Polyvinyl Alcohol from China and Japan

Investigation Nos. 731-TA-1014 and 1016 (Third Review)

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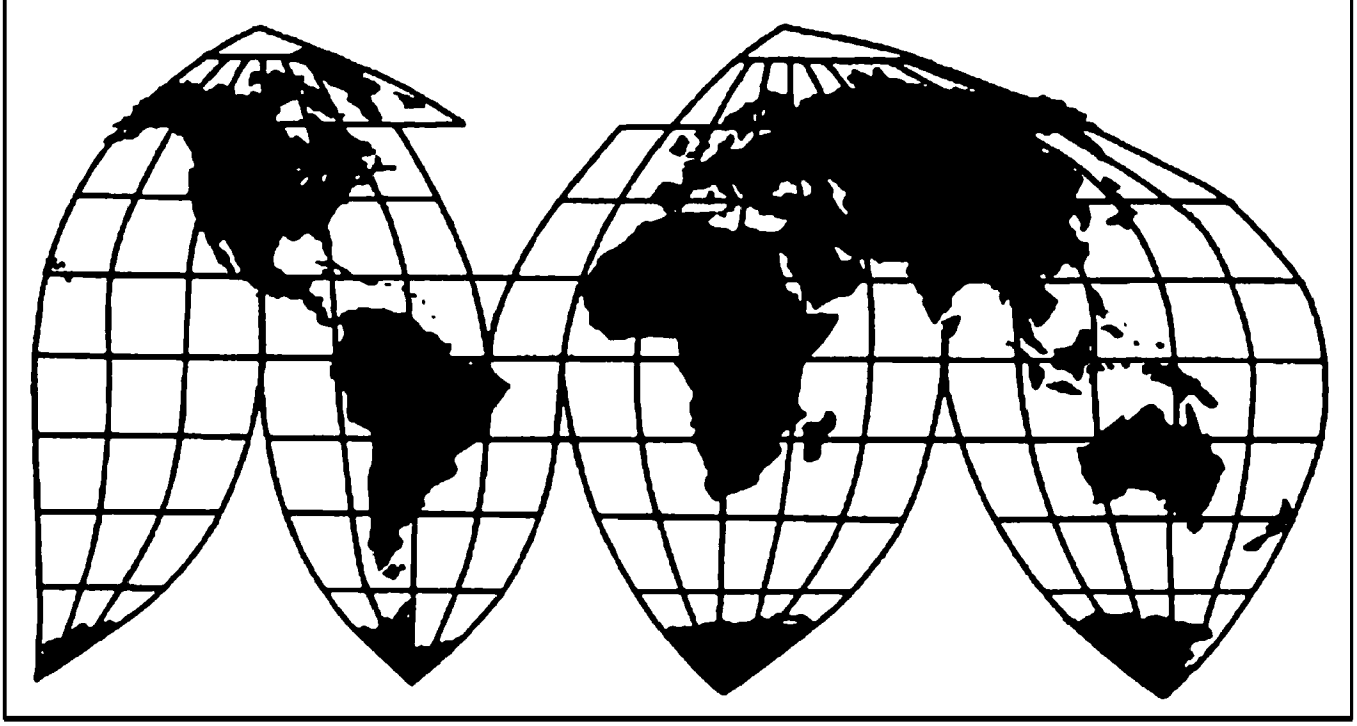
U.S. International Trade Commission



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UNITED STATES INTERNATIONAL TRADE COMMISSION

Investigation Nos. 731-TA-1014 and 1016 (Third Review)

Polyvinyl Alcohol from China and Japan

DETERMINATIONS

On the basis of the record[1] developed in the subject five-year reviews, the United States International Trade Commission ("Commission") determines, pursuant to the Tariff Act of 1930 ("the Act"), that revocation of the antidumping duty orders on polyvinyl alcohol from China and Japan would be likely to lead to continuation or recurrence of material injury to an industry in the United States within a reasonably foreseeable time.

BACKGROUND

The Commission instituted these reviews on April 1, 2020 (85 FR 18271) and determined on July 6, 2020 that it would conduct full reviews (85 FR 42005, July 13, 2020). Notice of the scheduling of the Commission's reviews and of a public hearing to be held in connection therewith was given by posting copies of the notice in the Office of the Secretary, U.S. International Trade Commission, Washington, DC, and by publishing the notice in the *Federal Register* on September 22, 2020 (85 FR 59545). Subsequently, the Commission cancelled its previously scheduled hearing following a request on behalf of domestic producers (86 FR 8034, February 3, 2021).

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

Views of the Commission

Based on the record in these five-year reviews, we determine under section 751(c) of the Tariff Act of 1930, as amended ("the Tariff Act"), that revocation of the antidumping duty orders on polyvinyl alcohol ("PVA") from China and Japan would be likely to lead to continuation or recurrence of material injury to an industry in the United States within a reasonably foreseeable time.

I. Background

Original Investigations. On September 5, 2002, Celanese Chemicals, Ltd. ("Celanese") and E.I. du Pont de Nemours and Co. ("DuPont"), domestic producers of PVA, filed antidumping duty petitions regarding imports of PVA from China, Germany, Japan, Korea, and Singapore.[1] After the investigations became "staggered" on different schedules at the Department of Commerce ("Commerce"), the Commission determined in June 2003 that a domestic industry was threatened with material injury by reason of less-than-fair-value ("LTFV") imports of PVA from Japan; and in September 2003, the Commission determined that a domestic industry was materially injured by reason of LTFV imports of PVA from China and Korea.[2] Commerce published the corresponding antidumping duty orders on imports of PVA from Japan on July 2,

[1] The only other domestic producer at that time (Solutia, Inc.) opposed the petitions. Confidential Report, Memorandum INV-TT-030 (Feb. 26, 2021) ("CR") at I-3 n.8; Public Report, *Polyvinyl Alcohol from China and Japan*, Inv. Nos. 731-TA-1014 and 1016 (Third Review), USITC Pub. 5173 (March 2021) ("PR") at I-3 n.8. In the preliminary phase, the Commission determined that imports of PVA from Singapore were negligible and terminated the investigation of those imports. CR/PR at I-3; *Polyvinyl Alcohol from China, Germany, Japan, Korea, and Singapore*, Inv. Nos. 731-TA-1014–1018 (Preliminary), USITC Pub. 3553 (Oct. 2002) ("Preliminary Determinations").

[2] *Polyvinyl Alcohol from Germany and Japan*, Inv. Nos. 731-TA-1015–1016 (Final), USITC Pub. 3604 (June 2003) at 1 ("*Polyvinyl Alcohol from Germany and Japan*") (also making negative final determinations with respect to imports of PVA from Germany); *Polyvinyl Alcohol from China and Korea*, Inv. Nos. 731-TA-1014 and 1017 (Final), USITC Pub. 3634 (Sept. 2003) at 1 ("*Polyvinyl Alcohol from China and Korea*").

2003, and on imports of PVA from China and Korea on October 1, 2003.[3] The Commission's determinations in the original investigations were not litigated.[4]

First Reviews. In June 2008, the Commission instituted its first reviews of the orders and in September 2008 determined to conduct full reviews.[5] In those reviews, the Commission determined that revocation of the antidumping duty orders on subject imports from China, Japan, and Korea would be likely to lead to continuation or recurrence of material injury to an industry in the United States within a reasonably foreseeable time.[6] Effective April 13, 2009, Commerce issued notices continuing the orders.[7] The Commission's determinations in the first reviews were not litigated.[8]

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[3] *Antidumping Duty Order: Polyvinyl Alcohol From Japan*, 68 Fed. Reg. 39518 (July 2, 2003); *Antidumping Duty Order: Polyvinyl Alcohol from the Republic of Korea*, 68 Fed. Reg. 56621 (Oct. 1, 2003); *Antidumping Duty Order: Polyvinyl Alcohol from the People's Republic of China*, 68 Fed. Reg. 56620 (Oct. 1, 2003); *Antidumping Duty Order: Polyvinyl Alcohol from the People's Republic of China; Correction*, 68 Fed. Reg. 58169 (Oct. 8, 2003).

[4] A producer of PVA in China, Sinopec Sichuan Vinylon Works ("SVW"), filed a summons with the U.S. Court of International Trade ("CIT") to contest the Commission's final affirmative material injury determination but did not perfect the appeal by filing a complaint.

