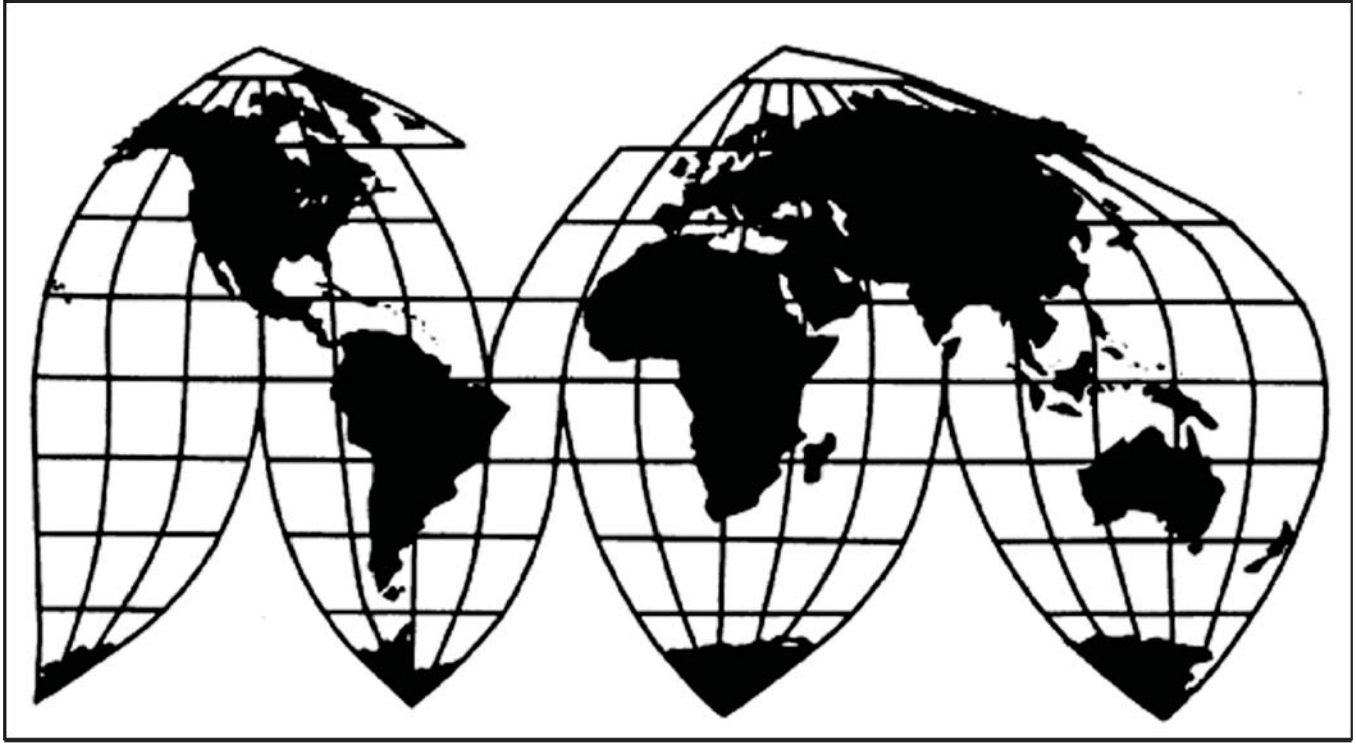
POLYTETRAFLUOROETHYLENE (PTFE) RESIN FROM CHINA AND INDIA

Investigation Nos. 701-TA-588 and 731-TA-1392-1393 (Preliminary)

Publication 4741 **November 2017**

U.S. International Trade Commission



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Note.—Information that would reveal confidential operations of individual concerns may not be published and therefore has been deleted from this report.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

UNITED STATES INTERNATIONAL TRADE COMMISSION

Investigation Nos. 701-TA-588 and 731-TA-1392-1393 (Preliminary)

Polytetrafluoroethylene ("PTFE") Resin from China and India

DETERMINATIONS

On the basis of the record[1] developed in the subject investigations, the United States International Trade Commission ("Commission") determines, pursuant to the Tariff Act of 1930 ("the Act"), that there is a reasonable indication that an industry in the United States is materially injured by reason of imports of PTFE resin from China and India, provided for in statistical reporting numbers 3904.61.0010 and 3904.61.0090 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 by reason of imports of PTFE resin from India that are alleged to be subsidized by the government of India.

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 September 28, 2017, The Chemours Company FC LLC, Wilmington, Delaware, filed petitions with the Commission and Commerce, alleging that an industry in the United States is materially injured or threatened with material injury by reason of LTFV and subsidized imports of PTFE resin from India and LTFV imports of PTFE resin from China. Accordingly, effective September 28, 2017, the Commission, pursuant to sections 703(a) and 733(a) of the Act (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-588 and antidumping duty investigation Nos. 731-TA-1392 and 1393 (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 October 4, 2017 (82 FR 46284). The conference was held in Washington, DC, on October 19, 2017, 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 determine that there is a reasonable indication that an industry in the United States is materially injured by reason of imports of polytetrafluoroethylene resin ("PTFE") from China and India that are allegedly sold in the United States at less than fair value and imports of the subject merchandise from India that are allegedly subsidized by the government of India.

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

The Chemours Company ("Chemours"), a domestic producer of PTFE, filed the petitions in these investigations on September 28, 2017. Chemours appeared at the staff conference and submitted a postconference brief.

Two respondent entities participated in these investigations. Gujarat Fluorochemicals Ltd. ("GFL"), a producer of PTFE in India, and the PTFE Processors Alliance ("PPA"), a group of importers, distributors, and processors of PTFE, appeared at the conference and submitted postconference briefs.

U.S. industry data are based on the questionnaire responses of two producers, accounting for virtually all U.S. production of PTFE. U.S. import data are based on official Commerce import statistics and from questionnaire responses from 14 U.S. importers, accounting for 24.7 percent of subject imports from China and 85.4 percent of U.S. imports from India in 2016.[3] The Commission received responses to its questionnaires from two Chinese producers of subject merchandise accounting for approximately *** percent of U.S.

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[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-5, Public Report ("PR") at I-4.

imports of PTFE from China and one producer in India accounting for approximately *** percent of U.S. imports of subject merchandise from India in 2016.[4]

III. Domestic Like Product

A. In General

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."[5] Section 771(4)(A) of the Tariff Act of 1930, as amended ("the Tariff Act"), defines the relevant domestic industry as the "producers as a whole of a domestic like product, or those producers whose collective output of a domestic like product constitutes a major proportion of the total domestic production of the product."[6] 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."[7]

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.[8] No single factor is dispositive, and the Commission may consider other factors it deems relevant based on the facts of a particular investigation.[9] The Commission looks for clear dividing lines among possible like products and disregards minor variations.[10] Although the Commission must accept Commerce's determination as to the scope of the imported merchandise that is subsidized

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[4] CR at VII-3 and VII-8, PR at VII-4-5.

[5] 19 U.S.C. § 1677(4)(A).

[6] 19 U.S.C. § 1677(4)(A).

[7] 19 U.S.C. § 1677(10).

[8] *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).

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

[10] *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.").

and/or sold at less than fair value,[11] the Commission determines what domestic product is like the imported articles Commerce has identified.[12] The Commission may, where appropriate, include domestic articles in the domestic like product in addition to those described in the scope.[13]

B. Product Description

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

> The product covered by this investigation is polytetrafluoroethylene (PTFE) resin, including but not limited to granular, dispersion, or coagulated dispersion (also known as fine powder). PTFE is covered by the scope of this investigation whether filled or unfilled, whether or not modified, and whether or not containing co-polymer additives, pigments, or other materials. Also included is PTFE wet raw polymer. The chemical formula for PTFE is C_2F_4, and the Chemical Abstracts Service Registry number is 9002-84-0.
>
> PTFE further processed into micropowder, having particle size typically ranging from 1 to 25 microns, and a melt-flow rate no less than 0.1 gram/10 minutes, is excluded from the scope of this investigation.
>
> PTFE is classified in the Harmonized Tariff Schedule of the United States (HTSUS) under subheadings 3904.61.0010 and 3904.61.0090. Subject merchandise may also be classified under HTSUS subheading 3904.69.5000. Although the HTSUS subheadings and CAS Number are

[11] *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).

[12] *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).

[13] *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).

provided for convenience and Customs purposes, the written description of the scope is dispositive.[14]

PTFE, more commonly known as Teflon, a registered trade name of Chemours, is a polymer made from tetrafluoroethylene ("TFE").[15] It is used for various applications primarily for its inert, heat-resistant, low friction properties.[16] The scope of these investigations covers three forms of PTFE: granular, fine powder, and dispersion.[17] Specifically excluded from the scope is PTFE that has been processed into a micropowder, also known as micronized PTFE.

All forms of PTFE are produced from TFE. Granular PTFE is produced through suspension polymerization during which dried PTFE particles are cut to achieve the desired size.[18] Fine powder PTFE is also a dried PTFE product, but one in which the particle sizes are generally larger than granular PTFE.[19] Dispersion PTFE is produced by dispersion polymerization that suspends the PTFE particles, resulting in a white solution.[20] Micronized PTFE is typically produced from PTFE scrap which is broken down with an electron beam into lower molecular weight materials.[21]

C. Arguments of the Parties

Petitioner's Arguments. Petitioner contends that the Commission should define a single domestic like product, coextensive with the scope. It argues that PTFE products in all forms share similar physical characteristics because they share the same properties such as chemical inertness, overlapping particle sizes, heat and chemical resistance, a low coefficient of friction, and functionality over a wide temperature range.[22] Petitioner contends that there is also a wide range of overlapping applications in which various forms of PTFE are used, particularly as film, insulation, wire coating/jacketing/tubing, and as gaskets, linings, and packing for chemical applications.[23] To the extent that there are differences in end uses for PTFE, Petitioner argues that such differences exist within PTFE in each form as well as between the different forms.[24] Petitioner contends that granular, fine powder, and dispersion PTFE have overlapping channels of distribution, are processed using similar production processes and equipment, and share the

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[14] *Polytetrafluoroethylene (PTFE) Resin from India: Initiation of Countervailing Duty Investigation*, 82 Fed. Reg. 49592 (Oct. 26, 2017); *Polytetrafluoroethylene (PTFE) Resin from India and the People's Republic of China: Initiation of Less-Than-Fair Value Investigations,* 82 Fed. Reg. 49587 (Oct. 26, 2017).

[15] CR at I-10, PR at I-7.

[16] CR at I-10, PR at I-8.

[17] The dispersion form of PTFE is a homogeneous white liquid. *See, e.g.* Conference Transcript ("Tr.") at 112 (Baillie).

[18] CR at I-17, PR at I-13.

[19] CR at I-18, PR at I-13.

[20] CR at I-18, PR at I-13.

[21] Tr. at 60 (Hoeck) and 121 (Baillie); CR/PR at Figure I-2.

[22] Petitioner Postconference Brief at 8.

[23] Petitioner Postconference Brief at 9-10; Petitioner Conference Exhibit at Slide 4.

[24] Petitioner Postconference Brief at 11.

same maintenance and support services.[25] It also argues that PTFE, regardless of form, is sold at a wide range of prices.[26]

Petitioner argues that micronized PTFE, which is excluded from the scope, has different physical characteristics and ASTM specifications, and is used in different end uses than in-scope PTFE, and therefore is sold through different channels of distribution. Petitioner observes that micronized PTFE is processed using PTFE scrap involving processes such as irradiation, and on equipment that is not used for granular, powder, or dispersion PTFE.[27] It also argues that in-scope PTFE can be molded into products such as sliders that go under furniture legs to increase movability, whereas micronized PTFE cannot be pressed or molded into a useable shape.[28]

Respondents' Arguments. Respondents contend that the Commission should define three separate domestic like products consisting of granular, fine powder, and dispersion PTFE.[29] Respondents contend that the industry recognizes that the three forms of PTFE have different physical characteristics and are used for different purposes.[30] In terms of physical characteristics, respondents argue that fine powder PTFE smears, has a "sheer" physical property, and needs to be stored under refrigeration, unlike granular PTFE; they also argue that dispersion PTFE is a white liquid which is unlike either fine powder or granular PTFE.[31] They contend that granular PTFE is used for packings, gaskets, diaphragms, and lab equipment; dispersion PTFE is used to make cast films, glass fabric laminates, and in food contact applications; and that fine powder PTFE is used in entirely different applications.[32] Respondents argue that even within each form of PTFE, there are different grades which are used for different applications and that commodity grades cannot be used in the same application as a specialty grade of the same form of PTFE.[33] Respondents argue that the three forms of PTFE are produced using different processes and equipment and that once produced in one form, PTFE cannot be further processed into a different form.[34] Respondents contend that producers and customers in the PTFE industry differentiate between the three forms of PTFE and recognize them as "separate families" that are distinctly different.[35] In terms of price, respondents contend that at the commodity level, there is no overlap in prices between the different forms of PTFE.[36]

Respondents assert that just as granular, fine powder, and dispersion PTFE are distinct families, micronized PTFE is a fourth, distinct family of PTFE.[37] However, respondents argue

[25] Petitioner Postconference Brief at 12-13.
[26] Petitioner Postconference Brief at 14-15.
[27] Petitioner Postconference Brief at 17.
[28] Tr. at 61 (Hoeck).
[29] Tr. at 157 (Baillie).
[30] PPA Postconference Brief at 1-2; GFL Postconference Brief at 2.
[31] PPA Postconference Brief at 2; GFL Postconference Brief at 2.
[32] PPA Postconference Brief at 2.
[33] PPA Postconference Brief at 2-4.
[34] PPA Postconference Brief at 4-5; Tr. at 172-73 (Baillie).
[35] PPA Postconference Brief at 5.
[36] PPA Postconference Brief at 5-6.
[37] Tr. at 156 (Baillie).

that if the Commission were to accept petitioner's arguments for defining a single like product, then such arguments support including micronized PTFE in the like product definition.[38] They contend that micronized PTFE shares the same stable, low-friction properties as the other forms of PTFE.[39] Respondents observe that some micronized PTFE shares the same production equipment as dispersion PTFE.[40]

D. Domestic Like Product Analysis

Based on the record in these preliminary determinations, we define a single domestic like product consisting of PTFE resin, coextensive with the scope.

Physical Characteristics and Uses. The three forms of PTFE have similar chemical compositions and properties.[41] However, the various forms of PTFE have different appearances, and may have different chain lengths and therefore different molecular weights.[42] There is some overlap in particle size and bulk density between granular and fine powder PTFE.[43] While granular and fine powder PTFE have similar appearances in that they are both dry granules, fine powder will smear when rubbed and has characteristics that allow it to be used in applications where granular PTFE cannot be easily used.[44] Dispersion PTFE is unique among the three forms in that it is a liquid. Nonetheless, all PTFE has the same properties regardless of form. It is inert, heat resistant, and, among other characteristics, has a low coefficient of friction.[45] There are some common end uses among the three forms, particularly in the manufacture of film, and numerous overlaps in end uses between granular and fine powder PTFE, although respondents challenge this overlap as oversimplified.[46] The parties generally agree that each form of PTFE is manufactured in a range of grades and that specific grades are devoted to particular end uses.[47]

Manufacturing Facilities, Production Processes and Employees. While all forms of in-scope PTFE are produced from TFE, the record indicates some differences in production machinery. Fine powder and dispersion PTFE share some common machinery while granular PTFE is produced on different machinery.[48] Chemours states that all of its in-scope PTFE is made in the same facility using the same control lab and that all machinery is maintained by the same workforce. However, one industry witness who previously worked for Chemours stated

[38] Tr. at 156-157 (Nolan).
[39] Tr. at 116 (Baillie).
[40] Tr. at 118 (Baillie).
[41] CR at I-13, PR at I-10.
[42] Tr. at 200 (Neville) ("the chain length is part of the differentiation in the manufacturing"); CR at I-11, I-13-14, and I-17-18, PR at I-10-12.
[43] CR at I-11-13, PR at I-8-10.
[44] Tr. at 113-114 (Baillie).
[45] CR at I-10, PR at I-7-8.
[46] Chemours Postconference Brief at Table 2; Tr. at 113-114 (Baillie).
[47] Chemours Postconference Brief at 10-11; Tr. at 118 (Baillie).
[48] CR at I-17-19, PR at I-13-14, CR/PR at Figure I-2; Tr. at 118 (Baillie).

that granular PTFE is produced using a different control room and different operators than dispersion and fine powder production.[49]

Channels of Distribution. All forms of in-scope PTFE appear to be sold to both distributors and end users. Respondents assert that most large purchasers only purchase and specialize in one form of PTFE.[50] However, the largest distributor of Chemours' products purchases all forms, and ***.[51]

Interchangeability. While there might be some overlap in end uses between granular, fine powder, and dispersion PTFE, no party contends that the different forms of PTFE are interchangeable.[52] Indeed, they do not appear to be interchangeable as they are used differently in end-use manufacturing.[53] Granular PTFE is generally molded into shapes, fine powder PTFE is extruded in paste form, and dispersion PTFE is sprayed or coated onto another item.[54] The parties appear to agree that even within each form of PTFE, there is limited interchangeability.[55] PTFE is produced in many different grades, and while a specialty grade of a particular form of PTFE could theoretically be used in an application calling for commodity grade of the same form, the commodity grade cannot be substituted for a specialty grade.[56]

Producer and Customer Perceptions. Petitioner Chemours asserts that all three forms of PTFE within the scope exist along a continuum. At the staff conference, witnesses for the respondents argued that the industry views granular, fine powder, and dispersion PTFE as three distinct families "that are processed differently and used in different applications."[57]

Price. The available information shows that prices for granular PTFE are generally lower than prices for dispersion PTFE, which in turn are priced lower than fine powder PTFE, but there appears to be a wide range of prices within each form of PTFE.[58]

Conclusion. Although there are some distinctions between the three forms of in-scope PTFE, there are sufficient similarities between the three forms such that the distinctions do not constitute clear dividing lines.[59] PTFE in all three forms share the same low-friction, stable

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[49] Tr. at 200 (Baillie).

[50] *See* Chemours Postconference Brief at 12 (citing Tr. at 120, 126 (Baillie)).

[51] Chemours Postconference Brief at 12; Tr. at 112 (Baillie).

[52] *See* Chemours Postconference Brief at 7-15; Tr. at 49 (Hoeck).

[53] Tr. at 60-61 (Hoeck, Genna).

[54] CR at I-14, PR at I-10-11; *see* PPA Postconference Brief at Responses to Staff Question No. 1.

[55] Tr. at 118 (Baillie), 218 (Baillie) (discussing specialty grades of micronized PTFE); Chemours Postconference Brief at 10.

[56] Tr. at 160 (Arlati).

[57] Tr. at 130 (Baillie).

[58] CR/PR at Tables V-3-7 (indicating appreciable variations in quarterly prices between the two domestically produced granular PTFE pricing products and the two domestically produced fine powder PTFE products); CR at I-21-22, PR at I-16; Tr. at 50 (Hayes), 51 (Cannon), 52 (Hayes), 191 (Baillie).

[59] The record also indicates that micronized PTFE is a product distinct from the three forms of in-scope PTFE. Micronized PTFE has a lower meltflow point than in-scope PTFE. CR at I-11-12, PR at I-8-9. The parties agree that the primary use for micronized PTFE is as an additive in products such as ink. Tr. at 48 (Hoeck) and 218 (Baillie). Due to its lower molecular weight, it cannot be molded into a shape, like granular or fine powder PTFE can be. Tr. at 61 (Baillie); CR at I-11, PR at I-8. Unlike in-scope PTFE, the (Continued…)

characteristics and properties, although the different forms vary in their appearance. Granular, fine powder, and dispersion PTFE are all produced from TFE and appear to have some overlap in end uses, particularly between granular and fine powder PTFE. While there may be some differences in equipment used to produce granular, fine powder, and dispersion PTFE, the information in the preliminary phase of these investigations indicates that Chemours produces them using the same employees and in the same facilities. Indeed, dispersion and fine powder PTFE share some overlapping production equipment. The record suggests that all forms of in-scope PTFE share similar channels of distribution. With regard to interchangeability, respondents argue that the industry views the three forms of in-scope PTFE as separate families that are not interchangeable; petitioner describes a few applications such as film production, in which all three forms of PTFE are used, but does not assert that one form can be substituted for another.[60] The record indicates that even within any one form of PTFE, there is limited interchangeability because PTFE is manufactured across a wide range of grades with different characteristics. Prices for PTFE can vary widely within forms; prices for the specialty grade of one form of PTFE may overlap with prices for the commodity grade of a different form of PTFE.[61] Given the lack of clear dividing lines, we therefore define a single domestic like product, coextensive with the scope, for purposes of these preliminary determinations.[62]

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."[63] 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.

(…Continued)
majority of micronized PTFE appears to be produced from scrap PTFE and involves equipment and processes, such as irradiation with an electron beam, not normally used in the production of granular, fine powder, or dispersion PTFE. Tr. at 60 (Hoeck), 170 (Baillie). Chemours states that its micronized PTFE is sold to different end users than its in-scope PTFE, and there is no information on the record concerning customer perceptions indicating that there is a single PTFE family consisting of the three in-scope forms and micronized PTFE. *E.g.*, Tr. at 61 (Genna).

[60] *i.e.* Tr. at 20-21 (Hoeck).

[61] Tr. at 52 (Hayes).

[62] If parties wish to pursue like product arguments in any final phase of these investigations, we encourage them, in their comments on draft questionnaires, to indicate so and identify products on which we should collect data. 19 C.F.R. § 207.20(b).

[63] 19 U.S.C. § 1677(4)(A).

A. Sufficient Production-Related Activities

In deciding whether a firm qualifies as a domestic producer of the domestic like product, the Commission generally analyzes the overall nature of a firm's U.S. production-related activities, although production-related activity at minimum levels could be insufficient to constitute domestic production.[64]

Petitioner argues that the Commission should define the domestic industry as consisting of the two U.S. PTFE producers, namely Chemours and Daikin America, Inc. ("Daikin"). GFL makes an argument that processors and compounders should be included in the domestic industry; that argument, however, does not contain any information concerning the operations of domestic PTFE processors or compounders or any analysis of the factors that the Commission examines in ascertaining whether processing activities are sufficient to constitute domestic production.[65] PPA states that it does not believe the Commission should include processors and compounders in the domestic industry.[66]

The record in the preliminary phase of these investigations does not contain sufficient information for the Commission to engage in a production-related activity analysis.[67] We therefore decline to include processors and compounders for purposes of these preliminary determinations and encourage parties to submit comments on any draft questionnaires in the final phase of these investigations should they desire collection of data on this issue.[68]

B. Related Parties

We must also determine whether any producer of the domestic like product should be excluded from the domestic industry pursuant to Section 771(4)(B) of the Tariff Act. This provision allows the Commission, if appropriate circumstances exist, to exclude from the domestic industry producers that are related to an exporter or importer of subject merchandise

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

[65] GFL Postconference Brief at 6-7.

[66] PPA Postconference Brief at Answers to Staff Question No. 3.

[67] As discussed, GFL asserted its argument in a postconference brief without any factual premise. The record contains information from only one compounder that responded to the Commission's questionnaire, which is insufficient to enable an analysis of production-related activities. CR/PR at III-1 n.1.

[68] 19 C.F.R. § 207.20(b).

or which are themselves importers.[69] Exclusion of such a producer is within the Commission's discretion based upon the facts presented in each investigation.[70]

Daikin and Chemours are related parties because each is related to a Chinese exporter of PTFE *** during the January 2014 to June 2017 period of investigation ("POI"). The parties agree that Daikin should be included in the domestic industry;[71] no party argued to exclude or include Chemours in the domestic industry. Chemours is the petitioner in these investigations and accounted for *** percent of domestic production in 2016, whereas Daikin accounted for *** percent of domestic production of PTFE in 2016 and *** on the petitions.[72] The ratio of either producer's *** did not exceed *** percent at any point during the POI.[73] The *** indicates that the principal interest of both Chemours and Daikin lies in domestic production. In light of this, we find that appropriate circumstances do not exist to exclude Chemours or Daikin as a related party.

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[69] *See Torrington Co. v. United States*, 790 F. Supp. 1161, 1168 (Ct. Int'l Trade 1992), *aff'd without opinion*, 991 F.2d 809 (Fed. Cir. 1993); *Sandvik AB v. United States*, 721 F. Supp. 1322, 1331-32 (Ct. Int'l Trade 1989), *aff'd mem.,* 904 F.2d 46 (Fed. Cir. 1990); *Empire Plow Co. v. United States*, 675 F. Supp. 1348, 1352 (Ct. Int'l Trade 1987).

[70] The primary factors the Commission has examined in deciding whether appropriate circumstances exist to exclude a related party include the following:

(1) the percentage of domestic production attributable to the importing producer;

(2) the reason the U.S. producer has decided to import the product subject to investigation (whether the firm benefits from the LTFV sales or subsidies or whether the firm must import in order to enable it to continue production and compete in the U.S. market);

(3) whether inclusion or exclusion of the related party will skew the data for the rest of the industry;

(4) the ratio of import shipments to U.S. production for the imported product; and

(5) whether the primary interest of the importing producer lies in domestic production or importation. *Changzhou Trina Solar Energy Co. v. USITC*, 100 F. Supp.3d 1314, 1326-31 (Ct. Int'l. Trade 2015); see *also Torrington Co. v. United States*, 790 F. Supp. at 1168.

[71] Tr. at 169 (Nolan, Levinson).

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

[73] Chemours imported *** pounds of PTFE *** in 2014, *** pounds in 2015, and *** pounds in 2016; it imported *** pounds in January to June ("interim") 2016 and *** pounds in interim 2017. Its ratio of imports *** to domestic production was *** percent in 2014, *** percent in 2015, and *** percent in 2016; it was *** percent in interim 2016 and *** percent in interim 2017. CR/PR at Table III-9. Chemours' operating income declined from 2014 to 2016 and the firm *** in 2015 and 2016. CR/PR at Table VI-3.

Daikin imported *** pounds of PTFE *** in 2014, *** pounds in 2015, and *** pounds in 2016; it imported *** pounds in interim 2016 and *** pounds in interim 2017. Its ratio of imports *** to domestic production was *** percent in 2014, *** percent in 2015, and *** percent in 2016; it was *** percent in interim 2016 and *** percent in interim 2017. CR/PR at Table III-9. Daikin's operating income declined each year from 2014 to 2016. CR/PR at Table VI-3.

C. Conclusion

For the foregoing reasons, and in light of our domestic like product definition, we define the domestic industry as consisting of all U.S. producers of PTFE and do not include processors or compounders.

