, the United States, Japan, Belgium, Belarus, Taiwan, Canada, and the Netherlands) increasing its combined share of total global exports (Table VII-4). China, the largest exporter of ammonium sulfate throughout the period, experienced the largest increase with its share of total global exports rising from 2013 to 2015.

---

[11] *Mittal Steel Point Lisas Ltd. v. United States*, Slip Op. 2007-1552 at 17 (Fed. Cir. Sept. 18, 2008), quoting from Statement of Administrative Action on Uruguay Round Agreements Act, H.R. Rep. 103-316, Vol. I at 851-52; *see also Bratsk Aluminum Smelter v. United States*, 444 F.3d 1369 (Fed. Cir. 2006).

[12] "Ammonium sulphate heads from east to west," *Fertilizer International*, November-December, 2015, p. 20.

[13] "Ammonium sulphate heads from east to west," *Fertilizer International*, November-December, 2015, p. 22.

Table VII-4
Ammonium sulfate: Global exports, by exporting country, 2013-15

Item	Calendar year		
	2013	2014	2015
	Quantity (*short tons*)		
United States	1,283,536	1,388,900	1,069,173
China	3,216,958	4,584,640	5,824,626
All other major exporters.--			
Japan	726,012	674,896	619,213
Belgium	458,429	424,517	384,514
Belarus	280,863	157,189	326,370
Taiwan	339,337	270,047	268,701
Canada	277,207	279,031	208,849
Netherlands	187,496	191,390	165,833
South Korea	807,655	404,833	165,069
Russia	203,621	168,042	138,272
Thailand	51,255	40,274	73,611
Poland	73,291	84,043	65,420
All other exporting countries.	1,220,167	570,442	437,516
Total global exports	9,125,828	9,238,244	9,747,166
	Value (*1,000 dollars*)		
United States	270,580	257,530	201,724
China	463,419	526,152	703,623
All other major exporters.--			
Japan	94,572	65,355	62,318
Belgium	363,742	281,463	242,232
Belarus	34,578	17,596	37,574
Taiwan	44,043	28,876	29,017
Canada	79,130	67,610	40,296
Netherlands	177,644	150,590	130,845
South Korea	118,735	50,864	25,035
Russia	122,087	82,882	78,901
Thailand	9,078	9,443	14,697
Poland	63,010	59,049	50,567
All other exporting countries.	265,382	231,919	186,738
Total global exports	2,105,999	1,829,329	1,803,565

Table continued on next page.

Table VII-4--*Continued*
Ammonium sulfate: Global exports, by exporting country, 2013-15

Item	Calendar year		
	2013	2014	2015
	Unit value (*dollars per short ton*)		
United States	211	185	189
China	144	115	121
All other major exporters.-- Japan	130	97	101
Belgium	793	663	630
Belarus	123	112	115
Taiwan	130	107	108
Canada	285	242	193
Netherlands	947	787	789
South Korea	147	126	152
Russia	600	493	571
Thailand	177	234	200
Poland	860	703	773
All other exporting countries.	217	407	427
Total global exports	231	198	185
	Share of quantity (*percent*)		
United States	14.1	15.0	11.0
China	35.3	49.6	59.8
All other major exporters.-- Japan	8.0	7.3	6.4
Belgium	5.0	4.6	3.9
Belarus	3.1	1.7	3.3
Taiwan	3.7	2.9	2.8
Canada	3.0	3.0	2.1
Netherlands	2.1	2.1	1.7
South Korea	8.9	4.4	1.7
Russia	2.2	1.8	1.4
Thailand	0.6	0.4	0.8
Poland	0.8	0.9	0.7
All other exporting countries.	13.4	6.2	4.5
Total global exports	100.0	100.0	100.0

Note.--Exports for Madagascar were adjusted in 2013 for reported quantity (an outlier that appeared to be unrealistic based on its associated value data).

Source: Official exports statistics under HTS subheading 3102.21 as reported by various national statistical authorities in the GTIS/GTA database, accessed June 6, 2016.

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
81 FR 35055, June 1, 2016	*Ammonium Sulfate From China; Institution of Antidumping and Countervailing Duty; Investigations and Scheduling of Preliminary Phase Investigations*	https://www.gpo.gov/fdsys/pkg/FR-2016-06-01/pdf/2016-12815.pdf
81 FR 40661, June 22, 2016	*Ammonium Sulfate From the People's Republic of China: Initiation of Countervailing Duty Investigation*	https://www.gpo.gov/fdsys/pkg/FR-2016-06-22/pdf/2016-14670.pdf
81 FR 40665, June 22, 2016	*Ammonium Sulfate From the People's Republic of China: Initiation of Less-Than-Fair-Value Investigation*	https://www.gpo.gov/fdsys/pkg/FR-2016-06-22/pdf/2016-14668.pdf

APPENDIX B

CALENDAR OF THE PUBLIC STAFF CONFERENCE

CALENDAR OF PUBLIC PRELIMINARY CONFERENCE

Those listed below appeared as witnesses at the United States International Trade Commission's preliminary conference:

Subject: Ammonium Sulfate from China

Inv. Nos.: 701-TA-562 and 731-TA-1329 (Preliminary)

Date and Time: June 15, 2016 - 9:30 a.m

A session was held in connection with these preliminary phase investigations in the Main Hearing Room (Room 101), 500 E Street, S.W., Washington, DC.