SVW appealed Commerce's final antidumping duty determination to the CIT, and its amended margin of 6.91 percent *ad valorem* was reduced to 5.51 percent. SVW then appealed the CIT's decision to the U.S. Court of Appeals for the Federal Circuit ("Federal Circuit"), but the parties ultimately agreed to dismiss the appeal. *Sinopec Sichuan Vinylon Works v. United States*, 29 ITRD 1257 (Ct. Int'l Trade Dec. 28, 2006); 29 ITRD 1985 (Ct. Int'l Trade May 30, 2007). By June 2006 and October 2006, SVW had obtained *de minimis* and zero antidumping duty margins, respectively, in Commerce's first two administrative reviews. *Polyvinyl Alcohol From the People's Republic of China: Final Results of Antidumping Duty Administrative Review*, 71 Fed. Reg. 27991 (May 15, 2006); *Polyvinyl Alcohol from the People's Republic of China: Amended Final Results of Administrative Review*, 71 Fed. Reg. 35616 (June 21, 2006); *Polyvinyl Alcohol from the People's Republic of China; Final Results of Antidumping Duty Administrative Review*, 71 Fed. Reg. 62086 (Oct. 23, 2006). Under the terms of ***. Confidential First Review Determinations, EDIS Doc. 712013 (June 5, 2020) ("Confidential First Review Determinations") at 16 n.60; *Polyvinyl Alcohol from China, Japan, and Korea*, Inv. Nos. 731-TA-1014, 1016, and 1017 (Review), USITC Pub. 4067 at 11 n.60 (March 2009) ("First Review Determinations").

[5] *Polyvinyl Alcohol from China, Japan, and Korea*, 73 Fed. Reg. 53443 (Sept. 16, 2008).

[6] First Review Determinations, USITC Pub. 4067 at 3.

[7] *Polyvinyl Alcohol from Japan, the Republic of Korea and the People's Republic of China: Continuation of Antidumping Duty Orders*, 74 Fed. Reg. 16834 (Apr. 13, 2009).

[8] Solutia, which had responded to the notice of institution and submitted briefs supporting revocation of the orders in the first reviews, filed a summons to contest the Commission's affirmative determinations in the first reviews, but withdrew its appeal. CIT Ct. No. 09-184.

Second Reviews. In March 2014, the Commission instituted its second reviews of the orders and in June 2014 determined to conduct full reviews.[9] In those reviews, the Commission determined that revocation of the antidumping duty orders on PVA from China and Japan would be likely to lead to continuation or recurrence of material injury to an industry in the United States within a reasonably foreseeable time.[10] Effective May 27, 2015, Commerce issued notices continuing the orders.[11] The Commission's determinations in the second reviews were not litigated.

Current Reviews. In April 2020, the Commission instituted the instant reviews of the orders.[12] The Commission received a joint response to the notice of institution from domestic PVA producers Sekisui Specialty Chemicals America, Inc. ("Sekisui") and Kuraray America, Inc. ("Kuraray America") (collectively, "domestic parties"). Respondent Japan VAM & Poval Co., Ltd. ("JVP"), a producer of PVA in Japan, submitted a response to the notice of institution. Respondents Denka Co., Ltd., a producer and exporter of PVA from Japan, and Denka Corp., an importer of PVA, (collectively, "Denka") also submitted a response to the notice of institution. On July 6, 2020, the Commission found that the domestic interested party group response was adequate for both reviews and that the respondent interested party group response with respect to Japan was adequate for the review of the order on subject imports from Japan.[13] Therefore, it decided to conduct a full review with respect to the antidumping duty order concerning PVA from Japan.[14] The Commission also determined to conduct a full review concerning the antidumping duty order on PVA from China to promote administrative efficiency

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[9] *Polyvinyl Alcohol From China, Japan, and Korea; Notice of Commission Determination To Conduct Full Five-Year Reviews and Scheduling of Full Five-Year Reviews*, 79 Fed. Reg. 69127 (Nov. 20, 2014).

[10] *Polyvinyl Alcohol from China, Japan, and Korea*, Inv. Nos. 731-TA-1014, 1016, and 1017 (Second Review), USITC Pub. 4533 (May 2015) at 3 ("Second Review Determinations") (title corrected). The Commission found that revocation of the antidumping duty order on PVA from Korea would not be likely to lead to continuation or recurrence of material injury to an industry in the United States within a reasonably foreseeable time. *Id.*

[11] *Polyvinyl Alcohol From Japan, the Republic of Korea and the People's Republic of China: Continuation of Antidumping Duty Orders on Japan and the People's Republic of China, Revocation of the Antidumping Order on the Republic of Korea*, 80 Fed. Reg. 30208 (May 27, 2015).

[12] *Polyvinyl Alcohol From China and Japan; Institution of Five-Year Reviews*, 85 Fed. Reg. 18271 (Apr. 1, 2020).

[13] *Polyvinyl Alcohol From China and Japan; Notice of Commission Determination To Conduct Full Five-Year Reviews*, 85 Fed. Reg. 42005, 42006 (July 13, 2020).

[14] 85 Fed. Reg. at 42006.

in light of its decision to conduct a full review with respect to the order concerning PVA from Japan.[15]

Both responding Japanese producers (Denka and JVP), after declaring their willingness to participate in the review of the order on PVA from Japan and subsequent to the Commission's determination to conduct a full review of that order, separately decided not to participate in these proceedings beyond submission of their NOI responses (*i.e.*, neither party submitted a prehearing or posthearing brief).[16]

The Commission received joint prehearing and posthearing briefs and final comments from the domestic parties. At the request of domestic parties and without objection, the Commission canceled the hearing that had been scheduled for February 2, 2021, and instead issued written questions to the parties.[17] Only domestic parties submitted responses to the Commission's questions, attached to their joint posthearing brief. Purchaser Wacker Chemical Corp. ("Wacker") submitted a posthearing brief in opposition to continuation of the orders.[18]

In these reviews, U.S. industry data are based on questionnaire responses from three U.S. producers that are believed to account for all U.S. production of PVA during 2019.[19] Except as noted, U.S. import data and related information are based on the questionnaire responses of 15 U.S. importers of PVA, which account for *** imports of subject PVA from Japan and *** imports of subject PVA from China and nonsubject sources during 2019.[20] Data and related information on the PVA industry in China are based on industry research and public export

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[15] 85 Fed. Reg. at 42006. The Commission had found that the respondent interested party group response with respect to China was inadequate. *Id.*

[16] Denka withdrew from participating in these reviews on November 16, 2020. Denka Withdrawal of Request for Full Sunset Review, EDIS Doc. 725266 (Nov. 16, 2020). It submitted an importer questionnaire response but declined to submit a foreign producer/exporter questionnaire response. Denka Response to Commission Email, EDIS Doc. 726988 (Nov. 23, 2020). Denka reported importing from *** forms of PVA that Commerce excluded from the scope of these reviews ("excluded forms of PVA"). CR/PR at Table I-8. JVP submitted a foreign producer/exporter questionnaire response.

[17] *Polyvinyl Alcohol From China and Japan; Cancellation of Hearing for Third Full Five-Year Reviews*, 86 Fed. Reg. 8034 (Feb. 3, 2021).

[18] Wacker's posthearing brief did not respond to the Commission's questions issued in lieu of the public hearing. ***. ***.

[19] The current, known U.S. PVA producers are Eastman Chemical Co. ("Eastman"), Sekisui, and Kuraray America, which on June 1, 2014, acquired PVA and related businesses from DuPont. CR/PR at I-15, I-25.

