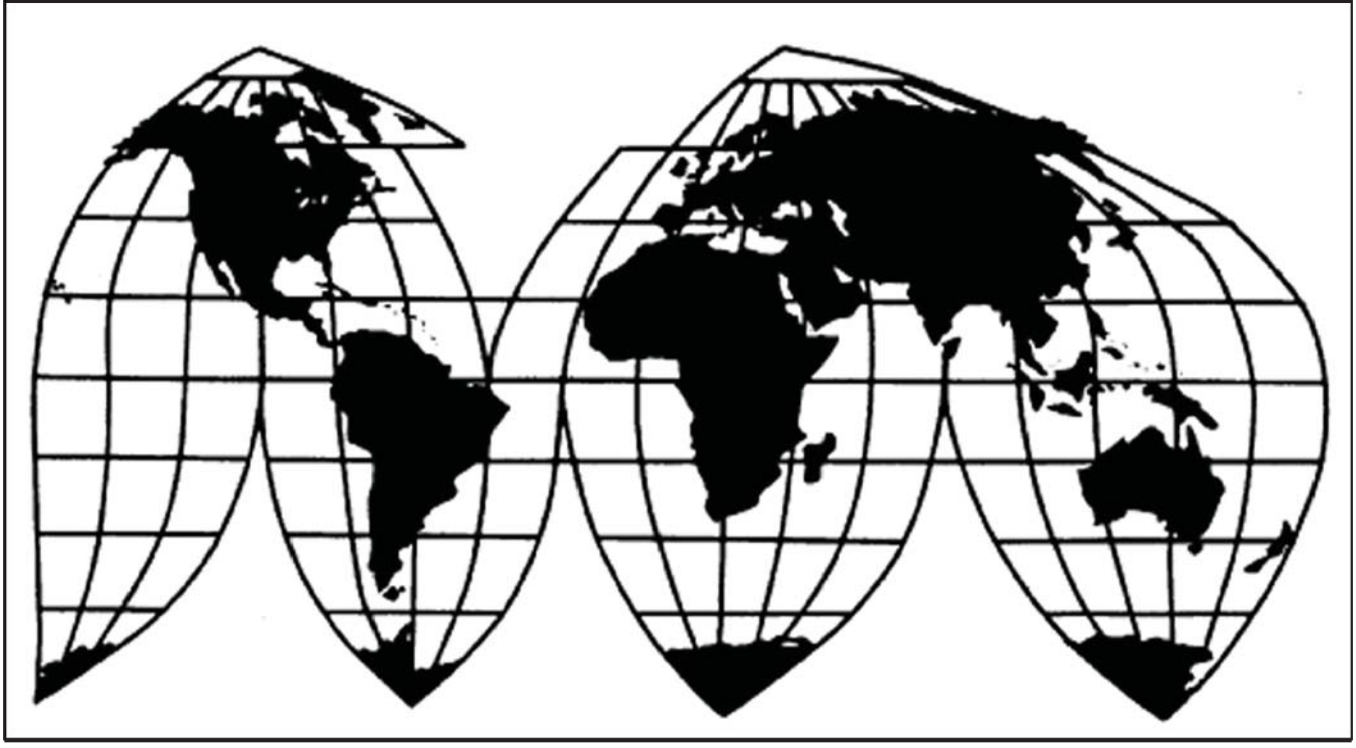
1-Hydroxyethylidene-1, 1-Diphosphonic Acid (HEDP) from China

Investigation Nos. 701-TA-558 and 731-TA-1316 (Preliminary)

Publication 4612 **May 2016**

U.S. International Trade Commission



Washington, DC 20436

U.S. International Trade Commission

COMMISSIONERS

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

Catherine DeFilippo
Director of Operations

Staff assigned

Edward Petronzio, Investigator
Ray Cantrell, Industry Analyst
Amelia Preece, Economist
David Boyland, Accountant
Russel Duncan, Statistician
John Henderson, 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

1-Hydroxyethylidene-1, 1-Diphosphonic Acid (HEDP) from China

Investigation Nos. 701-TA-558 and 731-TA-1316 (Preliminary)

Publication 4612

May 2016

CONTENTS

Page

Determinations 1
Views of the Commission 3

Part I: Introduction **I-1**
Background I-1
Statutory criteria and organization of the report I-1
Statutory criteria I-1
Organization of report I-3
Market summary I-3
Summary data and data sources I-3
Previous and related investigations I-4
Nature and extent of alleged subsidies and sales at LTFV I-5
Alleged subsidies I-5
Alleged sales at LTFV I-6
The subject merchandise I-6
Commerce's scope I-6
Tariff treatment I-6
The product I-7
Description and applications I-7
Manufacturing processes I-9
Domestic like product issues I-11
Domestic industry I-14
Part II: Conditions of competition in the U.S. market **II-1**
U.S. market characteristics II-1
Channels of distribution II-1
Geographic distribution II-1
Supply and demand considerations II-2
U.S. supply II-2
U.S. demand II-5

CONTENTS

Page

Substitutability issues II-7
Lead times II-7
Factors affecting purchasing decisions II-7
Comparison of U.S.-produced and imported HEDP II-8
Part III: U.S. producer's production, shipments, and employment III-1
U.S. producer III-1
U.S. production, capacity, and capacity utilization III-2
Potential product shifting in U.S. production facilities III-3
U.S. producer's U.S. shipments and exports III-3
U.S. producer's inventories III-4
U.S. employment, wages, and productivity III-4
Part IV: U.S. imports, apparent U.S. consumption, and market shares IV-1
U.S. importers IV-1
U.S. imports IV-2
Negligibility IV-2
Apparent U.S. consumption IV-3
Part V: Pricing data V-1
Factors affecting prices V-1
Raw material costs V-1
U.S. inland transportation costs V-1
Pricing practices V-1
Pricing methods V-1
Sales terms and discounts V-2
Price data V-2
Price trends V-4
Price comparisons V-4
Lost sales and lost revenue V-5

CONTENTS

Page

Part VI: Financial experience of U.S. producers VI-1
Background VI-1
Operations on HEDP VI-1
Revenue VI-2
Cost of goods sold VI-2
Gross profit VI-3
SG&A expenses and operating income or loss VI-3
Interest expense, other expenses, and net income or loss VI-4
Capital expenditures and research and development expenses VI-4
Assets and return on investment VI-4
Capital and investment VI-5
Part VII: Threat considerations and information on nonsubject countries VII-1
The industry in China VII-2
U.S. inventories of imported merchandise VII-6
U.S. importers' outstanding orders VII-6
Antidumping or countervailing duty orders in third-country markets VII-6
Information on nonsubject sources and the global market VII-6
Nonsubject source information VII-7
The industry in India VII-7
The industry in the United Kingdom VII-8

Appendixes

A. *Federal Register* notices A-1
B. List of conference witnesses B-1
C. Summary data C-1
D. U.S. imports from various sources D-1

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

UNITED STATES INTERNATIONAL TRADE COMMISSION

Investigation Nos. 701-TA-558 and 731-TA-1316 (Preliminary)

1-Hydroxyethylidene-1, 1-Diphosphonic Acid from China

DETERMINATIONS

On the basis of the record[1] developed in the subject investigations, the United States International Trade Commission ("Commission") determines, pursuant to the Tariff Act of 1930 ("the Act"), that there is a reasonable indication that an industry in the United States is threatened with material injury by reason of imports of 1-hydroxyethylidene-1, 1-diphosphonic acid ("HEDP") from China, provided for in subheading 2931.90.90 (statistical reporting number 2931.90.9043) of the Harmonized Tariff Schedule of the United States, that are alleged to be sold in the United States at less than fair value ("LTFV") and are allegedly subsidized by the government of China.

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 March 31, 2016, Compass Chemical International LLC, Smyrna, Georgia, 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 LTFV and subsidized imports of 1-hydroxyethylidene-1, 1-diphosphonic acid from China. Accordingly, effective March 31, 2016, the Commission, pursuant to sections 703(a) and 733(a) of the Tariff Act of 1930 (19

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

U.S.C. §§ 1671b(a) and 1673b(a)), instituted countervailing duty investigation No. 701-TA-558 and antidumping duty investigation No. 731-TA-1316 (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 April 7, 2016 (81 FR 20416). The conference was held in Washington, DC, on April 21, 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 threatened with material injury by reason of imports of 1-Hydroxyethylidene-1, 1-Diphosphonic Acid ("HEDP") from China that are allegedly sold in the United States at less than fair value and 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

Compass Chemical International LLC ("Compass"), a domestic producer of HEDP, filed the petitions in these investigations on March 31, 2016. Compass appeared at the staff conference and submitted a postconference brief.

Several respondent entities participated in these investigations. Shandong Taihe Water Treatment Technology ("Taihe"), a producer and exporter of subject merchandise, appeared at the conference and submitted a postconference brief. Enviro Tech Chemical Services, Inc. ("Enviro Tech"), a purchaser of subject merchandise, appeared at the conference (without counsel) and submitted a postconference brief. Nantong Uniphos Chemicals Co., Ltd. and Henan Qingshuiyuan Technology Co., Ltd. (collectively "CC"), two producers and exporters of subject merchandise, jointly submitted a postconference brief.

Data Coverage. U.S. industry data are based on the questionnaire responses of one producer, accounting for all known U.S. production of HEDP during the 2013 to 2015 period of investigation ("POI").[3] U.S. import data are based on questionnaire responses from 10 U.S.

---

[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 ("CR") at I-4; Public Report ("PR") at I-3.

importers.[4] Because the HTS statistical reporting number that includes HEDP also includes products outside the scope of the investigations, staff calculated the importer coverage by comparing imports reported in the questionnaires with data submitted by the parties from import reporting services. According to data Compass provided from the Port Import Export Reporting Service (PIERS), responding U.S. importers accounted for *** percent of U.S. imports of HEDP from China and *** percent of U.S. imports of HEDP from all other sources in 2015.[5] According to data respondent Taihe provided from DataMyne, responding U.S. importers accounted for *** percent of U.S. imports of HEDP from China and *** percent of U.S. imports of HEDP from all other sources in 2015.[6] The Commission received responses to its questionnaires from four producers of subject merchandise in China.[7] U.S. imports from nonsubject sources are understated due to less than comprehensive coverage from U.S. importers' questionnaire responses.[8]

2008-2009 Investigations. In 2008-2009, the Department of Commerce ("Commerce") and the Commission conducted antidumping investigations on HEDP from China and India, based on a petition Compass filed on March 19, 2008.[9] The Commission made affirmative threat determinations in April 2009.[10] On April 28, 2009, Commerce issued antidumping duty orders on HEDP from China and India.[11] These orders were revoked effective April 28, 2014, after no domestic interested party expressed an interest in participating in five-year reviews.[12]

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."[13] Section 771(4)(A) of the Tariff Act of 1930, as amended ("the Tariff Act"), defines

[4] CR at IV-1; PR at IV-1.

[5] CR at I-5; PR at I-4.

[6] CR at I-5; PR at I-4.

[7] Based on PIERS data, the responding Chinese producers' exports of HEDP accounted for *** percent of U.S. imports of HEDP from China in 2015, while according to DataMyne data, they accounted for *** percent of U.S. imports of HEDP from China in 2015. CR at I-5; PR at I-4.

[8] CR at IV-2; PR at IV-2.

[9] CR at I-6; PR at I-4.

[10] 1-Hydroxyethylidene-1, 1-Diphosphonic Acid (HEDP) from China and India, Inv. Nos. 731-TA-1146-1147 (Final), USITC Pub. 4072 (Apr. 2009).

[11] Chinese producer/exporter Nanjing University of Chemical Technology Changzhou Wujin Water Quality Stabilizer Factory Ltd. ("Wujin Water") was excluded from the antidumping duty order on HEDP from China. *1-Hydroxyethylidene-1, 1-Diphosphonic Acid from India and the People's Republic of China: Antidumping Duty Orders*, 74 Fed. Reg. 19197 (Apr. 28, 2009).

[12] 1-Hydroxyethylidene-1, 1-Diphosphonic (HEDP) Acid from India and the People's Republic of China: Final Results of Sunset Reviews and Revocation of Antidumping Duty Orders, 79 Fed. Reg. 31301 (June 2, 2014).

[13] 19 U.S.C. § 1677(4)(A).

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."[14] 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."[15]

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.[16] No single factor is dispositive, and the Commission may consider other factors it deems relevant based on the facts of a particular investigation.[17] The Commission looks for clear dividing lines among possible like products and disregards minor variations.[18] 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,[19] the Commission determines what domestic product is like the imported articles Commerce has identified.[20] The Commission may, where appropriate,

[14] 19 U.S.C. § 1677(4)(A).

[15] 19 U.S.C. § 1677(10).

[16] 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, (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).

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

[18] *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.").

[19] *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).

[20] *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).

include domestic articles in the domestic like product in addition to those described in the scope.[21]

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

> The merchandise covered by this investigation includes all grades of aqueous acidic (nonneutralized) concentrations of 1-hydroxyethylidene-1, 1-diphosphonic acid (HEDP), also referred to as hydroxyethylidenendiphosphonic acid, hydroxyethanediphosphonic acid, acetodiphosphonic acid, and etidronic acid. The CAS (Chemical Abstract Service) registry number for HEDP is 2809-21-4.
>
> The merchandise subject to this investigation is currently classified in the Harmonized Tariff Schedule of the United States (HTSUS) at subheading 2931.90.9043. It may also enter under HTSUS subheadings 2811.19.6090 and 2931.90.9041. While HTSUS subheadings and the CAS registry number are provided for convenience and customs purposes only, the written description of the scope of this investigation is dispositive.[22]

HEDP is an odorless, colorless or yellowish liquid that belongs to a class of chemicals known as phosphonates. HEDP is generally added to water to increase solubility of certain ions and to inhibit the precipitation of certain mineral compounds.[23]

HEDP is used in water treatment applications such as boiler water treatment, municipal water treatment, desalination, and swimming pool applications; industrial and institutional detergents and cleaners; peroxide bleach stabilization; and personal care products such as bar soaps and shampoos in which HEDP is used a preservative.[24] Its single largest application is industrial water treatment.[25]

Arguments of the Parties. Compass argues that the Commission should define a single domestic like product consisting of HEDP, coextensive with the scope of the investigations, as it did in the 2008-2009 antidumping duty investigations of HEDP from China and India.[26]

---

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

[22] 1-Hydroxyethylidene-1, 1-Diphosphonic Acid From People's Republic of China, Initiation of Less-Than-Fair-Value Investigation, 81 Fed. Reg. 25377, 25382 (Apr. 28, 2016); 1-Hydroxyethylidene-1, 1-Diphosphonic Acid From People's Republic of China, Initiation of Countervailing Duty Investigation, 81 Fed. Reg. 25383, 25386 (Apr. 28, 2016).

[23] CR at I-3; PR at I-3.

[24] CR at II-1, II-7 to II-8; PR at II-1, II-5; Transcript of Conference ("Conf. Tr.") at 13 (Allen).

[25] CR at II-8; PR at II-5; Conf. Tr. at 13 (Allen).

[26] Compass's Postconference Brief at 2. See 1-Hydroxyethylidene-1, 1-Diphosphonic Acid (HEDP) from China and India, Inv. Nos. 731-TA-1146-1147 (Preliminary), USITC Pub. 3998 at 5-7 (May 2008); 1-Hydroxyethylidene-1, 1-Diphosphonic Acid (HEDP) from China and India, Inv. Nos. 731-TA-1146-1147 (Final), USITC Pub. 4072 at 5 (Apr. 2009).

Compass argues that the Commission should not find that high purity grade HEDP is a separate like product. It asserts that that there is no clear dividing line between high purity HEDP and other HEDP, stating that grades of HEDP with higher purity requested by some customers are only slightly different from the standard technical grade HEDP.[27]

Enviro Tech, which purchases imported higher purity HEDP and uses it for downstream products that it manufactures, argues that the Commission should find that high purity HEDP is a separate domestic like product from standard technical grade HEDP. It states that the high purity HEDP that it requires for its applications must contain much lower levels of contaminant by iron and other metals than does technical grade HEDP. It asserts that Compass, the only U.S. HEDP producer, is unable to produce high purity HEDP.[28]

Taihe states that it does not presently contest the Commission's like product definition from the 2008-2009 investigations, but reserves the right to reexamine the like product definition in any final phase of the investigations.[29]

Analysis. Based on the record, we define a single domestic like product that is coextensive with the scope, consisting of HEDP. The Commission's domestic like product analysis focuses on distinctions between domestically produced products.[30] Consequently, our analysis below focuses on similarities or differences between technical grade products produced domestically and higher purity products produced domestically, rather than between the imported merchandise that Enviro Tech purchases and the domestic products that Compass offers.

Physical Characteristics and Uses. HEDP is typically produced and sold as a 60 percent aqueous commodity grade industrial solution predominately for use as a water stabilizing agent and rust preventative, serving as a chelating or sequestration chemical to inhibit scale formation in industrial process equipment, and acting as a stabilizing agent in industrial and household cleaners and other applications.[31] HEDP is unique amongst other phosphonates and polyphosphate families because of its colorless appearance, its iron and calcium sequestration properties, and its chlorine stability.[32]

Enviro Tech uses HEDP as an input in the production of peracetic acid ("PAA") formulations.[33] Enviro Tech markets PAA as an antimicrobial; Compass's technical specifications indicate that industrial and institutional cleaning are principal uses of the HEDP that it produces.[34] Enviro Tech asserts that the technical grade HEDP produced domestically

---

[27] Compass's Postconference Brief at 2-4 n.6; Conf. Tr. at 45 (McCaul).

[28] Enviro Tech's Postconference Brief at 1-10.

[29] Taihe's Postconference Brief, Exh. B at 7-8. CC has not addressed the domestic like product issue.

[30] *See. e.g., Torrington Co. v. United States,* 747 F. Supp. 744, 749 (Ct. Int'l Trade 1990), *aff'd*, 938 F.2d 1278 (Fed. Cir. 1991)

[31] CR at I-9 to I-10; PR at I-7.

[32] CR at I-9 to I-10; PR at I-7.

[33] Enviro Tech's Postconference Brief at 1.

[34] *See* "PAA Basics and Misc Report," http://envirotech.com/peraceticacid/cacid/index.asp (downloaded and printed May 10, 2016); Compass Technical Data Sheet for Mayquest 1500 (EDIS Document No. 580924).

typically contains iron content that is four to seven times higher than is acceptable for manufacturing stable PAA formulations according to Enviro Tech's standards.[35] On the other hand, Compass states that it has demonstrated the capability to satisfy Enviro Tech's specifications.[36] The record contains limited information as to what extent these asserted differences in contaminant levels affect the physical characteristics of the product, and to what extent they only reflect differences in product purity.