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.[74] The statute further provides that subject imports from a single country which comprise less than 3 percent of total such imports of the product may not be considered negligible if there are several countries subject to investigation with negligible imports and the sum of such imports from all those countries collectively accounts for more than 7 percent of the volume of all such merchandise imported into the United States.[75] In the case of countervailing duty investigations involving developing countries (as designated by the United States Trade Representative), the statute indicates that the negligibility limits are 4 percent and 9 percent, rather than 3 percent and 7 percent.[76]

In this case, negligibility is not an issue as imports are above the pertinent negligibility threshold. From September 2016 to August 2017, the 12-month period prior to filing of the petitions, subject imports from China accounted for 24.0 percent of total PTFE imports and subject imports from India accounted for 19.4 percent of total PTFE imports.[77] Accordingly, we find that subject imports from China and India are not negligible.

VI. Cumulation

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

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[74] 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)).

[75] 19 U.S.C. § 1677(24)(A)(ii).

[76] 19 U.S.C. § 1677(24)(B).

[77] CR at IV-20, PR at IV-9-10.

(1) the degree of fungibility between subject imports from different countries and between subject imports and the domestic like product, including consideration of specific customer requirements and other quality related questions;
(2) the presence of sales or offers to sell in the same geographic markets of subject imports from different countries and the domestic like product;
(3) the existence of common or similar channels of distribution for subject imports from different countries and the domestic like product; and
(4) whether the subject imports are simultaneously present in the market.[78]

While no single factor is necessarily determinative, and the list of factors is not exclusive, these factors are intended to provide the Commission with a framework for determining whether the subject imports compete with each other and with the domestic like product.[79] Only a "reasonable overlap" of competition is required.[80]

A. Arguments of the Parties

Petitioner's Arguments. Petitioner argues that the Commission should consider subject imports on a cumulated basis. It contends that subject imports from China and India are generally substitutable with each other and with the domestic like product. Petitioner asserts that subject imports from China and India have been simultaneously present in the U.S. market during the POI.[81] It argues that pricing data collected by the Commission show that imports of ***, and further contends that ***.[82] Chemours argues that based on its product codes, over *** percent of PTFE produced by Chemours competes with products from China and India.[83]

Respondents' Arguments. Respondents stated at the conference that subject imports from China should not be cumulated with subject imports from India. However, in their postconference briefs, neither respondent pursued any cumulation arguments. GFL states that it reserves the right to address cumulation in any final phase of these investigations.[84]

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[78] *See Certain Cast-Iron Pipe Fittings from Brazil, the Republic of Korea, and Taiwan*, Inv. Nos. 731-TA-278-80 (Final), USITC Pub. 1845 (May 1986), *aff'*d, *Fundicao Tupy, S.A. v. United States*, 678 F. Supp. 898 (Ct. Int'l Trade), *aff'd*, 859 F.2d 915 (Fed. Cir. 1988).

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

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

[81] Chemours Postconference Brief at 23.

[82] Chemours Postconference Brief at 23.

[83] Chemours Postconference Brief at 23.

[84] GFL Postconference Brief at 8.

B. Analysis and Conclusion

We consider subject imports from China and India on a cumulated basis. As an initial matter, petitioner filed the antidumping/countervailing duty petitions with respect to imports from both countries on the same day, September 28, 2017.[85]

Fungibility. Respondents assert that subject imports from China and India are predominantly commodity grade PTFE.[86] The parties disagree over the ratio of commodity to specialty grades in the U.S. PTFE market.[87] While the largest share of shipments of the domestic product consisted of *** and the largest share of shipments of imports from each subject country was in *** form throughout most of the POI, appreciable percentages of the domestically produced product and imports from each subject country are in each of the three principal product forms.[88] *** reported that imports from each subject country are frequently interchangeable with each other and with the domestic like product and *** reported that they are sometimes interchangeable.[89] Many industry participants report that that interchangeability is limited by the specific application and grade being used.[90] A majority of responding importers reported that imports from each subject country were sometimes interchangeable with each other and with the domestic like product.[91] Consequently, the record indicates that imports from each subject country and the domestic like product are sold in the U.S. market in each of the three in-scope forms and that there is at least moderate interchangeability between products from different sources within similar grades.

Channels of Distribution. Domestically produced PTFE and subject imports from China and India are sold through similar channels of distribution. Subject imports from China were sold primarily to end users. Subject imports from India are sold *** end users.[92] The domestic like product is sold to both end users and distributors, ***.[93]

Geographic Overlap. During the POI, subject imports from China and India were present in all U.S. geographic markets except Alaska, Hawaii, Puerto Rico, and the U.S. Virgin Islands. Subject imports from India also were not present in the Mountain regions of the United States. A majority of subject imports from China entered the United States through U.S. ports located along the eastern coast, whereas the majority of subject imports from India entered through

[85] None of the statutory exceptions to cumulation applies.

[86] GFL Postconference Brief at Exhibit 14, Answer to Question 4; Tr. at 158 (Baillie), 162 (Arlati); CR/PR at Table IV-3; CR at II-13, PR at II-8.

[87] Tr. at 217-219 (Baillie) (providing qualified estimates), 228-229 (Cannon) (rebutting respondents' estimates).

[88] CR/PR at Tables II-4, IV-3.

[89] CR at II-15, PR at II-9.

[90] CR at II-16-17, PR at II-10.

[91] CR at II-15, PR at II-9.

[92] CR at II-2, PR at II-1.

[93] Tr. at 30 (Genna); CR/PR at Table II-1.

U.S. ports located along the eastern coast and southern border. The domestic like product is sold in all regions of the United States.[94]

Simultaneous Presence in Market. The record indicates that subject imports from China and India and the domestic like product were present in the U.S. market throughout the POI.[95]

Conclusion. While there are some allegations that subject imports from both China and India may predominantly consist of a lower grade of PTFE than the domestically produced product, the record indicates that subject imports are generally interchangeable with the domestic like product within the same grade and for the same application. Subject imports from China and India were sold in similar channels of distribution and in overlapping geographic regions as domestically produced PTFE. Subject imports from China and India and the domestic like product were also simultaneously present in the U.S. market throughout the POI. No party asserts that the Commission should consider subject imports separately. In light of the foregoing, we find that there is a reasonable overlap of competition between the domestic like product and imports from each subject country and between imports from each subject country.

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

A. Legal Standard

In the preliminary phase of antidumping and countervailing duty investigations, the Commission determines whether there is a reasonable indication that an industry in the United States is materially injured or threatened with material injury by reason of the imports under investigation.[96] 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.[97] The statute defines "material injury" as "harm which is not inconsequential, immaterial, or unimportant."[98] 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.[99] No single factor

[94] CR/PR at Tables II-2 and IV-5.

[95] *See, e.g.* CR/PR at Tables III-5, IV-2, and IV-6.

[96] 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.

[97] 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).

[98] 19 U.S.C. § 1677(7)(A).

[99] 19 U.S.C. § 1677(7)(C)(iii).

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."[100]

Although the statute requires the Commission to determine whether there is a reasonable indication that the domestic industry is "materially injured by reason of" unfairly traded imports,[101] 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.[102] 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.[103]

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.[104] In performing its examination, however, the Commission need not isolate

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[100] 19 U.S.C. § 1677(7)(C)(iii).

[101] 19 U.S.C. §§ 1671b(a), 1673b(a).

[102] *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).

[103] 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).

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

the injury caused by other factors from injury caused by unfairly traded imports.[105] Nor does the "by reason of" standard require that unfairly traded imports be the "principal" cause of injury or contemplate that injury from unfairly traded imports be weighed against other factors, such as nonsubject imports, which may be contributing to overall injury to an industry.[106] It is clear that the existence of injury caused by other factors does not compel a negative determination.[107]

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."[108] Indeed, the Federal Circuit has examined and affirmed various Commission methodologies and has disavowed "rigid adherence to a specific formula."[109]

(…Continued)
developments in technology and the export performance and productivity of the domestic industry"); *accord Mittal Steel*, 542 F.3d at 877.

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

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

[107] *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.").

[108] *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*, 793 F.3d 1355 (Fed. Cir. 2015), the Federal Circuit affirmed the Commission's causation analysis as comporting with the Court's guidance in *Mittal*.

[109] *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.").

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.[110] 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.[111] 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.[112]

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.[113] Congress has delegated this factual finding to the Commission because of the agency's institutional expertise in resolving injury issues.[114]

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

[111] *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).

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

[113] 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.

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

B. Conditions of Competition and the Business Cycle

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

1. Demand Conditions

Demand for PTFE is driven by demand for the downstream products that use PTFE and can vary depending on conditions in specific end-use markets, such as automotive, aerospace, consumer electronics, or oil and gas.[115] Chemours reported that demand was generally stable throughout the POI, with the oil and gas sector experiencing declines, but the automotive sector being "very strong."[116] Respondents contended that demand was soft or declining during most of the POI but began to increase in 2017.[117] Both U.S. producers and a plurality of responding importers reported demand increased during the POI.[118] Demand as measured by apparent U.S. consumption declined from *** pounds in 2014 to *** pounds in 2015, and then to *** pounds in 2016; it was *** pounds in interim 2016 and higher, at *** pounds, in interim 2017.[119]

2. Supply Conditions

As noted above, there were two domestic producers of PTFE during the POI, Chemours and Daikin. The domestic industry held *** percent of apparent U.S. consumption in 2014, *** percent in 2015, and *** percent in 2016; it held *** percent in interim 2016 and *** percent in interim 2017.[120] In July 2015, Chemours was spun off from DuPont and became a separate company.[121] The domestic industry experienced some shutdowns for maintenance and some *** during the POI.[122] Chemours states that production of PTFE is a high fixed cost industry, and that its plants must operate at 70 percent capacity utilization or higher in order to maintain modest profits.[123] Respondents assert that the domestic industry supplies mostly specialty grades of PTFE and that in 2017 the domestic industry ceased to supply purchasers with certain commodity grades of PTFE.[124]

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[115] Tr. at 23 (Hoeck), 67 (Genna).

[116] Tr. at 35 (Dignam) ("demand is stable"), 56 (Hayes).

[117] Tr. at 16 (Nolan), 138-139 (Jaxa-Debecki).

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

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

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

[121] CR/PR at VI-1.

[122] CR/PR at Table III-3.

[123] Tr. at 36 (Dignam).

[124] *E.g.* Tr. at 134 (Arlati). In any final phase of these investigations, we intend to further examine the nature of any supply constraints in the U.S. market, and the extent to which any products that the domestic industry allegedly does not supply are available from nonsubject sources.

Cumulated subject imports held *** percent of apparent U.S. consumption in 2014, *** percent in 2015, and *** percent in 2016; their share of the market was *** percent in interim 2016 and *** percent in interim 2017.[125] Respondents contend that subject imports include commodity grade PTFE that purchasers were unable to obtain from the domestic industry.[126]

Nonsubject imports were the largest source of supply to the U.S. PTFE market during the POI. These imports accounted for *** percent of apparent U.S. consumption in 2014, *** percent in 2015, and *** percent in 2016; their share of the market was *** percent in interim 2016 and *** percent in interim 2017.[127] The largest source of nonsubject imports during the POI was Italy, followed by Germany.[128] Imports of granular and wet raw polymer PTFE from Italy were subject to an antidumping duty order in the United States until August, 2016.[129]

3. Substitutability and Other Conditions

The record indicates that domestically produced PTFE and PTFE from China and India are at least moderately substitutable.[130] PTFE is produced in a wide range of grades within each form. Producers and importers reported that interchangeability is limited by the specific application and grade, and that some producers or countries often produce unique grades or specialize in particular products.[131] Respondents contend that subject imports are concentrated in commodity grade PTFE whereas domestically produced PTFE generally consists of specialty grades of PTFE. Nonetheless, ***.[132] The majority of responding importers reported that PTFE from China and India was sometimes interchangeable with each other and the domestic like product.[133] We find that subject imports are at least moderately substitutable with the domestic like product. In any final phase of these investigations, we intend to further examine the nature of any differences between commodity and specialty grades of PTFE and how market participants determine which category a particular PTFE product falls into.

The record further indicates that price is one of several important factors in purchasing decisions. Purchasers responding to the lost sales and lost revenue survey named quality, price, and availability as the three most important factors in purchasing decisions.[134] Quality related factors were the most frequently cited as the first and second most important purchasing factors; price was the most frequently cited third most important factor.[135]

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

[126] Tr. at 134 (Arlati).

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

[128] CR at II-8, PR at II-4.

[129] The order was revoked by Commerce because the domestic parties did not participate in its five-year review of the order. CR at I-6, PR at I-4.

[130] CR at II-13, PR at II-8.

[131] CR at II-16-17, PR at II-10.

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

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

[134] CR at II-14, PR at II-8-9.

[135] CR at II-14, PR at II-4.

PTFE is produced from TFE. Due to its unstable nature, TFE is generally not transported and domestic producers of PTFE produce both TFE and downstream products, including PTFE, on the same premises.[136] Raw material costs declined during the POI;[137] the record indicates that raw material costs do not generally drive pricing for PTFE.[138]

C. Volume of Subject Imports

Section 771(7)(C)(i) of the Tariff Act provides that the "Commission shall consider whether the volume of imports of the merchandise, or any increase in that volume, either in absolute terms or relative to production or consumption in the United States, is significant."[139]

Cumulated subject imports maintained a substantial presence in the U.S. market throughout the POI. The volume of cumulated subject imports was 10.9 million pounds in 2014, 10.8 million pounds in 2015, and 10.5 million pounds in 2016; it was 4.7 million pounds in interim 2016 and higher, at 7.0 million pounds, in interim 2017.[140] The market share of cumulated subject imports rose from *** percent in 2014 to *** percent in 2015, and declined to *** percent in 2016; it was *** percent in interim 2016 and higher, at *** percent, in interim 2017.[141] For purposes of these preliminary determinations, we find that the volume of cumulated subject imports is significant, both in absolute terms and relative to consumption.

D. Price Effects of the Subject Imports

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

> (I) there has been significant price underselling by the imported merchandise as compared with the price of domestic like products of the United States, and
>
> (II) the effect of imports of such merchandise otherwise depresses prices to a significant degree or prevents price increases, which otherwise would have occurred, to a significant degree.[142]

As explained above in section VII.B.3, the record indicates that the domestic like product and subject imports are at least moderately substitutable and that price is an important consideration in purchasing decisions.

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[136] CR at I-13 n.34, PR at I-9 n.34.
[137] CR/PR at Table VI-3.
[138] CR at V-2 n.3, PR at V-1 n.3.
[139] 19 U.S.C. § 1677(7)(C)(i).
[140] CR/PR at Table IV-2.
[141] CR/PR at Table IV-8.
[142] 19 U.S.C. § 1677(7)(C)(ii).

The Commission collected quarterly pricing data from U.S. producers and importers for five PTFE products.[143] Two domestic producers and five importers provided usable pricing data, although not all firms reported pricing for all products for all quarters. Pricing data reported by these firms accounted for *** percent of U.S. producers' reported U.S. commercial shipments, *** percent of importers' U.S. commercial shipments of PTFE from China, and *** percent of importers' U.S commercial shipments of PTFE from India.[144]

The pricing data show pervasive underselling. Prices for cumulated subject imports were below those for the domestically produced product in 105 of 117 quarterly comparisons. There were 11.0 million pounds of cumulated subject imports in quarterly comparisons in which subject imports undersold the domestic like product, while only 453,486 pounds were in quarterly comparisons in which subject imports oversold the domestic like product. The average margins of underselling for the different pricing products ranged from *** percent, while the average margins of overselling ranged from *** percent.[145]

A substantial share of subject imports was directly imported. The record shows that the purchase cost of direct imports of cumulated subject imports was lower than prices for the domestic like product in 37 of 43 quarterly comparisons, and higher in six of 43 comparisons. On a volume basis, the overwhelming majority of direct imports were in quarterly comparisons in which subject import purchase costs were below the price of the domestic like product. The differential between direct import purchase costs and prices for the domestic like product was generally substantially higher than the estimated additional costs associated with direct importation.[146] The differences between direct import costs and prices for the domestic like product were particularly noteworthy for pricing products 1 and 2, for which there were also substantial underselling observations.[147] Thus, the direct import data provide further support for a finding that subject import prices were generally lower than those for the domestic like product. We therefore find the underselling by cumulated subject imports to be significant.[148]

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[143] The five pricing products are as follows:

Product 1.--Granular PTFE resin, fine cut, bulk density 400-500g/L, 25-40µm average particle size, not modified, not filled, in packages of 25kg or greater.

Product 2.--Granular PTFE resin, free flowing, bulk density 500-850g/L, 290-700µm average particle size, not modified, not filled, in packages of 25kg or greater.

Product 3.--PTFE fine powder resin, not modified, in packages of 25kg or greater.

Product 4.--PTFE fine powder resin, modified, in packages of 25kg or greater.

Product 5.--PTFE dispersion, general purpose, 50-65% solid content, packaged in drums of 50 gallons or greater.

CR at V-6, PR at V-4.

[144] CR at V-6-7, PR at V-4. Pricing data for domestic producer shipments are *** because ***.

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

[146] *Compare* CR/PR Tables V-8-11 *with* CR at V-18-19, PR at V-6-7.

[147] *See* CR/PR at Tables V-13-14.

[148] Respondents contend that some price differences may be related to differences in quality between grades of products, specifically between commodity and specialty grades. We invite parties, in their comments on draft questionnaires, to suggest pricing product definitions that would promote comparability of domestic product and subject merchandise.

We have also considered price trends during the POI. Prices for all five domestically produced products declined from 2014 to 2016, and prices for three of the five pricing products were lower in the second quarter of 2017 than at the beginning of the POI.[149] The declines in prices between the first quarter of 2014 and the fourth quarter of 2016 ranged from *** percent to *** percent for the five domestically produced pricing products.[150] The pricing product data also show that prices for subject imports generally declined.

We observe that demand declined modestly between 2014 and 2016. In addition, during this period raw materials costs generally declined;[151] as stated above, however, evidence available in this preliminary phase of these investigations indicates that changes in raw materials costs do not drive price changes for PTFE.[152] Overall, the record of the preliminary phase of these investigations indicates that the substantial volume of low-priced subject imports played a role in price declines. This conclusion is further supported by responses from some purchasers that the domestic industry reduced prices to compete with lowerpriced subject imports.[153] We intend in any final phase of these investigations to explore further the role that various factors (including subject imports, demand, and raw material costs) play in price changes.

Thus, on the basis of the record in the preliminary phase of these investigations, we find that there was significant underselling by subject imports and that the significant volume of low-priced cumulated subject imports was a factor in depressing prices for the domestic like product from 2014 to 2016.

E. Impact of the Subject Imports [154]

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

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[149] CR/PR at Tables V-3-7. Prices for Pricing Products 1, 4, and 5 declined during from the first to the last quarter of the POI; prices for Pricing Product 2 were $*** higher per dry pound in the last quarter of the POI than in the first, and prices for Pricing Product 3 were $*** higher.

[150] *See* CR/PR at Tables V-3-6.

[151] *See* CR/PR at Table IV-8, Figure V-1.

[152] *See* CR/PR at V-1 n.3.

[153] *See* CR/PR at Table V-17a.

[154] In its notices initiating the antidumping duty investigations, Commerce reported estimated dumping margins ranging from 23.4 to 408.9 percent for PTFE from China and estimated dumping margins ranging from 15.8 to 128.1 percent for PTFE from India. *Polytetrafluoroethylene (PTFE) Resin from India: Initiation of Countervailing Duty Investigation*, 82 Fed. Reg. 49592 (Oct. 26, 2017); *Polytetrafluoroethylene (PTFE) Resin from India and the People's Republic of China: Initiation of Less-Than-Fair Value Investigations,* 82 Fed. Reg. 49587 (Oct. 26, 2017).

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."[155]

Nearly all performance indicators for the domestic industry declined overall from 2014 to 2016 but several indicators showed improvement in interim 2017. The domestic industry's capacity increased from *** pounds in 2014 to *** pounds in 2015 and then declined to *** pounds in 2016, which was below the 2014 level. Capacity was *** pounds in interim 2016 and higher, at *** pounds, in interim 2017. Production declined from *** pounds in 2014 to *** pounds in 2015 and then to *** pounds in 2016; it was *** pounds in interim 2016 and higher, at *** pounds, in interim 2017. Capacity utilization decreased from *** percent in 2014 to *** percent in 2015 and *** percent in 2016; it was *** percent in interim 2016 and higher, at *** percent, in interim 2017.[156] U.S. shipments declined from *** pounds in 2014 to *** pounds in 2015, and then to *** pounds in 2016; they were *** pounds in interim 2016 and higher, at *** pounds, in interim 2017.[157] The domestic industry's share of apparent U.S. consumption declined from *** percent in 2014 to *** percent in 2015 and to *** percent in 2016; this share was *** percent in 2016 and higher, at *** percent, in interim 2017.[158] End-of-period inventories declined from *** pounds in 2014 to *** pounds in 2015 and *** pounds in 2016; they were *** pounds in interim 2016 and higher, at *** pounds, in interim 2017.[159]

The number of production and related workers declined from *** in 2014 to *** in 2015 and to *** in 2016; it was *** in interim 2016 and higher, at ***, in interim 2017. Total hours worked decreased from *** hours in 2014 to *** hours in 2015 and *** hours in 2016; it was *** hours in interim 2016 and higher, at *** hours, in interim 2017. Wages paid increased from $*** in 2014 to $*** in 2015, and then declined to $*** in 2016; they were $*** in interim 2016 and higher, at $***, in interim 2017. Average hourly wages increased from $*** in 2014 to $*** in 2015 and $*** in 2016; they were $*** in interim 2016 and lower, at $***, in interim 2017. Productivity declined from *** pounds per hour in 2014 to *** pounds per hour in 2015 and then increased to *** pounds per hour in 2016 (still below the 2014 level); productivity was *** pounds per hour in interim 2016 and higher, at *** pounds per hour, in interim 2017.[160]

The value of total net sales declined from $*** in 2014 to $*** in 2015 and $*** in 2016; it was $*** in interim 2016 and higher, at $***, in interim 2017. Gross profits declined from $*** in 2014 to $*** in 2015 and $*** in 2016; they were $*** in interim 2016 and higher, at $***, in interim 2017. Operating income declined from *** in 2014 to *** in 2015 and *** in 2016; it was *** in interim 2016 and *** in interim 2017. The domestic industry's operating income margin declined from *** percent in 2014 to *** percent in 2015 and *** percent in 2016; it was *** percent in interim 2016 and *** percent in interim 2017. Net

[155] 19 U.S.C. § 1677(7)(C)(iii). This provision was amended by the Trade Preferences Extension Act of 2015, Pub. L. 114-27.

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

[157] CR/PR at Table III-5.

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

[159] CR/PR at Table III-8.

[160] CR/PR at Table III-10.

income declined from *** in 2014 to *** in 2015 and *** in 2016; it was *** in interim 2016 and *** in interim 2017.[161] [162]

Capital expenditures and research and development ("R&D") expenses fluctuated during the POI. Capital expenditures were $*** in 2014, $*** in 2015, and $*** in 2016; they were $*** in interim 2016 and $*** in interim 2017. R&D expenses were $*** in 2014, $*** in 2015, and $*** in 2016; they were $*** in interim 2016 and $*** in interim 2017.[163]

As described above, the volume of cumulated subject imports was significant, both absolutely and relative to apparent U.S. consumption. These cumulated subject imports significantly undersold the domestic like product throughout the POI and they were a factor in falling prices for the domestic like product from 2014 to 2016, resulting in lower revenues for the domestic industry. These lower revenues in turn exacerbated the domestic industry's declining and negative financial performance during the 2014-to-2016 period. Although many domestic industry performance indicators improved in interim 2017 relative to interim 2016, notwithstanding the increasing presence of cumulated subject imports in the U.S. market, we observe that the domestic industry's financial performance during interim 2017 was still below the levels observed at the beginning of the POI.[164]

We have considered whether there were other factors that may have had an impact on the domestic industry during the POI to ensure that we are not attributing injury from these factors to subject imports. As discussed earlier, apparent U.S. consumption declined from 2014 to 2016. Respondents have argued that as the volume of subject imports declined, so did the financial condition of the domestic industry, and that when subject imports increased in interim 2017, they took market share from nonsubject imports rather than the domestic industry. Respondents have also asserted that competition between subject imports and the domestic like product is attenuated, primarily due to differences in grade. In any final phase of these investigations, in evaluating the impact of the subject imports on the domestic industry, we intend to further explore the role of declining demand and shifts in market share with respect to changes in the domestic industry's condition, as well as the nature of the competition between the domestic like product and subject imports.

We have also considered the presence of nonsubject imports. As described above, nonsubject imports were the largest source of PTFE in the U.S. market during the POI. However, the volume of nonsubject imports declined during the POI and was noticeably lower in interim 2017 than in interim 2016.[165] Additionally, available data indicate that nonsubject

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[161] CR/PR at Table VI-1.

[162] We acknowledge that we are required to examine the domestic industry as a whole. 19 U.S.C. § 1677(4)(A). However, we observe that there are substantial differences in performance, particularly financial performance, between the two domestic producers in these investigations and intend to examine further the reasons for these differences in any final phase of these investigations.

[163] CR/PR at Table VI-4.

[164] Chemours indicated that it used a short-term "reengagement" strategy to regain customers it had lost to subject imports. This strategy involved increasing production and cutting costs and prices. However, it also indicated that its lower prices were being matched or undercut by subject imports. Tr. at 36-37 (Dignam); Chemours Postconference Brief at 2, 39.

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

imports were generally priced higher than subject imports.[166] We therefore find, for purposes of these preliminary determinations, that nonsubject imports do not explain the domestic industry's declines in performance during the POI or its falling prices from 2014 to 2016. We will further examine the effects of nonsubject imports in any final phase of these investigations.

Accordingly, for purposes of these preliminary determinations, we conclude that cumulated subject imports had a significant impact on the domestic industry.

VIII. Conclusion

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

[166] *See* CR/PR at Appendix D.