[20] CR/PR at IV-1. Import data presented in the geographical markets and presence in the market sections are based on the official Commerce statistics (Harmonized Tariff Schedule of the United States ("HTSUS") subheading 3905.30.0000), which includes out-of-scope and subject forms of PVA. *Id.* at IV-2.

data.[21] In contrast, data and related information on the PVA industry in Japan are based on the questionnaire responses of two firms, which accounted for an estimated *** percent of production of PVA in Japan in 2019, and on industry research.[22] [23]

II. Domestic Like Product and Industry

A. Domestic Like Product

In making its determination under section 751(c) of the Tariff Act, the Commission defines the "domestic like product" and the "industry."[24] 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 under this subtitle."[25] The Commission's practice in five-year reviews is to examine the domestic like product definition from the original investigation and consider whether the record indicates any reason to revisit the prior findings.[26]

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[21] CR/PR at IV-20. In these reviews, the Commission received no usable questionnaire responses from 29 firms identified as possible foreign producers/exporters of PVA in China. The Commission received one foreign producer/exporter questionnaire response from a producer and exporter of PVA in China, Marubeni (Shanghai) Co., Ltd., which contained no production or export data and was excluded from the dataset. CR/PR at IV-18 n.11. Another producer of PVA in China, SVW, which had participated in the original investigations and the first reviews, stated that it could not provide a questionnaire response to the Commission. *Id.* at n.10.

[22] CR/PR at Table IV-13. The two firms are JVP and Kuraray Co., Ltd. ("Kuraray Japan"). As noted above, Denka withdrew from participating in these reviews on November 16, 2020, and declined to submit a foreign producer/exporter questionnaire response.

[23] We remind interested parties participating in proceedings before the Commission that their cooperation with the Commission's requests for information is obligatory. If an interested party fails to cooperate by not acting to the best of its ability to comply with a request for information, we reserve the right to use the information available or to draw adverse inferences against the party in selecting from among the facts otherwise available. 19 U.S.C. § 1677e(b).

[24] 19 U.S.C. § 1677(4)(A).

[25] 19 U.S.C. § 1677(10); *see*, *e.g., Cleo Inc. v. United States*, 501 F.3d 1291, 1299 (Fed. Cir. 2007); *NEC Corp. v. Dep't of Commerce*, 36 F. Supp. 2d 380, 383 (Ct. Int'l Trade 1998); *Nippon Steel Corp. v. United States*, 19 CIT 450, 455 (1995); *Timken Co. v. United States*, 913 F. Supp. 580, 584 (Ct. Int'l Trade 1996); *Torrington Co. v. United States*, 747 F. Supp. 744, 748–49 (Ct. Int'l Trade 1990), *aff'd*, 938 F.2d 1278 (Fed. Cir. 1991); *see also* S. Rep. No. 249, 96th Cong., 1st Sess. 90–91 (1979).

[26] *See*, *e.g.*, *Internal Combustion Industrial Forklift Trucks from Japan*, Inv. No. 731-TA-377 (Second Review), USITC Pub. 3831 at 8–9 (Dec. 2005); *Crawfish Tail Meat from China*, Inv. No. 731-TA-752 (Review), USITC Pub. 3614 at 4 (July 2003); *Steel Concrete Reinforcing Bar from Turkey*, Inv. No. 731-TA-745 (Review), USITC Pub. 3577 at 4 (Feb. 2003).

Commerce defined the scope of the antidumping duty orders in these reviews as "all PVA hydrolyzed in excess of 80 percent, whether or not mixed or diluted with commercial levels of defoamer or boric acid," and it expressly excluded 15 forms of PVA from the scope.[27] In the original investigations, the domestic industry did not produce any of the 15 PVA products specifically excluded from the scope.[28] In the prior and current reviews, the domestic industry

[27] The products excluded from the scope of these reviews are as follows: (1) PVA in fiber form; (2) PVA with hydrolysis less than 83 mole percent and certified not for use in the production of textiles; (3) PVA with hydrolysis greater than 85 percent and viscosity greater than or equal to 90 cps {"centipoise"} (4) PVA with a hydrolysis greater than 85 percent, viscosity greater than or equal to 80 cps but less than 90 cps, certified for use in ink jet application; (5) PVA for use in the manufacture of an excipient or as an excipient in the manufacture of film coating systems which are components of a drug or dietary supplement, and accompanied by an end-use certification; (6) PVA covalently bonded with cationic monomer uniformly present on all polymer chains in a concentration equal to or greater than one mole percent; (7) PVA covalently bonded with carboxylic acid uniformly present on all polymer chains in a concentration equal to or greater than two mole percent, certified for use in a paper application; (8) PVA covalently bonded with thiol uniformly present on all polymer chains, certified for use in emulsion polymerization of non-vinyl acetic material; (9) PVA covalently bonded with paraffin uniformly present on all polymer chains in a concentration equal to or greater than one mole percent; (10) PVA covalently bonded with silan uniformly present on all polymer chains certified for use in paper coating applications; (11) PVA covalently bonded with sulfonic acid uniformly present on all polymer chains in a concentration level equal to or greater than one mole percent; (12) PVA covalently bonded with acetoacetylate uniformly present on all polymer chains in a concentration level equal to or greater than one mole percent; (13) PVA covalently bonded with polyethylene oxide uniformly present on all polymer chains in a concentration level equal to or greater than one mole percent; (14) PVA covalently bonded with quaternary amine uniformly present on all polymer chains in a concentration level equal to or greater than one mole percent; (15) PVA covalently bonded with diacetoneacrylamide uniformly present on all polymer chains in a concentration level greater than three mole percent, certified for use in a paper application. The merchandise subject to these reviews is currently classifiable under subheading 3905.30.00 of the HTSUS, but Commerce explained that it provided this information for convenience and customs purposes because the written description of the scope of the orders is dispositive. *Polyvinyl Alcohol From the People's Republic of China and Japan: Final Results of the Expedited Sunset Reviews of the Antidumping Duty Orders*, 85 Fed. Reg. 42828 (July 15, 2020) (referencing the detailed description found in "Decision Memorandum for the Expedited Sunset Reviews of the Antidumping Duty Orders on Polyvinyl Alcohol from the People's Republic of China and Japan," July 9, 2020, at 2–3).

[28] *Polyvinyl Alcohol from Germany and Japan*, USITC Pub. 3604 at 6 & n.20.

reported that it did not produce commercially significant quantities of the excluded forms of PVA.[29]

PVA is a water-soluble synthetic polymer, usually sold as a white granular solid or in powdered form.[30] PVA can be categorized on the basis of the degree of hydrolysis,[31] the viscosity of an aqueous solution,[32] and the average molecular weight of the finished product.[33] For most applications, PVA is dissolved in an aqueous solution.[34] Its solubility behavior in water depends on several factors including degree of polymerization, degree of hydrolysis, drying temperature, particle size, and molecular weight.[35]

Producers generally manufacture PVA by polymerizing vinyl acetate monomer ("VAM") into polyvinyl acetate and then hydrolyzing the acetate groups with methanol in the presence of anhydrous sodium methylate or aqueous sodium hydroxide at moderate temperature and pressure.[36] This continuous process yields PVA hydrolyzed in excess of 80 percent.[37]

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[29] Confidential First Review Determinations at 9 n.29; First Review Determinations, USITC Pub. 4067 at 6 n.29 (indicating that *** produced *** pounds of excluded forms of PVA *** and that ***); Confidential Second Review Determinations, EDIS Doc. 711996 (June 5, 2020) ("Confidential Second Review Determinations") at 7–8 & n.20; Second Review Determinations, USITC Pub. 4533 at 6 & n.20 (indicating that *** reported manufacturing limited quantities of excluded forms of PVA, equivalent to *** percent of total domestic production); CR/PR at Table III-3 (indicating that the domestic industry reported manufacturing *** in January–September ("interim") 2020). Domestic parties stated there is "relatively low demand {in the U.S. market} and high development and/or production costs" for domestic producers for excluded forms of PVA, making their manufacture "relatively unattractive." Domestic Parties' Posthear. Br. at 11.

[30] CR/PR at I-21.

[31] The degree of hydrolysis is commonly denoted as "super" (more than 99 percent hydrolyzed), "fully" (98–99 percent hydrolyzed), "intermediate" (90–98 percent hydrolyzed), and "partial" (85–89 percent hydrolyzed), but these definitions can vary somewhat within the industry. CR/PR at I-23.

[32] CR/PR at I-21.

[33] CR/PR at I-21.

[34] CR/PR at I-22.