Manufacturing Facilities, Production Processes and Employees. It is not disputed that technical grade HEDP and high purity HEDP can be made at the same facility with the same employees.[37] There is no information in the record about specific requirements for producing high purity HEDP, although Enviro Tech asserts that it believes that manufacturing high purity HEDP may require an additional process of which it is not aware.[38] As previously noted, Compass, the sole domestic producer of HEDP, has stated that it can produce HEDP meeting Enviro Tech's high purity specifications.[39]

Channels of Distribution. The record indicates that the *** majority of domestically produced HEDP is sold to end users, such as compounders and formulators that blend the product with other components.[40] Enviro Tech, which asserts it is the sole major U.S. purchaser of the high-purity product, uses HEDP to formulate PAA.[41]

Interchangeability. According to Compass, HEDP from different sources is completely interchangeable as long as it is at the same grade or level of purity *(e.g.*, 60 percent aqueous solution) and meets certain recognized industry baseline standards.[42] Enviro Tech acknowledges that high purity HEDP is fully interchangeable with technical grade HEDP for standard technical grade end uses.[43] However, it asserts that technical grade HEDP is not interchangeable with high purity HEDP for certain end uses, such as its production of PAA formulations, and that use of technical grade for those end uses may be dangerous and hazardous, as well as failing to meet its customers' requirements.[44]

Producer and Customer Perceptions. Enviro Tech asserts, based on its own experience, that customer perceptions of HEDP differ by customer and end use applications, in that it has found that technical grade HEDP is not suitable for its production of PAA formulations, and that high purity grade HEDP is required for those end uses. However, the record does not contain information about the perceptions of any other customers. Compass's Chief Executive Officer

---

[35] Enviro Tech asserts that technical grade HEDP typically contains 20-35 parts per million ("ppm") of iron as a contaminant, and also contains other metal contaminants such as copper and zinc. Enviro Tech states that it only purchases high purity HEDP with iron contaminant level of *** in 60% HEDP. Enviro Tech's Postconference Brief at 2-3, 4-5.

[36] Conf. Tr. at 145 (McCaul).

[37] Enviro Tech's Postconference Brief at 7.

[38] Enviro Tech's Postconference Brief at 7-8.

[39] Conf. Tr. at 145 (McCaul).

[40] CR at I-12; PR at I-9; CR/PR at Table II-1.

[41] Enviro Tech's Postconference Brief at 1-2.

[42] Conf. Tr. at 16 (Allen).

[43] Enviro Tech's Postconference Brief a 6.

[44] Enviro Tech's Postconference Brief at 5-6.

testified that Compass has customers that ask for special grades of HEDP tailor-made to their particular end uses, such as HEDP with fewer impurities or with greater product strength, but these special grades are only slightly different from the standard technical grade product.[45]

Price. Enviro Tech states that prices are higher for high purity HEDP than for technical grade HEDP. It reports that it purchased HEDP from Compass at the highest purity level that Compass could achieve in April 2014 for $*** per pound.[46] By comparison, the weighted average price of domestically produced HEDP (including all grades) in April-June 2014 was $*** per pound.[47]

Conclusion. The domestic like product issue raised here concerns whether a specialty high purity grade of HEDP within the scope of the investigations should be considered a separate like product from the general technical grade of HEDP. The Commission has frequently stated that it "normally does not find separate like products based on different grades of chemicals or mineral products."[48] Moreover, Enviro Tech has not defined in any meaningful sense the specification of a domestically produced high purity product that would be most similar to the imported product that it currently purchases.

Furthermore, the record does not indicate clear dividing lines between different types of domestically produced HEDP. Apart from the asserted difference in contaminant levels, there is no information in the record about any other differences in physical characteristics between technical grade and high purity HEDP. It is not disputed that technical grade HEDP and high purity HEDP can be produced at the same facility with the same employees and share the same channels of distribution. Although technical grade and high purity HEDP may have limited interchangeability for Enviro Tech's end uses, and Enviro Tech as a customer may have particular perceptions regarding high purity HEDP, there is no information that these distinctions apply to the U.S. HEDP market as a whole. To the contrary, the Compass CEO testified that some U.S. purchasers of HEDP have special requirements for HEDP tailored for particular applications, such as product with fewer impurities or a particular strength, but these special grades are only slightly different from the standard technical grade product, and represent a small portion of the overall HEDP market.[49] Indeed, according to Enviro Tech, high purity HEDP is a niche product constituting less than one percent of the U.S. HEDP market, and it is the only major producer of the downstream products that require high purity HEDP.[50]

The legislative history indicates 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

---

[45] Conf. Tr. at 45 (McCaul).

[46] Enviro Tech's Postconference Brief at 8.

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

[48] *See, e.g., Sodium Nitrite from China and Germany*, Inv. Nos. 701-TA-453 and 731-TA-1167 (Final), USITC Pub. 4029 at 7 n.34 (Aug. 2008); *Citric Acid and Certain Citrate Salts from Canada and China,* Inv. Nos. 701-TA-456 and 731-TA-1151-1152 (Preliminary), USITC Pub. 4008 at 7 n.26 (June 2008); *Liquid Sulfur Dioxide from Canada*, Inv. No. 731-TA-1098 (Preliminary), USITC Pub. 3826 at 6 (Dec. 2005).

[49] Conf. Tr. at 45 (McCaul).

[50] Enviro Tech's Postconference Brief at 9.

lead to the conclusion that the product and article are not 'like' each other . . . ."[51] In the absence of record evidence that the distinctions Enviro Tech cites are recognized by other market participants, they appear to represent only a particular purchaser's proprietary specifications and do not justify defining different grades of HEDP as distinct domestic like products.

Accordingly, we define a single domestic like product that is coextensive with the scope, consisting of HEDP.

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."[52] 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.

Compass argues that the domestic industry should be defined as all U.S. producers of HEDP, and it is the sole known producer.[53] Taihe does not contest this definition of the domestic industry for purposes of the Commission's preliminary determinations.[54] Given its arguments with respect to the domestic like product, Enviro Tech effectively argues that the Commission should find two domestic industries: one domestic industry consisting of U.S. producers of high purity HEDP, and the other consisting of U.S. producers of technical grade HEDP.

There are no related parties issues in these investigations.[55] Consistent with our definition of the domestic like product, we define the domestic industry as all domestic producers of HEDP, with Compass as the only known domestic producer of HEDP.

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.[56]

Questionnaire data indicate that imports from China accounted for *** percent of total U.S. HEDP imports by quantity during calendar year 2015, the most recent 12-month period

[51] S. Rep. No. 96-249 at 90-91 (1979).

[52] 19 U.S.C. § 1677(4)(A).

[53] Compass's Postconference Brief at 4-5.

[54] Conf. Tr. at 115, 122 (McGrath). CC has not addressed the definition of the domestic industry.

[55] Compass reported that it ***. CR at III-1 n.3; PR at III-1 n.3.

[56] 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)).

preceding the filing of the petition for which data are available.[57] Because subject imports were well above the statutory negligibility threshold, we find that subject imports from China are not negligible.

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

A. Legal Standard

1. In General

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.[58] 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.[59] The statute defines "material injury" as "harm which is not inconsequential, immaterial, or unimportant."[60] 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.[61] 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."[62]

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

---

[57] CR at IV-5; PR at IV-3. The questionnaire data are believed to understate nonsubject imports, *see* CR at IV-2; PR at IV-2, and thus overstate the percentage of total imports of HEDP accounted for by subject imports from China. The data supplied by the parties indicate that subject imports from China appear to account for a substantially lower percentage of total imports of HEDP than indicated by the questionnaire data, but no party submitted such data for a twelve-month period preceding the filing of the petition. In any event, the data supplied by the parties also indicate that imports from China are far above the negligibility threshold, and no party has argued that imports from China are negligible. CR at IV-5 n.4; PR at IV-3 n.4.

[58] 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.

[59] 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).

[60] 19 U.S.C. § 1677(7)(A).

[61] 19 U.S.C. § 1677(7)(C)(iii).

[62] 19 U.S.C. § 1677(7)(C)(iii).

traded imports,[63] 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.[64] 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.[65]

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.[66] In performing its examination, however, the Commission need not isolate the injury caused by other factors from injury caused by unfairly traded imports.[67] Nor does the

---

[63] 19 U.S.C. §§ 1671b(a), 1673b(a).

[64] *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).

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

[66] 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.

[67] 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 (Continued…)

"by reason of" standard require that unfairly traded imports be the "principal" cause of injury or contemplate that injury from unfairly traded imports be weighed against other factors, such as nonsubject imports, which may be contributing to overall injury to an industry.[68] It is clear that the existence of injury caused by other factors does not compel a negative determination.[69]

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."[70] [71] Indeed, the Federal Circuit has examined and affirmed various Commission methodologies and has disavowed "rigid adherence to a specific formula."[72]

(…Continued)
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.").

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

[69] *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.").

[70] *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*.

[71] Vice Chairman Pinkert and Commissioner 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

(Continued…)

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 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.[73] 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.[74] 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.[75]

(…Continued)

> 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.

[72] *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.").

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

[74] *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).

[75] 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 (Continued…)

The question of whether the material injury threshold for subject imports is satisfied notwithstanding any injury from other factors is factual, subject to review under the substantial evidence standard.[76] Congress has delegated this factual finding to the Commission because of the agency's institutional expertise in resolving injury issues.[77]

2. Threat of Material Injury Factors

Section 771(7)(F) of the Tariff Act directs the Commission to determine whether the U.S. industry is threatened with material injury by reason of the subject imports by analyzing 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."[78] The Commission may not make such a determination "on the basis of mere conjecture or supposition," and considers the threat factors "as a whole" in making its determination whether dumped or subsidized imports are imminent and whether material injury by reason of subject imports would occur unless an order is issued.[79] In making our determination, we consider all statutory threat factors that are relevant to these investigations.[80]

(…Continued)
information in the final phase of investigations in which there are substantial levels of nonsubject imports.

[76] 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.

[77] *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.").

[78] 19 U.S.C. § 1677(7)(F)(ii).

[79] 19 U.S.C. § 1677(7)(F)(ii).

[80] These factors are as follows:

(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,

(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,
(Continued…)

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

As previously noted, HEDP is used in water treatment applications such as boiler water treatment, municipal water treatment, desalination, and swimming pool applications; industrial and institutional detergents and cleaners; peroxide bleach stabilization; and personal care products such as bar soaps and shampoos in which HEDP is used a preservative.[81] Its single largest application is industrial water treatment.[82]

Compass asserts that U.S. demand for HEDP increased over the POI, but responding importers reported that U.S. demand had decreased or was unchanged.[83] Reported apparent U.S. consumption of HEDP declined by *** percent between 2013 and 2015. Apparent consumption increased from *** pounds in 2013 to *** pounds in 2014, and then declined to *** pounds in 2015.[84] However, reported apparent U.S. consumption is likely understated due to the lack of comprehensive coverage of imports from nonsubject sources.[85]

The reported cost share of HEDP is low for most end uses.[86] Compass reported that a number of phosphonates could be used as substitutes for HEDP in some applications, and several responding importers also identified substitutes for HEDP. Possible substitutes identified were other phosphonates, including ATMP (aminotrimethylenephosphonic acid) and

---

(…Continued)

…

(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).

19 U.S.C. § 1677(7)(F)(i). To organize our analysis, we discuss the applicable statutory threat factors using the same volume/price/impact framework that applies to our material injury analysis. Statutory threat factors (I), (II), (III), (V), and (VI) are discussed in the analysis of subject import volume. Statutory threat factor (IV) is discussed in the analysis of subject import price effects. Statutory factors (VIII) and (IX) are discussed in the analysis of impact. Statutory factor (VII) concerning agricultural products is inapplicable to these investigations.

[81] CR at II-1, II-7 to II-8; PR at II-1, II-5; Conf. Tr. at 13 (Allen).

[82] CR at II-8; PR at II-5; Conf. Tr. at 13 (Allen).

[83] CR/PR at Table II-3; Compass's Postconference Brief at 7; Conf. Tr. at 92-93 (McCaul).

[84] CR/PR at Tables IV-3; C-1.

[85] CR/PR at Table IV-3, note.

[86] Compass indicated that HEDP as share of total costs ranged from *** percent to ***percent of the cost, while importers reported that HEDP was 2 to 32 percent of the cost of various applications. CR at II-8; PR at II-5.

PBTC (2-phosphonobutane-1,2,4-tricarboxylic acid), BPTC (biphenylteracarboxylic acid), and dispersant polymers containing HEDP.[87]

2. Supply Conditions

Compass, the petitioner, is the only known U.S. producer of HEDP, and was the only known U.S. producer during the POI. Compass produces HEDP at its plant in Smyrna, Georgia. It produces a range of other phosphonate products at this facility, but HEDP accounts for the largest volume of its production of phosphonates.[88] As part of the HEDP production process, Compass produces the by-product acetic acid, which it sells commercially.[89]

Compass's production capacity increased by *** percent from 2013 to 2014 as a result of process improvements, and then remained unchanged between 2014 and 2015.[90] In March 2015, Compass was acquired by One Rock Capital Partners, a private equity group, which ***.[91] Compass's share of reported apparent U.S. consumption declined from *** percent in 2013 to *** percent in 2014, and then increased to *** percent in 2015.[92]

As discussed above, imports of HEDP from all exporters in China (except for Wujin Water) were subject to antidumping duties during 2013 and through April 28, 2014.[93] The share of reported apparent U.S. consumption accounted for by subject imports shipments increased from *** percent in 2013 to *** percent in 2014, and then to *** percent in 2015.[94] Published information on global supply of total organophosphonates (which includes out-of-scope products in addition to HEDP) indicates that China accounted for the world's largest share of global organophosphonate production capacity in 2013, with 41 percent of global annual capacity.[95]

The share of reported apparent U.S. consumption accounted for by nonsubject imports declined from *** percent in 2013 to *** percent in 2014, and then to *** percent in 2015.[96]

---

[87] CR at II-10; PR at II-6 to II-7.

[88] CR at III-1, III-5; PR at III-1, III-3.

[89] CR at III-5; PR at III-3; Conf. Tr. at 14-15 (Allen); 21 (McCaul).

[90] CR at III-3; PR at III-2.

[91] CR at VI-1; PR at VI-1: Conf. Tr. at 77 (McCaul).

[92] CR/PR at Tables IV-3, C-1. We recognize that market share trends may have been affected by the less than comprehensive coverage of U.S. imports from nonsubject sources. CR/PR at Table IV-3 note.

[93] CR at I-6 to I-7; PR at I-5.

[94] CR/PR at Tables IV-3, C-1.

[95] CR at VII-12; PR at VII-7.

[96] CR/PR at Tables IV-3, C-1. As previously discussed, the volume of nonsubject imports is understated due to less than comprehensive importer coverage. According to questionnaire data, the volume of nonsubject imports was *** pounds in both 2013 and 2014, and *** pounds in 2015. CR/PR at Table IV-2. By comparison, Compass presented the following estimates of nonsubject import volumes using PIERS data: 5.3 million pounds in 2013, 7.2 million pounds in 2014, and 6.1 million pounds in 2015. CR/PR at Table D-1. Taihe presented the following estimates of nonsubject import volumes using DataMyne data: 8.2 million pounds in 2013, 9.1 million pounds in 2014, and 8.6 million pounds in 2015. *Id.* Official U.S. import statistics under the basket category of 2931.90.9043 (including out-of-scope (Continued…)

Among the principal sources of nonsubject imports are India and the United Kingdom.[97] As discussed above, imports of HEDP from India were subject to antidumping duties during 2013 and through April 28, 2014.[98]

3. Substitutability and Other Conditions

We find that there is a high degree of substitutability between domestically produced HEDP and HEDP imported from China of the same grade and level of purity.[99] We also find that price is an important factor in purchasing decisions for HEDP.[100]

As previously discussed, Enviro Tech has asserted that HEDP with higher purity and lower metal contaminant levels is necessary for certain end uses for HEDP, although both Enviro Tech and Compass agree that this is a very small portion of the overall U.S. HEDP market.[101] Enviro Tech asserts that Compass has been and remains unable to produce high purity HEDP, which Compass disputes, while CC argues that Compass has a reputation for both lower purity and lower quality product.[102] In any final phase of these investigations, we intend to examine whether purity or quality issues limit substitutability between subject imports and the domestic like product in the U.S. market.

Raw materials accounted for between *** percent and *** percent of gross cost of goods sold ("COGS") for Compass over the POI.[103] The principal raw materials used for producing HEDP in the United States are acetic anhydride and phosphorous acid.[104] Compass's

---

(…Continued)
products) reported nonsubject import volumes of 43.6 million pounds in 2013, 47.7 million pounds in 2014, and 37.8 million pounds in 2015. *Id.*

[97] CR at VII-13 to VII-14; PR at VII-7 to VII-8; Conf. Tr. at 22, 46, 55-56 (McCaul).

[98] CR at I-6 to I-7; PR at I-5.

[99] See CR at II-11; PR at II-7. A substantial majority of responding market participants reported that subject imports and domestically produced HEDP are always or frequently interchangeable. CR/PR at Table II-4. According to Compass, HEDP from different sources is completely interchangeable as long as it is at the same level of purity *(e.g.*, 60 percent aqueous solution, the most common concentration) and meets certain recognized industry baseline standards. Conf. Tr. at 16 (Allen).

[100] Four of five purchasers responding to lost sales lost revenue allegations identified price as one of the major factors in their purchasing decisions for HEDP. CR at II-12; PR at II-7. A majority of responding market participants reported that differences other than price between HEDP from China and domestically produced HEDP were only sometimes or never significant. CR/PR at Table II-5.

[101] Enviro Tech's Postconference Brief at 9; Conf. Tr. at 45, 145 (McCaul)

[102] Enviro Tech's Postconference Brief at 9; Conf. Tr. at 145 (McCaul); CC's Postconference Brief at 7.

[103] CR at V-1; PR at V-1; CR/PR at Table VI-1. Compass's gross COGS is its COGS prior to the deduction of revenue from its sales of the by-product acetic acid. CR at VI-6; PR at VI-2.

[104] CR at V-1; PR at V-1. Compass imports phosphorus acid primarily from China. Conf. Tr. at 49-51 (McCaul); CR at III-2 n.5; PR at III-1 n.5.

average raw material cost increased somewhat from 2013 to 2014 and then declined to its lowest level in 2015.[105]

*** importers of HEDP from China and nonsubject countries sold HEDP primarily to end users, while appreciable percentages from all three sources were sold to distributors.[106] HEDP from both domestic and imported sources is primarily sold from inventory.[107] Compass reported that *** transportation to its customers and that its U.S. inland transportation cost was *** percent.[108]

C. Likely Volume of the Subject Imports

We find that the volume of subject imports was significant during the POI and will likely increase substantially in the imminent future. The volume of subject imports increased by *** percent during the POI, from *** pounds in 2013 to *** pounds in 2014, and then decreased to *** pounds in 2015.[109]

The share of reported apparent U.S. consumption represented by U.S. importers' U.S. shipments of subject imports increased from *** percent in 2013 to *** percent in 2014, and then to *** percent in 2015.[110] The domestic industry's share of reported apparent U.S.

---

[105] CR at VI-6; PR at VI-2. Compass's raw material cost increased from $*** in 2013 to $*** in 2014, and then declined to $*** in 2015. CR/PR at Table VI-1. According to a Compass official, the cost of acetic anhydride was relatively stable throughout the POI, while the cost of phosphorous acid declined in 2015. Conf. Tr. at 13-14 (Allen).