PART I: INTRODUCTION

BACKGROUND

These investigations result from petitions filed with the U.S. Department of Commerce ("Commerce") and the U.S. International Trade Commission ("USITC" or "Commission") by The Chemours Company FC LLC ("Chemours"), Wilmington, Delaware, on September 28, 2017, alleging that an industry in the United States is materially injured and threatened with material injury by reason of less-than-fair-value ("LTFV") imports of polytetrafluoroethylene ("PTFE") resin[1] from China and subsidized and LTFV imports of PTFE resin from India. The following tabulation provides information relating to the background of these investigations.[2] [3]

Effective date	Action
September 28, 2017	Petitions filed with Commerce and the Commission; institution of Commission investigations (82 FR 46284, October 4, 2017)
October 18, 2017	Commerce's notice of initiation (82 FR 49587 and 82 FR 49592, October 26, 2017)
October 19, 2017	Commission's conference
November 9, 2017	Commission's vote
November 13, 2017	Commission's determinations
November 20, 2017	Commission's views

STATUTORY CRITERIA AND ORGANIZATION OF THE REPORT

Statutory criteria

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

> *shall consider (I) the volume of imports of the subject merchandise, (II) the effect of imports of that merchandise on prices in the United States for domestic like products, and (III) the impact of imports of such merchandise on domestic producers of domestic like products, but only in the context of production operations within the United States; and. . .*

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

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

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

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-—

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—[4]

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

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

Organization of report

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

MARKET SUMMARY

PTFE resin is generally is used to produce downstream products, such as gaskets, seals, linings, films, insulation, packing for chemical applications, and pipe liners and coatings. These products are used in a wide range of industries, including the oil and gas, automotive, aerospace, industrial, chemical, and semiconductor industries.[5] The leading U.S. producers of PTFE resin are Daikin America Inc. ("Daikin") and Chemours, while leading producers of PTFE resin in China and India include The Chemours China Holding Company Limited ("Chemours China"), Daikin Fluorochemicals (China) Co. Ltd. ("Daikin China"), and Gujarat Fluorochemicals Limited ("Gujarat India"). The leading U.S. importers of PTFE resin from China are ***, while the leading importer of PTFE resin from India is ***. U.S. purchasers of PTFE resin are firms that use PTFE resin for further downstream product applications; leading purchasers include ***.

Apparent U.S. consumption of PTFE resin totaled approximately *** pounds dry weight ($***) in 2016. Currently, two firms are known to produce PTFE resin in the United States, Chemours and Daikin.[6] U.S. producers' U.S. shipments of PTFE resin totaled *** pounds dry weight ($***) in 2016, and accounted for *** percent of apparent U.S. consumption by quantity and *** percent by value. U.S. imports from subject sources totaled 10.5 million pounds dry weight ($41.6 million) in 2016 and accounted for *** percent of apparent U.S. consumption by quantity and *** percent by value. U.S. imports from nonsubject sources totaled 21.5 million pounds dry weight ($124.8 million) in 2016 and accounted for *** percent of apparent U.S. consumption by quantity and *** percent by value.

SUMMARY DATA AND DATA SOURCES

A summary of data collected in these investigations is presented in appendix C, table C-1. Except as noted, U.S. industry data are based on questionnaire responses of two firms that

[5] Conference transcript, pp. 30 and 67 (Genna).
[6] Petitions, p. 2.

accounted for all known U.S. production of PTFE resin during 2016.[7] U.S. import data are based on official Commerce statistics, as well as 14 questionnaire responses representing 24.7 percent of U.S. imports from China and 85.4 percent of U.S. imports from India in 2016. Two Chinese producers (accounting for approximately *** percent of U.S. imports of PTFE resin from China) and one Indian producer (accounting for approximately *** percent of U.S. imports of PTFE resin from India) responded to the Commission's request for information.

PREVIOUS AND RELATED INVESTIGATIONS

On November 6, 1987, E.I. du Pont de Nemours & Co., Inc. ("DuPont") filed petitions with Commerce and the Commission alleging that an industry in the United States was materially injured by reason of dumped imports of granular PTFE resin from Italy and Japan.[8] In August 1988, Commerce made final affirmative dumping determinations, with margins as follows: Italy - Montefluos S.p.A./Ausimont U.S.A., 46.46 percent, and all others, 46.46 percent;[9] Japan - Daikin Industries, Inc., 103.00 percent, Asahi Fluoropolymers Co., Ltd., 51.45 percent; and all others, 91.74 percent.[10] The Commission made its final affirmative injury determinations in August 1988,[11] and Commerce issued antidumping duty orders on August 24, 1988 (Japan) and August 30, 1988 (Italy). [12]

The antidumping order against Japan was revoked in 2011 by Commerce and the order against Italy was revoked in 2016 by Commerce because the domestic parties did not participate in Commerce's five-year review of the orders, as follows:

	Order Issued		Order Revoked	
	Published	Date	Published	Date
Granular PTFE Resin from Japan	53 FR 32267	Aug. 24, 1988	76 FR 3614	Jan. 20, 2011
Granular PTFE Resin from Italy	53 FR 33163	Aug. 30, 1988	81 FR 53119	Aug. 11, 2016

The antidumping orders on imports of granular PTFE resin from Japan and Italy were limited to imports of the granular form of PTFE resin, whether filled or unfilled. The order on granular PTFE resin from Italy was later amended to include wet raw polymer PTFE.[13] Imports

[7] Petitions, p. 2.

[8] *Granular Polytetrafluoroethylene Resin from Italy and Japan, Inv. Nos. 731-TA-385 and 386 (Final)*, USITC Pub. 2112 (August 1988) ("USITC Pub. 2112").

[9] *Final Determination of Sales at Less Than Fair Value: Granular Polytetrafluoroethylene Resin From Italy*, 53 FR 26096, July 11, 1988.

[10] *Notice of Final Determination of Sales at Less Than Fair Value: Granular Polytetrafluoroethylene Resin From Japan*, 53 FR 25191, July 5, 1988.

[11] USITC Pub. 2112, p. 1.

[12] *Antidumping Duty Order; Granular Polytetrafluoroethylene Resin from Italy*, 53 FR 33163, August 30, 1988; *Antidumping Duty Order; Granular Polytetrafluoroethylene Resin From Japan*, 53 FR 32267, August 24, 1988.

[13] *Granular Polytetrafluoroethylene Resin From Italy; Final Affirmative Determination of Circumvention of Antidumping Duty Order*, 58 Fed. Reg. 26,100 (April 30, 1993).

of dispersions (including coagulated dispersions) were not within the scope of the 1988 antidumping duty investigations or the resulting orders.[14]

NATURE AND EXTENT OF ALLEGED SUBSIDIES AND SALES AT LTFV

Alleged subsidies

On October 26, 2017, Commerce published a notice in the *Federal Register* of the initiation of its countervailing duty investigation on PTFE resin from India.[15] Commerce identified the following government programs in India:

A. Alleged Subsidy Programs Provided by the Government of India ("GOI")

1. Export Promotion of Capital Goods Scheme ("EPCGS")
2. Duty Drawback Program ("DDB")
3. Duty Free Import Authorization ("DFIA")
4. Income Tax Exemption Scheme (80-IA)
5. Duty Free Importation of Capital Goods and Raw Materials, etc.
6. Exemption from Payment of Central Sales Tax ("CST")
7. SEZ Income Tax Exemption Provision

B. Alleged Subsidy Programs Provided by the State Government of Gujarat ("SGOG"):

1. SGOG Provision of Land for Less than Adequate Remuneration ("LTAR")
2. SGOG Preferential Water Rates
3. State of Gujarat Interest Subsidy under Assistance to Manufacturing Sector Scheme
4. State of Gujarat Core Infrastructure in Manufacturing Sector
5. State of Gujarat Assistance in Setting Up Common Facilities
6. State of Gujarat Assistance in Common Effluent Treatment Plant
7. State of Gujarat Assistance for Center for Excellence
8. Export Promotion – Government Grants
9. Subsidies Provided Under SGOG Special Economic Zone Act
   i. Exemption from Payment of State Sales Tax
   ii. Gujarat Exemption from Payment of State Government Taxes and Duties Such as Stamp Duties
   iii. Exemption from Electricity Duty

[14] USITC Pub. 2112, p. A-2.

[15] *Polytetrafluoroethylene Resin From India: Initiation of Countervailing Duty Investigation*, 82 FR 49592, October 26, 2017.

Alleged sales at LTFV

On October 26, 2017, Commerce published a notice in the *Federal Register* of the initiation of its antidumping duty investigations on PTFE resin from China and India.[16] Commerce has initiated antidumping duty investigations based on estimated dumping margins of 23.40-408.90 percent for PTFE resin from China and 15.80-128.10 percent for PTFE resin from India.

THE SUBJECT MERCHANDISE

Commerce's scope

Commerce has defined the scope of these investigations as follows:

> *The product covered by this investigation is polytetrafluoroethylene (PTFE) resin, including but not limited to granular, dispersion, or coagulated dispersion (also known as fine powder). PTFE is covered by the scope of this investigation whether filled or unfilled, whether or not modified, and whether or not containing co-polymer additives, pigments, or other materials. Also included is PTFE wet raw polymer. The chemical formula for PTFE is C_2F_4, and the Chemical Abstracts Service Registry number is 9002-84-0.*
>
> *PTFE further processed into micropowder, having particle size typically ranging from 1 to 25 microns, and a melt-flow rate no less than 0.1 gram/10 minutes, is excluded from the scope of this investigation.*
>
> *PTFE is classified in the Harmonized Tariff Schedule of the United States (HTSUS) under subheadings 3904.61.0010 and 3904.61.0090. Subject merchandise may also be classified under HTSUS subheading 3904.69.5000. Although the HTSUS subheadings and CAS Number are provided for convenience and Customs purposes, the written description of the scope is dispositive.*[17]

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[16] *Polytetrafluoroethylene Resin From India and the People's Republic of China: Initiation of Less-Than-Fair- Value Investigations*, 82 FR 49587, October 26, 2017.

[17] *Polytetrafluoroethylene Resin From India and the People's Republic of China: Initiation of Less-Than-Fair- Value Investigations*, 82 FR 49587, October 26, 2017; *Polytetrafluoroethylene Resin From India: Initiation of Countervailing Duty Investigation*, 82 FR 49592, October 26, 2017.

Tariff treatment

Granular, dispersion, and fine powder PTFE resin is classified in the Harmonized Tariff Schedule of the United States ("HTSUS") in subheading 3904.61.00 and is reported under its two statistical reporting numbers, 3904.61.0010 and 3904.61.0090. PTFE resin of subheading 3904.61.00 may contain additives, such as fillers, coloring matter, stabilizers, and plasticizers "chiefly intended to give the finished product special physical properties or other desirable characteristics." Small amounts of additives or impurities do not change the classification.[18]

PTFE copolymer resins in dispersion form may be classified under heading 3904.69.10 or 3904.69.50 of the HTS if the PTFE content falls below 95 percent by weight. Thus, in HQ 085931 (February 6, 1990), "other" fluoropolymer resin and PTFE resin blended in the United Kingdom were classified under subheading 3904.69 because the PTFE content was less than 95 percent by weight. In NY G89571 (May 3, 2001), Teflon fluoropolymers, "designated Teflon nos. 455-296, 459-10200, 455-500, 459-900, and 459-910 {and consisting} of polytetrafluoroethylene (PTFE) based copolymer resins in aqueous dispersions intended for use as coatings in the manufacture of non-stick cooking utensils" were classified under HTS 3904.69. Similarly, modified PTFE resin may meet the definition of a chemically modified polymer for purposes of Subheading Note 1 to Chapter 39 of the HTS. In such cases, the modified PTFE resin is classified under HTS subheading 3904.69.[19] Decisions on the tariff classification and treatment of imported goods are within the authority of U.S. Customs and Border Protection.

THE PRODUCT

Description and applications

Polytetrafluoroethylene ("PTFE") is a crystalline polymer of tetrafluoroethylene ("TFE") consisting of repeating units of carbon and fluorine, or C_2F_4.[20] PTFE is commonly referred to as Teflon®, a registered product of the Chemours Company,[21] although every producer of PTFE resin has their own specific trade name associated with the product.[22] PTFE resin has a variety

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[18] In HQ 952836 (February 19, 1993), "PTFE powder and powder mixed with irregularly shaped lumps" that contained "contaminants such as oil, dirt or other unwanted material that must be physically separated," were classified under HTS subheading 3504.61. U.S. Customs and Border Protection noted that "Where plastics are in a primary form in their condition as imported, the presence of contaminants does not qualify the plastic as waste of HTS heading 3915.

[19] HTS, Ch. 39, Subheading Note 1 ("Chemically modified polymers are to be classified in the subheading named 'Other,' provided that the chemically modified polymers are not more specifically covered by another subheading").

[20] Chemical Abstracts Service ("CAS") registry number for PTFE is 9002-84-0.

[21] Conference transcript, p. 11 (Nikakhtar).

[22] For example, PTFE manufactured by GFL is sold under the trade name Inoflon®; PTFE manufactured by Daikin is sold under the trade name Polyflon™; PTFE manufactured by Dyneon is sold under the trade name "Dyneon TF"; PTFE manufactured by Solvay is sold under the trade name "Algoflon."

of end-use applications due to its chemical inertness, heat and chemical resistance, electrical insulation properties, low coefficient of friction, and functionality over a wide temperature range (-40°C to 260°C).[23] PTFE's properties are attributable to its strong interatomic carbon-fluorine bonds, making the resin resistant to oxidation and reaction with other chemicals (e.g., strong acids, alkalis, and oxidizing agents).[24] In order to benefit from PTFE's properties, TFE must be polymerized to an extremely high molecular weight.[25]

The scope of these investigations includes three primary forms of PTFE resin: granular, dispersion, and fine powder, as outlined in the following tabulation:[26]

Form of PTFE	Particle Size (micron, μ)[27]		Bulk Density (gram/liter, g/L)	
	Minimum	Maximum	Minimum	Maximum
Dispersion	0.05	0.5	1,246	1,520
Granular	20	650	250	700
Coagulated Dispersion (fine powder)	370	675	460	550

There is a fourth commonly recognized form of PTFE resin that falls outside the scope of these investigations: micronized powder.[28] Micronized powder represents low molecular weight PTFE,[29] and has an average particle size that ranges from 1 – 20 μm.[30] Because micronized powder has a lower molecular weight, the material loses some strength and tensile properties.[31] PTFE micronized powder has a melt flow rate that is greater than 0.1 g/10 min,[32]

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[23] Conference transcript, p. 11 (Nikahtar), p. 18 (Hoeck).

[24] Fluorogistx, "*Properties"* http://www.fluorogistx.com/applications-na/properties/, retrieved October 23, 2017.

[25] Gangal, S.V. "*Fluorine-Containing Polymers, Polytetrafluoroethylene"* Kirk-Othmer Encyclopedia of Chemical Technology, http://onlinelibrary.wiley.com/doi/10.1002/0471238961.1615122507011407.a01/full, retrieved October 23, 2017.

[26] Petitions, p. 16. Fine powder can also be referred to as "coagulated dispersion." Conference transcript, p. 18 (Hoeck).

[27] A micron is one millionth of a meter.

[28] Conference transcript, p. 47 (Cannon).

[29] The material is either produced at a low molecular weight or is post-processed to reduce the low molecular weight from other forms of PTFE. Conference transcript, p. 48 (Hoeck).

[30] Jannerfeldt, Claes Gustav; Pabon, Jean-Jacques; Nelissen, Jo Ann. Particles comprising polytetrafluoroethylene and perfluoropolyether. U.S. Patent Application 20170114190 A1 filed June 9, 2015, and published April 27, 2017. https://www.google.com/patents/US20170114190, retrieved October 26, 2017.

[31] Conference transcript, p. 60 (Hoeck).

[32] Melt flow is the measure of the ease of flow of the melt of a thermoplastic polymer. Jannerfeldt, Claes Gustav, Pabon, Jean-Jacques; Nelissen, Jo Ann. Particles comprising polytetrafluoroethylene and perfluoropolyether. U.S. Patent Application 20170114190 A1 filed June 9, 2015, and published April 27, 2017. https://www.google.com/patents/US20170114190, retrieved October 26, 2017; Conference transcript, p. 49 (Hoeck).

and the three forms of PTFE resin that fall within the scope of these investigations have a melt flow of zero.[33]

Each form of PTFE resin is sold in a variety of grades[34] to obtain different properties for usefulness in specific applications.[35] In addition, Chemours notes that there are overlapping applications for PTFE resin in its different forms, such as films and electrical insulation, as seen in the following tabulation.[36]

Application	Granular PTFE resin (mold)	Fine powder PTFE rein (extrude)	Dispersion PTFE resin (coat)
Gaskets, seals, and rings for automotive and aerospace applications	X	X	
Gaskets, linings, and packing for chemical applications	X	X	
Film	X	X	X
Insulation	X	X	X
Wire coating, jacketing, and tubing	X	X	
Pipe liners	X	X	
Pipe coating			X
Coating and impregnating woven goods			X

Source: Chemours postconference brief, p. 10.

As previously indicated, the different forms of PTFE resin can be used in a variety of applications. For example, granular and fine powder PTFE resin can both be used in gaskets and pipe-liners applications, but are chosen based on desired end-use properties.[37] Also, dispersion PTFE resin is customarily used in coating applications.[38] 'Filled' PTFE resin refers to PTFE resin that is compounded with additives including, but not limited to, carbon, graphite, glass fiber,

[33] PTFE resins enter a 'gel' state at 621°F (327 °C) which lends to a measure of '0' for melt flow (i.e., there is no flow to measure because it is not liquid enough), Ibid.

[34] Different formulation techniques are utilized to elicit various grades in the three forms of PTFE resin. Fabrication techniques for granular resins include molding, sintering, and ram extrusion. Fine powdered resins undergo paste-extrusion and dispersions can undergo dip coating and coagulation.

[35] Gangal, S.V. "*Fluorine-Containing Polymers, Polytetrafluoroethylene"* Kirk-Othmer Encyclopedia of Chemical Technology, http://onlinelibrary.wiley.com/doi/10.1002/0471238961.1615122507011407.a01/full, retrieved October 23, 2017.

[36] Petitions, p. 12; Conference transcript, pp. 19-20 (Hoeck).

[37] Conference transcript, p. 52 (Cannon).

[38] Conference transcript, p. 18 (Hoeck).

stainless steel, bronze, aromatic polyester, or pigments.[39] Filling a PTFE resin can enhance the mechanical properties, such as resistance to abrasion.[40]

Chemically, the forms of PTFE resin have similar chemical compositions and chemical properties;[41] however, physically, the three forms of PTFE resin possess somewhat different characteristics.[42] Both granular (or free flow) powder and fine (or fine cut) powder are white powders of different particle sizes,[43] but fine powder PTFE resin smears due to it having a 'sheer' physical property.[44] Dispersion PTFE resin differs from the other two forms in that the PTFE fine powder particles are dispersed in liquid and may appear as a milky white solution.[45] Granular and fine powder PTFE resin have a high melting point and melt viscosity. Consequently, granular PTFE resin cannot be processed by conventional thermoplastic methods, such as injection molding or extrusion. Instead, granular PTFE resin is typically processed by compression molding or ram extrusion, followed by sintering (heating to just below the melting point to fuse individual particles together). Compression molded products are typically fabricated into basic shapes, e.g., cylinders and cubes. These shapes are then machined into seals, bearings, bushings, piston rings, and diaphragms. Fine powder PTFE resin has the same properties of high melting point and viscosity. However, due to the small particle size, fine powder PTFE resin may be processed into a finished product by paste extrusion.[46] Also, dispersion PTFE resin can be directly applied as a coating, or a thin coating may be dried and removed to create a film.

Manufacturing Processes

All forms of PTFE resin start with the production of tetrafluoroethylene ("TFE"). TFE is produced with fluorospar (CaF_2), sulfuric acid, and chloroform. TFE, the simplest perfluorinated

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[39] Gangal, S.V. "*Fluorine-Containing Polymers, Polytetrafluoroethylene"* Kirk-Othmer Encyclopedia of Chemical Technology, http://onlinelibrary.wiley.com/doi/10.1002/0471238961.1615122507011407.a01/full, retrieved October 23, 2017.

[40] Ibid.

[41] These properties include chemical inertness, heat and chemical resistance, electrical insulation properties, low coefficient of friction, and functionality over a wide range of temperatures. Conference transcript, p. 10 (Nikakhtar) and p. 18 (Hoeck).

[42] Processors Alliance postconference brief, pp. 1-2.

[43] Conference transcript, p. 22 (Hoeck). The petitioner argues that all forms of PTFE resin share the same key physical characteristics that are imparted by the polymer. It adds that there is a continuum of particle sizes and density and that there is a degree of overlap between granular and fine powder PTFE across a range of values. Chemours postconference brief, p. 8; petitions, p. 7.

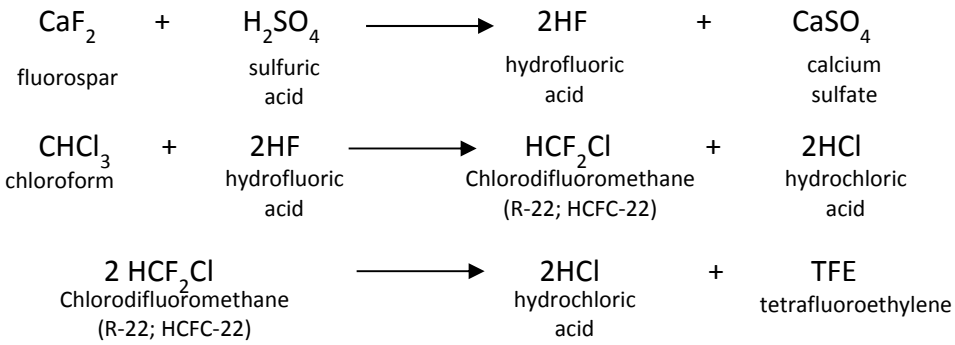
[44] Processors Alliance postconference brief, pp. 1-2.

[45] Ibid; Conference transcript, p. 199 (Baillie).

[46] Since fine powder PTFE resin readily absorbs organic solvents, a paste may be formed that can be easily extruded. Gujarat postconference brief, exhibit 1.

alkene, is a colorless and odorless gas that is unstable[47] (it will decompose to C and CF_4) and can form explosive peroxides in contact with air. In order to produce TFE, chloroform ($CHCl_3$), is fluorinated through a reaction with hydrogen fluoride (HF), produced from fluorospar, to produce chlorodifluoromethane (HCF_2Cl). Chlorodifluoromethane is also called "R-22."[48] R-22 is subsequently pyrolized[49] at 550-750°C, producing TFE and hydrochloric acid (HCl), as shown in Figure I-1.

Figure I-1:
PTFE resin: Manufacturing process



Source: Based on conference transcript p. 21, pp. 74-75 (Hoeck).

There are two separate methods utilized by the industry to polymerize TFE into PTFE: (1) suspension polymerization and (2) dispersion polymerization (Figure I-2).[50]

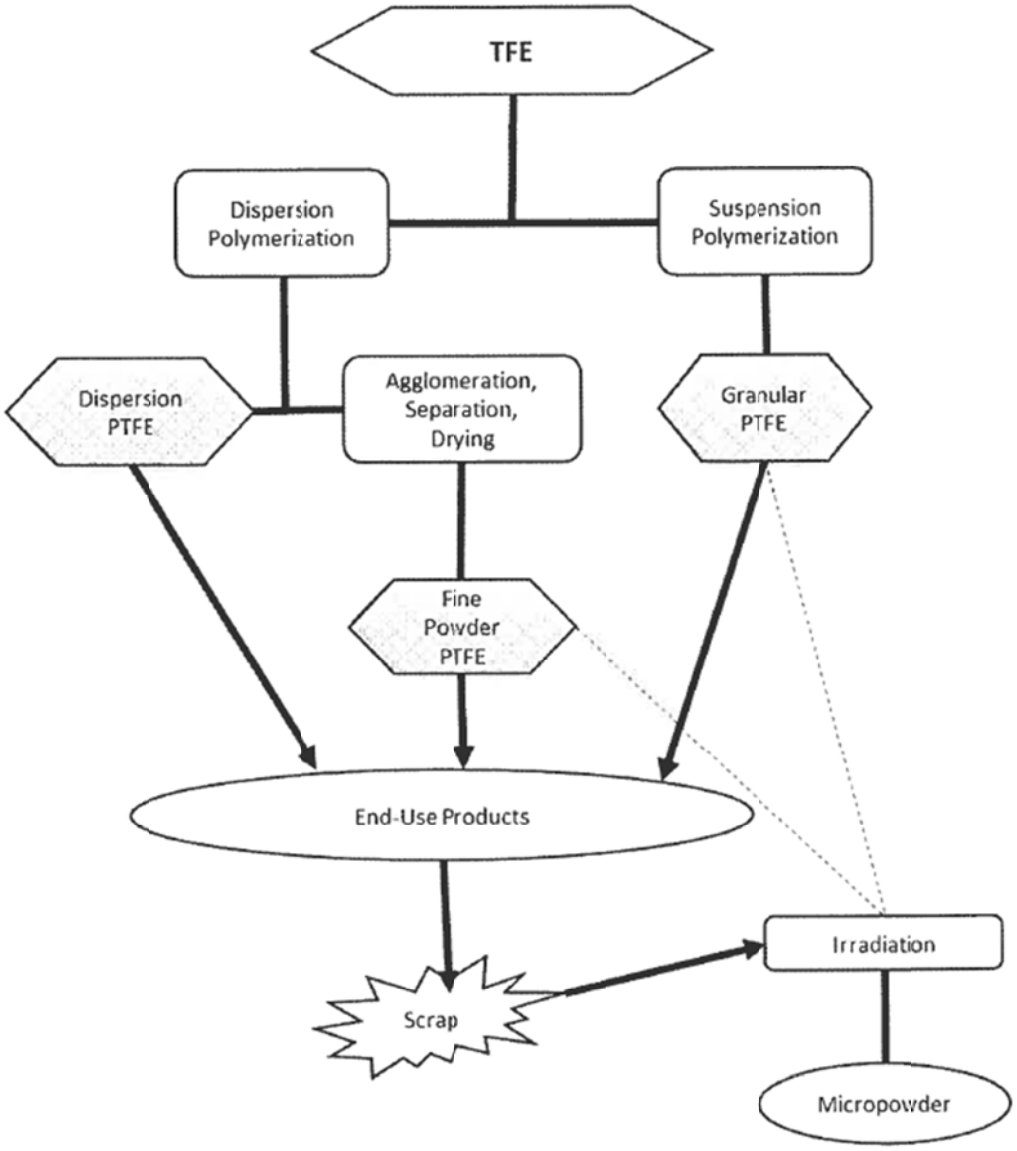
[47] TFE's instability makes it dangerous to transport, so TFE and PTFE production are usually on the same site. In fact, the domestic producers of TFE are also the only known domestic producers of PTFE. Conference transcript, p. 21 (Hoeck).

[48] R-22 can also be referred to as HCFC-22. Conference transcript, p.92 (DeCarlo).

[49] Pyrolysis occurs in the absence or near absence of oxygen and is the chemical decomposition of organic (carbon-based) materials through the application of heat. https://www.britannica.com/science/pyrolysis, accessed October 23, 2017.

[50] Chemours postconference brief, p. 18.