[35] CR/PR at I-22. For example, 88 percent hydrolyzed PVA is soluble in cold and hot water, whereas 98 percent hydrolyzed PVA may be soluble in only hot water. All other product characteristics being equal, the higher the hydrolysis, the lower the solubility. Solubility, however, can be changed by altering certain product characteristics. All standard grades of PVA, regardless of hydrolysis, must be put through a saponification process to achieve complete solubility. After saponification, PVA is a hard solid suitable for grinding into granular or powdered form. *Id.* at I-22 to I-23 & n.53.

[36] CR/PR at I-24. Acetic acid generated as a by-product of the process can either be recycled to produce VAM or sold in the acetic acid market. Given the need for a high volume of acetic acid in the production of VAM, producers generally return the by-product to their own production process rather than sell it on the market. *Id.*

[37] CR/PR at I-24.

PVA is sold in a variety of standard and specialty grades that vary according to molecular weight, hydrolysis, and viscosity.[38] More than one grade of PVA may be sold to specific end-use markets.[39] The same grade of PVA is frequently sold for different commercial uses, and many end users are able to use a wide range of grades.[40] Many applications, however, have evolved using particular grades such that substitution, although possible, could involve some cost and time to reformulate.[41]

In the United States, producers captively consume PVA or sell it to end users primarily as an intermediate in the production of polyvinyl butyral ("PVB"), which is a plastic laminate used as an adhesive between panes of automotive safety glass or load-resistant architectural glass.[42] They also sell PVA to end users (and occasionally to distributors) for use in the textile and paper industries in sizing formulations, as a binder in adhesive and soil binding formulations, in the production of nonwoven glass paper, and as an emulsion or polymerization aid in colloidal suspensions, water-soluble films, cosmetics, and joint compounds.[43]

Prior Proceedings. In the original investigations, the Commission rejected an argument that PVA formulated for use in the production of PVB ("PVB-grade PVA") should be defined as a separate domestic like product. It defined one domestic like product, encompassing all

[38] CR/PR at I-23. For example, in adhesive applications that require water resistance, a fully hydrolyzed grade of PVA is used since higher hydrolysis levels are more water resistant. In adhesive applications that do not require water resistance, however, a partially hydrolyzed PVA may be used. Similarly, paper manufacturers select a specific grade of PVA depending on the property required for the paper. Grease and water resistance, ink receptivity, and other components of the sizing solution determine grade selection. In the textile market, where PVA is used as warp sizing for yarns to prevent breakage during weaving, various grades of PVA are selected for use depending on the yarn, machine type, other components of the sizing solution (*e.g.*, starch), required viscosity, abrasion resistance, and ease of solution removal after fabric weaving. *Id.*

[39] CR/PR at I-23. For example, fully hydrolyzed PVA can be used in many of the same end uses in which intermediate or partially hydrolyzed PVA can be used, such as textiles, paper, and adhesives. *Id.*

[40] CR/PR at I-23.

[41] CR/PR at I-23. End users tend to avoid changing the grade of PVA that they use in their applications because their formulas and process parameters might have to be adjusted. *Id.*

[42] CR/PR at I-22, II-1, Tables II-1 and III-4.

[43] CR/PR at I-22, Table II-1.

domestically produced PVA meeting the specifications stated in Commerce's scope definition.[44] In the first and second reviews, domestic producers supporting continuation of the orders under review agreed with the Commission's domestic like product definition in the pertinent prior proceedings.[45] No party took a different position, and the Commission determined that the relevant facts had not materially changed from the prior proceedings.[46] Consequently, it defined the domestic like product to consist of all PVA described in the scope, regardless of the grade, as it had in the original investigations.[47]

Current Reviews. In these reviews, the domestic parties and respondent JVP agree with the Commission's definition of the domestic like product in the original investigations and prior reviews.[48] No party argues for a different definition, and the record does not indicate any material changes in pertinent facts from the original investigations and prior reviews.[49] Consequently, we define the domestic like product to consist of all domestically produced PVA meeting the specifications of the scope definition, regardless of the grade.

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[44] As the Commission explained, all PVA has a similar chemical composition. Whereas PVB-grade PVA may have tighter and more specific parameters than other types of PVA, other PVA grades must meet specialized end-user requirements, including quality and safety requirements. Whereas all PVA grades are not completely interchangeable with other grades, more than one grade may be sold for a specific application. Although PVB-grade PVA is used primarily for optical applications such as windshields and architectural glass, it is also used for applications in which other types of PVA are used (although only PVB-grade PVA can be used to make PVB). In terms of channels of distribution, both PVB-grade PVA and other types of PVA are sold in the merchant market directly to end users. The Commission also found that production processes, equipment, and employees were similar for PVB-grade PVA and other types of PVA. It concluded that the differences between PVB-grade PVA and other grades of PVA did not warrant treating PVB-grade PVA as a separate domestic like product instead of as a part of the continuum of PVA products. *Polyvinyl Alcohol from Germany and Japan*, USITC Pub. 3604 at 5–6; *Polyvinyl Alcohol from China and Korea*, USITC Pub. 3634 at 6.

[45] First Review Determinations, USITC Pub. 4067 at 8; Second Review Determinations, USITC Pub. 4533 at 8.

[46] First Review Determinations, USITC Pub. 4067 at 8–9; Second Review Determinations, USITC Pub. 4533 at 8.

[47] First Review Determinations, USITC Pub. 4067 at 8; Second Review Determinations, USITC Pub. 4533 at 8–9.

[48] Domestic Parties' Prehearing Brief at 3; Domestic Interested Parties' Response to the Notice of Institution at 4; JVP Response to the Notice of Institution at 2.

[49] CR/PR at I-21 to I-24.

B. Domestic Industry

Section 771(4)(A) of the Tariff Act defines the relevant industry 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."[50] 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.

We must 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 or which are themselves importers.[51] Exclusion of such a producer is within the Commission's discretion based upon the facts presented in each investigation.[52]

Prior Proceedings. In the original investigations and prior reviews, the Commission did not exclude any related parties from the domestic PVA industry. In its original determinations, the Commission determined that Solutia, Inc., was subject to the related parties provision, but found that appropriate circumstances did not exist to exclude Solutia given the minuscule size

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[50] 19 U.S.C. § 1677(4)(A). The definitions in 19 U.S.C. § 1677 are applicable to the entire subtitle containing the antidumping and countervailing duty laws, including 19 U.S.C. §§ 1675 and 1675a. *See* 19 U.S.C. § 1677.

[51] *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).

[52] 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. U.S. Int'l Trade Comm'n*, 100 F. Supp. 3d 1314, 1326–31 (Ct. Int'l Trade 2015); *see also Torrington Co. v. United States*, 790 F. Supp. at 1168.

of its imports and purchases of subject merchandise relative to its domestic production.[53] In the first reviews, no domestic producer was subject to the related parties provision.[54] In the second reviews, the Commission determined that Kuraray America was subject to the related parties provision, but found that appropriate circumstances did not exist to exclude Kuraray America because ***.[55]

Current Reviews. In these reviews, the domestic parties and respondent JVP agree with the Commission's definition of the domestic industry as the three domestic producers of PVA.[56] No party has addressed the issue of related parties.

Kuraray America is subject to the related parties provision as an importer of subject merchandise from ***,[57] as a domestic producer indirectly controlled by an exporter of subject merchandise (Kuraray Co., Ltd. ("Kuraray Japan")), and because a third party (Kuraray Japan) indirectly controlled Kuraray America and an importer of subject merchandise (MonoSol LLC ("MonoSol")) during the period of review ("POR").[58] Kuraray America accounted for *** percent of domestic production during 2019 and supports continuation of the orders.[59] Its production of PVA was *** pounds in 2017, *** pounds in 2018, and *** pounds in 2019.[60] Its

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[53] *Polyvinyl Alcohol from Germany and Japan*, USITC Pub. 3604 at 7; *Polyvinyl Alcohol from China and Korea*, USITC Pub. 3634 at 6 & n.24.

[54] First Review Determinations, USITC Pub. 4067 at 9 n.50.

[55] Confidential Second Review Determinations at 13–15; Second Review Determinations, USITC Pub. 4533 at 10–11. During the second reviews, the Commission found that Sekisui was not a related party because its ***. Confidential Second Review Determinations at 12–13 & n.45; Second Review Determinations, USITC Pub. 4533 at 10 & n.45. During these reviews, Sekisui ***. CR/PR at Tables III-6, IV-15. As discussed below, Sekisui is a related party in these reviews by virtue of its imports of subject merchandise from ***.