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

[107] Compass reported that *** percent of its commercial shipments were from inventories, while *** percent were produced to order. Importers reported that 94.4 percent of their commercial shipments were from U.S. inventories, *** percent were from inventories in China, and *** percent were produced to order. CR at II-11; PR at II-7.

[108] CR at V-1; PR at V-1. CC asserts that U.S. inland transportation costs from Compass's plant in Georgia can be higher than transportation costs for imported HEDP from China, leaving Compass unable to serve customers in important U.S. markets in the Midwest and on the West Coast. CC's Postconference Brief at 2-3. In any final phase of these investigations, we intend to examine the effect of transportation costs for HEDP on competition in the U.S. market.

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

[110] CR/PR at Tables IV-3, C-1. We recognize that market share trends may have been affected by the less than comprehensive coverage of U.S. imports from nonsubject sources. CR/PR at Table IV-3 note. As previously discussed, according to questionnaire data, the volume of nonsubject imports was *** pounds in both 2013 and 2014, and *** pounds in 2015. CR/PR at Table IV-2. By comparison, Compass presented the following estimates of nonsubject import volumes using PIERS data: 5.3 million pounds in 2013, 7.2 million pounds in 2014, and 6.1 million pounds in 2015. CR/PR at Table D-1. Taihe presented the following estimates of nonsubject import volumes using DataMyne data: 8.2 million pounds in 2013, 9.1 million pounds in 2014, and 8.6 million pounds in 2015. *Id.* Official U.S. import statistics under the basket category of 2931.90.9043 (including out-of-scope products) reported nonsubject import volumes of 43.6 million pounds in 2013, 47.7 million pounds in 2014, and 37.8 million pounds in 2015. *Id.*

consumption declined from *** percent in 2013 to *** percent in 2014, and then increased to *** percent in 2015.[111]

We find that the significant subject import volume observed during the POI will likely increase substantially in the imminent future. HEDP operations in China are large and growing. Responding subject producers reported that their capacity to produce HEDP increased by *** percent between 2013 and 2015, from *** pounds in 2013 to *** pounds in 2014, and then to *** pounds in 2015.[112] [113]

The responding subject producers also reported substantial unused capacity of *** pounds in 2015.[114] This figure is equivalent to *** the volume of subject imports in 2015 and *** reported apparent U.S. consumption in 2015.[115] Excess capacity was projected to be *** pounds in 2016 and *** pounds in 2017.[116]

Subject producers in China export significant and increasing amounts of HEDP.[117] Total export shipments reported by subject producers increased from *** pounds in 2013 to *** pounds in 2014, before declining slightly to *** pounds in 2015.[118] Export shipments were projected to increase to *** pounds in 2016 and *** pounds in 2017.[119] Export shipments to the United States by subject producers increased from *** pounds in 2013 to *** pounds in 2014, before declining to *** pounds in 2015.[120] Export shipments to the United States were

---

[111] CR/PR at Tables IV-3, C-1.

[112] CR/PR at Table VII-3. Capacity is projected to be *** pounds in 2016 and *** pounds in 2017. *Id.* Both Taihe and CC argue that subject HEDP capacity in China has not increased, and that reported capacity increases by certain large Chinese subject producers have merely offset reductions in capacity by smaller Chinese producers that have ceased operations as a result of stricter environmental laws in China. Respondents have provided lists of former Chinese HEDP producers that they assert closed facilities, stopped production, and/or no longer exported HEDP to the United States in 2015. Taihe's Postconference Brief at 10; CC's Postconference Brief at 5; *see* Conf. Tr. at 107-108 (McGrath). As discussed below, responding subject producers/exporters alone possess significant excess capacity, regardless of whether smaller Chinese producers have ceased operations. CR/PR at Table VII-3.

[113] The four responding subject Chinese producers reported that they produce products other than HEDP on the same equipment and machinery that they use to produce HEDP. In 2015, production of HEDP accounted for *** percent of total production using that equipment and machinery. The large overall capacity for that equipment and machinery (*** pounds in 2015), and the fact that *** percent of the 2015 production from that equipment and machinery was out-of-scope products, indicate that there is likely a substantial potential for product-shifting to HEDP. CR at II-6 to II-7, VII-5 to VII-6; PR at II-4, VII-4; CR/PR at Table VII-2.

[114] CR/PR at Table VII-3.

[115] *Compare* CR/PR at Table VII-3 *with* CR/PR at Tables IV-2 and IV-3.

[116] CR/PR at Table VII-3. We note that the projected reduction in responding subject producers' unused capacity in 2016 and 2017 results largely from a projected increase in their end-of-period inventories. *Id.*

[117] CR/PR at Table VII-3.

[118] CR/PR at Table VII-3.

[119] CR/PR at Table VII-3.

[120] CR/PR at Table VII-3.

projected to be *** pounds in 2016 and *** pounds in 2017.[121] The share of their total shipments exported to the United States declined from *** percent in 2013 to *** percent in 2014, and then to *** percent in 2015; it was projected to be *** percent in 2016 and *** percent in 2017.[122]

Inventories of the subject merchandise both in the United States and in China increased significantly over the POI. U.S. importers' inventories of subject imports increased from *** pounds in 2013 to *** pounds in both 2014 and 2015, increasing by *** percent between 2013 and 2014.[123] As a share of their U.S. shipments of subject imports, U.S. importers' inventories of subject imports increased from *** percent in 2013 to *** percent in 2014 and *** percent in 2015.[124]

Responding subject producers reported that their end-of-period inventories of HEDP increased from *** pounds in 2013 to *** pounds in 2014, and then to *** pounds in 2015, an increase of *** percent during the POI.[125] Their end-of-period inventories are projected to increase further to *** pounds in 2016 and *** pounds in 2017.[126] Responding subject producers reported that end-of-period inventories of HEDP as a share of their total shipments were *** percent in 2013, *** percent in 2014, and *** percent in 2015.[127] They project that end-of-period inventories as a share of their total shipments will increase to *** percent in 2016 and *** percent in 2017.[128]

In sum, for the purposes of the preliminary phase of these investigations, we conclude that there is a likelihood of a substantial increase in the volume of subject imports in the imminent future from the already significant volume of subject imports prevailing during the POI.[129] The subject HEDP industry in China is very large and growing, possesses significant unused capacity, and exports significant amounts of HEDP. Both HEDP producers in China and U.S. importers hold substantial and increasing inventories of the subject merchandise. In light of these factors, the increase in subject import volume and market penetration that occurred during 2013 to 2015 will likely accelerate.

[121] CR/PR at Table VII-3.
[122] CR/PR at Table VII-3.
[123] CR/PR at Table VII-4.
[124] CR/PR at Table VII-4.
[125] CR/PR at Table VII-3.
[126] CR/PR at Table VII-3; CR at VII-7; PR at VII-4.
[127] CR/PR at Table VII-3.
[128] CR/PR at Table VII-3.
[129] We have also considered the nature of the four alleged subsidy programs on which Commerce has initiated the countervailing duty investigation. *See* CR at I-7; PR at I-6; *1-Hydroxyethylidene-1, 1-Diphosphonic Acid From People's Republic of China, Initiation of Countervailing Duty Investigation,* 81 Fed. Reg. 25383, 25385 (Apr. 28, 2016); Enforcement and Compliance Office of AD/CVD Operations CVD Investigation Checklist (Apr. 20, 2016) (EDIS Document No. 580919). There are no known antidumping or countervailing duty measures or proceedings covering HEDP from China in any other markets. CR at VII-11; PR at VII-6.

D. Likely Price Effects of the Subject Imports

The record in the preliminary phase of these investigations indicates that subject imports and domestically produced HEDP of the same grade and level of purity are highly substitutable,[130] and that price is an important factor in purchasing decisions.[131]

The Commission collected quarterly pricing data for three HEDP products.[132] Compass and eight importers provided usable pricing data, although not all firms reported pricing for all products for all quarters.[133] The pricing data reported by these parties accounted for *** percent of Compass's U.S. shipments of HEDP in 2015 and over 100 percent of U.S. shipments of subject imports from China in 2015.[134]

The pricing data show mixed underselling and overselling by subject imports during the POI. Subject imports undersold the domestic like product in 14 of 36 quarterly comparisons, and oversold the domestic like product in 22 quarterly comparisons.[135] The margins of underselling ranged from 0.6 percent to 16.3 percent, and the average margin of underselling was 9.0 percent.[136]

We attach more weight to quarterly price comparisons for 2015, however, because that was the only year of the POI in which the previous antidumping duty order on HEDP from China was not in effect, and for which ***, reported pricing data.[137] In 2015, subject imports undersold the domestic like product in *** of *** quarterly comparisons, at margins ranging from *** to *** percent.[138] We also find it noteworthy that the predominant subject import overselling for products 2 and 3 during the first half of the POI turned into predominant underselling after the second quarter of 2014, when the previous antidumping duty order on HEDP from China was revoked.[139] Moreover, the volume of subject imports that undersold the domestic like product during the POI, at *** pounds, was over twice the volume of subject

---

[130] CR at II-11; PR at II-7; Conf. Tr. at 16 (Allen).

[131] *See* CR at II-12; PR at II-7; CR/PR at Table II-5.

[132] The pricing products include the following: (1) all grades of aqueous HEDP typically at 60 percent concentration, sold in bulk containers (*e.g.*, ISO containers, bulk tank cars, or rail cars); (2) all grades of aqueous HEDP typically at 60 percent concentration, sold in drums; (3) all grades of aqueous HEDP typically at 60 percent concentration, sold in intermediate bulk containers. CR at V-3; PR at V-2.

[133] CR at V-3; PR at V-3.

[134] While the pricing data accounted for over 100 percent of U.S. shipments of subject imports in 2015, the coverage for subject imports was much lower in 2013 and 2014, in part because ***. CR at V-3 n.1; PR at V-3 n.1.

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

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

[137] CR at V-3 n.1; PR at V-3 n.1.

[138] CR/PR at Tables V-3 through V-5. In 2015, the volume of subject imports that undersold the domestic like product during the POI, at *** pounds, was four times the volume of subject imports that oversold the domestic like product, at *** pounds. CR/PR at Tables V-3 through V-5.

[139] CR at I-7; PR at I-5. We recognize that the comparability of the pricing data over the POI are affected by the ***. Furthermore, Compass argues that the pricing data reported for Product 1 *** are aberrational in comparison to ***, and should be given limited weight. Compass's Postconference Brief at 6-8.

imports that oversold the domestic like product, at *** pounds.[140] Based on these facts, we find subject import underselling to be significant. We also find that significant subject import underselling is likely to continue in the imminent future, given the importance of price to purchasing decisions and the likely substantial increase in subject import volume that we have found.

U.S. producer's prices for HEDP declined during the POI, with price declines ranging from *** percent to *** percent.[141] Subject import prices also declined from *** percent to *** percent,[142] with ***[143] corresponding to revocation of the antidumping duty order on HEDP from China effective April 28, 2014.[144]

We recognize that HEDP prices may have fluctuated with raw material costs during the POI to some extent.[145] As previously discussed, Compass's average raw material cost increased somewhat from 2013 to 2014, but then declined to its lowest level in 2015 as the cost of phosphorous acid reportedly declined.[146] In any final phase of these investigations, we will examine further the role of raw material costs in determining HEDP prices. Nevertheless, we have found that subject import volume is likely to increase substantially in the imminent future and that significant underselling is likely to continue. For purposes of the preliminary phase of these investigations, we find that that the likely substantial increase in low-priced subject imports will likely depress or suppress domestic HEDP prices to a significant degree in the imminent future, or lead to a loss in the U.S. industry's market share.[147]

In sum, we find that subject imports are likely to continue underselling the domestic like product to a significant degree and enter at prices that are likely to have a significant depressing effect on domestic prices and that are likely to increase demand for further imports.

---

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

[141] The U.S. producer's prices declined by *** percent for Product 1, *** percent for Product 2, and *** percent for Product 3. CR/PR at Table V-6.

[142] Subject import prices declined by *** percent for Product 1, *** percent for Product 2, and *** percent for Product 3. CR/PR at Table V-6.

[143] CR/PR at Figures V-1 through V-3.

[144] CR at I-7; PR at I-5.

[145] CR at VI-6; PR at VI-2; Conf. Tr. at 75 (McCaul). In response to the Commission's lost sales lost revenue survey, purchaser ***, reported that ***. ***. CR/PR at Table V-11.

[146] CR at VI-6; PR at VI-2. Compass's raw material cost increased from $*** in 2013 to $*** in 2014, and then declined to $*** in 2015. CR/PR at Table VI-1; Conf. Tr. at 13-14 (Allen).

[147] The ratio of Compass's cost of goods sold (COGS) to sales increased from *** percent in 2013 to *** percent in 2014, and then to *** percent in 2015. CR/PR at Table VI-1. As previously discussed, raw material costs, which declined in 2015, are *** component of Compass's COGS. CR/PR at Table VI-1. However, Compass's total COGS is also influenced by the deduction of revenues from its sales of the by-product acetic acid, which declined from $*** in 2013 to $*** in 2015. CR/PR at Table VI-2. In any final phase of these investigations, we will examine further the relationship between Compass's sales of acetic acid and its COGS for HEDP.

E. Likely Impact of the Subject Imports[148]

The domestic industry – comprising the lone U.S. producer, Compass -- remained profitable over the POI, although its operating income and operating income margin declined between 2014 and 2015.[149] Compass recorded *** declines in a number of performance indicators over the POI, as well as a *** decline in capacity utilization. Compass experienced *** declines between 2014 and 2015 in some indicators, such as production, revenues, and productivity, as well as in its profitability.[150]

Compass's capacity increased by *** percent during the POI,[151] while production declined by *** percent.[152] Capacity utilization declined from *** percent in 2013 to *** percent in 2014, and then to *** percent in 2015.[153]

Compass's net sales declined by *** percent during the POI,[154] while its U.S. shipments declined by *** percent.[155] Compass's ending inventories declined by *** percent during the POI.[156]

The domestic industry's share of reported apparent U.S. consumption was relatively stable, declining from *** percent in 2013 to *** percent in 2014, and then increasing to *** percent in 2015.[157]

There was no net change in employment or hours worked between 2013 and 2015.[158] Wages paid declined *** over the POI, and productivity also declined.[159]

---

[148] In its notice initiating the antidumping duty investigation on HEDP from China, Commerce reported an estimated antidumping duty margin of 96 percent for imports from China. *1-Hydroxyethylidene-1, 1-Diphosphonic Acid From the People's Republic of China, Initiation of Less-Than-Fair-Value Investigation*, 81 Fed. Reg. 25377, 25380 (Apr. 28, 2016).

[149] CR/PR at Tables VI-1, C-1.

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

[151] Capacity increased from *** pounds in 2013 to *** pounds in 2014 and was unchanged in 2015. CR/PR at Tables III-2, C-1. As previously noted, this increase was a result of process improvements. CR at III-3; PR at III-2.

[152] Production increased from *** pounds in 2013 to *** pounds in 2014, and then declined to *** pounds in 2015. CR/PR at Tables III-2, C-1.

[153] CR/PR at Tables III-2, C-1.

[154] Net sales declined from *** pounds in 2013 to *** pounds in 2014, and then to *** pounds in 2015. CR/PR at Tables VI-1, C-1.

[155] U.S. shipments declined from *** pounds in 2013 to *** pounds in 2014, and then to *** pounds in 2015. CR/PR at Tables III-4, C-1.

[156] Ending inventories increased from *** pounds in 2013 to *** pounds in 2014, and then declined to *** pounds in 2015. CR/PR at Tables III-5, C-1.

[157] CR/PR at Tables IV-3, C-1. We recognize that market share trends may have been affected by the less than comprehensive coverage of U.S. imports from nonsubject sources. CR/PR at Table IV-3 note.

[158] Employment declined from *** production-related workers (PRWs) in 2013 to *** PRWs in 2014 and then increased to *** PRWs in 2015. CR/PR at Tables III-6, C-1. Hours worked declined from *** hours in 2013 to *** hours in 2014 and then increased to *** hours in 2015. *Id.*

The domestic industry's financial indicators were stable between 2013 and 2014, but worsened in 2015. Net sales value declined by *** percent over the POI, due to a *** percent decline between 2014 and 2015.[160] Total COGS increased by *** percent.[161] Operating income declined by *** percent during the POI, increasing from $*** in 2013 to $*** in 2014, and then declining to $*** in 2015.[162] The industry's operating income margin increased from *** percent in 2013 to *** percent in 2014, and then declined to *** percent in 2015.[163] The industry's gross profit and net income shared a similar trend, but with a greater decline in 2015. Gross profit declined by *** percent over the POI.[164] Net income increased between 2013 and 2014, but Compass reported a *** in 2015.[165]

Capital expenditures increased over the POI, while research and development (R&D) expenses declined.[166] Compass reported actual and anticipated negative effects of subject imports on its existing development and production efforts, including ***.[167]

Thus, the record in the preliminary phase of these investigations shows that although the domestic industry remained profitable on an operating basis, it experienced declines in production, capacity utilization, sales, shipments, productivity, revenues, and financial performance as the volume of subject imports increased.[168] We have found that a substantial increase in subject import volume is likely imminent, and that significant subject import underselling will likely continue, causing a significant depressing or suppressing effect on domestic prices and likely increasing demand for further imports. Given this, we further find that subject imports will likely exacerbate the declines in trade and financial indicators that Compass experienced in 2015.

We have also considered factors other than subject imports to ensure that we are not attributing any threat of material injury from other such factors to the subject imports.

(…Continued)

[159] Wages paid declined from $*** in 2013 to $*** in 2014, and then increased to $*** in 2015. CR/PR at Tables III-6, C-1. Productivity (in pounds per hour) increased from *** in 2013 to *** in 2014, and then declined to *** in 2015. *Id.*

[160] Net sales value increased from $*** in 2013 to $*** in 2014, and then declined to $*** in 2015. CR/PR at Tables VI-1, C-1.

[161] Total COGS increased from $*** in 2013 to $*** in 2014, and then declined to $*** in 2015. CR/PR at Tables VI-1, C-1.

[162] CR/PR at Tables VI-1, C-1.

[163] CR/PR at Tables VI-1, C-1.

[164] Gross profit declined from $*** in 2013 to $*** in 2014, and then to $*** in 2015. CR/PR at Tables VI-1, C-1.

[165] Net income was $*** in 2013 and $*** in 2014, but Compass reported a *** of $*** in 2015. CR/PR at Tables VI-1, C-1. We recognize that the decline in net income was partly due to *** . CR at VI-8; PR at VI-4.

[166] Capital expenditures increased from $*** in 2013 to $*** in 2014, and then declined to $*** in 2015. R&D expenses were $*** in 2013 and 2014, and $*** in 2015. CR/PR at Table VI-3.

[167] CR/PR at Table VI-5, VI-6.

[168] In any final phase of these investigations, we will further examine the effect of changes in demand on the U.S. industry's output and shipments.