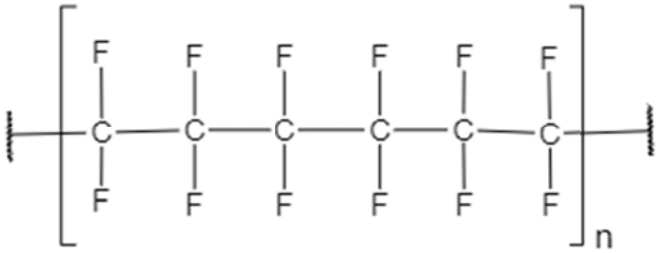
Figure I-2
PTFE resin: Schematic representing the processing pathways for the different forms of PTFE resin



Source: Chemours postconference brief, p. 18.

Granular PTFE resin is produced from TFE through suspension polymerization. The process, which involves vigorous agitation and uses little or no surfactant to produce a precipitate resin, yields a polymer that consists of a repeating chain of TFE (C_2F_4), as shown below.[51]

[51] Conference transcript, p.20 (Hoeck). n = number of repeating units of the monomer TFE.



After polymerization the wet polymer PTFE resembles string-like particles of raw polymer in a milky white solution. The particles are then cut to achieve the desired particle size, agglomerated, and dried. The dried resin can then be ground to produce granular PTFE resin, or ground and heated to produce pre-sintered PTFE resin.[52] The result of this process is a granular or powder product that typically ranges in particle size from 20 microns (µ) and a bulk density of 250 grams per liter (g/L), to 650 µ and 705 g/L depending upon the end-use application, as denoted earlier. It is sold in several different grades, including various sizes of powder, pre-sintered powders, pellets, and compounded molding powders containing fillers and pigments, such as fiberglass, carbon, bronze, or carbon black.[53]

PTFE dispersions are obtained by dispersion polymerization. This process involves mild agitation to avoid coagulation and to keep the particles separated and suspended in solution.[54] Surfactants are also added to keep the particles dispersed in the solution.[55] [56] Following polymerization, additional surfactants may be added to form a stable aqueous dispersion of approximately 60 percent PTFE in water. This process yields a solution similar in appearance and consistency to milk.[57] The dispersion may be packaged and sold as PTFE dispersion. Alternatively, the suspended particles can be agglomerated, separated, and dried to produce a fine powder. Fine powder, despite the name, is generally larger in particle size than granular PTFE resin which has a particle size that usually ranges from 20-650 µ and has a bulk density of 250-700 grams per liter (g/L). As described earlier, fine powder PTFE typically ranges in particle size from 400 µ and a bulk density of 475 g/L, to 490 µ and 550 g/L.

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[52] Gangal, S.V. "*Fluorine-Containing Polymers, Polytetrafluoroethylene"* Kirk-Othmer Encyclopedia of Chemical Technology, http://onlinelibrary.wiley.com/doi/10.1002/0471238961.1615122507011407.a01/full, retrieved October 23, 2017.

[53] Compounded molding powder, or "filled" PTFE resin, is produced by mixing granular PTFE resin with inorganic fillers, from 5 to 60 percent by weight.

[54] Conference transcript, p. 20 (Hoeck).

[55] Ibid.

[56] Historically perfluorinated octanoic acid ("PFOA") was the surfactant of choice, but Chemours has eliminated the use of PFOA in their production, instead utilizing GenX and LX technologies. Some Chinese companies may still use PFOA. Conference transcript, pp. 123-124 (Baillie).

[57] Conference transcript, p.21 (Hoeck).

The production of granular PTFE is not performed on the same equipment as fine powder and dispersion PTFE.[58] For subsequent end-product fabrication, fine powder and dispersion PTFE need separate equipment.[59]

As noted above, all forms of PTFE resin may be compounded with additives to produce filled PTFE resin. Compounding does not involve a chemical reaction or manufacturing process, so it does not need to occur on the same site at TFE production. It is a blending operation that involves significantly less expense and investment than manufacturing the PTFE resin.[60]

DOMESTIC LIKE PRODUCT ISSUES

In these preliminary phase investigations, the petitioner proposes that the Commission find that there is a single domestic like product coextensive with the scope of the petitions.[61] The petitioner further argues that micronized powder, which is excluded from the scope of the petitions, should be found to be a separate domestic like product and that filled PTFE resin, which is included within the scope of the petitions, should be considered part of the domestic like product.[62] The respondents propose that PTFE resin in granular, dispersion, and fine powder forms each constitute a separate domestic like product.[63]

The Commission's decision regarding the appropriate domestic product(s) that are "like" the subject imported product is based on a number of factors including: (1) physical characteristics and uses; (2) common manufacturing facilities and production employees; (3) interchangeability; (4) customer and producer perceptions; (5) channels of distribution; and (6) price. Available information regarding physical characteristics and uses and common manufacturing facilities and production employees is discussed in "The Product" and "Interchangeability" section of this report. Other factors are discussed below.

Interchangeability

On a molecular level, granular, dispersion, and fine powder forms of PTFE resin consist of the same repeating chain of CF_2 (length can vary but 'n' is usually greater than 100 units for all three forms of PTFE) and is defined by a single Chemical Abstracts Service ("CAS") registry number, 9002-84-0.[64] Petitioner argues that all these forms have similar physical characteristics – including chemical inertness, heat and chemical resistance, electrical insulation properties,

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[58] Conference transcript, p. 21 (Hoeck) and pp. 115 and 200 (Baillie).

[59] Conference transcript, p. 115 (Baillie).

[60] Conference transcript, p. 72 (Cannon).

[61] Chemours postconference brief, p. 7.

[62] Ibid., pp. 15 and 20.

[63] Processors Alliance postconference brief, p. 1; Gujarat postconference brief, p. 1. Respondent Gujarat also proposes that micronized powder is a fourth separate domestic like product. Gujarat postconference brief, p. 1.

[64] Conference transcript, p. 20 (Hoeck); n = number of repeating units of the monomer TFE; Petitions, pp. 6-9.

low coefficient of friction, and functionality over a wide range of temperatures – and that a number of applications allow for interchangeable use.[65]

Respondents contend that granular, fine powder, and dispersion forms of PTFE resin are not highly interchangeable, and should be considered by the Commission as separate domestic like products. They also argue that there are distinct grades of PTFE resin within each particular form, and that the domestic industry tends to focus on producing specialty grades of PTFE resin, whereas subject country producers produce more of a commodity product. According to respondents, these differences limit the interchangeability of different grades and types of PTFE resin.[66]

Customer and producer perceptions

Petitioner argues that there are overlapping applications and markets for the many distinct uses of PTFE resin in different forms and that some end users that produce gaskets, seals, linings, films, or coatings may purchase more than one form of PTFE resin for use in their operations.[67] Respondents argue that the different forms of PTFE resin are considered by the industry at large as distinct products.[68] In particular, they state that (1) customers of granular PTFE resin use it to make molds, (2) customers of fine powder PTFE resin mix it with a liquid to facilitate paste extrusion (which requires the fine powder resin), and (3) customers of dispersion PTFE resin typically coat and impregnate the product.[69]

Among firms responding to the preliminary phase questionnaires, some firms indicated that interchangeability depends upon the specific application and grade being used. For some customers, physical properties, particle size, shrinkage rates, and price affect interchangeability.[70]

Channels of distribution

Chemours, which produces granular, fine powder, and dispersion PTFE, uses two channels of distribution for its products: large volume end users and direct sales.[71] It states that granular, fine powder, and dispersion PTFE are all sold to the same distributors.[72]

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[65] Conference transcript, pp. 10 (Nikakhtar), 18, 65-66 (Hoeck); Chemours postconference brief, pp. 8-11.

[66] Conference transcript, pp. 110-120 (Baillie), 138-139 (Jaxa-Debicki); Processors Alliance postconference brief pp. 3-4, Exhibit 1; Gujarat postconference brief, p. 8.

[67] Chemours postconference brief, pp. 10-12.

[68] Conference transcript, p. 110 (Baillie); Processors Alliance postconference brief, p. 5.

[69] Ibid.

[70] For more on firm's responses regarding the factors affecting interchangeability, please refer to Part II, "Substitutability Issues."

[71] Conference transcript, p. 31 (Genna).

[72] Conference transcript, p. 10 (Nikakhtar); Chemours postconference brief, p. 12.

Price

Petitioner argues that the prices of granular, dispersion, and fine powder PTFE overlap.[73] Respondents argue that there are different grades of PTFE resin within each of the different forms, and that the domestic industry tends to concentrate in the higher end of the market, which commands higher prices, while PTFE resin from China and India is more a "commodity" grade product that is typically lower priced.[74] They argue that within the commodity-grade level, there are different price points for each of the forms of PTFE resin, with granular PTFE resin being the lowest priced, followed by dispersion PTFE resin, and fine powder PTFE resin being the highest priced.[75]

The price data collected in these preliminary phase investigations indicate that, on average, values for *** lower than ***, and *** lower than ***.[76]

[73] Chemours postconference brief, pp. 14-15.

[74] Conference transcript, pp. 15 (Nolan), 111 (Baillie).

[75] Conference transcript, pp. 191-192 (Baillie), Processors Alliance postconference brief, pp. 5-6.

[76] For more information on the prices for different PTFE resin products, please refer to Part V, "Price Data."

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

U.S. MARKET CHARACTERISTICS

PTFE resin is used in a wide range of industries, including the oil and gas, automotive, aerospace, industrial, chemical, and semiconductor industries.[1] Common end uses include gaskets, seals, rings, linings, packing, film, tape, insulation, wire coating, jacketing, tubing, pipe liners and coating, and woven goods.[2] There are three major forms of PTFE resin sold in the United States: granular, dispersion, and fine powder (also called coagulated dispersion).[3] U.S. producers reported shipping mostly *** during January 2014-June 2017, and importers of subject product reported shipping mostly *** during this time.[4] PTFE resin can also either be filled or unfilled. Most of the PTFE resin sold in the United States is unfilled, and purchasers and/or importers typically do any filling or compounding for inclusion in downstream products.[5] All three forms of PTFE resin have similar physical characteristics,[6] and some applications, such as tape and film, may allow for interchangeable use.[7] Some applications may require specific attributes, however,[8] and questionnaire responses indicate that quality, grade, physical properties, and particle size are important factors for some end users.

Based on questionnaire data, apparent U.S. consumption of PTFE resin decreased between 2014 and 2016. Overall, reported apparent U.S. consumption in 2016 was *** percent lower than in 2014. Apparent U.S. consumption during January-June 2017 was *** percent higher than during January-June 2016.

CHANNELS OF DISTRIBUTION

U.S. producers and importers from subject as well as nonsubject countries all sold mainly to end users (table II-1). A higher percentage of *** went to *** than *** during January 2014-June 2017. Importers of PTFE resin from *** reported selling ***.

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[1] Conference transcript, pp. 30, 67 (Genna).

[2] Petitions, p. 12; Conference transcript, p. 30 (Genna).

[3] Petitions, p. 20; Conference transcript, pp. 17-18 (Hoeck).

[4] U.S. producers reported that *** percent of their total shipments in 2016 were of granular PTFE resin, *** percent were of fine powder PTFE resin, and *** percent were of dispersion PTFE resin. Importers reported that *** percent of their total shipments of subject imports in 2016 were of granular PTFE resin, *** percent were of fine powder PTFE resin, and *** percent were of dispersion PTFE resin. See also, Conference transcript, pp. 207-208, 212 (Baillie, Haley).

[5] Conference transcript, p. 80 (Hayes, Genna, Cannon). According to questionnaire data, U.S. producers reported shipping *** filled product during January 2014-June 2017.

[6] These physical properties include chemical inertness, heat and chemical resistance, electrical insulation properties, low coefficient of friction, and functionality over a wide range of temperatures. Conference transcript, pp. 10 (Nikakhtar), 18 (Hoeck).

[7] Conference transcript, pp. 18-20 (Hoeck), 23 (Hayes), 65-66 (Hoeck).

[8] Conference transcript, pp. 110-119, 130 (Baillie).

Table II-1
PTFE resin: U.S. producers' and importers' U.S. commercial shipments, by sources and channels of distribution, January 2014-June 2017

* * * * * * *

GEOGRAPHIC DISTRIBUTION

U.S. producers reported selling PTFE resin to all regions in the contiguous United States (table II-2). Importers of PTFE resin from China reported selling mostly to the Northeast (***), Midwest, and Central Southwest (***). The importer of PTFE resin from India reported selling ***.[9] For U.S. producers, *** percent of sales were within 100 miles of their production facility, *** percent were between 101 and 1,000 miles, and *** percent were over 1,000 miles. Importers sold *** percent within 100 miles of their U.S. point of shipment, *** percent between 101 and 1,000 miles, and *** percent over 1,000 miles.

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

		Subject U.S. importers		
Region	U.S. producers	China	India	Subject sources
Northeast	2	***	***	6
Midwest	2	***	***	4
Southeast	2	***	***	3
Central Southwest	2	***	***	4
Mountain	2	***	***	1
Pacific Coast	2	***	***	2
Other[1]	1	---	---	---
All regions (except Other)	2	***	***	1
Reporting firms	2	5	1	6

[1] All other U.S. markets, including AK, HI, PR, and VI.

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

SUPPLY AND DEMAND CONSIDERATIONS

U.S. supply

Domestic production

Based on available information, U.S. producers of PTFE resin have the ability to respond to changes in demand with moderate changes in the quantity of shipments of U.S.-produced PTFE resin to the U.S. market. The main contributing factors to this degree of responsiveness of

[9] ***.

supply are the ability to shift shipments from alternate markets and some availability of inventories. Factors mitigating responsiveness of supply include the diminished availability of unused capacity and limited ability to shift production to or from alternate products.

Industry capacity

Domestic capacity utilization decreased from *** percent in 2014 to *** percent in 2016, ***.[10] Domestic capacity utilization during January-June 2017 was *** percent, compared to *** percent during January-June 2016.[11] This moderate-to-high level of capacity utilization suggests that U.S. producers may have a limited-to-moderate ability to increase production of PTFE resin in response to an increase in prices.

Alternative markets

U.S. producers' export shipments increased from *** percent of total shipments in 2014 to *** percent in 2016. Domestic export shipments during January-June 2017 were *** percent of total shipments, compared to *** percent during January-June 2016. U.S. producers' total export shipments increased from approximately *** pounds dry weight in 2014 to *** pounds in 2016, for an increase of *** percent.[12] These shipment quantities suggest that U.S. producers may have the ability to shift shipments between the U.S. market and other markets in response to price changes.

Inventory levels

U.S. producers' inventories, relative to total shipments, decreased from *** percent in 2014 to *** percent in 2016. U.S. producers' inventories during January-June 2017 were *** percent of total shipments, compared to *** percent during January-June 2016. These decreases were driven primarily by ***.[13] These inventory levels suggest that U.S. producers may have some ability to respond to changes in demand with changes in the quantity shipped from inventories.

Production alternatives

*** responding U.S. producers stated that *** switch production from PTFE resin to other products on the same equipment as PTFE resin, and ***.

[10] ***.
[11] ***.
[12] ***.
[13] ***.

Subject imports[14]

Table II-3 provides a summary of the supply of PTFE resin from China and India; additional data are provided in Part VII. Reported production capacity in China increased by *** percent between 2014 and 2016, while reported Indian production capacity ***. Reported capacity utilization in China decreased from *** between 2014 and 2016, while reported capacity utilization in India remained stable at about ***. Total end-of-period inventories reported by Chinese producers decreased by *** percent between 2014 and 2016, while inventories reported by Indian producers decreased by ***. *** reported that *** shift production from PTFE resin to alternative products, while *** reported that ***. ***, and that it "***." For Chinese producers, total home market shipments decreased from *** percent of total shipments in 2014 to *** percent in 2016, while reported Indian producers' total home market shipments increased from *** percent of total shipments in 2014 to *** percent in 2016. Reported export shipments by Chinese producers to non-U.S. markets increased from *** percent of total shipments in 2014 to *** percent in 2016, while reported export shipments by Indian producers to non-U.S. markets decreased from *** percent of total shipments in 2014 to *** percent in 2016.

Table II-3
PTFE resin: Foreign industry factors that affect ability to increase shipments to the U.S. market

	Capacity (*thousands of pounds dry weight*)		Capacity utilization (*percent*)		Ratio of inventories to total shipments (*percent*)		Ability to shift to alternate product (*number of firms*)	Shipments to all non-U.S. markets, 2016 (*percent*)	
Country	2014	2016	2014	2016	2014	2016		Home market shipments	Third country export markets
China	***	***	***	***	***	***	0	***	***
India	***	***	***	***	***	***	1	***	***

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

Nonsubject imports

According to official import statistics, nonsubject imports accounted for 67.2 percent of total U.S. imports of PTFE resin in 2016.[15] The largest sources of nonsubject imports during 2016 were Germany and Italy; these countries accounted for 12.4 percent and 17.4 percent of all imports in 2016, respectively. Combined, Germany and Italy accounted for 44.4 of all nonsubject imports in 2016.

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

[15] Official import statistics using HTS statistical reporting numbers 3904.61.0010 and 3904.61.0090, accessed October 13, 2017.

Supply constraints

*** U.S. producers and 3 of 12 importers (***) reported experiencing supply constraints during January 2014-June 2017. Chemours reported that it had an unplanned maintenance outage ***.[16] ***. *** reported that "***," which led to delayed shipments.[17]

Purchaser Flontech also testified that U.S. producer Chemours stopped providing them with a commodity grade granular PTFE resin product in March 2017, and Industrial Plastics and Machines testified that ***, was informed *** that it would no longer be able to provide it with commodity-grade granular product.[18]

U.S. demand

Based on available information, the overall demand for PTFE resin is likely to experience small-to-moderate changes in response to changes in price. The main contributing factor to this is the limited range and availability of substitute products for most applications.

End uses and cost share

U.S. demand for PTFE resin depends on the demand for U.S.-produced downstream products. In the petitions, Chemours described how the different production methods for granular vs. fine powder PTFE resin affect the end-use applications. It stated that granular PTFE resin cannot be processed by conventional thermoplastic methods, such as injection molding or extrusion, and is typically processed "by compression molding or ram extrusion, followed by sintering (heating to just below the melting point to fuse individual particles together). These shapes are then machined into seals, bearings, bushings, piston rings, and diaphragms."[19] Due to the small particle structure of fine powder PTFE resin, it is often processed by paste extrusion. "When blended with a lubricant, a thin layer of {fine powder} PTFE can be extruded to form a tube or form insulation on a wire."[20]

*** reported the end uses for PTFE resin as molding, extrusion, coatings, and finish coatings. It stated that PTFE resin in molding and extrusion accounted for *** percent of the final cost of the end-use product, while PTFE resin in coatings accounted for *** percent, and for finish coatings, *** percent. End uses reported by *** included the following: pumps (ambient pumps, hi-temp pumps, and ultra hi-temp pumps); seal rings, additives (fluoroadditives and plastic additives), coatings, finishes coatings, tape, modified resin, tubing, printed circuit boards, and PTFE compounds. In general, the cost share of PTFE resin was a function of the quantity used in the final end-use products that incorporate it. The reported cost shares of PTFE resin in hi-temp and ultra hi-temp pumps, seal rings, and PTFE compounds

[16] See also Conference transcript, p. 86 (Hayes).

[17] ***.

[18] Conference transcript, pp. 134, 159, 162 (Arlati), 179-180 (McTague, Neville, Arlati); postconference brief, pp. 6-8, Exhibit 3.

[19] Petitions, p. 11.

[20] Petitions, p. 11.

ranged from *** percent, while its reported cost shares in ambient pumps, fluoroadditives, coatings, and finish coatings ranged from *** percent.

Business cycles

Most firms reported that the PTFE resin market was not subject to distinct business cycles or conditions of competition. One firm, ***, reported that the market was subject to business cycles, and two firms, ***, reported that the market was subject to distinct conditions of competition. *** reported that "{t}he industry has always cycled between shortage and adequate supply, with shortages usually lasting a couple of years and happening every 6-10 years," and that there were "severe industry wide shortages in 2011-2012. Currently, FEP {(fluorinated ethylene propylene)} has been in tight supply." *** reported that the PTFE resin market was linked to the performance of the oil and industrial sectors. Two firms, ***, also reported that there had been changes to the business cycles or conditions of competition since 2014. *** stated that the oil and gas industry deteriorated in 2015 but improvements in 2016 and 2017 have led to corresponding improvements in the market for PTFE resin, and *** reported that there are many new producers of PTFE products.

Demand trends

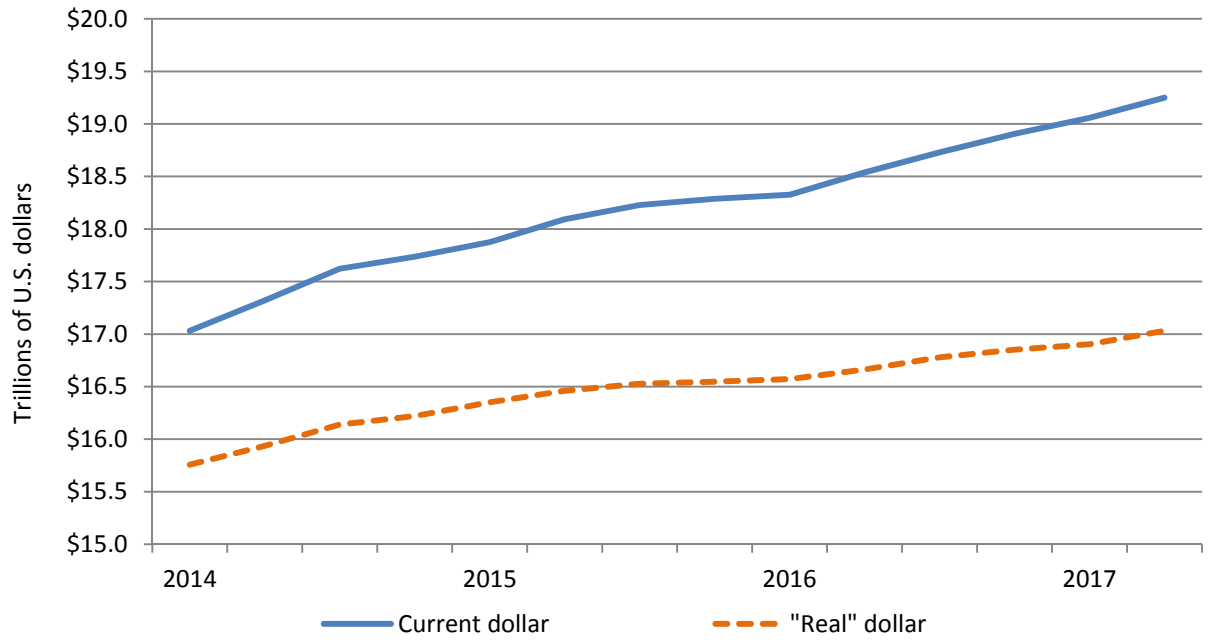
PTFE resin is used in a wide range of industries, including the oil and gas, automotive, aerospace, chemical, and electronics (telecommunications and semiconductor) industries.[21] U.S. demand for PTFE resin largely follows demand trends in these sectors, though the most consistent indicator appears to be GDP growth.[22]

As shown in figure II-1, domestic GDP in current and "real" terms, grew by 11.0 percent and 6.9 percent, respectively, between the first quarter of 2014 and the fourth quarter of 2016, and grew by 1.8 percent and 1.1 percent, respectively, between the fourth quarter of 2016 and the second quarter of 2017.

[21] Conference transcript, pp. 14, 16 (Nolan), 30, 67 (Genna), 70-71 (Dignam), 175-177 (Nolan, Neville, Arlati, McTague), 211 (Nolan).

[22] Conference transcript, p. 70 (Genna).

Figure II-1
GDP growth: Gross domestic product in the United States, current dollar and "real" (chained 2009 dollars), seasonally adjusted, by quarter, first quarter of 2014 through second quarter of 2017



Source: Bureau of Economic Analysis, updated September 28, 2017. Retrieved October 26, 2017.

Most firms reported an increase in U.S. demand for PTFE resin since January 1, 2014 (table II-4).

Table II-4
PTFE resin: 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	2	---	---	---
Importers	5	2	---	3
Demand outside the United States				
U.S. producers	2	---	---	---
Importers	5	2	---	3

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

Most firms reported that demand for PTFE resin generally follows GDP trends. One firm, ***, also reported an increase in demand due to an increase in the applications for PTFE resin, and another, ***, reported that demand fluctuated due to slowdowns in the oil and gas industry.

Substitute products

The large majority of responding firms (*** of 13 importers) reported that there are no substitutes for PTFE resin. Only two firms, ***, reported that there are substitutes. *** reported that PFA and FEP resins are substitutes in wire and cable, as well as tubing extrusion applications, and silicon or polyethylene ("UHMW") are substitutes in "molding applications that do not require all PTFE properties." *** reported that PEEK (polyether ether ketone) is a substitute in seal rings. Neither firm reported that changes in the price of these substitutes affected the price of PTFE resin.

SUBSTITUTABILITY ISSUES

The degree of substitution between domestic and imported PTFE resin depends upon such factors as relative prices, quality (e.g., grade standards, defect rates, etc.), and conditions of sale (e.g., price discounts/rebates, lead times between order and delivery dates, reliability of supply, product services, etc.). Based on available data, staff believes that there is a moderate degree of substitutability between domestically produced PTFE resin and PTFE resin imported from subject sources. For some applications that require less stringent grade- or property-specific product, substitutability may be higher, while for applications that require specific properties or quality characteristics, substitutability may be lower.

Lead times

PTFE resin is primarily sold from inventory. For U.S. producers, *** percent of their commercial shipments were sold from inventory, with reported lead times of *** and ***. The remaining *** percent of their commercial shipments were produced to order, with lead times of *** and ***. For importers, 33.8 percent of their commercial shipments were sold from their U.S. inventories (with an average lead time of 6 days), while the remaining 66.2 percent was sold from foreign inventories (with an average lead time of 57 days).

Factors affecting purchasing decisions

Purchasers responding to lost sales and lost revenue allegations[23] were asked to identify the main purchasing factors their firm considered in their purchasing decisions for PTFE resin. While there was a wide range of purchasing factors named, the major factors identified by most firms generally involved quality and quality-related factors, price or total cost, and availability or supply chain reliability. Quality and quality-related factors were the most frequently cited first- and second-most important factor. Price or total cost was the most frequently cited third-most important factor. Factors related to product availability (such as sourcing reliability and

[23] This information is compiled from responses by purchasers identified by the Petitioner or other U.S. producers to the lost sales lost revenue allegations. See Part V for additional information on the responses to the Lost Sales Lost Revenue survey.

supply chain stability) were also cited a number of times for all three rankings. Service was noted by a number of firms as a second- or third-most important factor. Other factors included: technical specifications, formulation, suitability in end use, physical properties, PFOA compliance,[24] grade, vendor relationship, risk mitigation/sourcing strategy, lead time, and payment terms.