In Support of the Imposition of
Antidumping and Countervailing Duty Orders:

King & Spalding LLP
Washington, DC
on behalf of

PCI Nitrogen LLC

Elio Mazzella, Sr., President, PCI Nitrogen LLC

Elio Mazzella, Jr., Senior Vice President *and* Secretary.
PCI Nitrogen LLC

Mike Hamilton, Business Director of Ammonium Sulfate,
Honeywell Resins & Chemicals, LLC

Sedesh Doobay, General Counsel, Resins & Chemical and ISC,
Honeywell International Inc.

Roy Houseman, Legislative Representative, United Steelworkers

Bonnie B. Byers, Senior International Trade Consultant, King & Spalding LLP

Stephen J. Orava)
) – OF COUNSEL
Stephen P. Vaughn)

APPENDIX C

SUMMARY DATA

Table C-1
Ammonium sulfate: Summary data concerning the U.S. market, 2013-15, January to March 2015, and January to March 2016
(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		Calendar year			Jan-Mar
	2013	2014	2015	2015	2016	2013-15	2013-14	2014-15	2015-16
U.S. consumption quantity:									
Amount	***	***	***	***	***	***	***	***	***
Producers' share (fn1)	***	***	***	***	***	***	***	***	***
Importers' share (fn1):									
China	***	***	***	***	***	***	***	***	***
Canada	***	***	***	***	***	***	***	***	***
All other sources	***	***	***	***	***	***	***	***	***
Nonsubject sources	***	***	***	***	***	***	***	***	***
Total imports	***	***	***	***	***	***	***	***	***
U.S. consumption value:									
Amount	***	***	***	***	***	***	***	***	***
Producers' share (fn1)	***	***	***	***	***	***	***	***	***
Importers' share (fn1):									
China	***	***	***	***	***	***	***	***	***
Canada	***	***	***	***	***	***	***	***	***
All other sources	***	***	***	***	***	***	***	***	***
Nonsubject sources	***	***	***	***	***	***	***	***	***
Total imports	***	***	***	***	***	***	***	***	***
U.S. imports from:									
China:									
Quantity	47,236	228,999	369,569	94,909	152,068	682.4	384.8	61.4	60.2
Value	10,277	60,221	68,251	16,202	24,945	564.1	486.0	13.3	54.0
Unit value	$218	$263	$185	$171	$164	(15.1)	20.9	(29.8)	(3.9)
Ending inventory quantity	***	***	***	***	***	***	***	***	***
Canada:									
Quantity	276,619	277,633	202,825	82,300	50,865	(26.7)	0.4	(26.9)	(38.2)
Value	78,899	67,073	40,356	14,544	9,976	(48.9)	(15.0)	(39.8)	(31.4)
Unit value	$285	$242	$199	$177	$196	(30.2)	(15.3)	(17.6)	11.0
All other sources:									
Quantity	6,751	1,905	30,011	596	22,710	344.6	(71.8)	1,475.6	3,708.1
Value	2,252	875	7,038	307	4,428	212.5	(61.1)	704.1	1,342.4
Unit value	$334	$459	$234	$515	$195	(29.7)	37.7	(49.0)	(62.1)
Nonsubject sources:									
Quantity	283,370	279,538	232,837	82,896	73,575	(17.8)	(1.4)	(16.7)	(11.2)
Value	81,151	67,948	47,394	14,851	14,404	(41.6)	(16.3)	(30.2)	(3.0)
Unit value	$286	$243	$204	$179	$196	(28.9)	(15.1)	(16.3)	9.3
Ending inventory quantity	***	***	***	***	***	***	***	***	***
Total imports:									
Quantity	330,606	508,537	602,406	177,805	225,643	82.2	53.8	18.5	26.9
Value	91,428	128,169	115,645	31,053	39,350	26.5	40.2	(9.8)	26.7
Unit value	$277	$252	$192	$175	$174	(30.6)	(8.9)	(23.8)	(0.1)
Ending inventory quantity	***	***	***	***	***	***	***	***	***
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)	***	***	***	***	***	***	***	***	***
Productivity (short tons per hour)	***	***	***	***	***	***	***	***	***
Unit labor costs	***	***	***	***	***	***	***	***	***
Net sales:									
Quantity	***	***	***	***	***	***	***	***	***
Value	***	***	***	***	***	***	***	***	***
Unit value	***	***	***	***	***	***	***	***	***
Cost of goods sold (COGS)	***	***	***	***	***	***	***	***	***
Gross profit or (loss)	***	***	***	***	***	***	***	***	***
SG&A expenses	***	***	***	***	***	***	***	***	***
Operating income or (loss)	***	***	***	***	***	***	***	***	***
Net income or (loss)	***	***	***	***	***	***	***	***	***
Capital expenditures	***	***	***	***	***	***	***	***	***
Unit COGS	***	***	***	***	***	***	***	***	***
Unit SG&A expenses	***	***	***	***	***	***	***	***	***
Unit operating income or (loss)	***	***	***	***	***	***	***	***	***
Unit net income or (loss)	***	***	***	***	***	***	***	***	***
COGS/sales (fn1)	***	***	***	***	***	***	***	***	***
Operating income or (loss)/sales (fn1)	***	***	***	***	***	***	***	***	***
Net income or (loss)/sales (fn1)	***	***	***	***	***	***	***	***	***

Notes:

fn1.--Reported data are in percent and period changes are in percentage points.
fn2.--Undefined.

Source: Compiled from data submitted in response to Commission questionnaires and official US import statistics (see part IV for details).