According to the questionnaire data, nonsubject imports' market share declined and they were the *** source of supply to the U.S. market during the POI.[169] The share of reported apparent U.S. consumption accounted for by nonsubject imports declined from *** percent in 2013 to *** percent in 2014, and then to *** percent in 2015.[170] Moreover, as a share of total imports, the reported volume of nonsubject imports declined from *** percent in 2013 to *** percent in 2014, and then to *** percent in 2015.[171] The average unit value (AUV) for nonsubject imports was higher than the AUVs for both the domestic like product and subject imports in each year of the POI.[172] Given our finding that the volume of subject imports is likely to continue to increase substantially, we find that the adverse effects of subject imports are distinct from any effects attributable to the nonsubject imports.

As previously discussed, Compass's production of HEDP generates acetic acid as a by-product, which Compass sells commercially. For cost accounting purposes, the sales of this by-product are treated as a deduction from the cost of HEDP.[173] Compass officials testified that without the revenue from its sales of this by-product, the company would not have shown a profit in its HEDP production.[174] However, Compass's average by-product revenue was at its highest during the POI in 2013, declining in both 2014 and 2015, and a Compass official testified that the price for acetic acid was declining.[175] In any final phase of these investigations, we intend to examine further Compass's sales of this by-product, and the effect of conditions in the acetic acid market on any injury experienced by Compass with respect to its production of HEDP.

VII. Conclusion

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

[169] We recognize that market share trends may have been affected by the less than comprehensive coverage of U.S. imports from nonsubject sources. CR/PR at Table IV-3 note.

[170] CR/PR at Table IV-3.

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

[172] CR/PR at Table C-1. The AUV of U.S. importers' U.S. shipments of nonsubject imports was $*** per pound in both 2013 and 2014, declining to $*** per pound in 2015. CR/PR at Table C-1. The Commission did not receive any usable pricing data with respect to nonsubject imports.

[173] CR at VI-7 and n.13; PR at VI-3 and n.13.

[174] Conf. Tr. at 14-15 (Allen); 24-25 (McCaul).

[175] CR/PR at Table VI-1; CR at VI-1; PR at VI-1; Conf. Tr. at 25 (McCaul).

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 Compass Chemical International, LLC ("Compass"), Smyrna, GA, on March 31, 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 1-Hydroxyethylidene-1, 1-diphosphonic acid ("HEDP") [1] from China. The following tabulation provides information relating to the background of these investigations.[2] [3]

Effective date	Action
March 31, 2016	Petition filed with Commerce and the Commission; institution of Commission investigation (81 FR 20416, April 7, 2016)
April 20, 2016	Commerce's notice of initiation of antidumping investigation (81 FR 25377, April 28, 2016)
April 20, 2016	Commerce's notices of initiation of countervailing duty investigation (81 FR 25383, April 28, 2016)
April 21, 2016	Commission's conference
May 13, 2016	Commission's vote
May 16, 2016	Commission's determinations
May 23, 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*

[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.

merchandise on domestic producers of domestic like products, but only in the context of production operations within the United States; and. . . may consider such other economic factors as are relevant to the determination regarding whether there is material injury by reason of imports.

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

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

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

[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.

United States merely because that industry is profitable or because the performance of that industry has recently improved.

Organization of report

Part I of this report presents information on the subject merchandise, alleged 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 the U.S. producer. *Part VII* presents the statutory requirements and information obtained for use in the Commission's consideration of the question of threat of material injury as well as information regarding nonsubject countries.

MARKET SUMMARY

HEDP is an odorless, colorless or yellowish liquid that belongs to a class of chemicals known as phosphonates. HEDP is generally added to water to increase solubility of certain ions and to inhibit the precipitation of certain mineral compounds. Compass is the only producer of HEDP in the United States, while leading producers of HEDP in China include: Henan Qingshuiyuan Technology Co., Ltd. ("Henan Qingshuiyuan"); Nantong Uniphos Chemicals Co., Ltd. ("Nantong Uniphos"); Nanjing University of Chemical Technology Changzhou Wujin Water Quality Stabilizer Factory ("Wujin Water"); and Shandong Taihe Water Treatment Technologies Co., Ltd. ("Shandong Taihe"). The leading U.S. importers of HEDP from China include: ***. Leading importers of HEDP from nonsubject countries (primarily India and the United Kingdom) include: ***.

Apparent U.S. consumption of HEDP totaled approximately *** pounds (***) in 2015. Currently, Compass is the only firm that produces HEDP in the United States. Compass' U.S. shipments of HEDP totaled *** pounds (***) in 2015, and accounted for *** percent of apparent U.S. consumption by quantity and *** percent by value. U.S. shipments of imports from China totaled ($***) in 2015 and accounted for *** percent of apparent U.S. consumption by quantity and *** percent by value. U.S. shipments of imports from nonsubject sources totaled ($***) 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. Except as noted, U.S. industry data are based on questionnaire responses of the sole U.S. producer, Compass, which accounted for all known U.S. production of HEDP during 2013-15. U.S. import

and foreign industry data are based on responses to the Commission's U.S. importers' and foreign producers' questionnaires.[6] Based on PIERS data provided by Petitioner, responding U.S. importers accounted for *** percent of U.S. imports of HEDP from China and *** percent of U.S. imports of HEDP from all other sources in 2015. Based on DataMyne data provided by Respondent Shandong Taihe, responding U.S. importers accounted for *** percent of U.S. imports of HEDP from China and *** percent of U.S. imports of HEDP from all other sources in 2015. Based on PIERS data provided by Petitioner, responding Chinese producers' exports of HEDP to the United States accounted for *** percent of U.S. imports of HEDP from China in 2015. Based on DataMyne data provided by Respondent Shandong Taihe, responding Chinese producers' exports of HEDP to the United States accounted for *** percent of U.S. imports of HEDP from China in 2015.

Previous and related investigations

On December 31, 2007, Compass filed a petition alleging that an industry in the United States was materially injured or threatened with material injury by reason of less-than-fair-value ("LTFV") imports from China and India of HEDP and Aminotrimethylenephosphonic Acid ("ATMP"). Effective December 31, 2007, the Commission instituted preliminary phase antidumping duty investigations Nos. 731–TA–1138 and 1139.[7] On January 17, 2008, before Commerce had initiated its investigations, Commerce and the Commission received a letter from Compass withdrawing its petition. Subsequently, the Commission discontinued its antidumping investigations concerning HEDP and ATMP from China and India.[8]

On March 19, 2008, Compass filed a petition alleging that an industry in the United States was materially injured and threatened with material injury by reason of less-than-fair-

[6] Because entries of HEDP are classifiable by Harmonized Tariff Schedule of the United States ("HTSUS") statistical reporting number 2931.90.9043, which includes products outside the scope of these investigations and due to the absence of comprehensive importers' questionnaire responses, parties propose that the Commission use shipping manifest information to evaluate import volumes and trends. Petitioner advocates the use of Port Import Export Reporting Service (PIERS) information, while Respondent Shandong Taihe advocates the use of DataMyne information, which the respective parties provided in their postconference briefs. Appendix D presents the respective shipping manifest information along with official U.S. imports under HTSUS statistical reporting number 2931.90.9043 and U.S. import data as reported by firms responding to the Commission's U.S. importers' questionnaire.

[7] *Notice of institution of antidumping duty investigations and scheduling of preliminary phase investigations: Aminotrimethylenephosphonic Acid (ATMP) and 1-Hydroxyethylidene-1,1- Diphosphonic Acid (HEDP) From China and India,* 73 FR 1366, January 8, 2008.

[8] *Notice of withdrawal of petition in antidumping investigations: Aminotrimethylenephosphonic Acid (ATMP) and 1-Hydroxyethylidene-1,1- Diphosphonic Acid (HEDP) From China and India,* 73 FR 5211, January 29, 2008.

value ("LTFV") imports of HEDP from China and India.[9] In April 2009, the Commission determined that an industry in the United States was threatened with material injury by reason of less-than-fair-value imports of HEDP from China and India. In addition, the Commission determined that it would not have found material injury but for the suspension of liquidation.[10] On April 28, 2009, Commerce issued antidumping duty orders on HEDP from China and India.[11]

On March 3, 2014, Commerce initiated five-year reviews of the antidumping duty orders to determine whether revocation of the antidumping duty orders on HEDP from China and India would be likely to lead to continuation or recurrence of material injury.[12] On June 2, 2014, Commerce published a notice stating that it did not receive a notice of intent to participate from domestic interested parties.[13] Effective April 28, 2014, the antidumping duty orders on HEDP from China and India were revoked.[14]

NATURE AND EXTENT OF ALLEGED SUBSIDIES AND SALES AT LTFV

Alleged subsidies

On April 28, 2016, Commerce published a notice in the *Federal Register* of the initiation of its countervailing duty investigation on HEDP from China.[15] Commerce identified the following programs on which it is initiating an investigation:

---

[9] *Notice of institution of antidumping duty investigations and scheduling of preliminary phase investigations: Aminotrimethylenephosphonic Acid (ATMP) and 1-Hydroxyethylidene-1,1- Diphosphonic Acid (HEDP) From China and India*, 73 FR 1366, January 8, 2008. *1–Hydroxyethylidene–1, 1–Diphosphonic Acid from the Republic of India and the People's Republic of China: Initiation of Antidumping Duty Investigations*; 73 FR 20023, April 14, 2008.

[10] *1-Hydroxyethylidene-1,1– Diphosphonic Acid (HEDP) From China and India : Determination*, 77 FR 18593, April 23, 2009. *1-Hydroxyethylidene-1, 1-Diphosphonic Acid from China and India*, *Investigation Nos. 731-TA-1146 and 731-TA-1147 (Final)*, USITC Publication 4072, April 2009.

[11] *1-Hydroxyethylidene-1, 1-Diphosphonic Acid from India and the People's Republic of China: Antidumping Duty Orders*, 74 FR 19197, April 28, 2009.

[12] *Initiation of Five-Year ("`Sunset'') Review*, 79 FR 11762, March 3, 2014.

[13] According to the Petitioner, the antidumping duty orders did provide some benefit in the earlier years following the imposition of the orders, but it stated the exclusion of a major producer (Wujin Water) from the order on HEDP from China was an important consideration in its decision not to expend resources to preserve the orders through five-year sunset reviews. Petitioner's postconference brief, p. 15. Conference transcript, pp. 33-34 (McCaul) and p. 35 (Levin).

[14] *1-Hydroxyethylidene-1, 1-Diphosphonic Acid from India and the People's Republic of China: Final Results of Sunset Reviews and Revocation of Antidumping Duty Orders*, 79 FR 31301, June 2, 2014. The Commission terminated its reviews effective June 4, 2014. *1-Hydroxyethylidene-1,1-Diphosphonic Acid (Hedp) From China and India,* 79 FR 33595, June 11, 2014.

[15] *1-Hydroxyethylidene-1, 1-Diphosphonic Acid From People's Republic of China: Initiation of Countervailing Duty Investigation, 81 FR 25383, April 28, 2016.*

A. Provision of Electricity for Less Than Adequate Remuneration
B. Corporate Income Tax Law Article 33: Reduction of Taxable Income for Revenue Derived from the Manufacture of Products that are in Line with State Industrial Policy and Involve Synergistic Utilization of Resources
C. VAT and Import Duty Exemptions for Use of Imported Equipment
D. "Famous Brand" Program

Alleged sales at LTFV

On April 28, 2016, Commerce published a notice in the *Federal Register* of the initiation of its antidumping duty investigation on HEDP from China.[16] Commerce has initiated an antidumping duty investigation based on estimated dumping margins of 96 percent for HEDP from China.

THE SUBJECT MERCHANDISE

Commerce's scope[17]

Commerce has defined the scope of these investigations as follows:

> *The merchandise covered by this investigation includes all grades of aqueous acidic (non-neutralized) concentrations of 1-hydroxyethylidene-1, 1-diphosphonic acid (HEDP), also referred to as hydroxyethylidenendiphosphonic acid, hydroxyethanediphosphonic acid, acetodiphosphonic acid, and etidronic acid. The CAS (Chemical Abstract Service) registry number for HEDP is 2809-21-4.*

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 may be imported under HTSUS subheading 2931.90.90 (statistical reporting number 2931.90.9043), a residual or "basket" tariff line for nonenumerated organo-inorganic compounds.[18] HEDP may enter under 2811.19.6090 and 2931.90.9041. While HTSUS subheadings and the CAS registry

[16] *1-Hydroxyethylidene-1, 1-Diphosphonic Acid From the People's Republic of China: Initiation of Less-Than-Fair-Value Investigation,* 81 FR 25377, April 28, 2016.

[17] *1-Hydroxyethylidene-1, 1-Diphosphonic Acid From People's Republic of China: Initiation of Countervailing Duty Investigation*, 81 FR 25383, April 28, 2016.

[18] HTSUS statistical reporting number 2931.90.9043 includes other organo-phosphorus compounds in addition to HEDP. Petition, p. 8. U.S. imports under HTS subheading 2931.90.90 produced in China are subject to a 3.7 percent ad valorem duty rate under column 1-general (normal trade relations).

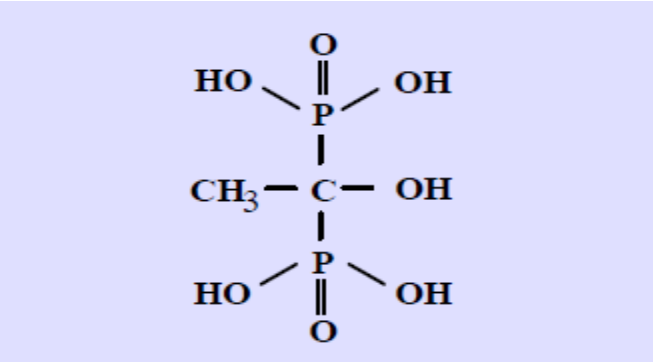
number are provided for convenience and customs purposes only, the written description of the scope of this investigation is dispositive.

THE PRODUCT

Description and applications

HEDP is an acidic organic industrial grade water treatment product having the phosphonate chemical structure as illustrated in figure I-1. The chemical nomenclature of HEDP is defined by the American Chemical Society under the Chemical Abstracts Registry Service CAS Number 2809-21-4 as 1-Hydroxyethylidene-1, 1-diphosphonic acid.

Figure I-1
HEDP: Chemical Structure



Source: Compass Chemical International LLC, TDS

The HEDP molecule contains two phosphonate groups and four reactive hydroxyl (OH) sites as shown at the top and bottom of the structure, designated by the classical phosphonic acid group PO_3H_2 linkage signatures, phosphorus, oxygen and hydrogen. This acidic phosphonate chemical is typically produced and sold as a 60 percent aqueous commodity grade industrial solution predominately for use as a water stabilizing agent and rust preventative that serves as a chelating or sequestration chemical to inhibit scale formation in industrial process equipment, and acts as a stabilizing agent in industrial and household cleaners and other applications.[19] HEPD is unique amongst other phosphonates and polyphosphate families because of its colorless appearance, its iron and calcium sequestration properties, and its chlorine stability.[20] [21] Chelating agents, also known as chelants, complexing or sequestering agents, are compounds which are able to form stable complexes with metal ions. This is

[19] Petition, pp. 15-16.
[20] Conference transcript, p. 17 (Allen).
[21] HEDP is the largest volume product manufactured by Compass, which is the only full-line phosphonate products manufacturer remaining in the United States. Conference transcript, p. 20 (McCaul).

achieved through solubilization and inactivating the metal ions that would otherwise produce adverse effects in the system on which they are used.[22] [23]

Petitioner, Compass, describes its 60 percent aqueous HEDP product, Mayoquest 1500 technical grade, as a clear, colorless to pale yellow liquid which may have a slight odor, freely miscible with water, and miscible with alcohols and organic solvents.[24] The aqueous product is strongly acidic with a pH value of less than 1, and also contains about 2 to 3 percent phosphorous acid (H_3PO_3), CAS No. 13598-36-2. Mayoquest 1500 is described as a very effective calcium carbonate scale inhibitor in industrial water treatment, industrial and institutional cleaning, personal care products and general purpose metal ion control. It is fairly stable to chlorine and is perfectly suited to the swimming pool stain prevention application. The product is also described as extremely stable as a sequestering agent over a wide range of temperature and pH, e.g., for the prevention of precipitation and scaling of calcium carbonate and other metal compounds.[25]

Petitioner further describes the HEDP product as a technical grade which is not further purified to become food grade or U.S. Pharmacopoeia (USP) Grade. It is characterized as a chelating agent with a long shelf life often added to multi-purpose formulations, and very stable at high temperatures above 300 degrees Fahrenheit. The product when used in household laundry and cleaning detergents does not reportedly raise concerns with regard to consumer use. HEDP as a chelating agent is said to be the only phosphonate product that can perform three basic functional applications in commercial water treatment, the largest application for HEDP.[26] First, it can sequester heavy metal ions such as iron and manganese oxides to prevent precipitation that would color water supplies; to inhibit scale in desalination; in swimming pool applications, or heavy metals that interfere with the cleaning function of laundry soap or body soap. Second, it can act as a scale inhibiting agent that prevents scale formation in commercial heating/cooling systems such as boilers, air conditioners, and cooling towers. Third, it can prevent the breakdown of oxidizing agents such as peroxide bleach. Also, HEDP is reported to be the only phosphonate used in municipal water treatment and for personal care products, specifically bar soap preservation. HEDP in appropriate purity is certified by the National Sanitation Foundation ("NSF") under its Standard 60 as a potable or drinking water additive. [27] Enviro Tech of Modesto, California currently reportedly purchases relatively small quantities of high purity HEDP from China for use in its peracetic acid antimicrobial agent. High purity HEDP is required, in contrast to technical commodity grade

---

[22] ***.

[23] "Phosphonates," *Human & Environmental Risk Assessment on ingredients of European household cleaning products,* HERA, June 9, 2004.

[24] Sixty percent aqueous HEDP is the maximum practical upper limit of solubility. Conference transcript, p. 44 (Hawk).

[25] Compass Chemical International LLC website, "Technical and Safety Data Sheets," http://compasschemical.com, retrieved April 14, 2016.

[26] Cooling tower water treatment accounts for Compass' largest consumer end use demand for HEDP. Conference transcript, p. 13 (Allen).

[27] Petition pp. 5-7; 15-16.

because of its stabilizing effect when used in peracetic acid formulations.[28] Enviro Tech purchases only high purity HEDP which has an iron level of *** in 60 percent HEDP. Compass manufactured products of this nature for Enviro Tech from 2011 until mid-2014.[29]

Compass and U.S. importers of HEDP reportedly sell HEDP to distributors, formulators and large end-users in bulk containers, e.g. ISO containers, or bulk tank trucks, or rail cars, drums, or intermediate bulk containers (IBC's). Petitioner describes HEDP as a commodity-type product, in which Chinese product is believed to be fully interchangable with domestically manufactured HEDP.[30]

MANUFACTURING PROCESSES

Compass is a leading manufacturer and marketer of a wide variety of phosphorus derivatives. The petitioner maintains two production sites in the United States at Huntsville, Texas and Smyrna, Georgia. HEDP is produced at the Smyrna plant, while Huntsville produces 70 percent phosphorous acid solution from solid crystal, a raw material used to manufacture phosphonates other than HEDP.[31] [32] Compass is the only U.S. manufacturer of HEDP, and was the only domestic producer during the period of investigation, 2013-15.[33] HEDP is the largest volume product manufactured by Compass, and the most widely used phosphonate worldwide.[34]

There are two commercial methods for producing HEDP. One method involves reacting phosphorus trichloride (PCl_3) with acetic acid (CH_3COOH), while the second method involves reacting phosphorous acid (H_3PO_3) with acetic anhydride, $(CH_3CO)_2O$. Compass reported that most Chinese producers of HEDP employ the phosphorus trichloride route, while Compass employs the phosphorous acid production method.[35]

The phosphorus trichloride/acetic acid method results in hydrochloric acid (HCl) as a byproduct, as shown by the balanced equation below.[36]

---

[28] Conference transcript, pp. 110-11 (Bankosky).