Comparison of U.S.-produced and imported PTFE

In order to determine whether U.S.-produced PTFE resin can generally be used in the same applications as imports from China and India, U.S. producers and importers were asked whether the products can always, frequently, sometimes, or never be used interchangeably. As shown in table II-5, ***. Among importers, a majority of firms reported that PTFE resin was "sometimes" interchangeable for all country comparisons except Germany. When comparing U.S. to German PTFE resin and Chinese to German PTFE resin, firms were evenly split between them "frequently" and "sometimes" being interchangeable.

In additional comments, *** stated that "most products are always interchangeable, but there are a few specifications and niche applications that are not." *** reported that interchangeability depends on the specific application and grade being used, stating that "in some cases some of the properties need to be an exact match. PTFE-F {fine powder} is in general the most critical, followed by PTFE-M {granular, or molding powder} followed by PTFE-D {dispersion}, which is the easiest to interchange. It should be kept in mind that PTFE is a sophisticated polymer and interchanging of resin is in some cases very difficult." *** reported that quality variation impacts interchangeability; *** reported that interchangeability depends on the end use; *** reported that shrinkage rates, quality, physical properties, and particle size impact interchangeability; *** reported that countries often make unique grades or specialize in particular products; and *** reported that U.S. and Chinese product is rarely interchangeable because Chemours' products command a higher price and are normally qualified by customers and/or specified by the end user, and Daikin's products are normally qualified by the customer but rarely specified by the end user.

[24] The PFOA Stewardship Program was initiated in January 2006 by the U.S. Environmental Protection Agency with the goal of eliminating emissions and product content levels of perfluorooctanoic acid ("PFOA") and related higher homologue chemicals. Both Daikin and DuPont (the predecessor company to Chemours) are program participants. See EPA website, Fact Sheet: 2010/2015 PFOA Stewardship Program, https://www.epa.gov/assessing-and-managing-chemicals-under-tsca/fact-sheet-20102015-pfoa-stewardship-program#what.

Table II-5
PTFE resin: Interchangeability between PTFE resin 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	***	***	***	***	1	4	7	1
U.S. vs. India	***	***	***	***	1	3	6	---
Subject countries comparisons:								
China vs. India	***	***	***	***	1	1	6	1
Nonsubject countries comparisons:								
U.S. vs. Germany	***	***	***	***	1	4	4	1
U.S. vs. Italy	***	***	***	***	---	2	5	2
U.S. vs. other nonsubject	***	***	***	***	---	2	5	---
China vs. Germany	***	***	***	***	1	4	4	1
China vs. Italy	***	***	***	***	---	2	6	1
China vs. other nonsubject	***	***	***	***	---	3	4	---
India vs. Germany	***	***	***	***	1	2	5	---
India vs. Italy	***	***	***	***	---	2	5	1
India vs. other nonsubject	***	***	***	***	---	2	3	---
Germany vs. Italy	***	***	***	***	---	2	6	1
Germany vs. other nonsubject	***	***	***	***	---	3	4	---
Italy vs. other nonsubject	***	***	***	***	---	3	3	---

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

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

Indian producer and importer GFL also stated that there are distinct differences between the products offered by U.S. producers and subject-country producers, and that Chemours "***."[25] Flontech testified that domestic suppliers of PTFE resin market their products towards premium segments, whereas subject imported material serves the commodity markets.[26]

In addition, producers and importers were asked to assess how often differences other than price were significant in sales of PTFE resin from the United States, subject, or nonsubject countries (table II-6). ***. ***. Among importers, responses were more mixed. Most firms reported that non-price differences were "always" or "frequently" a significant factor when comparing U.S. to Chinese product, and a majority reported that non-price differences were "sometimes" a significant factor when comparing U.S. to Indian product. Most other comparisons ranked non-price differences as "sometimes" a significant factor, while either a

[25] GFL postconference brief, p. 16.
[26] Transcript, pp. 202-203 (Neville).

plurality or half of firms ranked non-price differences as “frequently” a significant factor when comparing Chinese product to German and Italian product.

Table II-6
PTFE resin: Significance of differences other than price between PTFE resin 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	***	***	***	***	4	3	4	1
U.S. vs. India	***	***	***	***	---	2	7	1
Subject countries comparisons:								
China vs. India	***	***	***	***	---	2	3	3
Nonsubject countries comparisons:								
U.S. vs. Germany	***	***	***	***	1	2	5	2
U.S. vs. Italy	***	***	***	***	1	2	3	1
U.S. vs. other nonsubject	***	***	***	***	2	1	4	---
China vs. Germany	***	***	***	***	2	4	2	1
China vs. Italy	***	***	***	***	---	3	3	1
China vs. other nonsubject	***	***	***	***	1	2	3	---
India vs. Germany	***	***	***	***	---	3	4	1
India vs. Italy	***	***	***	***	---	2	4	1
India vs. other nonsubject	***	***	***	***	---	2	3	---
Germany vs. Italy	***	***	***	***	---	1	6	1
Germany vs. other nonsubject	***	***	***	***	2	1	4	---
Italy vs. other nonsubject	***	***	***	***	---	1	4	---

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

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

In additional comments, *** reported that price is the most significant factor across the majority of the PTFE resin product line, but not every competitor offers products for some applications. *** reported that product properties, product consistency, supply security, a full product range, and technical support are important factors for higher end applications, while product range, supply security and technical support is much less critical for customers of more commodity products. *** reported that some PTFE resins are required for specified products. *** reported that U.S. producers do not have the capacity to meet its needs. *** reported that some applications require very specific grades that some manufacturers do not offer. *** reported that U.S. producers are differentiated from other suppliers in terms of price, technical service, delivery time, supply reliability, and product variety, and that while AGC, 3M, and GFL all produce filled PTFE products in the United States, they are not as competitive on supply reliability and technical support. *** also stated that Chinese and Russian suppliers have the lowest levels of service, long lead times (due to little or no inventory in the United States), and typically require payment in advance of shipment.

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

The Commission analyzes a number of factors in making injury determinations (see 19 U.S.C. §§ 1677(7)(B) and 1677(7)(C)). Information on the subsidies and dumping margins was presented in *Part I* of this report and information on the volume and pricing of imports of the subject merchandise is presented in *Part IV* and *Part V*. Information on the other factors specified is presented in this section and/or *Part VI* and (except as noted) is based on the questionnaire responses of two firms that accounted for all known U.S. production of PTFE resin during 2016.[1]

U.S. PRODUCERS

The Commission issued a U.S. producer questionnaire to six firms based on information contained in the petitions.[2] Two firms provided usable data on their productive operations: Chemours and Daikin. Staff believes that these responses represent all known U.S. production of PTFE resin.

Table III-1 lists U.S. producers of PTFE resin, their production locations, positions on the petitions, and shares of total production.

Table III-1
PTFE resin: U.S. producers of PTFE resin, their positions on the petitions, production locations, and shares of reported production, 2016

Firm	Position on petitions	Production location	Share of production (percent)
Chemours	Support	Washington, WV	***
Daikin	***	Decatur, AL	***
Total			***

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

Table III-2 presents information on U.S. producers' ownership and related and/or affiliated firms. *** is related to a subject producer of PTFE resin in *** and a nonsubject producer of PTFE resin in ***. *** is related to a subject producer of PTFE resin in *** and a nonsubject producer of PTFE resin in ***. In addition, as discussed in greater detail below, *** directly imports PTFE resin from ***. *** purchase PTFE resin in the United States.

[1] Petitions, p. 2. U.S. firm, ***.

[2] Four of the six firms were identified as processers. ***.

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

* * * * * * *

Table III-3 presents U.S. producers' reported changes in operations since January 1, 2014.

Table III-3
PTFE resin: U.S. producers' reported changes in operations, since January 1, 2014

* * * * * * *

U.S. PRODUCTION, CAPACITY, AND CAPACITY UTILIZATION

Table III-4 and figure III-1 present U.S. producers' production, capacity, and capacity utilization. During the period of investigation, overall capacity fluctuated due in part to ***. Total capacity increased from *** pounds dry weight in 2014 to *** pounds dry weight in 2015, before declining to *** pounds dry weight in 2016. Total production declined by *** percent from *** pounds dry weight in 2014 to *** pounds dry weight in 2016, with average capacity utilization following a similar trend, declining from *** percent in 2014 to *** percent in 2016. Capacity, production, and capacity utilization were higher during the first half of 2017 than in the comparable period of 2016.

*** reported production of other products on the same equipment or machinery used to produce PTFE resin.

Table III-4
PTFE resin: U.S. producers' capacity, production, and capacity utilization, 2014-16, January to June 2016, and January to June 2017

* * * * * * *

Figure III-1
PTFE resin: U.S. producers' capacity, production, and capacity utilization, 2014-16, January to June 2016, and January to June 2017

* * * * * * *

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

Table III-5 presents U.S. producers' U.S. shipments, export shipments, and total shipments. There were relatively minor amounts (*** percent or less of total shipments) of internal consumption/transfers to related firms during the period of investigation. U.S. commercial shipments accounted for the vast majority of U.S. producers' total shipments, by quantity, ranging from *** percent to *** percent, whereas exports accounted for much of the balance, ranging from *** percent to *** percent.

Total U.S. shipments declined from *** pounds dry weight during 2014 to *** pounds dry weight in 2016, but were higher in the first half of 2017 compared to the first half of 2016. U.S. shipments in terms of value followed similar trends. The average unit value of U.S. shipments fell from $*** per pound in 2014 to $*** per pound in 2016 but was higher at $*** per pound in January-June 2017.

Both U.S. producers reported export shipments throughout 2014-16, as well as in January-June 2017. Export destinations for *** include *** markets and export destinations for *** include markets in ***. Total U.S. producers' export shipments fluctuated year to year, decreasing overall from *** pounds dry weight in 2014 to *** pounds dry weight in 2015 and then increasing to *** pounds dry weight in 2016. Export shipments were higher in the first half of 2017 than reported in the comparable period of 2016. The average unit value of export shipments fell throughout the period, ranging from a high of $*** per pound in 2014 to $*** per pound in the first half of 2017.

Table III-5
PTFE resin: U.S. producers' U.S. shipments, export shipments, and total shipments, 2014-16, January to June 2016, and January to June 2017

* * * * * * *

U.S. PRODUCERS' U.S. SHIPMENTS, BY FORM (DISPERSION, GRANULAR, OR FINE POWDER)

Table III-6 presents U.S. producers' U.S. shipments, by product form. Fine powder accounted for approximately *** of all U.S. producers' U.S. shipments throughout the period of investigation (ranging from *** percent in 2014 to *** percent in 2016). Dispersion and granular forms each accounted for about *** of U.S. producers' total U.S. shipments (ranging from *** percent to *** percent for dispersion and from *** percent to *** percent for granular). The unit values of fine powder PTFE resin were the highest of the three forms, ranging from $*** to $*** per pound. Dispersion PTFE resin unit values were the second highest, ranging from $*** to $*** per pound, and granular PTFE resin unit values were the lowest, ranging from $*** to $*** per pound. The unit values of dispersion and fine powder PTFE resin followed similar trends, declining from 2014 to 2016, but increasing in the first half of 2017. However, granular PTFE resin exhibited a slightly different trend with an increase from 2014 to 2015.

Table III-6
PTFE resin: U.S. producers' U.S. shipments by product form, 2014-16, January to June 2016, and January to June 2017

* * * * * * *

U.S. PRODUCERS' U.S. SHIPMENTS, BY TYPE (FILLED OR UNFILLED)

Table III-7 presents U.S. producers' U.S. shipments, by product type. *** reported U.S. producers' U.S. shipments were unfilled PTFE resin.

Table III-7
PTFE resin: U.S. producers' U.S. shipments by product type, 2014-16, January to June 2016, and January to June 2017

* * * * * * *

U.S. PRODUCERS' INVENTORIES

Table III-8 presents U.S. producers' end-of-period inventories and the ratio of these inventories to U.S. producers' production, U.S. shipments, and total shipments. Both domestic producers reported holding end-of-period inventories during the period of investigation. In the aggregate, U.S. producers' end-of-period inventories decreased by *** percent from *** pounds dry weight at year-end 2014 to *** pounds dry weight at year-end 2016. Inventories were higher in June 2017 than reported in June 2016. As a share of U.S. shipments, inventories fell overall from *** percent in 2014 to *** percent in 2016, and were *** percent in June 2017.

Table III-8
PTFE resin: U.S. producers' inventories, 2014-16, January to June 2016, and January to June 2017

* * * * * * *

U.S. PRODUCERS' IMPORTS AND PURCHASES

U.S. producers' imports of PTFE resin are presented in table III-9. *** directly imports PTFE resin from ***. *** reported domestic purchases of PTFE resin.

The ratio of *** imports of PTFE resin from *** to its U.S. production ranged from *** percent during the period of investigation. ***. The firm reported that it ***.

The ratio of *** imports of PTFE resin from *** to its U.S. production ranged from *** percent during the period of investigation. ***.

Table III-9
PTFE resin: U.S. producers' direct imports, 2014-16, January to June 2016, and January to June 2017

* * * * * * *

U.S. EMPLOYMENT, WAGES, AND PRODUCTIVITY

Table III-10 shows U.S. producers' employment-related data. During 2014-16, the number of production related workers ("PRWs") decreased by *** percent from *** to ***, but was *** percent higher at *** in January-June 2017 than in January-June 2016. Total hours worked, hours worked per PRW, wages paid, and productivity exhibited similar overall trends, declining from 2014 to 2016, but presenting higher levels in the first half of 2017 than in the comparable period in 2016. On the other hand, hourly wages and unit labor costs increased from 2014 to 2016, but were lower during January-June 2017 than in January-June 2016.

Table III-10
PTFE resin: U.S. producers' employment related data, 2014-16, January to June 2016, and January to June 2017

* * * * * * *

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

U.S. IMPORTERS

The Commission issued importer questionnaires to 125 firms identified as possible importers of subject PTFE resin, as well as to all U.S. producers of PTFE resin.[1] Usable questionnaire responses were received from 14 companies, representing 24.7 percent of U.S. imports from China and 85.4 percent of U.S. imports from India in 2016 under HTS statistical reporting numbers 3904.61.0010 and 3904.61.0090. Table IV-1 lists all responding U.S. importers of PTFE resin from China and India and other sources, their locations, and their shares of U.S. imports in 2016.

Table IV-1
PTFE resin: U.S. importers by source, 2016

Firm	Headquarters	Share of imports by source (percent)				
		China	India	Subject sources	Nonsubject sources	All import sources
3M Company	St. Paul, MN	***	***	***	***	***
Akron	Akron, OH	***	***	***	***	***
Baillie	Newark, DE	***	***	***	***	***
Chemours	Wilmington, DE	***	***	***	***	***
Daikin	Orangeburg, NY	***	***	***	***	***
DL Trading	Katy, TX	***	***	***	***	***
Freudenberg	Plymouth, MI	***	***	***	***	***
GFL	Rockdale, TX	***	***	***	***	***
Industrial Plastics	Baton Rouge, LA	***	***	***	***	***
Laurel	Elverson, PA	***	***	***	***	***
Solvay	Alpharetta, GA	***	***	***	***	***
White Knight	Kamas, UT	***	***	***	***	***
Whitford	Elverson, PA	***	***	***	***	***
WL Gore	Newark, DE	***	***	***	***	***
Total		100.0	100.0	100.0	100.0	100.0

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

U.S. IMPORTS

Table IV-2 and figure IV-1 present data for U.S. imports of PTFE resin from China and India and all other sources. Subject imports accounted for approximately one-third of all imports (by volume) during 2014-16, but by the first half of 2017, subject imports accounted for 45.8 percent of total imports. From 2014 to 2016, U.S. imports from subject countries China

[1] The Commission issued questionnaires to those firms identified in the petitions, along with firms that, based on a review of data provided by U.S. Customs and Border Protection ("Customs"), may have accounted for more than one percent of total imports under HTS statistical reporting numbers 3904.61.0010 and 3904.61.0090 in 2016.

and India combined, by volume, decreased by 3.8 percent from 10.9 million pounds dry weight to 10.5 million pounds dry weight. However, subject imports from China and India were 50.7 percent higher in the first half of 2017 than in the comparable period of 2016. Average unit values of subject imports from China (ranging from $3.89 to $4.84 per pound) and India (ranging from $3.65 to $4.27 per pound) were consistently lower than the average unit values imported from other sources (ranging from $5.35 to $7.35 per pound). U.S. imports from subject countries accounted for an increasing share of U.S. production in all periods examined in these investigations. U.S. imports from subject countries as a share of U.S. production increased from *** percent in 2014 to *** percent in 2016, and was *** percent during January-June 2017.

Table IV-2
PTFE resin: U.S. imports, by source, 2014-16, January to June 2016, and January to June 2017

Item	Calendar year			January to June	
	2014	2015	2016	2016	2017
	Quantity (1,000 pounds dry weight)				
U.S. imports from.--					
China	7,026	6,860	6,739	3,191	3,665
India	3,918	3,917	3,783	1,466	3,356
Subject sources	10,944	10,777	10,523	4,657	7,020
Germany	4,034	4,582	3,970	2,063	1,784
Italy	4,901	6,607	5,590	2,907	1,697
All other sources	13,231	10,299	11,961	6,322	4,811
Nonsubject sources	22,166	21,488	21,522	11,292	8,292
All import sources	33,109	32,265	32,044	15,949	15,312
	Value (1,000 dollars)				
U.S. imports from.--					
China	33,979	28,639	26,821	13,156	14,273
India	16,286	16,736	14,781	6,145	12,251
Subject sources	50,265	45,375	41,602	19,300	26,524
Germany	29,647	28,330	23,959	11,670	12,779
Italy	27,368	35,888	31,753	17,763	11,182
All other sources	76,785	68,907	69,133	33,824	27,331
Nonsubject sources	133,800	133,126	124,845	63,257	51,292
All import sources	184,065	178,501	166,447	82,557	77,816
	Unit value (dollars per pound)				
U.S. imports from.--					
China	$4.84	$4.17	$3.98	$4.12	$3.89
India	4.16	4.27	3.91	4.19	3.65
Subject sources	4.59	4.21	3.95	4.14	3.78
Germany	7.35	6.18	6.03	5.66	7.16
Italy	5.58	5.43	5.68	6.11	6.59
All other sources	5.80	6.69	5.78	5.35	5.68
Nonsubject sources	6.04	6.20	5.80	5.60	6.19
All import sources	5.56	5.53	5.19	5.18	5.08

Table continued on next page.

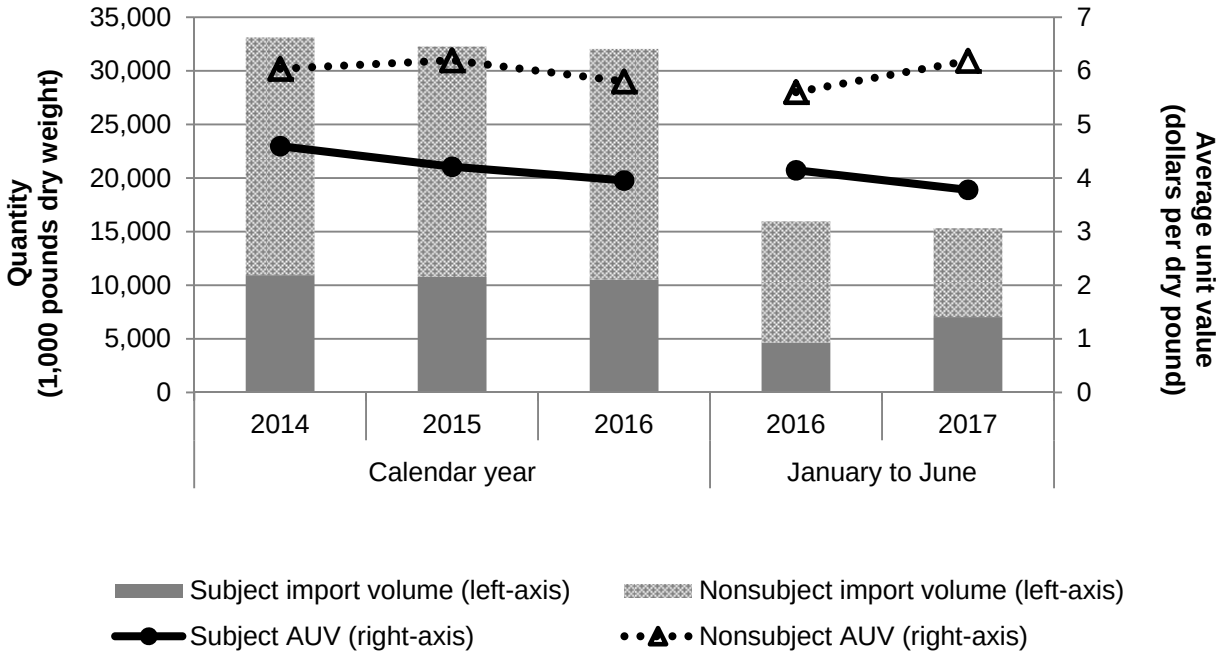
Table IV-2--Continued
PTFE resin: U.S. imports, by source, 2014-16, January to June 2016, and January to June 2017

Item	Calendar year			January to June	
	2014	2015	2016	2016	2017
	Share of quantity (percent)				
U.S. imports from.--					
China	21.2	21.3	21.0	20.0	23.9
India	11.8	12.1	11.8	9.2	21.9
Subject sources	33.1	33.4	32.8	29.2	45.8
Germany	12.2	14.2	12.4	12.9	11.7
Italy	14.8	20.5	17.4	18.2	11.1
All other sources	40.0	31.9	37.3	39.6	31.4
Nonsubject sources	66.9	66.6	67.2	70.8	54.2
All import sources	100.0	100.0	100.0	100.0	100.0
	Share of value (percent)				
U.S. imports from.--					
China	18.5	16.0	16.1	15.9	18.3
India	8.8	9.4	8.9	7.4	15.7
Subject sources	27.3	25.4	25.0	23.4	34.1
Germany	16.1	15.9	14.4	14.1	16.4
Italy	14.9	20.1	19.1	21.5	14.4
All other sources	41.7	38.6	41.5	41.0	35.1
Nonsubject sources	72.7	74.6	75.0	76.6	65.9
All import sources	100.0	100.0	100.0	100.0	100.0
	Ratio to U.S. production				
U.S. imports from.--					
China	***	***	***	***	***
India	***	***	***	***	***
Subject sources	***	***	***	***	***
Germany	***	***	***	***	***
Italy	***	***	***	***	***
All other sources	***	***	***	***	***
Nonsubject sources	***	***	***	***	***
All import sources	***	***	***	***	***

Source: Official U.S. import statistics using HTS statistical reporting numbers 3904.61.0010 and 3904.61.0090, accessed October 20, 2017.

Figure IV-1

PTFE resin: U.S. import volumes and average unit values, 2014-16, January to June 2016, and January to June 2017



Source: Official U.S. import statistics using HTS statistical reporting numbers 3904.61.0010 and 3904.61.0090, accessed October 20, 2017.

U.S. IMPORTERS' U.S. SHIPMENTS, BY FORM (DISPERSION, GRANULAR, OR FINE POWDER)

Table IV-3 presents U.S. importers' U.S. shipments, by product form (dispersion, granular, or fine powder). Figure IV-2 illustrates these U.S. shipment data submitted by U.S. importers and U.S. producers (see table III-6 for U.S. producer data).

Of the three forms of PTFE resin imported from subject countries, the granular form held the largest share of U.S. importers' U.S. shipments, accounting for *** percent of total U.S. importers' U.S. shipments in 2016. Fine powder PTFE resin accounted for *** percent of the total and dispersion PTFE resin accounted for *** percent. The average unit values of fine powder PTFE resin and dispersion PTFE were the highest of the three forms, ranging from $*** to $*** per pound for fine powder and $*** to $*** per pound for dispersion. Granular PTFE resin unit values were the lowest, ranging from $*** to $*** per pound. Granular, fine powder, and dispersion PTFE resin accounted for ***, ***, and *** percent of total U.S. shipments of the Chinese product, respectively, and ***, ***, and *** percent of total U.S. shipments of the Indian product, respectively.

The dispersion form of PTFE resin accounted for the largest share of U.S. shipments of nonsubject imports during 2016 (*** percent), with the granular form accounting for *** percent and fine powder accounting for *** percent in 2016. The average unit values of fine powder PTFE resin were the highest of the three forms for nonsubject import shipments, ranging from $*** to $*** per pound. Dispersion and granular PTFE resin unit values were

somewhat lower, ranging from $*** to $*** per pound for dispersion and $*** to $*** per pound for granular form.

Table IV-3
PTFE resin: U.S. importers' U.S. shipments by product form, 2014-16, January to June 2016, and January to June 2017

Item	Calendar year			January to June	
	2014	2015	2016	2016	2017
			Quantity (1,000 pounds dry weight)		
U.S. importers' U.S. shipments: China.--Dispersion	***	***	***	***	***
Granular	***	***	***	***	***
Fine powder	***	***	***	***	***
Other forms	***	***	***	***	***
U.S. shipments	***	***	***	***	***
			Value (1,000 dollars)		
U.S. importers' U.S. shipments: China.--Dispersion	***	***	***	***	***
Granular	***	***	***	***	***
Fine powder	***	***	***	***	***
Other forms	***	***	***	***	***
U.S. shipments	***	***	***	***	***
			Unit value (dollars per pound)		
U.S. importers' U.S. shipments: China.--Dispersion	$***	$***	$***	$***	$***
Granular	***	***	***	***	***
Fine powder	***	***	***	***	***
Other forms	***	***	***	***	***
U.S. shipments	***	***	***	***	***
			Share of quantity (percent)		
U.S. importers' U.S. shipments: China.--Dispersion	***	***	***	***	***
Granular	***	***	***	***	***
Fine powder	***	***	***	***	***
Other forms	***	***	***	***	***
U.S. shipments	***	***	***	***	***
			Share of value (percent)		
U.S. importers' U.S. shipments: China.--Dispersion	***	***	***	***	***
Granular	***	***	***	***	***
Fine powder	***	***	***	***	***
Other forms	***	***	***	***	***
U.S. shipments	***	***	***	***	***

Table continued on next page.

Table IV-3--Continued
PTFE resin: U.S. importers' U.S. shipments by product form, 2014-16, January to June 2016, and January to June 2017

* * * * * * *

Figure IV-2
PTFE resin: U.S. producers' and U.S. importers' U.S. shipments by product form, 2016

* * * * * * *

U.S. IMPORTERS' U.S. SHIPMENTS, BY TYPE (FILLED OR UNFILLED)

Table IV-4 presents U.S. importers' U.S. shipments, by product type (filled or unfilled). Figure IV-3 illustrates these U.S. shipment data submitted by U.S. importers and U.S. producers (see table III-7 for U.S. producer data). As was the case for U.S. producers, *** subject source imports were unfilled PTFE resin. In addition, *** nonsubject source imports were unfilled PTFE resin.