[56] Domestic Parties' Prehearing Brief at 6; JVP Response to the Notice of Institution at 2.

[57] CR/PR at Table III-6.

[58] *See generally* 19 U.S.C. §§ 1677(4)(B)(ii)(II) and 1677(4)(B)(ii)(III). Kuraray America is indirectly related to an exporter of subject merchandise (Kuraray Japan, ***). Kuraray America is wholly owned by Kuraray Holdings U.S.A., Inc. ("Kuraray Holdings U.S.A."), which in turn is wholly owned by a foreign producer/exporter of PVA in Japan, Kuraray Japan. Kuraray Japan's Foreign Producer/Exporter Questionnaire, EDIS Doc. 724889 (Nov. 13, 2020) at Q. I-5; CR/PR at III-13 and n.7. Kuraray America is indirectly related to MonoSol, an importer of subject merchandise from ***. Kuraray America's parent, Kuraray Holdings U.S.A., wholly owns MonoSol Holdings Inc., which in turn *** MonoSol. CR/PR at III-13 n.7.

[59] CR/PR at Table I-6.

[60] CR/PR at Table III-6. Its production was *** pounds in interim 2019 and *** pounds in interim 2020. *Id.*

imports of PVA from *** were *** pounds in 2017, *** pounds in 2018, and ***.[61] The ratio of its subject imports to domestic production was *** percent in 2017, *** percent in 2018, and ***.[62] Kuraray America stated that ***.[63]

Kuraray America's imports (***) relative to Kuraray America's domestic production were consistently at low levels from 2017 to 2019, indicating that its principal interest lies in domestic production rather than importation. In light of these considerations, we find that appropriate circumstances do not exist to exclude Kuraray America from the domestic industry under the related parties provision.

Sekisui is subject to the related parties provision as an importer of subject merchandise from ***.[64] Sekisui was *** in 2019, accounting for *** percent of domestic production that year, and supports continuation of the orders.[65] Its production of PVA was *** pounds in 2017, *** pounds in 2018, and *** pounds in 2019.[66] Sekisui's imports of PVA from *** were *** and *** pounds in January–September ("interim") 2020.[67] The ratio of its subject imports to domestic production was *** percent in interim 2020.[68] Sekisui stated that it ***.[69]

Sekisui's imports (which occurred ***) relative to its domestic production were minuscule, indicating its principal interest lies in domestic production rather than importation. In light of these considerations, we find that appropriate circumstances do not exist to exclude Sekisui from the domestic industry under the related parties provision.

Accordingly, we define the domestic industry as all U.S. producers of PVA (*i.e.*, Eastman, Kuraray America, and Sekisui).

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[61] CR/PR at Table III-6. MonoSol's imports of PVA from *** were *** in 2017, *** pounds in 2018, *** pounds in 2019, *** pounds in interim 2019, and *** pounds in interim 2020. *Id.*

[62] CR/PR at Table III-6. The ratio of *** to Kuraray America's domestic production was *** percent in 2017, *** percent in 2018, *** percent in 2019, *** percent in interim 2019, and *** percent in interim 2020. *Id.*

[63] CR/PR at III-13. Kuraray America states that ***. Domestic Parties' Posthear. Br. at 27.

[64] CR/PR at Table III-6.

[65] CR/PR at Table I-6.

[66] CR/PR at Table III-6. Its production was *** pounds in interim 2019 and *** pounds in interim 2020. *Id.*

[67] CR/PR at Table III-6.

[68] CR/PR at Table III-6.

[69] CR/PR at III-13.

III. Cumulation

A. Legal Standard and the Prior Proceedings

With respect to five-year reviews, section 752(a) of the Tariff Act provides as follows:

> the Commission may cumulatively assess the volume and effect of imports of the subject merchandise from all countries with respect to which reviews under section 1675(b) or (c) of this title were initiated on the same day, if such imports would be likely to compete with each other and with domestic like products in the United States market. The Commission shall not cumulatively assess the volume and effects of imports of the subject merchandise in a case in which it determines that such imports are likely to have no discernible adverse impact on the domestic industry.[70]

Cumulation therefore is discretionary in five-year reviews, unlike original investigations, which are governed by section 771(7)(G)(i) of the Tariff Act.[71] The Commission may exercise its discretion to cumulate, however, only if the reviews are initiated on the same day, the Commission determines that the subject imports are likely to compete with each other and the domestic like product in the U.S. market, and imports from each such subject country are not likely to have no discernible adverse impact on the domestic industry in the event of revocation. Our focus in five-year reviews is not only on present conditions of competition, but also on likely conditions of competition in the reasonably foreseeable future. The statutory threshold for cumulation is satisfied in these reviews because all reviews were initiated on the same day: April 1, 2020.[72]

Original Investigations. Two events affected the Commission's cumulation analysis in the original investigations. First, the schedules became staggered at Commerce, so the Commission made its final determination regarding imports from Japan earlier than its final determinations regarding imports from China and Korea. Second, imports of PVA from China

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[70] 19 U.S.C. § 1675a(a)(7).

[71] 19 U.S.C. § 1677(7)(G)(i); *see also*, *e.g.*, *Nucor Corp. v. United States*, 601 F.3d 1291, 1293 (Fed. Cir. 2010) (Commission may reasonably consider likely differing conditions of competition in deciding whether to cumulate subject imports in five-year reviews); *Allegheny Ludlum Corp. v. United States*, 475 F. Supp. 2d 1370, 1378 (Ct. Int'l Trade 2006) (recognizing the wide latitude the Commission has in selecting the types of factors it considers relevant in deciding whether to exercise discretion to cumulate subject imports in five-year reviews); *Nucor Corp. v. United States*, 569 F. Supp. 2d 1328, 1337–38 (Ct. Int'l Trade 2008).

[72] *Initiation of Five-Year (Sunset) Reviews*, 85 Fed. Reg. 18189 (Apr. 1, 2020).

that were manufactured or exported by Sinopec Sichuan Vinylon Works ("SVW") were not eligible for cumulation for purposes of the Commission's final determination regarding imports from Japan, but were eligible for cumulation by the time of its final determinations regarding subject imports from China and Korea.[73] In June 2003, the Commission exercised its discretion to cumulate imports from Japan and Korea in its final affirmative threat determination regarding imports from Japan,[74] and in September 2003, the Commission cumulated imports from China, Japan, and Korea in its final present material injury determinations regarding imports from China and Korea.[75]

First Reviews. In the first reviews, the Commission exercised its discretion to cumulate subject imports from China, Japan, and Korea.[76] It found that subject imports from China, Japan, or Korea were not likely to have no discernible adverse impact on the domestic industry in the event of revocation of the orders covering those imports.[77] The Commission further found that there would likely be a reasonable overlap in competition between subject imports from each country and the domestic like product and between subject imports should the

[73] At the time of the Commission's final determinations regarding imports from Japan, imports from Chinese producer SVW were ineligible for cumulation, being subject to a negative preliminary antidumping duty determination by Commerce. *See* 19 U.S.C. § 1677(7)(G)(ii)(I). By the time of the Commission's final determinations regarding subject imports from China and Korea, imports from Chinese producer SVW were eligible for cumulation, because in its final determination Commerce found that SVW's products were sold at less than fair value. *Polyvinyl Alcohol from Germany and Japan*, USITC Pub. 3604 at 8–13, 31–32; *Polyvinyl Alcohol from China and Korea*, USITC Pub. 3634 at 7–8.

[74] In its negative material injury determination regarding imports from Japan, the Commission cumulated imports from Japan with imports from Korea, but it did not cumulate these imports with any imports from China because imports from SVW were not eligible for cumulation and there was insufficient evidence of a reasonable overlap of competition with the other (very limited) imports from China. *Polyvinyl Alcohol from Germany and Japan*, USITC Pub. 3604 at 8–13, 31–32.

[75] *Polyvinyl Alcohol from China and Korea*, USITC Pub. 3634 at 6–8.

[76] First Review Determinations, USITC Pub. 4067 at 17.