[29] Enviro Tech's postconference brief, p. 4.

[30] Petition, pp. 16 and 26.

[31] Compass reportedly uses anhydrous, solid crystal grade phosphorous acid in its HEDP manufacturing process, while other phosphonates can be made using aqueous phosphorous acid. *1-Hydroxyethylidene-1, 1-Diphosphonic Acid (HEDP) from China and India, Inv. Nos. 731-TA-1146-1147 (Final),* USITC Publication 4072, April 2009, p. I-6.

[32] The Texas plant is a blending facility with a large warehouse, and receives product from the Smyrna, Georgia plant for distribution. Conference transcript, p. 19 (McCaul).

[33] Petition, p.5.

[34] Conference transcript, p. 20 (McCaul).

[35] Petition, pp. 6-7.

[36] Respondent Shandong Taihe Water Treatment Technologies Co., Ltd. uses a continuous process technology employing the same reactants, but which results in HEDP product together with what it terms a co-product of acetyl chloride (CH_3COCl). Conference transcript, pp. 104-106; 131-135 (McGrath; Cheng).

$$2\ PCl_3 + CH_3COOH + 5\ H_2O = C_2H_8O_7P_2\ (HEDP) + 6\ HCl$$

Alternately, the phosphorous acid/acetic anhydride method employed for HEDP production by Compass produces acetic acid (CH_3COOH) as an important salable byproduct[37] as shown in the balanced equation below.[38]

$$2H_3PO_3 + (CH_3CO)_2O = C_2H_8O_7P_2\ (HEDP) + CH_3COOH$$

Compass reportedly favors the use of phosphorous acid as a reactant compared to phosphorus trichloride owing to handling, storage, and overall *** [39] considerations.[40] Compass employs imported phosphorous acid reactant sourced ***, while acetic anhydride liquid is sourced from ***. [41] Both production methods are said to result in identical HEDP products with the same chemical formulation and end-uses. At the point of first sale, domestically-manufactured and imported HEDP are said to be chemically identical, and products that have the same level of purity can reportedly be comingled and sold as one product.[42]

Compass HEDP is generally manufactured at high temperatures using anhydrous phosphorous acid (devoid of water) and acetic anhydride reactants in glass-lined batch reactors owing to the corrosive nature of the reaction mixture, and a two-reactor system is employed whereas other phosphonates reportedly require only one reactor.[43] [44] Compass stated ***. Time required in the reactors has ***. The plant has a *** which vary in size from ***. Different product families ***.

A generalized HEDP process flow diagram is illustrated in figure I-2 below.

Figure I-2
HEDP: Process Flow Diagram

* * * * * * *

The basic fundamentals of the Compass HEDP production process start with the preparation of the raw materials, phosphorous acid and acetic anhydride, ***. This is accomplished by ***.[45]

---

[37] Conference transcript, p. 21 (McCaul).
[38] Petition, p. 7.
[39] Petition, p. 4.
[40] Petition, vol. II, Exhibit, *** *** of Mark Allen, Plant Manager, Compass Chemical International, LLC, Smyrna, Georgia.
[41] Petitioner's postconference brief, responses to Commission questions, Exhibit 7 (Cantrell).
[42] Petition, p. 7.
[43] Petition, p. 18.
[44] *1-Hydroxyethylidene-1, 1-Diphosphonic Acid (HEDP) from China and India, Inv. Nos. 731-TA-1146-1147 (Final),* USITC Publication 4072, April 2009, pp. I-8-9.
[45] Petitioner's postconference brief, exh. 7.

Respondent Shandong Taihe cites a process which it employs for producing HEDP which is somewhat different from the two processes previously described, as shown in the following balanced chemical equation.[46]

$$2PCl_3 + 2CH_3COOH + 4H_2O = C_2H_8O_7P_2 \text{ (HEDP)} + CH_3COCl \text{ (Acetyl Chloride)} + 5HCl$$

The reactants consist of phosphorus trichloride and acetic acid as previously cited, however, the products in addition to industrial commercial grade HEDP, include what Shandong Taihe describes as salable acetyl chloride co-product and zero-margin hydrogen chloride (HCl) byproduct. This process is also reportedly likely to be used by other foreign producers.[47]

Shandong Taihe reports that its continuous process is more efficient than the batch processes, owing to larger throughput volumes and economies of scale, raw material and energy savings, together with the salable aspects of co-product acetyl chloride. Throughput volumes (4 hours reaction time) are reported to be significantly higher than that of batch processes, and raw materials costs lower. Also, co-product acetyl chloride is reported to be of value as a pharmaceutical and pesticide intermediate with a higher price than acetic acid.[48] [49]

DOMESTIC LIKE PRODUCT ISSUES

In the preliminary phase of Commission's 2008 investigations concerning HEDP from China and India, the Commission considered whether to define the domestic like product to include chemical products similar to HEDP not within the scope, but ultimately defined the domestic like product as all HEDP, coextensive with Commerce's scope.[50] In the final phase of those investigations, the Commission determined that no new information had been developed to suggest that a different like product definition would be warranted. Moreover, Petitioner and Respondents agreed that the Commission should define a single like product comprising all HEDP. Accordingly, the Commission defined a single domestic like product consisting of all HEDP, coextensive with the scope of the investigations. [51]

---

[46] Shandong Taihe's postconference brief, p. 8

[47] Shandong Taihe's postconference brief, p. 6.

[48] Respondent Shandong Taihe's postconference brief, pp. 6 -11, and exh. B, p. 4.

[49] Of the *** foreign producer questionnaire responses received, ***; one, the production of ***, while *** listed a number of ***.

[50] *1-Hydroxyethylidene-1, 1-Diphosphonic Acid (HEDP) from China and India, Inv. Nos. 731-TA-1146-1147 (Preliminary)*, Publication 3998, May 2008, p. 6.

[51] *1-Hydroxyethylidene-1, 1-Diphosphonic Acid (HEDP) from China and India, Inv. Nos. 731-TA-1146-1147 (Final)*, Publication 4072, April 2009, p. 5.

In the current investigations, Petitioner proposes that the Commission define the domestic like product as HEDP, which is co-extensive with the scope of investigation as defined by the Department of Commerce.[52] Respondent Shandong Taihe does not contest the Commission's domestic like product definition from the prior HEDP investigation.[53]

Enviro Tech, a purchaser of HEDP, internally consumes all of the HEDP it purchases for use in its specialty products, which serve a variety of industries that include industrial water treatment, meat and poultry processing, and wastewater treatment.[54] Enviro Tech stated that Compass manufactured special individual batches of HEDP for Enviro Tech from 2011 until mid-2014, but that Compass was never able to meet the firm's high-purity HEDP analytical specifications. Enviro Tech stated that it suffered losses due to the manufacturing of batches of peracetic acid ("PAA"), a downstream product using HEDP, that were unstable and subsequently discarded.[55] In its postconference brief, Enviro Tech argued that high purity HEDP is significantly differentiated from normal technical grade HEDP and should be considered a separate like product. A summary of Enviro Tech's statements with regard to its domestic like product argument is presented below.[56] [57]

Physical characteristics and uses

Enviro Tech argues that most HEDP is sold as technical grade material with similar specifications for pH, density, and levels of metal ion contaminants, often containing < 35 ppm of iron as a contaminant, but the typical range is 20-35 ppm. HEDP also contains other metal ion contaminants such as ***, which are often unreported on the product technical data sheets. Enviro Tech stated that it purchases only high purity HEDP which has an iron level of ***.[58]

---

[52] Conference transcript, p. 28 (Levin). Petitioner's postconference brief, p. 2.

[53] Conference transcript, p. 122 (McGrath). Respondent Shandong Taihe stated that while it does not presently challenge the domestic like product from the prior investigations, it reserves the right re-examine the like product definition and would urge the Commission consider the arguments raised by Enviro Tech in any final phase investigations. Respondent Shandong Taihe's postconference brief, exhibit B, p. 8.

[54] Enviro Tech's postconference brief, p. 1. Enviro Tech ***. ***, email message to USITC staff, May 3, 2016.

[55] Enviro Tech's postconference brief, p. 4.

[56] The Commission's decision regarding the appropriate domestic products that are "like" the subject imported products is based on a number of factors including: (1) physical characteristics and uses; (2) common manufacturing facilities, production processes, and production employees; (3) interchangeability; (4) customer and producer perceptions; (5) channels of distribution; and (6) price.

[57] Enviro Tech argued that high purity HEDP cannot cause material injury or threat of injury to a U.S. industry that cannot manufacture it and that is unlikely to manufacture it in the foreseeable future. Enviro Tech's postconference brief, p. 9.

[58] Enviro Tech's postconference brief, pp. 4-5.

Interchangeability

Enviro Tech argues that technical grade and high purity HEDP are not interchangeable due to the high relative levels of metal contaminants found in technical grade HEDP. Enviro Tech stated that it cannot use technical grade HEDP in its PAA formulations because the metal impurities in technical grade HEDP can sometimes set off a rapid decomposition reaction, which can result in an product that is not only unacceptable to the customers, but can also can be hazardous and sometimes burst or explode.[59]

Channels of distribution

Enviro Tech argues that high purity HEDP would normally be sold to end users for the manufacture of downstream products whereas technical grade HEDP could, in some cases, be sold to end users without further manufacturing.[60]

Customer and producer perceptions

Enviro Tech argues that the contaminant level of technical grade is the most important concern from a customer use perspective and that Enviro Tech suffered significant financial losses as a result of the products that were manufactured by Compass that did not meet purity specifications.[61]

Common manufacturing facilities, production process, and production employees

Enviro Tech stated that it is not aware of the exact differences in the manufacturing equipment used or manufacturing routes employed to make high purity HEDP versus technical trade HEDP.[62]

Price

Enviro Tech stated that technical grade is less expensive than high purity grade HEDP. During 2013-15, technical grade HEDP was widely available for prices ranging from $*** per

[59] Enviro Tech's postconference brief, pp. 5-6.
[60] Enviro Tech's postconference brief, p. 6.
[61] Enviro Tech's postconference brief, p. 7.
[62] Enviro Tech states that the manufacturing of high purity HEDP appears to require a process that is not typical of HEDP manufacturers and cited *** consecutive lots of HEDP that were produced by Compass between 2013 and 2014 that failed to meet the iron content specification of below *** ppm. Enviro Tech's postconference brief, pp. 7-8.

pound to $*** per pound whereas the high purity HEDP Enviro Tech purchased from *** cost $*** per pound.[63]

DOMESTIC INDUSTRY

Petitioner states that it is the sole producer of the domestic like product and hence, constitutes the domestic industry.[64] Respondent Shandong Taihe does not contest the Commission's definition of the domestic industry from the prior HEDP investigation.[65]

[63] Enviro Tech's postconference brief, p. 8
[64] Petition, p. 19. Conference transcript, p. 28 (Levin).
[65] Conference transcript, p. 122 (McGrath).

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

U.S. MARKET CHARACTERISTICS

HEDP is mainly used for water treatment applications water including: inhibiting scaling in commercial heating and cooling systems and in reverse osmosis desalination processing; sequestering metal ions that color water or reduce the functioning of soaps; and preventing the breakdown of oxidization agents such as peroxide bleach.[1] Typically HEDP is used by third-party water treatment service companies that manage water systems.[2] The water treatment companies often combine HEDP with other chemicals to keep water systems operational and clean.

Apparent U.S. consumption of HEDP decreased during 2013-15. Overall, apparent U.S. consumption in 2015 was *** percent lower than in 2013.

CHANNELS OF DISTRIBUTION

*** importers of HEDP from China and nonsubject counties sold mainly to end users, as shown in table II-1.

Table II-1
HEDP: U.S. producer's and importers' U.S. commercial shipments, by sources and channels of distribution, 2013-15

* * * * * * *

GEOGRAPHIC DISTRIBUTION

*** importers reported selling HEDP to all regions in the contiguous United States (table II-2). For Compass, *** percent of sales were within 100 miles of its production facility, *** percent were between 101 and 1,000 miles, and *** percent were over 1,000 miles. Importers sold 43.9 percent within 100 miles of their U.S. point of shipment, 55.3 percent between 101 and 1,000 miles, and 0.8 percent distances greater than 1,000 miles.

Respondents Uniphos and Henan claim that Compass is "not in a position to serve major U.S. markets (because of high freight costs), and such markets are important and growing."[3]

[1] Conference transcript, pp. 11-13 (Allen). It is also used in oil and gas production, in swimming pools to prevent staining, and in cleaners. "Industrial water treatment is by far the largest application for HEDP." Conference transcript, pp. 64-65 (McCaul).

[2] Conference transcript, pp. 65-67 (McCaul).

[3] Respondent Nantong Uniphos' postconference brief, p. 3.

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

Region	U.S. producer	Importers
Northeast	***	6
Midwest	***	8
Southeast	***	7
Central Southwest	***	7
Mountain	***	5
Pacific Coast	***	6
Other[1]	***	0
All regions (except Other)	***	3
Reporting firms	1	9

[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, Compass has the ability to respond to changes in demand with *** changes in the quantity of shipments of U.S.-produced HEDP supplied to the U.S. market. The main factors contributing to this degree of responsiveness of supply are ***.

Industry capacity

Domestic capacity utilization decreased from *** percent in 2013 to *** percent in 2015. This relatively low level of capacity utilization suggests that Compass may have *** ability to increase HEDP production in response to an increase in prices.

Alternative markets

Compass' exports, as a percentage of total shipments, decreased from *** percent in 2013 to *** percent in 2015 indicating that it may have *** ability to shift shipments between the U.S. market and other markets in response to price changes.

Inventory levels

Compass' inventories declined from *** percent of U.S. shipments in 2013 to *** percent of U.S. shipments in 2015. These inventory levels suggest that it may have *** ability to respond to changes in demand with changes in the quantity shipped from inventories.

Production alternatives

Compass stated that ***. Production of other products increased from *** percent of all products produced on the same machinery in 2013 to *** percent in 2015. Since a *** share of products produced on shared equipment, compass may be able to *** increase production of HEDP in response to an increase in prices.

Supply constraints

Compass reported that its production constraints were ***. ***.

In addition, Compass explained that the shortages of phosphorus (an essential raw material) had occurred in the past because of electricity shortages in China, but the Chinese supply of electricity had increased and thus there had been no recent phosphorus shortages.[4]

Subject imports from China[5]

Based on available information, Chinese producers have the ability to respond to changes in demand with large changes in the quantity of shipments of HEDP to the U.S. market. The main factors contributing to the high degree of responsiveness of supply for Chinese producers are the availability of unused capacity, the ability to divert shipments from alternate markets, and an ability to produce alternate products.

Compass claims that Chinese production capacity has increased substantially in recent years.[6] Respondents respond that the new Chinese facilities that Compass cites have been built to offset the closure of large numbers of smaller producers[7] due to environmental regulations, such that Chinese production has actually contracted[8] or "not grown significantly."[9]

Industry capacity

During the period for which data were collected, the capacity utilization rate for Chinese producers of HEDP decreased from *** percent in 2013 to *** percent in 2015. These levels of capacity utilization indicate that Chinese producers have unused capacity with which they could increase production of HEDP in the event of a price change.

---

[4] Conference transcript, pp. 90-91 (McCaul).

[5] 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."

[6] Conference transcript, p. 22 (McCaul).

[7] Shandong Taihe lists 16 Chinese producers that shipped to the United States before 2015 but did not ship anything during 2015 or 2016. Respondent Shandong Taihe's postconference brief, p. 10.

[8] Conference transcript, p. 107 (McGrath).

[9] Respondent Nantong Uniphos' postconference brief, p. 5.

Alternative markets

Shipments of HEDP from China to markets other than the United States decreased from approximately *** percent of total shipments in 2013 to *** percent in 2015. Available data indicate that subject producers in China have the ability to divert shipments to or from their home markets and alternative markets in response to changes in the price of HEDP.

Inventory levels

Chinese producers' inventories increased from *** percent of total shiments in 2013 to *** percent in 2015. These data indicate that Chinese producers have a limited ability to use inventories as a means of increasing shipments of HEDP to the U.S. market.

Production alternatives

All four responding subject Chinese producers indicated that they produce products other than HEDP on the same equipment and machinery used in the production of HEDP. Other products listed included ***. The share of production of these other products increased from *** percent of production on the same equipment to *** percent. Since most of the product produced on the shared equipment is not HEDP, Chinese producers may be able to substantially increase HEDP production at the expense of the other products if HEDP prices increase.

Supply constraints

Chinese producers' reported supply constraints include equipment capacity, supply of power, time required for maintenance, and public holidays.

Nonsubject imports

The largest sources of nonsubject imports during 2013-15 were India and the United Kingdom.[10] Combined, these countries were estimated by Shandong Taihe to account for *** percent[11] of nonsubject imports in 2015.

[10] As previously discussed, imports of HEDP from India were subject to an antidumping duty order from April 2009 to April 2014.

[11] Respondent Shandong Taihe's postconference brief, p. 3. Petitioner did not estimate nonsubject sources by country.

U.S. demand

Based on the available information, it is likely that changes in the price level of HEDP will result in a small change in the quantity of HEDP demanded. The main factors contributing to the small degree of responsiveness of demand are the limited availability of substitute products and the low cost share of HEDP in most of its end uses.

End uses

HEDP is used in water treatment applications such as boiler water treatment, municipal water treatment, desalination, and swimming pool applications; industrial and institutional detergents and cleaners; peroxide bleach stabilization; and personal care products such as bar soaps and shampoos in which HEDP is used a preservative. Its single largest application is industrial water treatment.[12]

Cost share

The reported cost share of HEDP is low for most end uses. Compass indicated that HEDP as share of total costs ranged from *** percent to *** percent of the cost industrial water treatment, chemical distribution, industrial and institutional use, recreational water, oil and gas production, agriculture, and other end uses.[13] Importers reported HEDP was 2 to 32 percent of the cost of various applications including: water treatment (3-32 percent with most importers (3 of 5) estimating cost shares of 3 to 5 percent); oil and gas, (5 percent); and cleaners (5 percent).[14]

Business cycles

Compass reported that the HEDP market ***, but also stated that "the phosphonate business is somewhat cyclical," as more is used in warmer weather.[15] Three of 10 responding importers reported that the U.S. market was subject to business cycles or other distinctive conditions of competition. Two reported business cycles related to increased use in warmer months for cooling systems. Two reported other distinctive conditions of competition including the importance of delivery response time for some customers and increased use by power plants during summer and fall in their cooling systems. One importer reported changes in conditions of competition since 2013; it reported an increase in the level of competition.