Table IV-4
PTFE resin: U.S. importers' U.S. shipments by product type, 2014-16, January to June 2016, and January to June 2017.

* * * * * * *

Figure IV-3
PTFE resin: U.S. producers' and U.S. importers' U.S. shipments by product type, 2016

* * * * * * *

CUMULATION CONSIDERATIONS

In assessing whether imports should be cumulated, the Commission determines whether U.S. imports from the subject countries compete with each other and with the domestic like product and has generally considered four factors: (1) fungibility, (2) presence of sales or offers to sell in the same geographical markets, (3) common or similar channels of distribution, and (4) simultaneous presence in the market. Information regarding channels of distribution, geographical market areas, and interchangeability appear in Part II. Additional information concerning fungibility was presented earlier in this report in table III-6 and table IV-3 for PTFE resin forms of dispersion, granular, and fine powder (see also figure IV-2) and in table III-7 and table IV-4 for unfilled and filled PTFE resin (see also figure IV-3). Additional information concerning geographical markets and simultaneous presence in the market is presented below.

Geographical markets

Table IV-5 presents U.S. import data concerning the source and border of entry. In 2016, the official U.S. import statistics show that a majority of subject imports from China

entered through U.S. ports located along the eastern coast, whereas the majority of subject imports from India entered through U.S. ports located along the eastern coast and southern border.

Table IV-5
PTFE: U.S. imports, by sources and by border of entry, 2016

Item	Border of entry				
	East	North	South	West	Total
	Quantity (1,000 pounds dry weight)				
U.S. imports from.--					
China	5,557	565	609	8	6,739
India	1,714	374	1,695	0	3,783
Subject sources	7,272	939	2,304	8	10,523
Germany	3,918	2	51	0	3,970
Italy	5,128	438	24	---	5,590
All other sources	10,274	396	1,164	128	11,961
Nonsubject sources	19,320	836	1,239	128	21,522
All import sources	26,591	1,775	3,543	136	32,044
	Share down (percent)				
U.S. imports from.--					
China	20.9	31.8	17.2	6.1	21.0
India	6.4	21.1	47.8	0.0	11.8
Subject sources	27.3	52.9	65.0	6.1	32.8
Germany	14.7	0.1	1.4	0.0	12.4
Italy	19.3	24.7	0.7	---	17.4
All other sources	38.6	22.3	32.9	93.9	37.3
Nonsubject sources	72.7	47.1	35.0	93.9	67.2
All import sources	100.0	100.0	100.0	100.0	100.0
	Share across (percent)				
U.S. imports from.--					
China	82.5	8.4	9.0	0.1	100.0
India	45.3	9.9	44.8	0.0	100.0
Subject sources	69.1	8.9	21.9	0.1	100.0
Germany	98.7	0.0	1.3	0.0	100.0
Italy	91.7	7.8	0.4	---	100.0
All other sources	85.9	3.3	9.7	1.1	100.0
Nonsubject sources	89.8	3.9	5.8	0.6	100.0
All import sources	83.0	5.5	11.1	0.4	100.0

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

Source: Official U.S. import statistics using HTS statistical reporting numbers 3904.61.0010 and 3904.61.0090 accessed October 13, 2017.

Presence in the market

Table IV-6 presents monthly official U.S. import statistics. These data indicate that subject U.S. imports of PTFE resin from China and India were present in each month during January 2014-August 2017.

Table IV-6
PTFE: Monthly U.S. imports, by source, January 2014 through August 2017

Item	U.S. imports							
	China	India	Subject sources	Germany	Italy	All other sources	Non-subject sources	All import sources
	Quantity (1,000 pounds dry weight)							
2014.--								
January	357	194	551	337	202	1,232	1,771	2,322
February	476	187	663	261	297	1,211	1,769	2,432
March	589	429	1,018	365	460	1,023	1,848	2,865
April	532	270	801	642	330	1,177	2,149	2,950
May	572	159	730	173	471	1,470	2,115	2,845
June	745	261	1,006	152	632	1,266	2,050	3,056
July	422	399	821	326	604	945	1,875	2,696
August	785	411	1,197	472	330	1,269	2,071	3,268
September	625	249	874	254	707	977	1,938	2,812
October	874	477	1,351	268	387	1,054	1,709	3,060
November	745	360	1,104	385	272	851	1,507	2,612
December	305	522	827	400	209	755	1,364	2,191
2015.--								
January	467	323	790	296	894	963	2,153	2,943
February	369	486	855	327	273	425	1,025	1,881
March	625	419	1,044	604	627	1,032	2,263	3,307
April	880	363	1,244	438	628	1,170	2,236	3,479
May	846	394	1,240	597	582	1,131	2,310	3,550
June	416	223	639	310	471	913	1,694	2,333
July	668	267	935	120	743	939	1,802	2,737
August	558	206	764	296	614	689	1,600	2,364
September	503	339	841	368	435	842	1,645	2,486
October	513	407	920	309	689	660	1,658	2,578
November	720	178	898	564	245	922	1,731	2,629
December	295	311	606	355	405	611	1,371	1,977

Table continued on next page.

Table IV-6--*Continued*
PTFE: Monthly U.S. imports, by source, January 2014 through August 2017

Item	U.S. imports							
	China	India	Subject sources	Germany	Italy	All other sources	Non-subject sources	All import sources
	Quantity (1,000 pounds dry weight)							
2016.--								
January	657	193	850	220	376	1,050	1,646	2,496
February	425	129	555	390	463	744	1,597	2,151
March	426	210	636	449	411	1,459	2,319	2,955
April	502	217	718	519	668	789	1,976	2,694
May	611	253	864	385	465	1,413	2,263	3,127
June	570	464	1,035	100	524	867	1,491	2,526
July	583	339	922	654	353	1,167	2,174	3,096
August	632	487	1,118	328	467	1,358	2,153	3,271
September	606	330	935	298	503	954	1,755	2,691
October	447	307	755	282	485	1,084	1,852	2,607
November	655	416	1,072	176	438	574	1,189	2,261
December	625	438	1,063	168	436	502	1,107	2,170
2017.--								
January	580	447	1,026	223	177	530	930	1,956
February	687	421	1,109	227	340	843	1,410	2,519
March	413	605	1,018	340	242	581	1,163	2,181
April	708	486	1,194	311	351	832	1,495	2,688
May	567	593	1,161	437	276	941	1,654	2,814
June	710	803	1,513	247	311	1,083	1,640	3,154
July	723	529	1,252	331	465	852	1,648	2,899
August	669	593	1,262	447	359	783	1,590	2,851

Source: Official U.S. import statistics using HTS statistical reporting numbers 3904.61.0010 and 3904.61.0090 accessed October 13, 2017.

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

[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 those countries collectively account for more than 7 percent of the volume of all such merchandise imported into the United States during the applicable 12-month period, then imports from such countries are deemed not to be negligible.[3] Imports from China accounted for 24.0 percent of total imports of PTFE resin by quantity during September 2016 through August 2017 and imports from India accounted for 19.4 percent.

APPARENT U.S. CONSUMPTION AND MARKET SHARES

Table IV-7, table IV-8, and figure IV-4 present data on apparent U.S. consumption and U.S. market shares for PTFE resin. Apparent U.S. consumption of PTFE resin, by quantity, declined from *** pounds dry weight in 2014 to *** pounds dry weight in 2016, equivalent to a *** percent decrease. However, apparent U.S. consumption was *** percent higher in January-June 2017 than in January-June 2016. As previously noted, the trend in apparent U.S. consumption largely follows the demand trends in sectors that PTFE resin is used, such as in the oil and gas, automotive, aerospace, chemical, and electronics (telecommunications and semiconductor) industries.[4]

U.S. producers' share of the domestic market, by quantity, fell by *** percentage points from 2014 to 2016, but it was *** percentage points higher in January-June 2017 than in January-June 2016. On the other hand, China's share of the U.S. market increased by *** percentage points from 2014 to 2016 and India's share increased by *** percentage points. China's share was *** percentage points higher in January-June 2017 than in January-June 2016 and India's share was *** percentage points higher.

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

[4] Conference transcript, pp. 14, 16 (Nolan), 30, 67 (Genna), 70-71 (Dignam), 175-177 (Nolan, Neville, Arlati, McTague), 211 (Nolan).

Table IV-7
PTFE resin: Apparent U.S. consumption, 2014-16, January to June 2016, and January to June 2017

Item	Calendar year			January to June	
	2014	2015	2016	2016	2017
	Quantity (1,000 pounds dry weight)				
U.S. producers' U.S. shipments	***	***	***	***	***
U.S. imports from.--					
China	7,026	6,860	6,739	3,191	3,665
India	3,918	3,917	3,783	1,466	3,356
Subject sources	10,944	10,777	10,523	4,657	7,020
Germany	4,034	4,582	3,970	2,063	1,784
Italy	4,901	6,607	5,590	2,907	1,697
All other sources	13,231	10,299	11,961	6,322	4,811
Nonsubject sources	22,166	21,488	21,522	11,292	8,292
All import sources	33,109	32,265	32,044	15,949	15,312
Apparent U.S. consumption	***	***	***	***	***
	Value (1,000 dollars)				
U.S. producers' U.S. shipments	***	***	***	***	***
U.S. imports from.--					
China	33,979	28,639	26,821	13,156	14,273
India	16,286	16,736	14,781	6,145	12,251
Subject sources	50,265	45,375	41,602	19,300	26,524
Germany	29,647	28,330	23,959	11,670	12,779
Italy	27,368	35,888	31,753	17,763	11,182
All other sources	76,785	68,907	69,133	33,824	27,331
Nonsubject sources	133,800	133,126	124,845	63,257	51,292
All import sources	184,065	178,501	166,447	82,557	77,816
Apparent U.S. consumption	***	***	***	***	***

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

Table IV-8
PTFE resin: Market shares, 2014-16, January to June 2016, and January to June 2017.

* * * * * * *

Figure IV-4
PTFE resin: Apparent U.S. consumption, 2014-16, January to June 2016, and January to June 2017

* * * * * * *

PART V: PRICING DATA

FACTORS AFFECTING PRICES

Raw material costs

The immediate upstream input in the production of PTFE resin is TFE, or tetrafluoroethylene. TFE is a highly volatile substance, so almost all TFE is produced in-house by PTFE producers.[1] The production of TFE involves the reaction of fluorspar, chloroform, and sulfuric acid.[2]

As shown in figure V-1, the costs of these raw materials generally decreased between January 2014 and June 2017. Chemours reported that ***. U.S. producers' total raw material costs as a share of the cost of goods sold ("COGS") decreased from *** percent in 2014 to *** percent in 2016, and were *** percent during January-June 2017.[3]

Figure V-1
Raw material costs: Chemours' reported chloroform, fluorspar, and sulfur costs, January 2014-June 2017

* * * * * * *

Most firms (*** and 7 importers) reported that raw material prices have fluctuated since January 2014. Three firms (***) reported that they have not changed, *** reported that they decreased, and *** reported that they increased.

Transportation costs to the U.S. market

Transportation costs for PTFE resin shipped from subject countries to the United States averaged 3.2 percent for China during 2016. Transportation costs for PTFE resin shipped from

[1] Conference transcript, p. 76 (Hoeck); Chemours postconference brief, pp. 12-13.

[2] Chemours reported that fluorspar and chloroform make up a comparatively larger share of the cost of producing TFE, and that making the TFE monomer accounts for approximately *** percent of the cost of making the polymer. Conference transcript, pp. 74 (Hoeck), 86-87 (Dignam); Chemours postconference brief, p. 13.

[3] Chemours stated that there are high fixed costs to their PTFE manufacturing process, so fluctuations in raw material costs do not typically drive its pricing of PTFE resin. Conference transcript, pp. 76, 104-105 (Dignam). Respondents Flontech and Baillie testified that raw material cost increases have in the past been used by domestic producers as justification for subject product price increases, but that purchasers don't typically approach suppliers for PTFE price decreases when raw material prices go down. Conference transcript, pp. 195-197 (Neville, Baillie).

India to the United States averaged 3.6 percent during 2016. These estimates were derived from official import data and represent the transportation and other charges on imports.[4]

U.S. inland transportation costs

*** and six importers reported that they typically arrange transportation to their customers. Chemours reported U.S. inland transportation costs of *** percent, and Daikin reported U.S. inland transportation costs of *** percent. Most importers reported costs ranging from *** to *** percent.[5]

PRICING PRACTICES

Pricing methods

*** reported using ***, and ***. Importers reported using transaction-by-transaction negotiations, contracts, and price lists. As presented in table V-1, U.S. producers and importers sell primarily on a transaction-by-transaction basis and through contracts.

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

Method	U.S. producers	Importers
Transaction-by-transaction	***	5
Contract	***	5
Set price list	***	2
Other	***	---
Responding firms	***	6

[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.

U.S. producers reported selling most of their PTFE resin under annual or long-term contracts, while importers reported selling most of their PTFE resin under short-term contracts (table V-2).

[4] The estimated transportation costs were obtained by subtracting the customs value from the c.i.f. value of the imports for 2016 and then dividing by the customs value based on HTS statistical reporting numbers 3904.61.0010 and 3904.61.0090.

[5] Several importers reported inland transportation costs of 100 percent. These responses are likely due to a misunderstanding of the question, so they have been not been included.

Table V-2
PTFE resin: U.S. producers' and importers' shares of U.S. commercial shipments by type of sale, 2016

Type of sale	U.S. producers	Importers
Long-term contracts	***	***
Annual contracts	***	***
Short-term contracts	***	***
Spot sales	***	***
Total	100.0	100.0

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

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

*** reported that ***. *** reported that ***. Chemours stated that in its contract negotiations it is "seeing more and more customers {that} want to have in these contracts meet-or-release clauses, which was not customary in the past."[6] Among the responding importers, most reported that their *** contracts do not allow for price renegotiations, they fix both price and quantity, and they do not contain meet-or-release provisions. In terms of meet-or-release clauses, importer Flontech stated that its contracts "never traditionally worked under those agreements, {and} for anywhere that they have, it's been a very minor portion, and typically more of the exception."[7]

Purchasers also provided a general description of their firms' methods of purchase for PTFE resin. One purchaser, ***, reported making individual purchases based on forecasted annual volumes and pricing. Another purchaser, ***, reported purchasing via a blanket purchase order, stating that prices are negotiated and established in an annual contract and that material releases are issued against the blanket purchase order reflecting the contract price. The majority of purchasers reported blanket and individual purchases based on supply agreements.

Sales terms and discounts

*** reported quoting prices ***. Importers typically quote prices on a delivered basis. The majority of U.S. producers and importers do not offer discounts. *** reported sales terms of net 30 days, and *** reported sales terms of net 30 days and net 60 days.

[6] Conference transcript, pp. 81-82 (Hayes).
[7] Conference transcript, pp. 193-194 (McTague).

PRICE DATA

The Commission requested U.S. producers and importers to provide quarterly data for the total quantity and f.o.b. value of the following PTFE products shipped to unrelated U.S. customers during January 2014-June 2017.

Product 1.--Granular PTFE resin, fine cut, bulk density 400-500 g/L, 25-40 µm average particle size, not modified, not filled, in packages of 25kg or greater.

Product 2.--Granular PTFE resin, free flowing, bulk density 500-850 g/L, 290-700 µm average particle size, not modified, not filled, in packages of 25 kg or greater.

Product 3.--PTFE fine powder resin, not modified, in packages of 25 kg or greater.

Product 4.--PTFE fine powder resin, modified, in packages of 25 kg or greater.

Product 5.--PTFE dispersion, general purpose, 50-65% solid content, packaged in drums of 50 gallons or greater.

Both U.S. producers and 5 importers provided usable pricing data for sales of the requested products, although not all firms reported pricing for all products for all quarters.[8] [9] Price data reported by these firms accounted for ***[10] percent of U.S. producers' reported U.S. commercial shipments, *** percent of importers' U.S. commercial shipments of PTFE resin from China, and *** percent of importers' U.S. commercial shipments of PTFE resin from India in 2016. *** accounts for *** reported pricing data for imports from China.

Price data for products 1-5 are presented in tables V-3 to V-7 and figures V-2 to V-6. Nonsubject country prices are presented in Appendix D.

Table V-3
PTFE resin: Weighted-average f.o.b. prices and quantities of domestic and imported product 1[1] and margins of underselling/(overselling), by quarter, January 2014-June 2017

* * * * * * *

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

[9] ***. Accordingly, these data have not been included in this pricing analysis.

[10] ***.

Table V-4
PTFE resin: Weighted-average f.o.b. prices and quantities of domestic and imported product 2[1] and margins of underselling/(overselling), by quarter, January 2014-June 2017

* * * * * * *

Table V-5
PTFE resin: Weighted-average f.o.b. prices and quantities of domestic and imported product 3[1] and margins of underselling/(overselling), by quarter, January 2014-June 2017

* * * * * * *

Table V-6
PTFE resin: Weighted-average f.o.b. prices and quantities of domestic and imported product 4[1] and margins of underselling/(overselling), by quarter, January 2014-June 2017

* * * * * * *

Table V-7
PTFE resin: Weighted-average f.o.b. prices and quantities of domestic and imported product 5[1] and margins of underselling/(overselling), by quarter, January 2014-June 2017

* * * * * * *

Figure V-2
PTFE resin: Weighted-average prices and quantities of domestic and imported product 1,[1] by quarter, January 2014-June 2017

* * * * * * *

Figure V-3
PTFE resin: Weighted-average prices and quantities of domestic and imported product 2,[1] by quarter, January 2014-June 2017

* * * * * * *

Figure V-4
PTFE resin: Weighted-average prices and quantities of domestic and imported product 3,[1] by quarter, January 2014-June 2017

* * * * * * *

Figure V-5
PTFE resin: Weighted-average prices and quantities of domestic and imported product 4, by quarter, January 2014-June 2017

* * * * * * *

Figure V-6
PTFE resin: Weighted-average prices and quantities of domestic and imported product 5,[1] by quarter, January 2014-June 2017

* * * * * * *

Import purchase cost data

Six importers provided usable import purchase cost data for their internal use of products 1, 2, 3, and 4 imported from China, and one importer (***) provided usable import purchase cost data for its imports of products *** from India.[11] Internally consumed and/or transferred PTFE resin, as a share of total imports, represented approximately *** percent of imports from China and *** percent of imports from India in 2016. In turn, import purchase cost data for specific pricing products reported by these firms accounted for approximately *** percent of imports used for internal consumption from China and *** percent of imports used for internal consumption from India in 2016.[12] Import purchase cost data is presented along with U.S. producers' price data for products 1-4 in tables V-8 to V-11 and figures V-7 to V-10.[13]

In addition to the import purchase cost data, firms that imported PTFE resin for their internal use estimated that logistical and supply chain costs (including ocean freight, duties, brokerage fees, harbor maintenance fees, and U.S. inland transportation costs) accounted for 3 to 9 percent of the landed duty-paid value; estimated insurance costs were 1 percent ***, and warehousing costs were estimated *** to be 3 percent. One importer reported that it compares costs to U.S. producers' prices, and two reported comparing costs to U.S. producers' and other importers' prices.[14] Six firms reported purchasing PTFE resin from a U.S. producer as well as directly importing for their own internal use. When asked to provide estimates of the margin saved by having directly imported instead of purchasing subject product from another importer, five firms provided estimates ranging from 5 percent to 24 percent.[15]

In describing the benefits of directly importing subject country PTFE resin for their own use, two firms reported that Chinese- and Indian-produced product is lower priced, with *** stating that its purchases from China and India are based primarily on price. Several firms also reported that they directly imported for their own use because of limited or no availability of certain grades of PTFE resin from U.S. producers. *** reported that AGC's plant closing in 2008 removed approximately 25 percent of total domestic capacity, and *** had stated that they were "sold out" of certain grades and encouraged it to evaluate product from China. *** reported that "where there is no U.S. production of certain grades, we must import those

[11] Not all firms report cost data for all quarters.

[12] ***.

[13] No import purchase cost data was reported for product 5 from China or India.

[14] Six firms reported that they do not compare costs to either U.S. producers' or other importers' prices in determining their additional transaction costs to directly import.

[15] One firm, ***, estimated a savings margin of 99 percent, but this response is likely the result of a misunderstanding of the question.

grades ***." *** also reported that the products it directly imports are uniquely designed and provide enhanced performance beyond commercially available fine powder PTFE resin from domestic producers. *** noted that "China is the center of all the primary feedstocks for PTFE production (fluorspar mines, HF production, refrigerant, etc), {and is} therefore the most vertically integrated with the smallest risk of downtime interruptions." It added that "virtually all global capacity expansions have taken place {in China} over the last several years."

Table V-8
PTFE resin: Weighted-average f.o.b. prices and quantities of domestic and landed duty paid costs of imported product 1,[1] by quarter, January 2014-June 2017

* * * * * * *

Table V-9
PTFE resin: Weighted-average f.o.b. prices and quantities of domestic and landed duty paid costs of imported product 2,[1] by quarter, January 2014-June 2017

* * * * * * *

Table V-10
PTFE resin: Weighted-average f.o.b. prices and quantities of domestic and landed duty paid costs of imported product 3,[1] by quarter, January 2014-June 2017

* * * * * * *

Table V-11
PTFE resin: Weighted-average f.o.b. prices and quantities of domestic and landed duty paid costs of imported product 4,[1] by quarter, January 2014-June 2017

* * * * * * *

Figure V-7
PTFE resin: Weighted-average prices and quantities of domestic and landed duty paid costs of imported product 1,[1] by quarter, January 2014-June 2017

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Figure V-8
PTFE resin: Weighted-average prices and quantities of domestic and landed duty paid costs of imported product 2,[1] by quarter, January 2014-June 2017

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Figure V-9
PTFE resin: Weighted-average prices and quantities of domestic and landed duty paid costs of imported product 3,[1] by quarter, January 2014-June 2017

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Figure V-10
PTFE resin: Weighted-average prices and quantities of domestic and landed duty paid costs of imported product 4,[1] by quarter, January 2014-June 2017

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Price trends

In general, prices decreased during January 2014-June 2017. Table V-12 summarizes the price trends, by country and by product. As shown in the table, domestic prices for products 1, 4, and 5 decreased by *** percent, while prices for product 2 remained relatively the same (increasing by *** percent), and prices for product 3 increased by *** percent during this time. Prices for PTFE resin imported from China decreased for products 1, 2, and 4 during January 2014-June 2017, while prices for PTFE resin imported from India decreased for products 1, 2, 3, and 5. Price decreases for PTFE resin imported from China ranged from *** percent to *** percent, while price decreases for PTFE resin imported from India ranged from *** percent to *** percent. Import purchase costs for PTFE resin imported from China decreased by *** during January 2014-June 2017.

Table V-12
PTFE resin: Summary of weighted-average f.o.b. prices for products 1-5 from the United States and each subject country

Item	Number of quarters	Low price (per pound dry weight)	High price (per pound dry weight)	Change in price[1] (percent)
Product 1				
United States	14	***	***	***
China	14	***	***	***
India	14	***	***	***
China (purchase costs)	9	***	***	---
India (purchase costs)	7	***	***	---
Product 2				
United States	14	***	***	***
China	14	***	***	***
India	14	***	***	***
China (purchase costs)	14	***	***	***
India (purchase costs)	1	***	***	---
Product 3				
United States	14	***	***	***
China	6	***	***	---
India	14	***	***	***
China (purchase costs)	3	***	***	---
India (purchase costs)	1	***	***	---
Product 4				
United States	14	***	***	***
China	14	***	***	***
India	10	***	***	---
China (purchase costs)	8	***	***	---
India (purchase costs)	---	---	---	---
Product 5				
United States	14	***	***	***
China	3	***	***	---
India	14	***	***	***
China (purchase costs)	---	---	---	---
India (purchase costs)	---	---	---	---

[1] Percentage change from the first quarter in which data were available to the last quarter in which price data were available.

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

Price comparisons

As shown in table V-13, prices for PTFE resin imported from subject countries were below those for U.S.-produced product in 105 of 117 instances (11.0 million pounds dry weight); margins of underselling ranged from 0.1 to 71.9 percent. In the remaining 12 instances

(453,486 pounds dry weight), prices for PTFE resin imported from China were between 0.1 percent and 35.7 percent above prices for the domestic product.[16]

Table V-13
PTFE resin: Instances of underselling/(overselling) and the range and average of margins, by product and by country, January 2014-June 2017

Source	Underselling				
	Number of quarters	Quantity[1] (pounds dry weight)	Average margin (percent)	Margin range (percent)	
				Min	Max
Product 1	26	***	***	***	***
Product 2	24	***	***	***	***
Product 3	19	***	***	***	***
Product 4	21	***	***	***	***
Product 5	15	***	***	***	***
Total, underselling	105	11,024,820	28.4	0.1	71.9
China	39	3,511,790	16.4	0.1	56.7
India	66	7,513,030	35.5	10.4	71.9
Total, underselling	105	11,024,820	28.4	0.1	71.9
Source	**(Overselling)**				
	Number of quarters	Quantity[1] (pounds dry weight)	Average margin (percent)	Margin range (percent)	
				Min	Max
Product 1	2	***	***	***	***
Product 2	4	***	***	***	***
Product 3	1	***	***	***	***
Product 4	3	***	***	***	***
Product 5	2	***	***	***	***
Total, overselling	12	453,486	(12.5)	(0.1)	(35.7)
China	12	453,486	(12.5)	(0.1)	(35.7)
India	0	0	---	---	---
Total, overselling	12	453,486	(12.5)	(0.1)	(35.7)

[1] These data include only quarters in which there is a comparison between the U.S. and subject product.

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

[16] There were no instances of overselling by subject PTFE resin from India during January 2014-June 2017.

In comparing import purchase cost data with domestic producers' pricing data, the import purchase costs of PTFE resin imported from China were lower than U.S. producers' prices in 28 instances and higher in 6 instances, and the import purchase costs of PTFE resin imported from India were lower than U.S. producers' prices in 9 instances during January 2014-June 2017 (table V-14). There were no instances of import purchase costs of PTFE resin imported from India that were higher priced than U.S. producers' prices.