[77] First Review Determinations, USITC Pub. 4067 at 11–13.

orders be revoked.[78] It also did not find any significant differences in likely conditions of competition among imports from China, Japan, and Korea if the orders were revoked.[79]

Second Reviews. In the second reviews, the Commission exercised its discretion to cumulate subject imports from China and Japan, but was precluded from cumulating subject imports from Korea as it found that subject imports from Korea were likely to have no discernible adverse impact on the domestic industry in the reasonably foreseeable future if the antidumping duty order on PVA from Korea were to be revoked.[80] This finding was based on the absence of U.S. imports of PVA from Korea during the POR, the absence of production or inventories of PVA in Korea, and the unlikelihood that any firm would manufacture PVA in Korea in the reasonably foreseeable future.[81] With regard to China and Japan, the Commission found that subject imports from each country were not likely to have no discernible adverse impact on the domestic industry in the event of revocation of the orders covering those imports.[82] It further found that there would likely be a reasonable overlap in competition between subject imports from each country and the domestic like product and between subject

[78] The Commission found that U.S.-produced PVA and subject imports from all countries generally were fungible, were primarily shipped through the same channels of distribution, and overlapped geographically. First Review Determinations, USITC Pub. 4067 at 15–16. It observed that although imports from Korea and Japan were not simultaneously present in the U.S. market throughout much of the period of review ("POR"), imports from all three countries were present in significant volumes during the original investigations, were sold for overlapping end-use applications at that time, and would likely all be present in the market for overlapping end-use applications if the orders were revoked. *Id.*

[79] First Review Determinations, USITC Pub. 4067 at 17.

[80] Second Review Determinations, USITC Pub. 4533 at 18–19, 24. *See* 19 U.S.C. § 1675a(a)(7). The Commission found that subject imports from China and Japan were not likely to have no discernible adverse impact on the domestic industry in the event of revocation of the orders covering those imports. Second Review Determinations, USITC Pub. 4533 at 15, 17.

[81] Second Review Determinations, USITC Pub. 4533 at 17–18.

[82] Second Review Determinations, USITC Pub. 4533 at 15, 17.

imports should the orders be revoked.[83] It also did not find any significant differences in likely conditions of competition among imports from China and Japan if the orders were revoked.[84]

B. Parties' Arguments

Domestic Parties' Arguments. In these reviews, domestic parties ask the Commission to exercise its discretion to cumulate subject imports from China and Japan.[85] Domestic parties argue that imports from China and Japan, considered individually, are likely to have an "easily discernible" adverse impact if the corresponding orders were revoked, noting the substantial capacity, production, and export orientation of the subject industries in each country.[86]

Further, domestic parties argue that, as in the second reviews, there is a reasonable overlap of competition between subject imports and between subject imports and the domestic like product.[87] They note that the record in these reviews shows that subject imports from each source and the domestic like product are generally interchangeable and sold for the same end uses, sold through the same channels of distribution, sold in the same geographic markets, and were simultaneously present in the market during the POR.[88]

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[83] The Commission found that U.S.-produced PVA and subject imports from China and Japan were fungible, were primarily shipped through the same channels of distribution, and overlapped geographically to some degree. Second Review Determinations, USITC Pub. 4533 at 22. It found that, although imports from Japan were not simultaneously present in the U.S. market during portions of the POR, subject imports from Japan would likely have a continued presence in the U.S. market and again be sold in similar channels of distribution for overlapping end uses upon revocation of the order on PVA from Japan. *Id.*

[84] The Commission found that both industries were large, increased capacity during the second reviews, had substantial excess capacity, faced the same incentive to maximize capacity utilization, were the largest and third-largest exporters globally as of 2013, and maintained a presence in the U.S. market during the first and second reviews despite the orders, albeit at different levels. Second Review Determinations, USITC Pub. 4533 at 22–23. The Commission rejected an argument by Denki Kagaku Kogyo Kabushiki Kaisha ("DKK") that the average unit value ("AUV") of exports from China was substantially lower than that from Japan due to the latter's focus on exports of high-value niche products, finding that variances in product mix limited the utility of AUV data and that U.S. imports from Japan were not likely to continue being concentrated in certain specialty PVA products upon revocation of the order. *Id.* at 23. The Commission also rejected DKK's argument that the domestic industry is *** by producers in Japan. Confidential Second Review Determinations at 33–34; Second Review Determinations, USITC Pub. 4533 at 23.

[85] Domestic Parties' Prehear. Br. at 7–13; Domestic Parties' Posthear. Br. at 2–4.

[86] Domestic Parties' Prehear. Br. at 12, 21–22, 25–26; Domestic Parties' Posthear. Br. at 4.

[87] Domestic Parties' Prehear. Br. at 8–9.

[88] Domestic Parties' Prehear. Br. at 9–11; Domestic Parties' Posthear. Br. at 3.

Finally, the domestic parties argue that there is no indication that there would be any significant difference in the likely conditions of competition between imports from China and Japan if the orders were revoked.[89]

Respondents' Arguments. JVP argued in its NOI response that revocation of the antidumping duty order on PVA from Japan alone would have no impact on the domestic industry because imports from Japan are higher priced, of "limited quantity," and out-of-scope product.[90] Wacker argues that there is limited interchangeability between subject imports from China and Japan and between subject imports from China and the domestic like product with regard to technical characteristics such as viscosity range, hydrolysis level, particle size, chemical composition, and color.[91]

C. Likelihood of No Discernible Adverse Impact

The statute precludes cumulation if the Commission finds that subject imports from a country are likely to have no discernible adverse impact on the domestic industry.[92] Neither the statute nor the Uruguay Round Agreements Act ("URAA") Statement of Administrative Action ("SAA") provides specific guidance on what factors the Commission is to consider in determining that imports "are likely to have no discernible adverse impact" on the domestic industry.[93] With respect to this provision, the Commission generally considers the likely volume of subject imports and the likely impact of those imports on the domestic industry within a reasonably foreseeable time if the orders are revoked. Our analysis for each of the subject countries takes into account, among other things, the nature of the product and the behavior of subject imports in the original investigations.

Based on the record in these reviews, we do not find that subject imports from China or Japan, considered individually, would likely have no discernible adverse impact on the domestic industry if the respective orders on subject imports from each country were revoked.

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[89] Domestic Parties' Prehear. Br. at 12–13; Domestic Parties' Posthear. Br. at 3.

[90] JVP Response to the Notice of Institution at 1.

[91] Wacker's Posthear. Br. at 1–5. *See* CR/PR at I-24.

[92] 19 U.S.C. § 1675a(a)(7).

[93] SAA, H.R. Rep. No. 103-316, vol. I at 887 (1994); *see Stainless Steel Wire Rod from Italy, Japan, Korea, Spain, and Taiwan*, Inv. Nos. 731-TA-770–773 and 775 (Third Review), USITC Pub. 4623 (July 2016).

China. During the original investigations, U.S. imports of subject merchandise from China (*** of which were produced by SVW) dropped from a high of 19.6 million pounds in 2000 to 13.3 million pounds in 2001 and then rose slightly to 13.4 million pounds in 2002.[94] After the order on PVA from China was imposed, Commerce conducted two successive administrative reviews and found imports from SVW were at fair market value, but the firm otherwise remained subject to the order.[95] During the first reviews, subject imports from China increased from 5.9 million pounds in 2003 to a peak of 6.7 million pounds in 2006 and then fell to 4.5 million pounds in 2007.[96] In the second reviews, U.S. imports of PVA from China were 1.4 million pounds in 2008, 5.8 million pounds in 2009, 7.9 million pounds in 2010, 6.5 million pounds in 2011, 11.4 million pounds in 2012, 12.4 million pounds in 2013, 9.4 million pounds in interim 2013, and 10.9 million pounds in interim 2014.[97] In these reviews, subject imports from China decreased steadily from *** pounds in 2017, *** pounds in 2018, and to *** pounds in 2019; they were *** pounds in interim 2019 and *** in interim 2020.[98] The U.S. market share for subject imports from China was *** percent in 2017, *** percent in 2018, and *** percent in 2019; it was *** percent in interim 2019 and *** percent in interim 2020.[99]

In these reviews, the Commission received no usable questionnaire responses from 29 firms identified as possible producers/exporters of PVA in China, and must therefore rely on the information available concerning the Chinese industry's capacity, capacity utilization, and exports.[100] That information reflects that the industry in China is the world's largest in terms of capacity, production, and exports.[101] As reported by a market source, the capacity of the industry in China to produce PVA increased irregularly from *** pounds in 2017 to *** pounds in 2019.[102] Its capacity utilization rate was *** percent in 2017, *** percent in 2018, and *** percent in 2019.[103] According to official Chinese statistics, exports of PVA from China increased steadily from 292 million pounds in 2017 to 378 million pounds in 2019.[104] China was the

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[94] Confidential Report, Memorandum INV-AA-056 (May 27, 2003), EDIS Doc. 712001 (June 5, 2020) at IV-2 n.8; *Polyvinyl Alcohol from Germany and Japan*, USITC Pub. 3604 at IV-2 n.8.