---

[12] Investigation 731-TA-1146-1147 (Final): *HEDP from China and India Staff report INV GG -022 March 24, 2009*.

[13] ***, email message to USITC staff, April 27, 2016.

[14] Some importers also reported HEDP cost in water treatment and "trading" to be 100 percent; these responses are not included in these estimates.

[15] Conference transcript, p. 90 (McCaul).

Demand trends

*** indicated that demand for HEDP in the United States has increased since January 1, 2013 due to growth in water treatment and other industries that use HEDP (table II-3). All responding importers reported that demand was either unchanged (4) or had decreased (3). Compass indicated that purchasers are increasingly favoring HEDP over ATMP (aninotris(methylenephosphonic acid)).[16] One importer cited a move away from phosphorous compounds for the decrease in HEDP demand.[17]

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

Item	Increase	No change	Decrease	Fluctuate
Demand in the United States				
U.S. producers	***	***	***	***
Importers	0	4	3	0
Demand outside the United States				
U.S. producers	***	***	***	***
Importers	0	1	2	0

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

*** importers indicated a decrease or no change in demand outside the United States. One importer reported that demand outside the United States had decreased because there has been a "move away from phosphorous compounds."

Respondents explain that world demand for HEDP is increasing as it is used to replace non-biodegradable chemicals and as new applications grow. Respondents also claim that demand is also growing in China because of its economic growth.[18]

Substitute products

Compass reported that ***. It reported that a number of phosphonates could be used as substitutes in some applications and that HEDP represented 30 to 40 percent of the overall phosphonate consumption in North America.[19] Compass explained that there is a range of phosphonates and the best one to use depends on the conditions. ATMP is commonly used but is not effective if chlorine is present. In the oil industry, typically amino phosphonate is used to help separate the oil and water but other phosphonates work better in some situations. Compass claimed that "if we raised the price of HEDP drastically, people should start using a

[16] ATMP is another phosphonic acid that can be used in chelating.

[17] One importer responded for its sales of HEDP rather than overall HEDP demand. This importer's sales had fallen because other importers had reduced their price of Chinese HEDP.

[18] Respondent Nantong Uniphos' postconference brief, p. 6.

[19] Conference transcript, p. 25 (McCaul).

different product."[20] Respondents stated that BPTC (Biphenylteracarboxylic Acid) would be an alternative if the price of HEDP increased.[21]

Four of eight responding importers indicated that there were some substitutes for HEDP. Substitutes named were other phosphonates chemicals including ATMP, PBTC, and dispersant polymers containing HEDP. These importers reported that these substitutes were used for scale control or in industrial water. *** reported that PBTC performs better than HEDP and that HEDP performs better than ATMP.

SUBSTITUTABILITY ISSUES

The degree of substitution between domestic and imported HEDP 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, product services, etc.). Based on available data, staff believes that there is a high degree of substitutability between domestically produced HEDP and HEDP imported from China.

Lead times

HEDP is primarily sold from inventory. Compass reported that *** percent of its commercial shipments were from inventories, with lead times averaging *** days. The remaining *** percent of its commercial shipments were produced-to-order, with lead times averaging *** days. Importers reported that 94.4 percent of their commercial shipments were from U.S. inventories, with lead times averaging 3 to 4 days, *** percent of sales were from inventories in China, with lead times averaging *** days, and *** percent were produced to order with average lead times of *** days.

Factors affecting purchasing decisions

Purchasers[22] were asked to identify the main three purchasing factors their firm considered in its purchasing decisions for HEDP. Five purchasers identified major purchasing factors.[23] The major purchasing factors identified by firms include price (4 firms), quality and reliability (2 firms each), and availability, lead time, U.S. inventories, services, product range, and global sourcing (1 firm each).[24]

---

[20] Conference transcript, pp. 69-70 (McCaul).

[21] Conference transcript, p. 148 (McGrath).

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

[23] One purchaser reported only two factors.

[24] Purchasers were also asked to identify factors beyond their top three factors. Two purchasers reported a number of additional factors including: quality (both firms), responsiveness, compliance,

(*continued*...)

Comparison of U.S.-produced and imported HEDP

Compass reports that imported and U.S. produced HEDP in 60-percent aqueous solutions can be comingled and sold as the same product.[25] Enviro Tech explained that it used HEDP in EPA and FDA registered products, which is a high purity HEDP from China, and that this high-purity grade HEDP is not available from U.S. producers. Enviro Tech asserts that Chinese high-purity HEDP and U.S. technical-grade HEDP are not fully interchangeable.[26] Enviro Tech claims that the high purity HEDP is important because its use created much more stable products.[27] Enviro Tech stated that it did not comingle HEDP from different vendors because if there is a problem, its source is unclear.[28]

In order to determine whether U.S.-produced HEDP 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, Compass reported that ***. Half or more responding importers reported that U.S. HEDP was frequently interchangeable with HEDP from other countries. One importer reported differences that could affect applications, reporting that the U.S. HEDP is inferior to Indian and Chinese HEDP because U.S. HEDP often has problems with color and clarity.

Table II-4
HEDP: Interchangeability between HEDP produced in the United States and in other countries, by country pair

Country pair	Number of U.S. producers reporting				Number of U.S. importers reporting			
	A	F	S	N	A	F	S	N
U.S. vs. subject countries: U.S. vs. China	***	***	***	***	2	4	2	0
Nonsubject countries comparisons: U.S. vs. United Kingdom	***	***	***	***	1	2	0	0
U.S. vs. other nonsubject	***	***	***	***	1	3	1	0
China vs. United Kingdom	***	***	***	***	1	2	0	0
China vs. other nonsubject	***	***	***	***	1	3	0	0
United Kingdom vs. other nonsubject	***	***	***	***	1	3	0	0

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

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

(…*continued*)
payment terms, maintaining sourcing alternatives, delivery performance, sustainable supplier, and prices (1 firm each).

[25] Conference transcript, p. 15 (Allen).
[26] Conference transcript, pp. 109-111 (Bankosky).
[27] Conference transcript, pp. 119-120 (Bankosky).
[28] Conference transcript, p. 121 (Bankosky).

In addition, the producer and importers were asked to assess how often differences other than price were significant in sales of HEDP from the United States, China, or nonsubject countries. As seen in table II-5, ***, and half or more importers reported there were sometimes differences other than price for every country pair listed. Two importers detailed differences. One reported that it offered inventories, favorable freight rates, quality customer service, and quick response time. The other reported that U.S. product was inferior in color and clarity to product from China and India.

Table II-5
HEDP: Significance of differences other than price between HEDP produced in the United States and in other countries, by country pair

Country pair	Number of U.S. producers reporting				Number of U.S. importers reporting			
	A	F	S	N	A	F	S	N
U.S. vs. subject countries:								
U.S. vs. China	***	***	***	***	2	1	4	1
Nonsubject countries comparisons:								
U.S. vs. United Kingdom	***	***	***	***	1	0	2	0
U.S. vs. other nonsubject	***	***	***	***	1	1	4	0
China vs. United Kingdom	***	***	***	***	0	0	3	0
China vs. other nonsubject	***	***	***	***	0	1	4	1
United Kingdom vs. other nonsubject	***	***	***	***	0	0	3	1

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

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

PART III: U.S. PRODUCER'S PRODUCTION, SHIPMENTS, AND EMPLOYMENT

The Commission analyzes a number of factors in making injury determinations (see 19 U.S.C. §§ 1677(7)(B) and 1677(7)(C)). Information on the subsidies and dumping margins was presented in *Part I* of this report and information on the volume and pricing of imports of the subject merchandise is presented in *Part IV* and *Part V*. Information on the other factors specified is presented in this section and/or *Part VI* and (except as noted) is based on the questionnaire responses of one firm, Compass, that accounted for 100 percent U.S. production of HEDP during 2013-15.

U.S. PRODUCER

Compass was formed in 1999 and is the sole producer of HEDP in the United States.[1] Compass produces HEDP at its plant in Smyrna, GA, which it purchased from Lynx Chemical Group ("Lynx") in July 2006.[2] At the time that it acquired the Smyrna, GA facility, Compass was solely an importer of HEDP. Compass began producing HEDP in 2006, but continued to import HEDP from China through the fourth quarter of 2007.[3]

Prior to Compass' acquisition of the Smyrna, GA facility, HEDP had been produced at the plant using a process that began with phosphorus trichloride (PCL_3) that was used to make phosphorous acid, which was then reacted with acetic anhydride. Towards the end of 2006, Compass made the decision to change its production method and begin with phosphorous acid instead of phosphorus trichloride.[4] [5] Based on testimony at the staff conference, the cost of the

[1] Compass was acquired by One Rock Capital Partners, a private equity group based in New York City, in March 2015. Conference transcript, p. 19 (McCaul).

[2] HEDP has been produced at the Smyrna, GA facility since the 1980s. Conference transcript, p. 14 (Allen). Lynx owned and operated the Smyrna, GA facility from 2003 through June 2006. During that period, Lynx ***. ***. Petition, pp. 3-4.

[3] Petition, p. 4. Compass reported that it ***.

[4] According to Compass' current method, phosphorous acid is then reacted with acetic anhydride to produce HEDP. Petition, p. 6.

[5] In the prior investigations, it was reported that China accounted for 70 to 80 percent of global capacity to convert phosphorus ore into elemental phosphorus, the raw material used in the production of HEDP. Although events in China significantly disrupted the HEDP market in the prior investigations; parties reported no such supply disruptions in the current period of investigation. *1-Hydroxyethylidene-1, 1-Diphosphonic Acid (HEDP) from China and India, Investigation Nos. 731-TA-1146-1147 (Final),* Publication 4072, April 2009, p. 13. Other sources of phosphorus outside the United States include Kazakhstan and Morocco. Monsanto is the only firm in the United States that mines and produces phosphorus, which the firm internally consumes to produce glyphosate, an herbicide. Conference transcript, pp. 49-50 (McCaul).

raw materials and the byproducts produced were important considerations in Compass' decision to alter its production process. [6]

Compass also operates a facility in Huntsville, TX, which produces 70 percent phosphorous acid (from crystal), a raw material used to manufacture other phosphonates, but not HEDP. The Huntsville plant also serves as a blending facility and has a large warehouse where manufactured products from the Smyrna plant can be stored and distributed. [7] Table III-1 lists Compass' production location, position on the petition, total production, and shares of total production.

Table III-1
HEDP: U.S. producer of HEDP, its positions on the petition, production location, production, and share of reported production, 2015

Firm	Position on petition	Production location	Share of production (*percent*)
Compass	Support (petitioner)	Smyrna, GA	100.0
Total			100.0

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 Compass' production, capacity, and capacity utilization. Compass' capacity *** from 2013 to 2014 by *** percent and *** from 2014 to 2015. Compass' *** production capacity was a result of process improvements, which reduced HEDP production cycle times. No additional production resources or capital investments were utilized.[8] Total U.S. production of HEDP *** percent from *** pounds to *** pounds from 2013 to 2014 and *** percent from 2014 to 2015, resulting in an overall *** percent from 2013 to 2015. Capacity utilization *** percentage points, which is attributable to *** from 2013 to 2015.

[6] In addition to its higher cost, Compass noted that phosphorus trichloride is more difficult to handle. Conference transcript, p. 14 (Allen). Compass officials also stated that beginning the production process with phosphorus trichloride yields hydrochloric acid as a byproduct (rather than acetic acid, the byproduct of a production process that begins with phosphorous acid, and which Compass sells). Conference transcript, pp. 47-49 (McCaul). Compass stated that without revenue from its sales of acetic acid, its HEDP business would be operating at a significant loss and could not be sustained. Compass officials stated that if the price of hydrochloric acid were higher, it might reconsider its production method. Conference transcript, pp. 24-25 and 47-49 (McCaul).

[7] Petition, p. 3. Conference transcript, p. 19 (McCaul).

[8] Petitioner's postconference brief, p. 17 at fn. 29.

Table III-2
HEDP: U.S. producer's production, capacity, and capacity utilization, 2013-15

* * * * * * *

Figure III-1
HEDP: U.S. producer's production, capacity, and capacity utilization, 2013-15

* * * * * * *

Potential product shifting in U.S. production facilities

Compass produces a range of phosphonates at the Smyrna, GA facility; however, HEDP accounts for its largest volume of its production of phosphonates.[9] Table III-3 presents overall U.S. capacity and production on manufacturing equipment used to produce HEDP. As noted earlier, acetic acid is a byproduct produced in the production of HEDP. Compass stated that because it can sell the byproduct, it is able to deduct the value of the byproduct from the raw material cost; however, if the price of HEDP and the byproduct declines, then eventually the product line would not be sustainable.[10]

Table III-3
HEDP: U.S. producer's overall capacity and production on the same equipment as subject product, 2013-2015

* * * * * * *

When asked to describe the factors that affect its ability to shift production capacity between products (e.g., time, cost, relative price change, etc.), and the degree to which these factors enhance or constrain such shifts, Compass reported that ***. Compass added that ***.

U.S. PRODUCER'S U.S. SHIPMENTS AND EXPORTS

As presented in table III-4, the quantity of Compass' U.S. shipments of HEDP decreased by *** percent from 2013 to 2015, while the value of U.S. shipments decreased by *** percent during the same period. Average unit values for U.S. commercial shipments increased from $*** per pound in 2013 to $*** per pound in 2014 before decreasing to $*** per pound in 2015.

[9] Compass noted that it is the only full line producer of phosphonates in the United States. Conference transcript, p. 17 (Allen). Other phosphonates produced by Compass on the same manufacturing equipment used to produce HEDP include: ***.

[10] Compass added that it has ***. Petitioner's postconference brief, exh. 7.

The quantity of export shipments of HEDP decreased by *** percent from 2013 to 2015, while the value of export shipments of HEDP increased by *** percent from 2013 to 2015. Average unit values for export shipments increased from $*** per pound in 2013 to $*** per pound in 2015. Compass reported exports to ***. Compass ***.[11]

Table III-4
HEDP: U.S. producer's U.S. shipments, exports shipments, and total shipments, 2013-15

* * * * * * *

U.S. PRODUCER'S INVENTORIES

Table III-5 presents the U.S. producer's end-of-period inventories and the ratio of these inventories to its production, U.S. shipments, and total shipments. Inventories increased by *** percent from 2013 to 2014 before decreasing by *** percent from 2014 to 2015. Overall inventories decreased by *** percent from 2013 to 2015. Petitioner stated that *** pounds of inventory at the end of every year, inventories were ***.[12]

Table III-5
HEDP: U.S. producer's inventories, 2013-15

* * * * * * *

U.S. EMPLOYMENT, WAGES, AND PRODUCTIVITY

Table III-6 shows the U.S. producer's employment-related data.[13] The average number of production related workers, hours worked, and wages paid ***.

Table III-6
HEDP: Average number of production and related workers, hours worked, wages paid to such employees, hourly wages, productivity, and unit labor costs, 2013-15

* * * * * * *

[11] ***, email message to USITC staff, April 26, 2016.

[12] ***, email message to USITC staff, May 2, 2016.

[13] At the staff conference, counsel for Compass explained that employment data provided in the prior investigations were overstated. For instance, in the terminal year of the prior investigation (2007), the average number of production related workers reported by Compass totaled *** and wages paid totaled $***. Counsel stated that rather than trying to reconcile employment numbers from the prior investigation with those provided in the current investigation, Compass focused on getting the employment data for the current period of investigation. Counsel stated that the current employment data provided Compass have been reviewed and checked. Conference transcript, pp. 62-63 (Levin).

PART IV: U.S. IMPORTS, APPARENT U.S. CONSUMPTION,

AND MARKET SHARES

U.S. IMPORTERS

The Commission issued importer questionnaires to 15 firms believed to be importers of HEDP. Usable questionnaire responses were received from 10 firms.[1] Table IV-1 lists all responding U.S. importers of HEDP from China and other sources, their locations, and their shares of U.S. imports, in 2015.

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

Firm	Headquarters	Share of imports by source (percent)		
		China	All other sources	Total imports
Brenntag North America Inc.[1]	Reading, PA	***	***	***
BWA Water Additives US LLC[2]	Tucker, GA	***	***	***
Penn Chemicals Incorporated	Bensalem, PA	***	***	***
SDA Chemicals, Inc.	Garden Grove, CA	***	***	***
Taico Inc.[3]	Cherry Hill, NJ	***	***	***
Uniphos, Inc.[4]	Oak Park, IL	***	***	***
Univar USA Inc.[5]	Downers Grove, IL	***	***	***
Wego Chemical Corp.[6]	Great Neck, NY	***	***	***
Zibex, Inc.	Duluth, GA	***	***	***
Zschimmer & Schwarz, Inc.[7]	Milledgeville, GA	***	***	***
Total		100.0	100.0	100.0

[1] Brenntag is ***.
[2] BWA Water Additives is ***.
[3] Taico is ***.
[4] Uniphos is ***.
[5] Univar is ***.
[6] Wego is ***.
[7] Zschimmer & Schwarz is ***.

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

[1] The Commission issued questionnaires to all firms identified in the petition as importers of HEDP. The Commission received responses from *** that certified that they had not imported HEDP since January 1, 2013. U.S. import and apparent U.S. consumption data presented in Part IV is understated due to less than comprehensive coverage of U.S. imports from nonsubject sources.

U.S. IMPORTS

Table IV-2 and figure IV-1 present data for U.S. imports of HEDP from China and all other sources. U.S. import data are based on questionnaire responses. U.S. imports from nonsubject sources are understated due to less than comprehensive coverage from U.S. importers' questionnaire responses. The quantity of U.S. imports of HEDP from China increased by *** percent from 2013 to 2014 before decreasing by *** percent in 2015, resulting in an overall increase of *** percent from 2013 to 2015. The value of U.S. imports from HEDP from China followed a similar trend, increasing by *** percent from 2013 to 2014, before decreasing by *** percent in 2015, resulting in an overall increase of *** percent between 2013 and 2015. Unit values of U.S. imports of HEDP from China decreased from $*** per pound in 2013 to $*** per pound in 2015. Unit values of HEDP imported from all other sources (primarily India and the United Kingdom), increased from $*** per pound in 2013 to $*** per pound in 2015. U.S. imports of HEDP from China as a ratio of U.S. production increased from *** percent to *** percent from 2013 to 2015.

Table IV-2
HEDP: U.S. imports by source, 2013-15

* * * * * * *

Figure IV-1
HEDP: U.S. import volumes and average unit values, 2013-15

* * * * * * *

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

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

imports from such countries are deemed not to be negligible.[3] Based on questionnaire responses, U.S. imports from China accounted for *** percent of total imports of HEDP in 2015.[4]

APPARENT U.S. CONSUMPTION

Table IV-3 presents data on apparent U.S. consumption and U.S. market shares for HEDP. Apparent U.S. consumption, based on quantity, decreased by *** percent from 2013 to 2015. On a value basis, apparent U.S. consumption decreased by *** percentage points from 2013 to 2015.