Table V-14
PTFE: Summary of price differentials, by direct import sources, January 2014-June 2017

	Total number of comparisons	Direct imports lower than the United States		Direct imports higher than the United States	
		Number of quarters	Quantity (pounds dry weight)	Number of quarters	Quantity (pounds dry weight)
Product 1	16	16	***	0	---
Product 2	15	15	***	0	---
Product 3	4	1	***	3	***
Product 4	8	5	***	3	***
Total	43	37	2,120,247	6	60,271
China	34	28	1,650,716	6	60,271
India	9	9	469,531	0	---
Total	43	37	2,120,247	6	60,271

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

LOST SALES AND LOST REVENUE

The Commission requested that U.S. producers of PTFE resin report purchasers to which they experienced instances of lost sales or lost revenue due to competition from imports of PTFE resin from China and/or India during January 2014-June 2017. Both responding U.S. producers reported that they had to either reduce prices or roll back announced price increases, and both reported that they had lost sales. *** submitted lost sales and lost revenue allegations. *** identified 34 firms where they lost sales or revenue (10 consisting of lost revenue allegations, and 24 consisting of both lost sales and lost revenue allegations).

Staff contacted 34 purchasers and received responses from 23 purchasers. Responding purchasers reported purchasing 3,176,631 pounds of subject PTFE resin from China and India in 2016 (table V-15). Responding purchasers purchased 56.8 percent from U.S. producers, 8.0 percent from China, 6.6 percent from India, 28.1 percent from nonsubject countries, and 0.6 percent from "unknown source" countries in 2016. All 23 responding purchasers reported purchasing domestic product at some point during January 2014-June 2017; 8 of them reported decreasing purchases from domestic producers since January 2014, 3 reported increasing

purchases, 4 reported no change, and 8 reported fluctuating purchases.[17] Flontech, ***, stated that in its manufacturing of PTFE compounds, it has worked with both domestic producers Daikin and Chemours to produce a grade of PTFE resin that fits Flontech's process, but both domestic producers have discontinued those products.[18] ***, Industrial Plastics & Machines, also reported purchasing PTFE resin from China and India because "Chemours does not have in their catalogue a grade that can serve the purpose to build {a} commodities shape of PTFE… Chemours and Daikin do not compete in the same grade of PTFE raw materials as the Chinese and Indians."[19]

Of the 22 responding purchasers, 5 reported that they had purchased imported PTFE resin from China instead of U.S.-produced product since 2014, and 9 reported they had purchased imported PTFE resin from India instead of U.S.-produced product. All 5 responding purchasers of Chinese product and 7 of the 9 purchasers of Indian product reported that subject import prices were lower than U.S.-produced product. Four of the purchasers of Chinese product and 5 of the purchasers of Indian product reported that price was a primary reason for the decision to purchase imported product from China and/or India rather than U.S.-produced product. Four purchasers estimated the quantity of subject product from China purchased instead of domestic product; quantities ranged from *** pounds to *** pounds (tables V-16a and V-16b). Five purchasers estimated the quantity of subject product from India purchased instead of domestic product; quantities ranged from *** pounds to *** pounds.

Purchasers generally identified availability of supply, customer requirements, and quality as the major non-price reasons for purchasing imported rather than U.S.-produced product. *** reported that *** declined to sell it PTFE resin. *** also reported that *** stopped manufacturing three grades of PTFE resin that it previously purchased from them. *** and *** also reported a decrease in the availability and supply of U.S.-produced PTFE resin. Two purchasers also noted a desire for a second supply source in order to mitigate risk.

Of the 22 responding purchasers, 6 reported that U.S. producers reduced prices in order to compete with lower priced imports from China and/or India, and 8 reported that they did not reduce prices in order to compete with subject imports; 8 firms reported that they did not know (tables V-17a and V-17b). Purchasers estimated that U.S. producers reduced prices by between *** percent and *** percent in order to compete with subject imports from China, and by between *** percent and *** percent in order to compete with subject imports from India.

[17] Of the 23 responding purchasers, 3 indicated that they did not know the source of the PTFE resin they purchased.

[18] Conference transcript, p. 135 (McTague).

[19] Conference transcript, p. 133-134 (Arlati).

Table V-15
PTFE resin: Purchasers' responses to purchasing patterns

Purchaser	Purchases in 2016 (pounds dry weight)			Change in domestic share[2] (pp, 2014-16)	Change in subject country share[2] (pp, 2014-16)
	Domestic	Subject	All other[1]		
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
Total	12,369,591	3,176,631	6,228,037	(3.7)	***

[1] Includes all other sources and unknown sources.
[2] Percentage points (pp) change: Change in the share of the firm's total purchases of domestic and/or subject country imports between first and last years.

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

Table V-16a
PTFE resin: Purchasers' responses to purchasing subject imports instead of domestic product, by firm

Purchaser	Subject imports purchased instead of domestic (Y/N)	Imports priced lower (Y/N)	If purchased subject imports instead of domestic, was price a primary reason		
			Y/N	If Yes, quantity (pounds dry weight)	If No, non-price reason
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
Total	Yes--11; No--11	Yes--9; No--3	Yes--7; No--4	2,253,230	

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

Table V-16b
PTFE resin: Purchasers' responses to purchasing subject imports instead of domestic product, by subject country

Source	Count of purchasers reporting subject instead of domestic product	Count of purchasers reporting that subject imports were priced lower	Count of purchasers reporting that price was a primary reason for purchasing subject instead of domestic	Quantity of subject imports purchased (pounds dry weight)	Other reasons for purchasing subject instead of domestic
China	5	5	4	***	3
India	9	7	5	***	5
All subject sources	11	9	7	***	5

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

Table V-17a
PTFE resin: Purchasers' responses to U.S. producer price reductions, by firm

Purchaser	U.S. producers reduced priced to compete with subject imports (Y/N)	If U.S. producers reduced prices	
		Estimated U.S. price reduction (percent)	Additional information, if available
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
Total / average	Yes--6; No--8; Don't Know--8	23.3	

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

Table V-17b
PTFE resin: Purchasers' responses to U.S. producer price reductions, by subject country

Source	Count of purchasers reporting U.S. producers reduced prices	Simple average of estimated U.S. price reduction (percent)	Range of estimated U.S. price reductions (percent)
China	4	***	5.0 to 37.5
India	4	***	15.0 to 26.0
All subject sources	6	***	5.0 to 37.5

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

In additional comments, *** reported that not all importing companies provide a full range of PTFE resin grades.

PART VI: FINANCIAL EXPERIENCE OF U.S. PRODUCERS

BACKGROUND

Two primary PTFE resin producers, Chemours and Daikin, reported financial results on their U.S. PTFE resin operations.[1] The majority of the period's total PTFE resin sales quantity was accounted for by *** (*** percent), followed by *** (*** percent).[2]

With respect to changes in the U.S. industry during the period, DuPont's Performance Chemicals segment, which includes PTFE resin operations, was spun-off and became a separate company (Chemours) in July 2015.[3] As described by Chemours, the impact of the spin-off on PTFE resin operations was ***.[4]

OPERATIONS ON PTFE RESIN

Income-and-loss data for the U.S. industry's PTFE resin operations are presented in table VI-1. Table VI-2 presents corresponding changes in average unit values. Table VI-3 presents selected company-specific financial information.

Table VI-1
PTFE resin: Results of operations of U.S. producers, 2014-16, January-June 2016, and January-June 2017

* * * * * *

Table VI-2
PTFE resin: Changes in average per pound values, 2014-16, January-June 2016, January-June 2017

* * * * * *

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[1] Chemours and Daikin reported their financial results on the basis of generally accepted accounting principles (GAAP). Chemours reported its annual financial results on a calendar-year basis and Daikin reported its annual financial results on a fiscal year basis ending March 31.

As indicated in Part III of this report, 3M is not included in the U.S. industry's trade or financial results.

[2] Chemours and Daikin are both large, publicly traded multinational businesses. Chemours' PTFE resin operations take place within its Fluoroproducts segment and Daikin's PTFE resin operations take place within its Chemicals segment. Chemours 2016 10-K, pp. 3-4, pp. 7-8. Daikin 2017 Annual Report, p. 3.

[3] In the third quarter of 2013, DuPont decided to spin off its performance chemicals business of which PTFE resin is a part. *Shift in Agricultural Sales Timing, Lower Chemical Prices Weigh On DuPont's Earnings Growth*, https://www.forbes.com/sites/greatspeculations/2014/04/24/shift-in-agricultural-sales-timing-lower-chemical-prices-weigh-on-duponts-earnings-growth, retrieved on October 17, 2017. Chemours became a separate publicly traded company in July 2015. Chemours 2016 10-K, p. 3.

[4] ***. October 20, 2017 e-mail with attachment from Counsel on behalf of Chemours to USITC auditor.

Table VI-3
PTFE resin: Results of operations of U.S. producers, by firm, 2014-16, January-June 2016, and January-June 2017

* * * * * *

Revenue

The majority of PTFE resin sales was classified as commercial sales (*** percent of total sales quantity) with a relatively small amount of internal consumption (*** percent) also reported.[5] Given the predominance of commercial sales, a single line item for PTFE resin revenue is presented in this section of the report.

Volume

On an overall basis, the U.S. industry's total sales volume declined in 2015 and 2016 and then was higher in January-June ("interim") 2017 compared to interim 2016 (see table VI-1). On a company-specific basis, Chemours and Daikin shared the same directional pattern of sales volume during 2014-15 but were mixed during 2015-16 and the interim period (see table VI-3). ***, Chemours' full-year *** in sales volume, followed by *** sales volume in interim 2017 compared to interim 2016, ***.[6] While Daikin reported period-to-period variations in its sales volume, the amounts reported ***.

Value

With respect to the pattern of average PTFE resin sales value, Chemours indicated *** during the period and Daikin noted ***.[7] ***, both companies reported *** average sales values and average raw material costs during 2014-16. *** in interim 2017 compared to interim 2016. *** in interim 2017 compared to interim 2016 and ***.[8]

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[5] ***. October 20, 2017 e-mail with attachment from Counsel on behalf of Chemours to USITC auditor.

[6] ***. Ibid. As described by a Chemours company official at the Commission's staff conference, "In 2016, we were in a dire situation as our PTFE business was bleeding money. We considered a range of alternatives, which were pretty drastic. We decided to adopt a short-term business strategy to stay afloat. We implemented a specific and rather aggressive strategy called reengagement to gain back customers that we had lost. We increased production to spread our fixed costs and we cut our prices to capture more sales volume." Conference transcript, p. 37 (Dignam).

[7] October 20, 2017 e-mail with attachment from Counsel on behalf of Chemours to USITC auditor. October 20, 2017 e-mail with attachments from Daikin to USITC auditor.

[8] With regard to how changes in primary raw material costs such as fluorspar and chloroform impact pricing and sales values in general, an industry witness, from the perspective of a PTFE resin purchaser, noted a "lack of transparency . . . we often have to piece together bits of information from different suppliers to try and establish what is driving pricing in the market place." Conference transcript at pp. 195-196 (Neville). Another industry witness noted that increases in the level of fluorspar and

(*continued*...)

Cost of goods sold and gross profit

Raw material

Chemours and Daikin each produce TFE, the precursor of PTFE resin, at a single plant: Washington Works, West Virginia (Chemours) and Decatur, Alabama (Daikin), respectively. While Chemours purchases chloroform, it is also backwards integrated with respect to some of the inputs ultimately used to produce TFE; e.g., HF and subsequent R-22 are manufactured by Chemours at separate plants in Texas and Kentucky, respectively.[9] Daikin ***.[10]

Total raw material cost was the largest single component of PTFE resin COGS, ranging from a low of *** percent of total COGS in 2015 to a high of *** percent in 2014 (see table VI-1).[11] While magnitudes differed, Chemours and Daikin both reported *** average raw material costs during 2014-16, as well as *** average raw material cost in interim 2017 compared to interim 2016. With regard to this pattern, Chemours noted ***.[12] The *** in Chemours' interim 2017 average raw material cost (see table VI-3) appears to be related, at least in part, to *** capacity utilization.[13] According to Daikin, HF prices were ***, while chloroform prices have been ***.[14]

Direct labor and Other factory costs

The second largest share of PTFE resin COGS is other factory costs, which ranged from *** percent of total COGS in 2014 to *** percent in 2015 (see table VI-1).[15] Direct labor as a share of COGS was at its lowest level as a share of total COGS in 2015 (*** percent) and its highest level in interim 2016 (*** percent). When considered together (combined direct labor and other factory costs), PTFE resin conversion costs accounted for somewhat over half of total PTFE resin COGS for the majority of the period, the exception being 2014.

In conjunction with declining overall capacity utilization during the full-year period, the increasing share of PTFE resin conversion costs is generally consistent with a relatively high fixed cost structure.[16]

(…*continued*)
chloroform have been used by U.S. producers to justify price increases. Conference transcript, p. 196 (Baillie).

[9] Conference transcript, pp. 86-87 (Dignam). The underlying fluorspar used by Chemours to produce HF is purchased from an unrelated supplier. Ibid.

[10] ***. October 26, 2017 e-mail from Daikin to USITC auditor.

***. Daikin U.S. producer questionnaire response to III-7.

[11] ***. October 26, 2017 e-mail with attachments from Counsel on behalf of Chemours to USITC auditor. ***. Ibid.

[12] October 20, 2017 e-mail with attachment from Counsel on behalf of Chemours to USITC auditor. ***. Petitioner's postconference brief, Exhibit 2 (attachment A).

[13] ***. Petitioner's postconference brief, Exhibit 2 (attachment A).

[14] ***. October 26, 2017 e-mail from Daikin to USITC auditor.

[15] ***. October 26, 2017 e-mail with attachments from Counsel on behalf of Chemours to USITC auditor. ***.

Chemours' average conversion costs *** level in 2015, *** marginally in 2016, and was at its *** in interim 2017. ***.[17] During the full-year period from 2014 to 2016, Daikin's capacity utilization *** compared to Chemours. As a result, the level of Daikin's fixed cost absorption was *** impacted by changes in capacity utilization.[18]

Gross profit

On an overall basis, the U.S. industry's total PTFE resin gross profit and gross profit ratio (total gross profit divided by total revenue) both declined during the full-year period from 2014 to 2016 and then were higher in interim 2017 compared to interim 2016 (see table VI-1). The decline in total gross profit during 2014-16 reflects a combination of lower sales volume and contracting gross profit ratios, while the improvement in interim 2017 compared to interim 2016 generally reflects higher sales volume and a higher gross profit ratio.[19]

While reporting a similar directional trend, Chemours and Daikin reported gross profit ratios in somewhat different ranges (see table VI-3). In addition to being ***, Daikin's gross profit ratio declined by *** amounts during 2014-16 and then *** in interim 2017. ***, Chemours' gross profit ratio covered a *** during the full-year period and then *** to its highest level in interim 2017. The *** in Chemours' capacity utilization, as compared to Daikin's ***, help to explain, at least in part, why Chemours' gross profit ratio *** during 2014-16.[20]

SG&A expenses and operating income or loss

The U.S. industry's total selling, general and administrative (SG&A) expenses declined during 2014-16 and then were higher in interim 2017 compared to interim 2016 (see table VI-

(…*continued*)

[16] Conference transcript, p. 12 (Dignam). As a result of capacity utilization declining below a predetermined level, Chemours recognized idle mill expenses during the period in which fixed costs were expensed immediately, as opposed to capitalized into PTFE resin inventory. Conference transcript, p. 85 (Dignam). ***. October 20, 2017 e-mail with attachment from Counsel on behalf of Chemours to USITC auditor.

[17] Ibid.

[18] PTFE resin operations are subject to maintenance outages. ***. Chemours U.S. producer questionnaire response to II-2. ***. October 26, 2017 e-mail with attachments from Counsel on behalf of Chemours to USITC auditor. As noted at the Commission's staff conference, Chemours maintains PTFE resin safety stock in order to meet demand during expected and unexpected downtime. Conference transcript at p. 86 (Hayes).

***. Daikin U.S. producer questionnaire response to II-3d.

[19] During the full-year period, the contraction in the U.S. industry's gross profit ratio reflects a mixed pattern of higher and then lower average other factory costs and declines in average raw material cost that only partially offset declines in corresponding average sales value. At the end of the period, gross profit ratio expanded in interim 2017 compared to interim 2016 due to higher average sales value, which was amplified by lower average raw material costs, direct labor, and other factory costs.

[20] ***. October 20, 2017 e-mail with attachment from Counsel on behalf of Chemours to USITC auditor. ***.

1). On a company-specific basis, the pattern of SG&A expenses was mixed (see table VI-3). While Chemours' reported an *** during the full-year period from 2014 to 2016, followed by *** SG&A expenses in interim 2017 compared to interim 2016,[21] Daikin's total SG&A expenses *** throughout the period.[22]

On an overall basis, SG&A expense ratios (total SG&A expenses divided by total revenue) remained within a relatively narrow range throughout the full-year period and were marginally higher in interim 2017 compared to interim 2016. On a company-specific basis, Chemours' and Daikin's SG&A expense ratios were *** in 2014 and 2015 and then *** in 2016 and in interim 2017.[23]

In general and although somewhat more pronounced at the end of the period (see footnote 21), changes in SG&A expense ratios were a secondary factor in terms of explaining changes in PTFE resin operating results.

Interest expense, other expenses, and net income or loss

The difference and increasing divergence between PTFE resin operating results compared to net results (see table VI-1) reflects increases in interest expense reported by ***. As indicated in footnote 4, ***. *** reported *** income or expenses below operating results.

CAPITAL EXPENDITURES AND RESEARCH AND DEVELOPMENT EXPENSES

Table VI-4 presents U.S. producers' PTFE resin capital expenditures and research and development (R&D) expenses by firm.

Table VI-4
PTFE resin: Capital expenditures and research and development (R&D) expenses of U.S. producers, 2014-16, January-June 2016, and January-June 2017

* * * * * *

Chemours, accounting for the *** share of total capital expenditures (*** percent), reported its *** level of capital expenditures in 2014, followed by a *** in 2015 and *** in 2016.[24] Daikin's capital expenditures (*** percent of total capital expenditures) were at their *** level in 2015 and then *** somewhat in 2016.[25] Both companies reported *** capital expenditures in interim 2017 compared to interim 2016.

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[21] ***. October 20, 2017 e-mail with attachment from Counsel on behalf of Chemours to USITC auditor.

[22] ***. October 20, 2017 e-mail with attachments from Daikin to USITC auditor.

[23] ***.

[24] ***. Chemours U.S. producer questionnaire response to III-13 (note 1).

[25] ***. Daikin U.S. producer questionnaire response to III-13 (note 1).

Chemours, (*** percent) of total R&D expenses, reported *** in R&D expenses during the full-year period followed by *** R&D expenses in interim 2017 compared to interim 2016.[26] Daikin's R&D expenses, accounting for *** percent of the total, *** during the full-year period and were only marginally *** in interim 2017 compared to interim 2016.[27]

ASSETS AND RETURN ON INVESTMENT

Table VI-5 presents data on U.S. producers' PTFE resin total assets and return on assets.[28]

Table VI-5
PTFE resin: U.S. producers' total assets and return on assets, 2014-16

* * * * * *

CAPITAL AND INVESTMENT

The Commission requested U.S. producers of PTFE resin to describe any actual or potential negative effects on their return on investment or their 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 PTFE resin from China and India. Table VI-6 tabulates the responses on actual negative effects on investment, growth and development, as well as anticipated negative effects. Table VI-7 presents the narrative responses of U.S. producers regarding actual and anticipated negative effects on investment, growth and development.

Table VI-6
PTFE resin: Negative effects of imports from subject sources on investment, growth, and development since January 1, 2014

* * * * * *

Table VI-7
PTFE resin: Narrative responses of U.S. producers regarding actual and anticipated negative effects of imports from subject sources on investment, growth, and development since January 1, 2014

* * * * * *

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[26] ***. Chemours U.S. producer questionnaire response to III-13 (note 2).

[27] ***. October 26, 2017 e-mail from Daikin to USITC auditor.

[28] 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. For producers manufacturing products in addition to PTFE resin, high-level allocation factors were presumably necessary to report total asset values specific to U.S. PTFE resin operations. The ability of U.S. producers to assign total asset values to discrete products lines affects the meaningfulness of return on assets.

PART VII: THREAT CONSIDERATIONS AND INFORMATION ON NONSUBJECT COUNTRIES

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

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

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

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

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

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

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

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

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

THE INDUSTRY IN CHINA

The Commission issued foreign producers' or exporters' questionnaires to 56 firms identified as possible producers and/or exporters of PTFE resin from China.[3] Usable responses to the Commission's questionnaire were received from two firms: Daikin Fluorochemicals (China) Co. Ltd. ("Daikin China")[4] and The Chemours China Holding Company Limited ("Chemours China").[5] These firms' exports to the United States accounted for approximately *** percent of U.S. imports of PTFE resin from China in 2016. Table VII-1 presents information on the PTFE resin operations of the responding producers in China.

Table VII-1
PTFE resin: Summary data for producers in China, 2016

Firm	Production (1,000 pounds dry weight)	Share of reported production (percent)	Exports to the United States (1,000 pounds dry weight)	Share of reported exports to the United States (percent)	Total shipments (1,000 pounds dry weight)	Share of firm's total shipments exported to the United States (percent)
Chemours China	***	***	***	***	***	***
Daikin China	***	***	***	***	***	***
Total	***	***	***	***	***	***

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

Changes in operations

The Commission requested producers of PTFE resin in subject countries to indicate whether their firm had experienced any changes in relation to the production of PTFE resin since January 1, 2014. *** reported that in ***.

Operations on PTFE resin

Table VII-2 presents information on the two responding firms' PTFE resin operations in China. Neither firm reported ***.

Chinese producers' production capacity increased by *** percent from *** pounds dry weight in 2014 to *** pounds dry weight in 2016. The capacity level reported in January-June 2017 was higher than that reported for January-June 2016. Capacity is projected to increase to *** pounds dry weight by 2018. Production declined overall from 2014 to 2016, but was higher in the first six months of 2017 than in the comparable period in 2016 and production is expected to increase in 2017 and 2018. Capacity utilization declined overall from *** percent in

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

[4] ***.

[5] ***.

2014 to *** percent in 2016, but was higher at *** percent during January-June 2017. Capacity utilization is projected to increase to *** percent in 2018.

A majority (*** percent in 2016) of Chinese producers' total shipments of PTFE resin were to the home market, with exports to the United States accounting for *** percent of the total in 2016 and exports to other countries accounting for *** percent. ***.

Table VII-2
PTFE resin: Data on industry in China, 2014-16, January to June 2016, January to June 2017 and projection calendar years 2017 and 2018

* * * * * * *

Exports

According to GTA, the leading export markets for PTFE resin from China are Korea, Italy, and the United States (table VII-3). During 2016, Korea was the top export market for PTFE resin from China, accounting for 24.4 percent, followed by Italy (17.3 percent) and the United States (12.1 percent).

Table VII-3
PTFE resin: China exports by destination market, 2014-16

Destination market	Calendar year		
	2014	2015	2016
	Quantity (1,000 pounds dry weight)		
China exports to the United States	6,856	6,152	6,135
China exports to other major destination markets.-- Korea	12,327	11,181	12,423
Italy	9,218	8,369	8,809
Belgium	2,626	4,090	4,599
Japan	2,627	2,332	2,780
Iran	723	764	1,887
India	2,251	1,468	1,573
Singapore	2,044	1,473	1,563
Vietnam	650	875	1,396
All other destination markets	8,474	8,636	9,694
Total China exports	47,797	45,340	50,860
	Value (1,000 dollars)		
China exports to the United States	28,321	22,923	21,128
China exports to other major destination markets.-- Korea	37,728	29,912	31,535
Italy	25,310	18,493	16,922
Belgium	14,743	15,052	15,995
Japan	14,011	10,119	11,915
Iran	2,418	2,278	5,445
India	7,366	4,423	3,820
Singapore	6,229	3,858	3,724
Vietnam	3,801	4,402	6,814
All other destination markets	33,281	32,206	37,379
Total China exports	173,209	143,665	154,677

Table continued on next page.

Table VII-3--Continued
PTFE resin: China exports by destination market, 2014-16

Destination market	Calendar year		
	2014	2015	2016
	Unit value (dollars per pound)		
China exports to the United States	$4.13	$3.73	$3.44
China exports to other major destination markets.--			
Korea	3.06	2.68	2.54
Italy	2.75	2.21	1.92
Belgium	5.61	3.68	3.48
Japan	5.33	4.34	4.29
Iran	3.34	2.98	2.89
India	3.27	3.01	2.43
Singapore	3.05	2.62	2.38
Vietnam	5.84	5.03	4.88
All other destination markets	3.93	3.73	3.86
Total China exports	3.62	3.17	3.04
	Share of quantity (percent)		
China exports to the United States	14.3	13.6	12.1
China exports to other major destination markets.--			
Korea	25.8	24.7	24.4
Italy	19.3	18.5	17.3
Belgium	5.5	9.0	9.0
Japan	5.5	5.1	5.5
Iran	1.5	1.7	3.7
India	4.7	3.2	3.1
Singapore	4.3	3.2	3.1
Vietnam	1.4	1.9	2.7
All other destination markets	17.7	19.0	19.1
Total China exports	100.0	100.0	100.0

Source: Official exports statistics under HS subheading 3904.61 as reported by China Customs in the IHS/GTA database, accessed October 16, 2017.

THE INDUSTRY IN INDIA

The Commission issued foreign producers' or exporters' questionnaires to seven firms identified as possible producers and/or exporters of PTFE resin from India.[6] Usable responses to the Commission's questionnaire were received from one firm: Gujarat Fluorochemicals Limited ("Gujarat").[7] This firm's exports to the United States accounted for approximately *** percent of U.S. imports of PTFE resin from India in 2016. Table VII- 4 presents information on the PTFE resin operations of the responding producer in India.

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

[7] ***.

Table VII-4
PTFE resin: Summary data on firms in India, 2016

* * * * * * *

Changes in operations

The Commission requested producers of PTFE resin in subject countries to indicate whether their firm had experienced any changes in relation to the production of PTFE resin since January 1, 2014. *** reported that "***."

Operations on PTFE resin

Table VII-5 presents information on the PTFE resin operations of the responding producer in India. Gujarat's production capacity remained constant at *** pounds dry weight throughout the entire period of investigation and no change in capacity is projected by the firm for 2017 and 2018. Production declined from 2014 to 2015, but increased to a level in 2016 that was *** percent higher than the level reported in 2014. Production in the first six months of 2017 was also higher than in the comparable period in 2016 and production is expected to increase by *** percent from 2016 to 2018. Capacity utilization declined from *** percent in 2014 to *** percent in 2015, but increased to *** percent in 2016. Capacity utilization was higher at *** percent during January-June 2017 and is projected to increase to *** percent in 2017 and to *** percent in 2018.

A majority (*** percent in 2016) of Gujarat's total shipments of PTFE resin were to export markets other than the United States, with home market shipments accounting for *** percent of the total in 2016 and exports to the United States accounting for *** percent. ***.

Table VII-5
PTFE resin: Data on industry in India, 2014-16, January to June 2016, January to June 2017, and projected calendar years 2017 and 2018

* * * * * * *

Alternative products

Gujarat reported producing ***.