[95] First Review Determinations, USITC Pub. 4067 at 12 n.65.

[96] First Review Determinations, USITC Pub. 4067 at 12 n.65.

[97] Second Review Determinations, USITC Pub. 4533 at 14.

[98] CR/PR at Table IV-1.

[99] CR/PR at Table I-9.

[100] CR/PR at IV-19 & nn.11–12.

[101] CR/PR at Table IV-25 (citing *Chemical Economics Handbook* data).

[102] CR/PR at Table IV-11 (data from 13 Chinese producers).

[103] CR/PR at Table IV-11.

[104] CR/PR at Table IV-12.

world's largest producer and exporter of PVA in 2019.[105] The largest export markets for PVA from China in 2019 were India, Belgium, and the Netherlands.[106] Further, the average unit values ("AUVs") for exports of PVA from China to the U.S. market from 2017 to 2019 were higher than any other major export market for PVA from China.[107]

In the original investigations, subject imports from China undersold the domestic like product in 41 of 46 comparisons (89.1 percent of comparisons) with underselling margins ranging from *** percent.[108] In the first reviews, subject imports from China undersold the domestic like product in 40 of 90 comparisons (44.4 percent of comparisons) with underselling margins ranging from *** percent.[109] In the second reviews, subject imports from China undersold the domestic like product in 67 of 116 comparisons (57.7 percent of comparisons) with underselling margins ranging from *** percent.[110] In these reviews, subject imports from China undersold the domestic like product in 18 of 60 instances (30.0 percent of comparisons) with underselling margins ranging from 1.0 to 22.5 percent.[111]

In light of the foregoing, including the growing and substantial available capacity of the industry in China and its continued interest in the U.S. market, we do not find that subject imports from China would likely have no discernible adverse impact on the domestic industry if the antidumping duty order covering these imports were revoked.

Japan. During the original investigations, the volume of subject imports from Japan increased rapidly from *** pounds in 2000 to *** pounds in 2002.[112] After imposition of the order on PVA from Japan, imports from Japan continued to supply the U.S. market in the first and second periods of review, with importers either paying large antidumping duties or importing products that were specifically excluded from the scope of the orders.[113] Imports of

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[105] CR/PR at Tables IV-25, IV-27.

[106] CR/PR at Table IV-12. Information was not readily available about shipments and inventory levels in the PVA industry in China. *Id.* at IV-22 n.13.

[107] CR/PR at Table IV-12. We note that variances in product mix may limit the utility of AUV data in our analysis and that official statistics may include out-of-scope PVA. *See id.* at IV-24, IV-38, Table IV-6 note.

[108] CR/PR at Table V-8 note.

[109] CR/PR at Table V-8 note.

[110] CR/PR at Table V-8 note.

[111] CR/PR at V-16.

[112] Confidential First Review Determinations at 18 n.68; First Review Determinations, USITC Pub. 4067 at 12 n.68.

[113] Confidential First Review Determinations at 18; First Review Determinations, USITC Pub. 4067 at 13.

subject merchandise from Japan declined irregularly from *** pounds in 2003 to *** pounds in 2007.[114] During the second reviews, U.S. imports of subject PVA from Japan were *** pounds in 2008, *** pounds in 2009, *** pounds in 2010, *** pounds in 2011, *** pounds in 2012, *** pounds in 2013, *** pounds in interim 2013, and *** pounds in interim 2014.[115] During these reviews, subject imports from Japan increased irregularly from *** pounds in 2017 to *** pounds in 2019; they were *** pounds in interim 2019 and *** pounds in interim 2020.[116] The U.S. market share for subject imports from Japan was *** percent in 2017, *** percent in 2018, and *** percent in 2019; it was *** percent in interim 2019 and *** percent in interim 2020.[117]

In these reviews, the Commission received usable questionnaire data from two firms in Japan, which accounted for an estimated *** percent of subject production in Japan in 2019.[118] The reported capacity of the industry in Japan to produce PVA decreased steadily from *** pounds in 2017 to *** in 2019; it was *** pounds in interim 2019 and *** pounds in interim 2020.[119] Total shipments of PVA by the industry in Japan decreased steadily from *** pounds in 2017 to *** pounds in 2019; they were *** pounds in interim 2019 and *** pounds in interim 2020.[120] Its capacity utilization rate was *** percent in 2017, *** percent in 2018, and *** percent in 2019; it was *** percent in interim 2019 and *** percent in interim 2020.[121] From 2017 to 2019 and in interim 2020, responding Japanese producer exports as a share of total shipments of PVA ranged from *** percent to *** percent, with exports to the United States accounting for *** to *** percent of total shipments.[122] Japan was the world's second-largest producer and third-largest exporter of PVA in 2019.[123] Further, the AUVs for exports of

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[114] Confidential First Review Determinations at 18 n.68; First Review Determinations, USITC Pub. 4067 at 12 n.68.

[115] Confidential Second Review Determinations at 22; Second Review Determinations, USITC Pub. 4533 at 15–16.

[116] CR/PR at Table IV-1. In these reviews, imports of out-of-scope PVA from Japan were *** pounds in 2017, *** pounds in 2018, and *** pounds in 2019; they were *** pounds in interim 2019 and *** pounds in interim 2020. *Id.* at Table IV-20.

[117] CR/PR at Table I-9.

[118] CR/PR at IV-26 to IV-27.

[119] CR/PR at Table IV-16. A market source provides a larger annual capacity of *** pounds for the industry in Japan. *Id.* at Table IV-14.

[120] CR/PR at Table IV-16.

[121] CR/PR at Table IV-16.

[122] CR/PR at IV-27, Table IV-16.

[123] CR/PR at Tables IV-25, IV-27.

PVA from Japan to the U.S. market from 2017 to 2019 were higher than most other major export markets for PVA from Japan.[124]

Subject imports from Japan undersold the domestic like product in three of six comparisons (50.0 percent of comparisons) in the original investigations with underselling margins ranging from *** percent.[125] In the first reviews, subject imports from Japan undersold the domestic like product in both comparisons, with underselling margins of *** percent.[126] In the second reviews, there were no instances of underselling in nine quarters of comparisons by subject imports from Japan.[127] In these reviews, pricing data were unavailable for PVA pricing products imported from Japan.[128]

In light of the foregoing, including the substantial and increasing unused capacity of the industry in Japan, as well as its continued interest in the U.S. market in the form of exports of subject and out-of-scope PVA, we do not find that subject imports from Japan would likely have no discernible adverse impact on the domestic industry if the antidumping duty order covering these imports were revoked.

D. Likelihood of a Reasonable Overlap of Competition

The Commission generally has considered four factors intended to provide a framework for determining whether subject imports compete with each other and with the domestic like product.[129] Only a "reasonable overlap" of competition is required.[130] In five-year reviews, the

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[124] CR/PR at Table IV-21. We note that variances in product mix may limit the utility of AUV data in our analysis and that official statistics may include out-of-scope PVA. *See id.* at IV-24, IV-38, Table IV-6 note.

[125] CR/PR at Table V-8 note.

[126] CR/PR at Table V-8 note.

[127] CR/PR at Table V-8 note; Second Review Determinations, USITC Pub. 4533 at Table V-11.

[128] CR/PR at V-6 n.6, Table V-8.