Table IV-3
HEDP: Apparent U.S. consumption and market share, 2013-15

* * * * * * *

Figure IV-2
HEDP: Apparent U.S. consumption, 2013-15

* * * * * * *

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

[4] Based on PIERS data provided by the Petitioner, U.S. imports from China accounted for *** percent of total imports of HEDP from April 2015 to March 2016. ***, email message to USITC staff, April 28, 2016. Based on DataMyne information provided by Respondent Shandong Taihe, U.S. imports from China accounted for *** percent of total imports of HEDP from April 2015 to April 2016. ***, email message to USITC staff, April 27, 2016.

PART V: PRICING DATA

FACTORS AFFECTING PRICES

Raw material costs

The principal raw materials used for producing HEDP in the United States are acetic anhydride and phosphorous acid. Raw materials accounted for between *** percent and *** percent of gross cost of goods sold (total cost of goods sold prior to byproduct credit) for the U.S. producer of HEDP over the period for which data were collected (see table VI-1). Compass indicated that annual average raw material costs increased in 2013 and 2014 but decreased in 2015. See part VI for a further discussion on raw material costs.

U.S. inland transportation costs

Compass reported that *** transportation to its customers; its U.S. inland transportation cost was *** percent. Seven of nine responding importers reported that they typically arrange transportation to their customers and that their U.S. inland transportation costs ranged from 2 to 39 percent, with five of the eight responding importers reporting shipping costs between 2 and 5 percent.

PRICING PRACTICES

Pricing methods

Compass reported that it sold HEDP using *** (table V-1). Five importers reported using transaction-by-transaction negotiations, two reported price lists, and two reported other methods including prices were based on market conditions and bidding against documents and HEDP prices fluctuated with raw material costs.

Table V-1
HEDP: U.S. producer and importers' reported price setting methods, by number of responding firms[1]

Method	U.S. producers	Importers
Transaction-by-transaction	***	5
Contract	***	0
Set price list	***	2
Other	***	2

[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.

Compass reported selling *** of its HEDP *** (table V-2). Importers reported selling the *** of their HEDP in spot sales; they also sold under short-term and annual contracts.

Table V-2
HEDP: U.S. producer's and importers' shares of U.S. commercial shipments, by type of sale, 2015

* * * * * * *

Sales terms and discounts

Compass typically quotes prices on an f.o.b. basis, with ***, and selling terms of ***. Six of nine responding importers reported selling on a delivered basis, and three reported f.o.b. sales. Seven of the nine responding importers reported no discounts, one reported quantity discounts, and one reported a ***. Eight of 10 responding importers reported sales terms of net 30 days. One of these importers also sold net 90 days, and one importer sold net 45 days.

PRICE DATA

The Commission requested the U.S. producer and importers to provide quarterly data for the total quantity and f.o.b. value of the following HEDP products shipped to unrelated U.S. customers during 2013-15.

Product 1.-- All grades of aqueous HEDP typically at 60% concentration (whether referred to as "HEDP" or "1-hydroxyethylidene-1, 1-diphosphonic acid," "hydroxethlylidenendiphosphonic acid," "hydroxyethanediphosphonic acid," "acetodiphosphosphonic acid," "etidronic acid," or substantially similar names) sold in bulk containers (e.g., ISO containers, bulk tank cars, or rail cars).

Product 2.-- All grades of aqueous HEDP typically at 60% concentration (whether referred to as "HEDP" or "1-hydroxyethylidene-1, 1-diphosphonic acid," "hydroxethlylidenendiphosphonic acid," "hydroxyethanediphosphonic acid," "acetodiphosphosphonic acid," "etidronic acid," or substantially similar names) sold in drums.

Product 3.-- All grades of aqueous HEDP typically at 60% concentration (whether referred to as "HEDP" or "1-hydroxyethylidene-1, 1-diphosphonic acid," "hydroxethlylidenendiphosphonic acid," "hydroxyethanediphosphonic acid," "acetodiphosphosphonic acid," "etidronic acid," or substantially similar names) sold in intermediate bulk containers (IBSs).

Compass and eight importers[1] 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 Compass accounted for *** percent of Compass' U.S. shipments of HEDP and over 100 percent of U.S. shipments of subject imports from China in 2015.[3]

Price data for products 1-3 are presented in tables V-3 to V-5 and figures V-1 to V-3. No nonsubject country price data were reported.

Table V-3
HEDP: Weighted-average f.o.b. prices and quantities of domestic and imported product 1[1] and margins of underselling/(overselling), by quarter, 2013-15

* * * * * * *

Table V-4
HEDP: Weighted-average f.o.b. prices and quantities of domestic and imported product 2[1] and margins of underselling/(overselling), by quarter, 2013-15

* * * * * * *

Table V-5
HEDP: Weighted-average f.o.b. prices and quantities of domestic and imported product 3[1] and margins of underselling/(overselling), by quarter, 2013-15

* * * * * * *

Figure V-1
HEDP: Weighted-average prices and quantities of domestic and imported product 1, by quarter, 2013-15

* * * * * * *

Figure V-2
HEDP: Weighted-average prices and quantities of domestic and imported product 2, by quarter, 2013-15

* * * * * * *

Figure V-3
HEDP: Weighted-average prices and quantities of domestic and imported product 3, by quarter, 2013-15

* * * * * * *

---

[1] ***. Thus the pricing data in 2015 reflects ***.

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

[3] Chinese coverage was much lower in 2013 and 2014, in part because ***.

Price trends

Prices decreased during 2013-15. Table V-6 summarizes the price trends, by country and by product. As shown in the table, domestic price decreases during 2013-15 ranged from *** percent, while import price decreases ranged from *** percent.

Table V-6
HEDP: Summary of weighted-average f.o.b. prices for products 1-3 from the United States and China

* * * * * * *

Price comparisons

As shown in table V-7, prices for HEDP imported from China were below those for U.S.-produced HEDP in 14 of 36 instances (***); margins of underselling ranged from 0.6 to 16.3 percent. In the remaining 22 instances (***), prices for HEDP from China were between 0.7 and 116.4 percent above prices for domestic HEDP. Thus, while there were nearly twice as many quarters in which the average price of HEDP imported from China was higher than that of U.S.-produced HEDP, more than twice as many pounds were sold in cases of underselling than in cases of overselling. There was only one instance of underselling for product 1, product 2 undersold in 8 of 12 quarters, and product 3 undersold in 5 of 12 quarters. The number of instances of underselling increased from 2 of 12 instances in 2013 to 3 of 12 instances in 2014, and then to 9 of 12 instances in 2015 (table V-8).

Table V-7
HEDP: Instances of underselling/overselling and the range and average of margins, from China, 2013-15

	Number of quarters	Quantity (pounds)	Average margin (percent)	Margin range (percent)	
				Min	Max
Underselling	14	***	9.0	0.6	16.3
(Overselling)	22	***	(31.1)	(0.7)	(116.4)

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

Table V-8
HEDP: Instances of underselling/overselling and the range and average of margins, from China, by year, 2013-15

Year	Number of quarters		Underselling Margins			Overselling Margins		
	Under	Over	Average	Min	Max	Average	Min	Max
2013	2	10	1.4	0.6	2.1	(44.4)	(0.7)	(116.4)
2014	3	9	11.8	4.0	16.3	(25.1)	(1.3)	(70.8)
2015	9	3	9.7	1.0	15.5	(4.9)	(2.3)	(8.6)
Total	14	22	9.0	0.6	16.3	(31.1)	(0.7)	(116.4)

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

LOST SALES AND LOST REVENUE

Compass reported that it had *** due to imported HEDP from China and provided ***. It identified seven firms where it lost sales or revenue (***). ***. ***.

Staff contacted seven purchasers and received responses from five purchasers. Responding purchasers reported purchasing *** pounds of HEDP during 2013-15 and *** pounds in 2015 (table V-9). During 2015, purchasers purchased 57.6 percent from the U.S. producer, 29.0 percent from imports of HEDP from China, 13.1 percent from nonsubject countries, and 0.3 percent from "unknown source" countries.[4] Regarding purchase from domestic producers, one purchaser reported no change in its domestic purchases, three reported fluctuating purchases from domestic sources,[5] and one did not purchase any domestic product. Explanations for fluctuations in purchases of domestic product included: competitiveness; bids; and one purchaser reported it had "***."

Of the five responding purchasers, four reported that they had shifted purchases of HEDP from the U.S. producer to subject imports since 2013.[6] Three reported that the import price was lower but all three reported that price was not the primary reason for the shift. Reasons these purchasers reported for the change include: price was one of many factors it considered and it wanted *** (table V-10).

Table V-9
HEDP: Purchasers' responses to purchasing patterns

* * * * * * *

Table V-10
HEDP: Purchasers' responses to shifting supply sources

* * * * * * *

Of the four responding purchasers, one reported that the U.S. producer had reduced prices in order to compete with lower-priced imports from China, two reported that U.S. producers did not reduce prices, and one reported that it did not know (table V-11). The purchaser that reported a domestic price reduction estimated it to be *** percent.

Table V-11
HEDP: 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. ***.

---

[4] Of the five responding purchasers, three reported purchasing from unknown sources during 2013-15.

[5] One purchaser reported that it ***.

[6] Purchaser *** responded ***.

PART VI: FINANCIAL EXPERIENCE OF U.S. PRODUCERS

BACKGROUND

The U.S. industry's HEDP financial results presented in this section of the report reflect a single U.S. producer, Compass.[1] In March 2015, Compass was purchased by an investment group, One Rock Capital Partners.[2] As described by the company, ***.[3]

Changes in Compass' HEDP capacity, as noted in a previous section of this report, had little to no impact on the cost of HEDP.[4] Consistent with ***, the company also reported no curtailments or production disruptions related to HEDP operations during 2013-15.[5]

OPERATIONS ON HEDP

Income-and-loss data for the U.S. producer's HEDP operations are presented in table VI-1. Table VI-2 presents a variance analysis of these financial results.[6]

Table VI-1
HEDP: Results of operations of U.S. producer, 2013-15

* * * * * * *

[1] Compass reported its HEDP financial results on the basis of generally accepted accounting principles (GAAP) for calendar-year periods. With regard to how the company routinely monitors HEDP financial results, a company official noted that "{w}e look at all the product that we produce, and look at the sales dollars, the margins, the contribution . . . that products bring to the bottom line. So HEDP, although it is one of a group of phosphonates, we do look at it as an individual product line and look at the contribution that it brings." Conference transcript, pp. 77-78 (McCaul).

[2] Conference transcript, p. 19 (McCaul).

[3] April 26, 2016 e-mail with attachment from counsel on behalf of Compass to USITC auditor.

[4] Conference transcript, pp. 74-75 (Allen).

[5] Conference transcript, p. 77 (McCaul).

[6] The Commission's variance analysis is calculated in three parts: sales variance, cost of goods sold (COGS) variance, and SG&A expenses 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 expenses 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. As summarized at the bottom of table VI-2, the price variance is from sales, the cost/expense variance is the sum of those items from the COGS and SG&A variances, respectively, and the volume variance is the sum of the volume components of the net sales, COGS, and SG&A expenses variances. In general, the utility of the Commission's variance analysis is enhanced when product mix remains the same throughout the period.

Table VI-2
HEDP: Variance analysis of financial results of U.S. producer, 2013-15

* * * * * * *

Revenue

HEDP revenue reflects ***.[7] From a marketing perspective HEDP reportedly plays an important role in terms of allowing Compass to offer a full range of phosphonates to its customers.[8]

Quantity

As shown in the revenue section of the variance analysis (table VI-2), price variances (positive (2013-14) and then negative (2014-15)) had a more pronounced impact on HEDP revenue as compared to corresponding volume variances which were negative throughout the period. As shown in table VI-1, sales volume declined by the largest absolute amount in 2015 (***).

Value

Average HEDP sales value increased to its highest level in 2014 and then declined to its lowest level in 2015. As described by a company official, while HEDP pricing does not contain a specific pass through mechanism or pricing formula for changes in primary input costs "{t}here is an expectation from customers that as we might achieve lower costs . . . we would be expected to adjust our pricing accordingly."[9] Directionally, the pattern of *** in average sales value (2014) and *** (2015) was the same as corresponding average raw material cost. As indicated in the *Cost of Goods Sold* section below, the only notable change in HEDP input costs was the 2015 decline in the cost of phosphorous acid.

Cost of goods sold

Raw material cost, representing phosphorous acid crystal (PAC) and acetic anhydride, is the single largest component of HEDP COGS.[10] On a gross basis (i.e., prior to byproduct deduction), total raw material cost ranged from *** of COGS. As shown in table VI-1, average raw material cost increased somewhat in 2014 and then declined to its lowest level in 2015.[11]

---

[7] ***. April 26, 2016 e-mail with attachment from counsel on behalf of Compass to USITC auditor.

[8] Conference transcript, pp. 17-18 (Allen), p. 20, p. 26 (McCaul).

[9] Conference transcript, p. 75 (McCaul).

[10] The normal value calculation included in the petition indicates that ***. Petition, exhibit II-12. Compass' production process reacts phosphorous acid and acetic anhydride to produce the main product HEDP and also generates byproduct acetic acid. Conference transcript, pp. 13-14 (Allen).

[11] According to a company official, the cost of acetic anhydride was relatively stable throughout the period examined while the cost of phosphorous acid declined during 2015. The 2015 decline in the cost

(*continued*...)

HEDP is Compass' largest volume phosphonate product and plays an important component in terms of absorbing a share of plant fixed costs.[12] As shown in table VI-1, other factory costs and direct labor accounted for *** and ***, respectively, of total gross COGS. Average per pound direct labor and other factory costs remained within a relatively narrow range during 2013-15.

As noted previously, the production of HEDP yields a byproduct (acetic acid) which the company sells commercially.[13] As shown in table VI-1, average byproduct revenue was at its highest level in 2013 and declined throughout the period.[14]

Gross profit

Total HEDP gross profit and corresponding gross profit ratios (total gross profit divided by total revenue) declined throughout the period. As shown in table VI-1 and with respect to the decline in gross profit ratio, individual cost items (raw material cost, direct labor, and other factory costs) as a ratio to sales value remained within a relatively narrow range during 2013-15. In contrast, the byproduct credit declined (see *Ratio to net sales* section of table VI-1).[15] While lower sales volume contributed to the decline in total gross profit, the contraction in gross profit ratio was the primary factor (see table VI-2).

SG&A expenses and operating income or loss

With respect to its overall operations, Compass primarily sells directly to customers using its own sales force with a smaller share of sales made to distributors.[16] Table VI-1 shows that total SG&A expenses and SG&A expense ratios (total SG&A expenses divided by total revenue) declined somewhat during the period. The lower SG&A expense ratio in 2014 offset the corresponding decline in gross profit which in turn resulted in marginally higher operating

---

(…*continued*)
of phosphorous acid was reportedly the only significant change in HEDP input costs during 2013-15. Conference transcript, p. 73 (McCaul).

[12] Conference transcript, pp. 25-26 (McCaul).

[13] The distinction between joint products, also called main products, and byproducts is largely dependent on the market value of the products in question and their contribution to overall revenue. As such, a product's designation as a byproduct or a main product can change over time given market conditions. For cost accounting purposes the market value of a byproduct is generally treated as a deduction to arrive at the cost of the main product. *Cost Accounting: Using a Cost Management Approach*, L. Gayle Rayburn, Irwin, 1993, pp. 258-259.

[14] ***. April 26, 2016 e-mail with attachment from counsel on behalf of Compass to USITC auditor.

[15] With regard to the importance of byproduct revenue, a company official noted at the Commission's staff conference that "{i}f we did not manufacture HEDP, we would not produce acetic acid. That of course is not the point of our being in the business of HEDP production, but considering the fact that it is only through the sale of acetic acid that we are able to see any profit from our HEDP manufacturing under current market conditions, it is as of now a rather critical element to our overall company's operations." Conference transcript, pp. 14-15 (Allen).

[16] Conference transcript, p. 75 (McCaul).

profit. Given an essentially unchanged SG&A expense ratio in 2015, lower operating profit in that year was primarily a function of reduced gross profit.

Interest expense, other expenses, and net income or loss

While table VI-1 shows that net income followed the same directional pattern as operating income, net income decreased more notably in 2015 which, in large part, reflects increases in ***. Compass confirmed that the ***.[17]

CAPITAL EXPENDITURES AND RESEARCH AND DEVELOPMENT EXPENSES

Table VI-3 presents capital expenditures and research and development (R&D) expenses related to Compass' operations on HEDP.

Table VI-3
HEDP: U.S. producer's capital expenditures and research and development (R&D) expenses, 2013-15

* * * * * * *

As shown in table VI-3, Compass reported capital expenditures *** in amounts that were generally somewhat higher compared to corresponding ***. As described by Compass, "{w}hen evaluating capital investment we look at ROI {return on investment}. When considering changing methods of production which would involve plant modifications . . . we look at ROI. When evaluating plant expansion, or replacement of major equipment, ROI is always evaluated."[18] Consistent with relatively *** levels of HEDP capital expenditures, the company described them as ***.[19]

Compass also reported R&D expenses *** which the company stated were for ***.[20]

ASSETS AND RETURN ON INVESTMENT

Table VI-4 presents data on the U.S. producer's HEDP total assets, asset turnover (sales divided by total assets), and return on assets.[21]

---

[17] ***. April 26, 2016 e-mail with attachment from counsel on behalf of Compass to USITC auditor.

[18] Petitioner's postconference brief, Exhibit 7 (response to staff questions).

[19] Compass U.S. producer questionnaire, response to III-13 (note 1).

[20] Compass U.S. producer questionnaire, response to III-13 (note 2).

[21] With respect to a company's overall operations, staff notes that a total asset value (i.e., the bottom line value on the asset side of a company's balance sheet) reflects an aggregation of a number of assets which, in many instances, are not product specific. Since Compass produces other products (HEDP represents *** percent of total sales in 2015), high-level allocation factors were likely necessary

(*continued*...)

Table VI-4
HEDP: U.S. producer's total assets, asset turnover, and return on assets, 2013-15

* * * * * * *

CAPITAL AND INVESTMENT

The Commission requested the U.S. producer of HEDP to describe any actual or potential negative effects on its return on investment or its growth, investment, ability to raise capital, existing development and production efforts (including efforts to develop a derivative or more advanced version of the product), or the scale of capital investments as a result of imports of HEDP from China. Table VI-5 tabulates Compass' responses regarding actual negative effects on investment, growth and development, as well as anticipated negative effects. Table VI-6 presents Compass' narrative responses regarding actual and anticipated negative effects on investment, growth and development.

Table VI-5
HEDP: Negative effects of imports from subject sources on investment, growth, and development since January 1, 2013

* * * * * * *

Table VI-6
HEDP: Narrative responses of U.S. producer regarding actual and anticipated negative effects of imports from subject sources on investment, growth, and development since January 1, 2013

* * * * * * *

(…*continued*)
in order to report total asset values specific to U.S. HEDP operations. The ability to assign total asset values to a discrete product line in turn affects the accuracy of calculated asset turnover and corresponding product-specific return on assets. ***. By way of comparison and for the chemical manufacturing industry in general, 2015 asset turnover ratios ranged from a low of 0.6 in the fourth quarter to a high of 0.9 in the third quarter. Chemical Manufacturing Efficiency Information & Trends http://csimarket.com/Industry/industry_Efficiency.php?ind=101, retrieved March 22, 2016.