Exports

According to GTA, the leading export markets for PTFE resin from India are Germany, Italy, and the United States (table VII-6). During 2016, Germany was the top export market for PTFE resin from India, accounting for 33.6 percent, followed by the United States (22.9 percent).

Table VII-6
PTFE resin: India exports by destination market, 2014-16

Destination market	Calendar year		
	2014	2015	2016
	Quantity (1,000 pounds dry weight)		
India exports to the United States	3,974	3,359	3,900
India exports to other major destination markets.--			
Germany	4,888	4,215	5,724
Italy	4,219	2,664	2,946
China	703	353	1,327
United Kingdom	35	433	446
Brazil	436	346	374
France	417	244	355
Turkey	216	137	334
Korea	177	243	300
All other destination markets	1,406	1,408	1,323
Total India exports	16,471	13,402	17,028
	Value (1,000 dollars)		
India exports to the United States	14,030	12,636	13,178
India exports to other major destination markets.--			
Germany	20,368	13,878	17,943
Italy	13,677	7,614	6,980
China	2,947	1,722	4,860
United Kingdom	150	1,838	1,828
Brazil	2,221	1,797	1,951
France	1,737	804	1,148
Turkey	825	430	1,057
Korea	662	902	1,075
All other destination markets	5,857	5,733	4,163
Total India exports	62,474	47,354	54,182

Table continued on next page.

Table VII-6--Continued
PTFE resin: India exports by destination market, 2014-16

Destination market	Calendar year		
	2014	2015	2016
	Unit value (dollars per pound)		
India exports to the United States	3.53	3.76	3.38
India exports to other major destination markets.--			
Germany	4.17	3.29	3.13
Italy	3.24	2.86	2.37
China	4.19	4.88	3.66
United Kingdom	4.34	4.24	4.10
Brazil	5.10	5.20	5.22
France	4.17	3.30	3.23
Turkey	3.81	3.13	3.17
Korea	3.74	3.70	3.59
All other destination markets	4.17	4.07	3.15
Total India exports	3.79	3.53	3.18
	Share of quantity (percent)		
India exports to the United States	24.1	25.1	22.9
India exports to other major destination markets.--			
Germany	29.7	31.4	33.6
Italy	25.6	19.9	17.3
China	4.3	2.6	7.8
United Kingdom	0.2	3.2	2.6
Brazil	2.6	2.6	2.2
France	2.5	1.8	2.1
Turkey	1.3	1.0	2.0
Korea	1.1	1.8	1.8
All other destination markets	8.5	10.5	7.8
Total India exports	100.0	100.0	100.0

Source: Official exports statistics under HS subheading 3904.61 as reported by India's Ministry of Commerce in the IHS/GTA database, accessed October 16, 2017.

THE COMBINED INDUSTRIES IN THE SUBJECT COUNTRIES

Table VII-7 presents information on the PTFE resin operations of the responding producers in all responding subject countries combined for 2014-16, January to June 2016, and January to June 2017, as well as projections for 2017-18.

Table VII-7
PTFE resin: Data on industry in subject countries, 2014-16, January to June 2016, January to June 2017, and projected calendar years 2017 and 2018

* * * * * * *

U.S. INVENTORIES OF IMPORTED MERCHANDISE

Table VII-8 presents data on U.S. importers' reported inventories of PTFE resin. U.S. importers' end-of-period inventories of imports from subject countries increased from 2014 to 2015, but fell in 2016 to a level that was *** percent lower than that reported in 2014. Such inventories were *** lower during the first six months of 2017 than the comparable period in 2016.

Table VII-8
PTFE resin: U.S. importers' end-of-period inventories of imports by source, 2014-16, January to June 2016, and January to June 2017

* * * * * * *

U.S. IMPORTERS' OUTSTANDING ORDERS

The Commission requested importers to indicate whether they imported or arranged for the importation of PTFE resin from China and India after June 30, 2017. Table VII-9 presents this data. Responding importers reported *** pounds dry weight of arranged imports from China from July 2017 to June 2018, *** pounds dry weight of arranged imports from India, and *** pounds dry weight of arranged imports from all other nonsubject countries.

Table VII-9
PTFE resin: Arranged imports, July 2017 through June 2018

* * * * * * *

ANTIDUMPING OR COUNTERVAILING DUTY ORDERS IN THIRD-COUNTRY MARKETS

India imposed antidumping duties on imports of PTFE from Russia in October 1999,[8] and on imports of PTFE from China in July 2005.[9] In 2016 India completed its third review concerning PTFE from Russia and its second review of the orders of PTFE from China.[10] Both sets of orders were continued with some modifications.

[8] "Polytetrafluoroethylene PTFE Russia," Case No. No.241/98-DGAD, Directorate General of Anti-Dumping and Allied Duties Final Findings (March 2017). http://www.dgtr.gov.in/anti-dumping-cases/polytetrafluoroethylene-ptfe-russia, retrieved October 26, 2017.

[9] "Polytetrafluoroethylene PTFE China PR," Case No. No.14/25/2003-DGAD,15/11/2016-DGAD, Directorate General of Anti-Dumping and Allied Duties Final Findings (June 2017). http://www.dgtr.gov.in/anti-dumping-cases/polytetrafluoroethylene-ptfe-china-pr, retrieved October 26, 2017.

[10] Gujarat was the petitioner in both proceedings.

INFORMATION ON NONSUBJECT COUNTRIES

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

According to published sources, global capacity in 2015 was ***, global production was ***, and global apparent consumption was ***, shown in Table VII-10.*** The average annual consumption growth rate from 2015-20 is forecast to be *** percent.*** The capacity in 2015 was *** for the United States, *** for Western Europe, *** for Japan, *** for China, and *** for the rest of the world.*** The consumption of PTFE in 2015 was *** for the United States, *** for Western Europe, and *** for Japan, and *** for China, as shown in Table VII-11.

Table VII-10
PTFE resin: World supply/demand for PTFE – 2015 (thousands of metric tons)

* * * * * * *

Table VII-11
PTFE resin: World Consumption of PTFE -2015

* * * * * * *

The major world producers for PTFE are shown in Table VII-12, and highlights that Western Europe, East Europe, and Japan are all notable producers of PTFE. Western European producers are shown in Table VII-13. Table VII-14 shows the Western European supply and demand for 2010-15 and forecast to 2020, and the graphic of the table is shown in Figure VII-1. Western European consumption of PTFE by grade in 2012, 2015, and forecast to 2020 is listed in Table VII-15. Central and Eastern European producers are listed in Table VII-16, supply and demand in Table VII-17, and consumption by country is listed in Table VII-18. Japanese supply and demand is listed in Table VII-19, and consumption by form is listed in Table VII-20. Global exports by exporting country for 2014-16 are listed in Table VII-21.

Table VII-12
PTFE resin: Major world producers of PTFE

* * * * * * *

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

Table VII-13
PTFE resin: Western European producers of fluoropolymers

* * * * * * *

Table VII-14
PTFE: Western European supply/demand[1] (thousands of metric tons), 2010-15 and forecast to 2020

* * * * * * *

Figure VII-1
PTFE: Western European supply and demand (thousands of metric tons), 2000-15 and forecast through 2020

* * * * * * *

Table VII-15
PTFE: Western European consumption of PTFE per grade and application (thousands of metric tons), 2012, 2015, and forecast to 2020

* * * * * * *

Table VII-16
PTFE: Central and Eastern European producers and capacity (thousands of metric tons) as of January 2016

* * * * * * *

Table VII-17
PTFE: Central and Eastern European supply/demand[1]

* * * * * * *

Table VII-18
PTFE: Central and Eastern European consumption by country, 2012-15

* * * * * * *

Table VII-19
PTFE: Japanese supply/demand

* * * * * * *

Table VII-20
PTFE: Japanese consumption of PTFE by form

* * * * * * *

Table VII-21
PTFE resin: Global exports by exporter, 2014-16

Exporter	Calendar year		
	2014	2015	2016
	Quantity (1,000 pounds dry weight)		
United States	22,873	22,387	22,010
China	47,797	45,340	50,860
India	16,471	13,402	17,028
Subject sources	64,269	58,742	67,888
All other major reporting exporters.-- Italy	19,925	20,718	20,973
Germany	20,116	20,198	20,062
Netherlands	22,490	17,252	19,243
Belgium	9,182	10,328	12,319
Japan	11,745	11,002	10,978
Russia	13,201	10,502	10,635
United Kingdom	6,743	5,473	4,947
Hong Kong	3,107	4,430	2,839
Romania	960	922	1,339
Switzerland	1,632	1,328	1,330
All other exporters	2,899	3,664	3,134
Total global exports	199,142	186,946	197,697
	Value (1,000 dollars)		
United States	133,354	129,866	118,604
China	173,209	143,665	154,677
India	62,474	47,354	54,182
Subject sources	235,684	191,019	208,859
All other major reporting exporters.-- Italy	112,805	104,474	99,430
Germany	146,452	112,846	107,200
Netherlands	122,003	95,024	101,492
Belgium	49,753	44,450	50,319
Japan	83,841	77,366	76,735
Russia	38,289	25,437	23,323
United Kingdom	64,267	48,496	40,570
Hong Kong	20,115	27,205	17,522
Romania	3,983	3,094	4,135
Switzerland	7,974	5,604	5,733
All other exporters	23,229	23,355	24,871
Total global exports	1,041,749	888,236	878,796

Table continued on next page.

Table VII-21--Continued
PTFE resin: Global exports by exporter, 2014-16

Exporter	Calendar year		
	2014	2015	2016
	Unit value (dollars per pound)		
United States	$5.83	$5.80	$5.39
China	3.62	3.17	3.04
India	3.79	3.53	3.18
Subject sources	3.67	3.25	3.08
All other major reporting exporters.-- Italy	5.66	5.04	4.74
Germany	7.28	5.59	5.34
Netherlands	5.42	5.51	5.27
Belgium	5.42	4.30	4.08
Japan	7.14	7.03	6.99
Russia	2.90	2.42	2.19
United Kingdom	9.53	8.86	8.20
Hong Kong	6.47	6.14	6.17
Romania	4.15	3.35	3.09
Switzerland	4.89	4.22	4.31
All other exporters	8.01	6.37	7.94
Total global exports	5.23	4.75	4.45
	Share of quantity (percent)		
United States	11.5	12.0	11.1
China	24.0	24.3	25.7
India	8.3	7.2	8.6
Subject sources	32.3	31.4	34.3
All other major reporting exporters.-- Italy	10.0	11.1	10.6
Germany	10.1	10.8	10.1
Netherlands	11.3	9.2	9.7
Belgium	4.6	5.5	6.2
Japan	5.9	5.9	5.6
Russia	6.6	5.6	5.4
United Kingdom	3.4	2.9	2.5
Hong Kong	1.6	2.4	1.4
Romania	0.5	0.5	0.7
Switzerland	0.8	0.7	0.7
All other exporters	1.5	2.0	1.6
Total global exports	100.0	100.0	100.0

Source: Official exports statistics under HS subheading 3904.61 as reported by various national statistical authorities in the IHS/GTA database, accessed October 16, 2017.

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
82 FR 46284, October 4, 2017	*Polytetrafluoroethylene (''PTFE'') Resin From China and India; Institution of Antidumping and Countervailing Duty Investigations and Scheduling of Preliminary Phase Investigations*	https://www.gpo.gov/fdsys/pkg/FR-2017-10-04/pdf/2017-21342.pdf
82 FR 49587, October 26, 2017	*Polytetrafluoroethylene Resin From India and the People's Republic of China: Initiation of Less-Than-Fair-Value Investigations*	https://www.gpo.gov/fdsys/pkg/FR-2017-10-26/pdf/2017-23307.pdf
82 FR 49592, October 26, 2017	*Polytetrafluoroethylene Resin From India: Initiation of Countervailing Duty Investigation*	https://www.gpo.gov/fdsys/pkg/FR-2017-10-26/pdf/2017-23308.pdf

APPENDIX B

CALENDAR OF THE PUBLIC STAFF CONFERENCE

CALENDAR OF PUBLIC PRELIMINARY CONFERENCE

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

Subject: Polytetrafluoroethylene (PTFE) Resin from China and India

Inv. Nos.: 701-TA-588 and 731-TA-1392-1393 (Preliminary)

Date and Time: October 19, 2017 - 9:30 a.m.

Sessions were held in connection with these preliminary phase investigations in ALJ Courtroom B (Room 111), 500 E Street, S.W., Washington, DC.

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

Cassidy Levy Kent (USA) LLP
Washington DC
on behalf of

The Chemours Company FC LLC

Denise Dignam, North American Fluoropolymers Business Director, The Chemours Company FC LLC

Douglas Hayes, North American Sales and Development Manager, The Chemours Company FC LLC

Simone M. Genna, North American Regional Business Manager, Teflon PTFE & Melts, The Chemours Company FC LLC

Richard Hoeck, Technical Services Senior Consultant, The Chemours Company FC LLC

Erin Simek, North American Price Coordinator, The Chemours Company FC LLC

Deirdre Maloney, Senior International Trade Advisor, Cassidy Levy Kent (USA) LLP

James R. Cannon, Jr.)
) – OF COUNSEL
Nazak Nikakhtar)

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

Arent Fox LLP
Washington, DC
on behalf of

Gujarat Fluorochemicals Limited ("GFL")

Matthew M. Nolan)
) – OF COUNSEL
Andrew Jaxa-Debicki)

Kutak Rock LLP
Washington, DC
on behalf of

The PTFE Processors Alliance

Michael J. Hailey, Global Business Manager, Whitford Corporation

Richard Bailie, President, Bailie Advanced Materials LLC

Andrea Arlati, Vice President, Industrial Plastics & Machine

Jared McTague, General Manager, Flontech USA LLC

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APPENDIX C

SUMMARY DATA

Table C-1
PTFE: Summary data concerning the U.S. market, 2014-16, January to June 2016, and January to June 2017
(Quantity=1,000 pounds dry weight; Value=1,000 dollars; Unit values, unit labor costs, and unit expenses=dollars per pound; Period changes=percent--exceptions noted)

	Reported data					Period changes			
	Calendar year			January to June		Calendar year			Jan-Jun
	2014	2015	2016	2016	2017	2014-16	2014-15	2015-16	2016-17
U.S. consumption quantity:									
Amount	***	***	***	***	***	***	***	***	***
Producers' share (fn1)	***	***	***	***	***	***	***	***	***
Importers' share (fn1):									
China	***	***	***	***	***	***	***	***	***
India	***	***	***	***	***	***	***	***	***
Subject sources	***	***	***	***	***	***	***	***	***
Germany	***	***	***	***	***	***	***	***	***
Italy	***	***	***	***	***	***	***	***	***
All other sources	***	***	***	***	***	***	***	***	***
Nonsubject sources	***	***	***	***	***	***	***	***	***
All import sources	***	***	***	***	***	***	***	***	***
U.S. consumption value:									
Amount	***	***	***	***	***	***	***	***	***
Producers' share (fn1)	***	***	***	***	***	***	***	***	***
Importers' share (fn1):									
China	***	***	***	***	***	***	***	***	***
India	***	***	***	***	***	***	***	***	***
Subject sources	***	***	***	***	***	***	***	***	***
Germany	***	***	***	***	***	***	***	***	***
Italy	***	***	***	***	***	***	***	***	***
All other sources	***	***	***	***	***	***	***	***	***
Nonsubject sources	***	***	***	***	***	***	***	***	***
All import sources	***	***	***	***	***	***	***	***	***
U.S. imports from:									
China:									
Quantity	7,026	6,860	6,739	3,191	3,665	(4.1)	(2.4)	(1.8)	14.8
Value	33,979	28,639	26,821	13,156	14,273	(21.1)	(15.7)	(6.3)	8.5
Unit value	$4.84	$4.17	$3.98	$4.12	$3.89	(17.7)	(13.7)	(4.7)	(5.5)
Ending inventory quantity	***	***	***	***	***	***	***	***	***
India:									
Quantity	3,918	3,917	3,783	1,466	3,356	(3.4)	(0.0)	(3.4)	128.9
Value	16,286	16,736	14,781	6,145	12,251	(9.2)	2.8	(11.7)	99.4
Unit value	$4.16	$4.27	$3.91	$4.19	$3.65	(6.0)	2.8	(8.6)	(12.9)
Ending inventory quantity	***	***	***	***	***	***	***	***	***
Subject sources:									
Quantity	10,944	10,777	10,523	4,657	7,020	(3.8)	(1.5)	(2.4)	50.7
Value	50,265	45,375	41,602	19,300	26,524	(17.2)	(9.7)	(8.3)	37.4
Unit value	$4.59	$4.21	$3.95	$4.14	$3.78	(13.9)	(8.3)	(6.1)	(8.8)
Ending inventory quantity	***	***	***	***	***	***	***	***	***
Germany:									
Quantity	4,034	4,582	3,970	2,063	1,784	(1.6)	13.6	(13.3)	(13.5)
Value	29,647	28,330	23,959	11,670	12,779	(19.2)	(4.4)	(15.4)	9.5
Unit value	$7.35	$6.18	$6.03	$5.66	$7.16	(17.9)	(15.9)	(2.4)	26.6
Ending inventory quantity	***	***	***	***	***	***	***	***	***
Italy:									
Quantity	4,901	6,607	5,590	2,907	1,697	14.1	34.8	(15.4)	(41.6)
Value	27,368	35,888	31,753	17,763	11,182	16.0	31.1	(11.5)	(37.0)
Unit value	$5.58	$5.43	$5.68	$6.11	$6.59	1.7	(2.7)	4.6	7.8
Ending inventory quantity	***	***	***	***	***	***	***	***	***
All other sources:									
Quantity	13,231	10,299	11,961	6,322	4,811	(9.6)	(22.2)	16.1	(23.9)
Value	76,785	68,907	69,133	33,824	27,331	(10.0)	(10.3)	0.3	(19.2)
Unit value	$5.80	$6.69	$5.78	$5.35	$5.68	(0.4)	15.3	(13.6)	6.2
Ending inventory quantity	***	***	***	***	***	***	***	***	***
Nonsubject sources:									
Quantity	22,166	21,488	21,522	11,292	8,292	(2.9)	(3.1)	0.2	(26.6)
Value	133,800	133,126	124,845	63,257	51,292	(6.7)	(0.5)	(6.2)	(18.9)
Unit value	$6.04	$6.20	$5.80	$5.60	$6.19	(3.9)	2.6	(6.4)	10.4
Ending inventory quantity	***	***	***	***	***	***	***	***	***
All import sources:									
Quantity	33,109	32,265	32,044	15,949	15,312	(3.2)	(2.5)	(0.7)	(4.0)
Value	184,065	178,501	166,447	82,557	77,816	(9.6)	(3.0)	(6.8)	(5.7)
Unit value	$5.56	$5.53	$5.19	$5.18	$5.08	(6.6)	(0.5)	(6.1)	(1.8)
Ending inventory quantity	***	***	***	***	***	***	***	***	***
U.S. producers':									
Average capacity quantity	***	***	***	***	***	***	***	***	***
Production quantity	***	***	***	***	***	***	***	***	***
Capacity utilization (fn1)	***	***	***	***	***	***	***	***	***
U.S. shipments:									
Quantity	***	***	***	***	***	***	***	***	***
Value	***	***	***	***	***	***	***	***	***
Unit value	***	***	***	***	***	***	***	***	***
Export shipments:									
Quantity	***	***	***	***	***	***	***	***	***
Value	***	***	***	***	***	***	***	***	***
Unit value	***	***	***	***	***	***	***	***	***
Ending inventory quantity	***	***	***	***	***	***	***	***	***
Inventories/total shipments (fn1)	***	***	***	***	***	***	***	***	***
Production workers	***	***	***	***	***	***	***	***	***
Hours worked (1,000s)	***	***	***	***	***	***	***	***	***
Wages paid ($1,000)	***	***	***	***	***	***	***	***	***
Hourly wages (dollars)	***	***	***	***	***	***	***	***	***
Productivity (pounds dry weight per hour)	***	***	***	***	***	***	***	***	***
Unit labor costs	***	***	***	***	***	***	***	***	***
Net sales:									
Quantity	***	***	***	***	***	***	***	***	***
Value	***	***	***	***	***	***	***	***	***
Unit value	***	***	***	***	***	***	***	***	***
Cost of goods sold (COGS)	***	***	***	***	***	***	***	***	***
Gross profit or (loss)	***	***	***	***	***	***	***	***	***
SG&A expenses	***	***	***	***	***	***	***	***	***
Operating income or (loss)	***	***	***	***	***	***	***	***	***
Net income or (loss)	***	***	***	***	***	***	***	***	***
Capital expenditures	***	***	***	***	***	***	***	***	***
Unit COGS	***	***	***	***	***	***	***	***	***
Unit SG&A expenses	***	***	***	***	***	***	***	***	***
Unit operating income or (loss)	***	***	***	***	***	***	***	***	***
Unit net income or (loss)	***	***	***	***	***	***	***	***	***
COGS/sales (fn1)	***	***	***	***	***	***	***	***	***
Operating income or (loss)/sales (fn1)	***	***	***	***	***	***	***	***	***
Net income or (loss)/sales (fn1)	***	***	***	***	***	***	***	***	***

Notes:

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

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

APPENDIX D

NONSUBJECT COUNTRY PRICE DATA

Pricing data

Two importers reported price data for products 1-5 from Germany, and one importer reported price data for products 3, 4, and 5 from Italy. Price data reported by these firms accounted for *** percent of U.S. commercial shipments from Germany and *** percent of U.S. commercial shipments from Italy. These price items and accompanying data are comparable to those presented in tables V-3 to V-7 and figures V-2 to V-6. Price and quantity data for Germany and Italy are shown in tables D-1 to D-5 and in figures D-1 to D-5 (with domestic and subject sources).

In comparing nonsubject country pricing data with U.S. producer pricing data, prices for PTFE resin imported from Germany were lower than prices for U.S.-produced PTFE resin in 15 instances and higher in 47 instances. Prices for PTFE resin imported from Italy were lower than prices for U.S.-produced PTFE resin in 20 instances and higher in 22 instances.

In comparing nonsubject country pricing data with subject country pricing data, prices for PTFE resin imported from Germany were lower than prices for PTFE resin imported from China in 2 instances and higher in 41 instances and lower than prices for PTFE resin imported from India in 1 instance and higher in 60 instances. Prices for PTFE resin imported from Italy were lower than prices for PTFE resin imported from China in 16 instances and higher in 7 instances, and lower than prices for PTFE resin imported from India in 3 instances and higher in 35 instances. A summary of price differentials is presented in table D-6.

Import purchase cost data

One importer (***) reported import purchase cost data for products 1 and 3 from Germany, and one importer (***) reported price data for products 1-4 from Italy. Import purchase cost data reported by these firms accounted for *** percent of imports from Germany used for internal consumption and *** percent of imports from Italy used for internal consumption in 2016. These import purchase cost items and accompanying data are comparable to those presented in tables V-8 to V-12 and figures V-7 to V-12. Import purchase cost data for Germany and Italy are presented in tables D-7 to D-10 and in figures D-6 to D-9 (with domestic and subject sources).

Table D-1
PTFE resin: Weighted-average f.o.b. prices and quantities of imported product 1[1], by quarter, January 2014-June 2017

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Table D-2
PTFE resin: Weighted-average f.o.b. prices and quantities of imported product 2[1], by quarter, January 2014-June 2017

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Table D-3

PTFE resin: Weighted-average f.o.b. prices and quantities of imported product 3[1], by quarter, January 2014-June 2017

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Table D-4

PTFE resin: Weighted-average f.o.b. prices and quantities of imported product 4[1], by quarter, January 2014-June 2017

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Table D-5

PTFE resin: Weighted-average f.o.b. prices and quantities of imported product 5[1], by quarter, January 2014-June 2017

* * * * * * *

Figure D-1

PTFE resin: Weighted-average f.o.b. prices and quantities of domestic and imported product 1[1], by quarter, January 2014-June 2017

* * * * * * *

Figure D-2

PTFE resin: Weighted-average f.o.b. prices and quantities of domestic and imported product 2[1], by quarter, January 2014-June 2017

* * * * * * *

Figure D-3

PTFE resin: Weighted-average f.o.b. prices and quantities of domestic and imported product 3[1], by quarter, January 2014-June 2017

* * * * * * *

Figure D-4

PTFE resin: Weighted-average f.o.b. prices and quantities of domestic and imported product 4[1], by quarter, January 2014-June 2017

* * * * * * *

Figure D-5

PTFE resin: Weighted-average f.o.b. prices and quantities of domestic and imported product 5[1], by quarter, January 2014-June 2017

* * * * * * *

Table D-6

PTFE resin: Summary of price differentials by nonsubject, January 2014-June 2017

	Total number of comparisons	Nonsubject lower than the comparison source		Nonsubject higher than the comparison source	
		Number of quarters	Quantity (pounds dry weight)	Number of quarters	Quantity (pounds dry weight)
Nonsubject vs United States.--					
Germany vs. United States	62	15	***	47	***
Itlay vs. United States	42	20	***	22	***
Nonsubject vs Subject countries.--					
Germany vs. China	43	2	***	41	***
Germany vs. India	61	1	***	60	***
Italy vs. China	23	16	***	7	***
Italy vs. China	38	3	368,577	35	8,623,538

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

Table D-7

PTFE resin: Weighted-average f.o.b. prices and quantities of domestic and landed-duty paid values and quantities of imported product 1[1], by quarter, January 2014-June 2017

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Table D-8

PTFE resin: Weighted-average f.o.b. prices and quantities of domestic and landed-duty paid values and quantities of imported product 2[1], by quarter, January 2014-June 2017

* * * * * * *

Table D-9

PTFE resin: Weighted-average f.o.b. prices and quantities of domestic and landed-duty paid values and quantities of imported product 3[1], by quarter, January 2014-June 2017

* * * * * * *

Table D-10

PTFE resin: Weighted-average f.o.b. prices and quantities of domestic and landed-duty paid values and quantities of imported product 4[1], by quarter, January 2014-June 2017

* * * * * * *

Figure D-6

PTFE resin: Weighted-average prices and quantities domestic and landed duty paid values and quantities of imported product 1[1], by quarter, January 2014-June 2017

* * * * * * *

Figure D-7

PTFE resin: Weighted-average prices and quantities domestic and landed duty paid values and quantities of imported product 2[1], by quarter, January 2014-June 2017

* * * * * * *

Figure D-8

PTFE resin: Weighted-average prices and quantities domestic and landed duty paid values and quantities of imported product 3[1], by quarter, January 2014-June 2017

* * * * * * *

Figure D-9

PTFE resin: Weighted-average prices and quantities domestic and landed duty paid values and quantities of imported product 4[1], by quarter, January 2014-June 2017

* * * * * * *