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. producer's 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.

THE INDUSTRY IN CHINA

The Commission issued foreign producers' or exporters' questionnaires to 13 firms which were listed in the petition and believed to produce and/or export HEDP from China.[3] The Commission received responses from the following four firms: Henan Qingshuiyuan Technology

[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."

[3] Petition, exh. I-3.

Co., Ltd. ("Henan Qingshuiyuan")[4]; Nantong Uniphos Chemicals Co., Ltd. ("Nantong Uniphos")[5]; Nanjing University of Chemical Technology Changzhou Wujin Water Quality Stabilizer Factory ("Wujin Water")[6]; and Shandong Taihe Water Treatment Technologies Co., Ltd. ("Shandong Taihe").[7] The names of these firms along with shares of production and exports to the United States (by quantity) are presented in table VII-1.

Table VII-1
HEDP: Summary data for producers in China, 2015

* * * * * * *

The Commission asked responding Chinese producers to estimate the share of their firm's total sales that were represented by sales of HEDP in 2015. Responding firms' estimates ranged from *** percent to *** percent.

The Commission asked responding Chinese producers to indicate whether they have experienced any changes in relation to the production of HEDP since January 1, 2013. One notable change that occurred during the period of investigation involved the formation of Nantong Uniphos.[8] According to Nantong Uniphos, the new entity was formed after Wujin Fine Chemical was forced to close its production facility because the town where the facility was located had grown and it was no longer appropriate for the facility to operate. The plant was acquired for purposes of commercial development and production was relocated to the new facility operating as Nantong Uniphos. Nantong Uniphos added that another factory operated by Wujin Water was located in close geographic proximity to Wujin Fine Chemical was also required to close and it stopped production in January 2016. Nantong Uniphos noted that ***.[9] Shandong Taihe ***.[10]

Two firms reported that they anticipated changes in the character of its operations or organization relating to the production of HEDP in the future. ***. ***.

---

[4] Henan Qingshuiyuan is listed on the Shenzhen Stock Exchange. Henan Qingshuiyuan ***. Respondent Nantong Uniphos' postconference brief, p. 9.

[5] Nantong Uniphos estimated that it accounted for *** percent of China's production of HEDP in 2015 and *** percent of China's exports of HEDP to the United States in 2015. Nantong Uniphos reported ***.

[6] Wujin Water estimated that it accounted for *** percent of China's production of HEDP in 2015 and *** percent of China's exports of HEDP to the United States in 2015. Wujin Water reported ***.

[7] Shandong Taihe is reportedly the largest producer of HEDP in China. Respondent Shandong Taihe's postconference brief, p. 11. The firm estimated that it accounted for *** percent of China's total production of HEDP in 2015. ***. The Commission also received a questionnaire response from Shandong Taihe Chemicals Co., ***. Shandong Taihe Chemicals Co. estimated that it accounted for *** percent of China's exports of HEDP to the United States in 2015. ***.

[8] According to Nantong Uniphos' website, the new manufacturing plant is a joint investment by Wujin Fine Chemical Factory ("Wujin Fine Chemical"), Wujin Water, and Connect Jiangyin. http://uniphos.com.cn/English/About/AboutUniphos/, retrieved April 28, 2016.

[9] Respondent Nantong Uniphos' post conference brief, p. 5. In its questionnaire response, *** ***, email message to USITC staff, April 26, 2016.

[10] ***, email message to USITC staff, May 3, 2016.

*** reported production of ***, while *** reported producing *** on the same equipment and machinery used to produce HEDP. In addition, ***. Respondent Shandong Taihe stated that it uses a production process to manufacture HEDP that begins with phosphorus trichloride and acetic acid that produces a valuable and high-margin co-product called acetyl chloride, which is used in pesticides and in the production of intermediates for active pharmaceutical ingredients.[11] Table VII-2 shows Chinese producers' overall capacity and production on the same equipment used to produce HEDP.

Table VII-2
HEDP: Chinese producers' overall capacity and production on the same equipment as subject production, 2013-15

* * * * * * *

Table VII-3 presents production and shipments data for responding producers of HEDP in China. As shown in table VII-3, Chinese capacity increased from *** million pounds to *** million pounds, an increase of *** percent from 2013 to 2015.[12] Production increased from *** pounds to *** pounds, an increase of *** percent from 2013 to 2015.[13] End-of-period inventories increased from *** pounds to *** pounds, an increase of *** percent from 2013 to 2015.

Home market commercial shipments increased from *** pounds to *** pounds, an increase of *** percent from 2013 to 2015.[14] Export shipments to the United States increased from *** pounds to *** pounds from 2013 to 2014, before decreasing to *** pounds in 2015, an overall increase of *** percent from
2013 to 2015.[15] Export shipments to all other markets increased from *** pounds to ***

[11] Respondent Shandong Taihe stated that this third production method, which is likely used by most other foreign producers of HEDP, does not produce hydrochloric acid as a byproduct, but produces zero-margin hydrogen chloride as a byproduct instead. Respondent Shandong Taihe stated that while production of HEDP via a process that produces acetyl chloride as a co-product is not in itself a patented process, Shandong Taihe does own patents on various elements of its production process. Respondent Shandong Taihe's postconference brief, pp. 6-9 and exh. B, pp. 3-5. Respondent Nantong Uniphos' postconference brief, p. 4.

[12] Increases in capacity are attributable to ***.

[13] Shandong Taihe reported ***. ***, email message to USITC staff, May 3, 2016. Shandong Taihe ***.

[14] Shandong Taihe sells half of its HEDP production to the Chinese home market. Respondent Shandong Taihe's postconference brief, p. 11. Respondent Nantong Uniphos states that demand for HEDP in China is large and growing due to its key use in cooling towers and air conditioning systems. Nantong Uniphos' postconference brief, p. 6.

[15] Increases in exports to the United States reported by ***. ***, email message to USITC staff, April 26, 2016.

pounds from 2013 to 2015.[16] Chinese producers of HEDP reported that none of the HEDP they exported was subject to antidumping findings or remedies in any WTO-member countries.

Responding Chinese producers' capacity utilization rate decreased from *** percent in 2013 to *** percent in 2014, before increasing to *** percent in 2015. End-of-period inventories as a share of production increased from *** percent to *** percent from 2013 to 2015. Home market shipments as a share of total shipments increased from *** percent to *** percent from 2013 to 2015, while exports to the United States and all other markets decreased over the same period.[17]

Responding Chinese HEDP producers projected that capacity would *** *** million pounds from 2016 to 2017. With regard to capacity changes in China, Respondent Shandong Taihe maintains that many smaller manufacturers of HEDP have closed over the past years due to stricter environmental laws in China.[18] Respondent Nantong Uniphos listed a number of Chinese HEDP producers that were in operation during the prior HEDP investigation, but have reported closed facilities or stopped production during the past five years. [19]

Table VII-3
HEDP: Data on industry in China, 2013-15 and projection calendar years 2016 and 2017

* * * * * * *

[16] Shandong Taihe exports about 13 percent of its total HEDP production to the EU; 12 percent to Latin America, 10 percent to the United States, and 15 percent to Southeast Asia, the Middle East, Russia, and Australia. Respondent Shandong Taihe's postconference brief, p. 11. Respondent Nantong Uniphos states that demand for HEDP in Europe has increased as formulators in Europe shift from Sodium Triphosphate ("STPP") to HEDP in all detergent products, as STPP is not bio-degradable. Respondent Nantong Uniphos adds that worldwide demand for HEDP has increased, in part, because of the growth of new applications, such as the use of HEDP in reverse osmosis systems. Export markets cited by responding Chinese producers include: ***.

[17] As a share a total shipments, exports to the United States decreased from *** percent to *** percent from 2013 to 2015, while the share of exports to all other markets decreased from *** percent to *** percent over the same period.

[18] Respondent Shandong Taihe asserts that chemical factories can move to a Chemical Industrial Park; however, there is reportedly an investment requirement of at least 100 million RMB to do so. Repondent Shandong Taihe's postconference brief, exh. B.

[19] These firms include: Hongguang Chemical Co., Ltd.; Wujin Water; Kewei Chemicals; Chunjiang Chemicals; Yao's Tongde Chemicals; Runyuan Chemicals; and Daming Chemicals. Respondent Nantong Uniphos' postconference brief, p. 5. Respondent Shandong Taihe also provided a list of companies that produced and exported HEDP to the United States prior to 2015, but that reportedly did not do so during 2015 and 2016. Respondent Shandong Taihe's postconference brief, p. 10.

U.S. INVENTORIES OF IMPORTED MERCHANDISE

Table VII-4 presents data on U.S. importers' reported inventories of HEDP. Inventories of HEDP imports from China increased by *** percent from 2013 to 2014. These increases were largely attributable to ***.[20]

Table VII-4
HEDP: U.S. importers' inventories, 2013-15

* * * * * * *

U.S. IMPORTERS' OUTSTANDING ORDERS

The Commission requested importers to indicate whether they imported or arranged for the importation of HEDP from China after December 31, 2015. These data are provided in table VII-5.

Table VII-5
HEDP: Arranged imports, January 2016 through December 2016

* * * * * * *

ANTIDUMPING OR COUNTERVAILING DUTY ORDERS IN THIRD-COUNTRY MARKETS

Chinese producers of HEDP reported that none of their HEDP exports were subject to antidumping findings or remedies in any WTO-member countries.

INFORMATION ON NONSUBJECT SOURCES AND THE GLOBAL MARKET

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.'"[21]

[20] ***. ***, email message to USITC staff, May 3, 2016. ***. ***, email message to USITC staff, May 4, 2016.

[21] *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).

Nonsubject source information

While there are no published data for the global demand of HEDP, Petitioner estimates that the worldwide market is in the range of 150 million pounds annually, and that HEDP is the most widely used phosphonate worldwide.[22] According to published information on the global supply and demand trends of total organophosphates, China accounted for 41 percent of global organophosphonate annual capacity, Europe, 38 percent, the United States, 15 percent, and India, 5 percent. [23] The four largest consuming regions or countries of organophosphonate products were reported as Europe (36 percent), China (20 percent), the United States (18 percent) and Mexico (14 percent). China was the only reported net exporter, accounting for 59 percent of total global exports. Europe's export and import trade, although equally balanced, accounted for 26 percent of the global export total. Other Asian country export and import trade, including India, was also equally balanced, and accounted for 10 percent of global exports. The U.S. accounted for 4 percent of total export trade.[24]

The total global capacity utilization rate of organophosphonates in 2013 was reported as 85 percent. China's capacity utilization rate in 2013 was 92 percent, and represented a surplus availability of 37 million pounds as 60 percent aqueous solution relative to maximum installed capacity. Europe's capacity utilization rate during the same year was 79 percent, and also represented a maximum surplus availability of 37 million pounds of 60 percent aqueous capacity. Asia, principally India, experienced a capacity utilization rate of 83 percent during 2013, representing a capacity surplus availability maximum of 4 million pounds as 60 percent aqueous product.[25]

The industry in India

Four producers of HEDP and other organic phosphonates are reported to have operations in India, Aquapharm Chemical Pvt. Ltd., AVA Chemicals Ltd., Excel Industries Ltd., and Satyajit Chemicals Pvt. Ltd. The most recent data available indicated that Indian annual capacity of organophpsphonates in all forms on a dry weight basis in 2012 was about 6,000 metric tons (13.2 million pounds),[26] with production of 5,000 metric tons (11.0 million pounds), of which 4,000 metric tons (8.8 million pounds) was exported, and only 1,000 metric tons (2.2 million pounds) consumed domestically. The major export destinations were reported as the United States, Europe and Japan. [27]

Aquapharm is the largest manufacturer of phosphonates in India with a state of the art plant in Mahad. This fully automated plant is reported to be 100 percent export oriented, and one of the largest of its type in the world, set up to additionally produce phosphorus trichloride reactant. The firm also has a state of the art production facility in Pirangut. Aquapharm is

---

[22] Conference transcript, pp. 20; 22 (McCaul).

[23] ***.

[24] ***.

[25]***.

[26] Indian capacity in 2012, calculates to about 22 million pounds on a 60 percent aqueous solution basis. ***.

[27] ***.

reported to have distribution networks in the United States, Europe, Latin America, South Africa, Turkey, the Middle East, Russia, Japan and Indonesia with sales representatives and warehousing facilities in the United States, Canada, and Europe.[28] According to respondent Shandong Taihe, nearly all of the imports of HEDP from India to the United States during 2013-15 were reportedly shipped by Aquapharm.[29]

Excel Industries Ltd. manufactures a line of organophosphonate chelating agents based on captive phosphorus trichloride (PCl_3) at its Lote facility.[30] Many specialty chemicals of this nature are described as low volume, which require a multi-purpose manufacturing setup with low switching time/cost, ideal for the production of such chemicals.

The industry in the United Kingdom

The key producers of organophosphonates in the United Kingdom (U.K) are Italmatch Chemical Group at Newport, U.K., and Solvay-Rhodia at Oldbury, U.K. In March 2013, Italmatch Chemical Group purchased the liquidated ThermPhos International BV businesses which included ThermPhos chlorides and Dequest® phosphonates. The two most common organophosphonate products produced by these firms are HEDP and the amino phosphonate known as ATMP. Italmatch has an annual production capability of 15,000 metric tons (33 million pounds) as dry solids, and Solvay-Rhodia, 10,000 metric annual tons (22 million pounds) as dry solids.[31] [32] Italmatch Chemicals exports over 85 percent of its production to the Middle East, North and South America, C.I.S., South Africa and most Far East Countries.[33] Likewise, Solvay-Rhodia exports over 50 percent of the product produced at Oldbury worldwide.[34]

[28] Aquapharm website, http://www.aquapharm-india.com/infra.htm,retrieved April 29, 2016.
[29] Respondent Shandong Taihe's postconference brief, pp. 2-3.
[30] http://www.excelind.co.in/manufacturing,.html, retrieved May 1, 2016.
[31] ***.
[32] On a 60 percent aqueous solution basis, Italmatch capacity translates to 55 million pounds annually, and Solvay-Rhodia to 37 million pounds annually. ***.
[33] http://www.italmatch.it/home/about-us/italmatch-today/, retrieved May 1, 2016.
[34] http://www.solvay.co.uk/en/solvay-in/lications/oldbury.html, retrieved May 1, 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 20416, April 7, 2016	*1-Hydroxyethylidene-1, 1-Diphosphonic Acid From China; Institution of Antidumping and Countervailing Duty Investigations and Scheduling of Preliminary Phase Investigations*	https://www.gpo.gov/fdsys/pkg/FR-2016-04-07/html/2016-07987.htm
81 FR 25377, April 28, 2016	*1-Hydroxyethylidene-1, 1-Diphosphonic Acid From the People's Republic of China: Initiation of Less-Than-Fair-Value Investigation*	https://www.gpo.gov/fdsys/pkg/FR-2016-04-28/html/2016-09881.htm
81 FR 25383, April 28, 2016	*1-Hydroxyethylidene-1, 1-Diphosphonic Acid From People's Republic of China: Initiation of Countervailing Duty Investigation*	https://www.gpo.gov/fdsys/pkg/FR-2016-04-28/html/2016-09882.htm

APPENDIX B

CONFERENCE WITNESSES

CALENDAR OF PUBLIC PRELIMINARY CONFERENCE

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

Subject: 1-Hydroxyethylidene-1, 1-Diphosphonic (HEDP) Acid from China

Inv. Nos.: 701-TA-558 and 731-TA-1316 (Preliminary)

Date and Time: April 21, 2016 - 9:30 a.m.

Sessions were held in connection with these preliminary phase investigations in Courtroom A (room 100), 500 E Street, S.W., Washington, DC.

OPENING REMARKS:

Petitioner (**Jeffrey Levin**, Levin Trade Law, P.C.)

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

Levin Trade Law P.C.
Bethesda, MD
on behalf of

Compass Chemical International LLC ("Compass Chemical")

Daniel McCaul, Chief Executive Officer, Compass Chemical

Mark Allen, Plant Manager, Compass Chemical

Dr. Safi Hawk, Research and Development Manager, Compass Chemical

Cara Groden, Economist, Economic Consulting Services

Jeffrey Levin) – OF COUNSEL

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

Barnes, Richardson & Colburn, LLP
Washington, DC
on behalf of

Shandong Taihe Water Treatment Co.

Cheng Cheng, Regional Sale Manager, Shandong Taihe Water Treatment Technologies Co., Ltd.

Matthew T. McGrath) – OF COUNSEL

INTERESTED PARTY IN OPPOSITION:

Enviro Tech Chemical Services, Inc.
Modesto, CA

Brent Bankosky, Business Manager, Enviro Tech Chemical Services, Inc.

REBUTTAL/CLOSING REMARKS:

Petitioner (**Jeffrey Levin**, Levin Trade Law, P.C.)
Respondents (**Matthew T. McGrath**, Barnes, Richardson & Colburn, LLP)

APPENDIX C

SUMMARY DATA

Table C-1
HEDP: Summary data concerning, 2013-15

* * * * * * *

APPENDIX D

U.S. IMPORTS FROM VARIOUS SOURCES

Table D-1
HEDP: U.S. imports by various data sources, 2013-15

Item	Calendar year		
	2013	2014	2015
	Quantity (*1,000s of pounds*)		
Official U.S. imports under 2931.90.9043 (basket category).-			
China	262,080	197,357	204,734
India	8,328	8,605	6,920
All other sources	35,256	39,072	30,911
Nonsubject sources	43,584	47,676	37,831
Total U.S. imports	305,664	245,033	242,564
	Quantity (*1,000s of pounds*)		
Shipment manifest analysis using DataMyne.--			
China	5,018	9,922	9,783
India	4,335	5,387	4,663
All other sources	3,897	3,719	3,973
Nonsubject sources	8,232	9,106	8,636
Total U.S. imports	13,250	18,328	18,418
	Quantity (*1,000s of pounds*)		
Shipment manifest analysis using PIERS.--			
China	6,731	10,310	9,553
India	2,473	4,954	3,965
All other sources	2,785	2,294	2,129
Nonsubject sources	5,258	7,248	6,094
Total U.S. imports	11,989	17,559	15,646
	Quantity (*1,000s of pounds*)		
Questionnaire submissions.--			
China	***	***	***
Nonsubject sources	***	***	***
Total U.S. imports	***	***	***

Source: Official U.S. imports under 2931.90.9043, DataMyne and PIERS shipment manifest information as provided in Shandong Taihe's postconference brief, p. 2, and compiled from data submitted in response to Commission questionnaires.

Figure D-1
HEDP: U.S. imports from China by data source, 2013-15

* * * * * * *

Figure D-2
HEDP: U.S. imports from nonsubject sources by data source, 2013-15

* * * * * * *