[129] The four factors generally considered by the Commission in assessing whether imports compete with each other and with the domestic like product are as follows: (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 geographical markets of 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 subject imports are simultaneously present in the market with one another and the domestic like product. *See, e.g., Wieland Werke, AG v. United States*, 718 F. Supp. 50 (Ct. Int'l Trade 1989).

relevant inquiry is whether there likely would be competition even if none currently exists because the subject imports are absent from the U.S. market.[131]

In the original investigations, the Commission found a reasonable overlap of competition among subject imports from China, Japan, and Korea and between these imports and the domestic like product for purposes of its final determinations concerning subject imports from China and Korea.[132] In the first reviews, the Commission found that there would likely be a reasonable overlap in competition among subject imports from China, Japan, and Korea and between these imports and the domestic like product if the orders were revoked.[133] In the second reviews, the Commission found that there would likely be a reasonable overlap in competition between subject imports from China and Japan and between these imports and the domestic like product if the orders were revoked.[134]

Fungibility. In the original investigations and prior reviews, the Commission found that end use was an important consideration when analyzing competition in the U.S. PVA market and that the industries in the United States, China, Japan, and Korea manufactured PVA for a

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(…Continued)

[130] *See Mukand Ltd. v. United States*, 937 F. Supp. 910, 916 (Ct. Int'l Trade 1996); *Wieland Werke,* 718 F. Supp. at 52 ("Completely overlapping markets are not required."); *United States Steel Group v. United States,* 873 F. Supp. 673, 685 (Ct. Int'l Trade 1994), *aff'd*, 96 F.3d 1352 (Fed. Cir. 1996). We note, however, that there have been investigations where the Commission has found an insufficient overlap in competition and has declined to cumulate subject imports. *See, e.g*., *Live Cattle from Canada and Mexico*, Inv. Nos. 701-TA-386 and 731-TA-812–13 (Preliminary), USITC Pub. 3155 at 15 (Feb. 1999), *aff'd sub nom., Ranchers-Cattlemen Action Legal Foundation v. United States*, 74 F. Supp. 2d 1353 (Ct. Int'l Trade 1999); *Static Random Access Memory Semiconductors from the Republic of Korea and Taiwan*, Inv. Nos. 731-TA-761–62 (Final), USITC Pub. 3098 at 13–15 (Apr. 1998).

[131] *See generally Chefline Corp. v. United States*, 219 F. Supp. 2d 1313, 1314 (Ct. Int'l Trade 2002).

[132] In its original final determinations regarding subject imports from Japan, the Commission found a reasonable overlap of competition among PVA made in the United States, Japan, and Korea. Due to Commerce's preliminary determination that imports from SVW were not sold at less than fair value, imports from SVW, which accounted for the bulk of imports from China during the original investigations, were not eligible for cumulation at the time of the Commission's determination concerning imports from Japan, and the Commission concluded that the record did not demonstrate a reasonable overlap of competition between non-SVW imports from China and PVA made in the United States, Japan, and Korea. In its threat analysis, the Commission exercised its discretion to cumulate imports from Japan and Korea on the basis of similar increasing volume trends, similar price levels for pricing products for which there were substantial import quantities from both sources, and predominant underselling of the domestic like product by imports from both subject countries. *Polyvinyl Alcohol from China and Korea*, USITC Pub. 3634 at 6–8; *Polyvinyl Alcohol from Germany and Japan*, USITC Pub. 3604 at 8–13, 31–32.

[133] First Review Determinations, USITC Pub. 4067 at 14–16.

[134] Second Review Determinations, USITC Pub. 4533 at 20–22.

variety of end uses.[135] Questionnaire respondents generally reported that PVA made in the United States, China, Japan, and Korea was interchangeable with one another.[136] In these reviews, responding purchasers generally reported PVA made in the United States, China, and Japan to be comparable with respect to various purchasing factors.[137] Responding U.S. producers, importers, and purchasers also generally reported that PVA made in the United States, China, and Japan was interchangeable.[138] The record also indicates that the industries in China, Japan, and the United States produce PVA for overlapping end uses.[139]

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[135] In the original investigations, there was considerable overlap in the end uses of products made in the United States, China, Japan, and Korea, particularly for textile and adhesive end uses. In the first reviews, the domestic industry reported manufacturing PVA for *** end uses; although subject imports from China were sold for *** end uses, the record indicated that producers in China, Japan, and Korea manufactured a wide variety of PVA products for sale to their home and global markets during the first reviews. There was also overlap in terms of the hydrolysis levels of PVA manufactured by each of the industries during the original investigations and first reviews. Confidential First Review Determinations at 21–23; First Review Determinations, USITC Pub. 4067 at 15; *Polyvinyl Alcohol from China and Korea*, USITC Pub. 3634 at 8–9; *Polyvinyl Alcohol from Germany and Japan*, USITC Pub. 3604 at 10. In the second reviews, the Commission found that PVA from the United States, China, and Japan was produced for the same end uses. Second Review Determinations, USITC Pub. 4533 at 20.

[136] In the original investigations, a majority of producers and importers found that PVA made in the United States was at least sometimes interchangeable with subject imports from China, Japan, and Korea and that PVA imported from each of these countries was at least sometimes interchangeable with one another. In the first reviews, two domestic producers reported that PVA from all four sources is always interchangeable, but the third domestic producer (***) reported that PVA from these sources is never interchangeable. U.S. importers generally reported PVA from all four sources could be used interchangeably; purchasers' responses were more mixed but generally reported imports from all sources as being at least sometimes interchangeable with one another. Moreover, producers in all four sources had become qualified for a large range of PVA products. Confidential First Review Determinations at 21–23; First Review Determinations, USITC Pub. 4067 at 14–15; *Polyvinyl Alcohol from China and Korea*, USITC Pub. 3634 at 8–9; *Polyvinyl Alcohol from Germany and Japan*, USITC Pub. 3604 at 9–10. In the second reviews, the Commission found that PVA from the United States, China, and Japan was comparable in terms of purchasing factors and generally interchangeable. Second Review Determinations, USITC Pub. 4533 at 20.

[137] CR/PR at Table II-9.

[138] A majority of U.S. producers, importers, and purchasers reported that PVA made in the United States and China and in the United States and Japan is "always" or "frequently" interchangeable. CR/PR at Table II-10.

[139] CR/PR at Tables IV-3, IV-18, IV-26.

Geographic Overlap. In the original investigations, imports from China entered the U.S. market principally through eastern and western ports, imports from Japan entered through ports in all geographic areas, and the domestic industry made sales nationwide.[140] During the first reviews, the domestic industry continued to make sales nationwide, and subject imports entered through ports in the South and Southwest, when present in the market.[141] In these reviews, as during the second reviews, the domestic industry made sales nationwide, whereas importers of PVA from China reported serving primarily the Midwest and Southeast regions, and importers of PVA from Japan reported serving only the Northeast, Midwest, and Southeast regions.[142]

Channels of Distribution. In the original investigations, subject imports from China and Japan were generally sold directly to end users; a large majority of PVA made in the United States also was sold to end users, although *** percent of PVA made in the United States was transferred for internal consumption.[143] During the first reviews, *** imports of subject merchandise from China and *** of the domestic industry's U.S. commercial shipments of PVA were to end users, as were all or nearly all U.S. imports of PVA from Japan by 2005.[144] During the second reviews, *** U.S. importers' U.S. commercial shipments from Japan and *** U.S. importers' U.S. commercial shipments from China and of the domestic industry's U.S. commercial shipments were to end users.[145] In these reviews, domestic producers and importers of PVA from China and Japan sold PVA overwhelmingly to end users.[146]

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[140] First Review Determinations, USITC Pub. 4067 at 16; *Polyvinyl Alcohol from China and Korea*, USITC Pub. 3634 at 9; *Polyvinyl Alcohol from Germany and Japan*, USITC Pub. 3604 at 11.

[141] First Review Determinations, USITC Pub. 4067 at 16.

[142] Second Review Determinations, USITC Pub. 4533 at 21; CR/PR at II-3, Table II-2.

[143] Confidential First Review Determinations at 24; First Review Determinations, USITC Pub. 4067 at 16; *Polyvinyl Alcohol from China and Korea*, USITC Pub. 3634 at 10; *Polyvinyl Alcohol from Germany and Japan*, USITC Pub. 3604 at 11.

[144] Confidential First Review Determinations at 24; First Review Determinations, USITC Pub. 4067 at 16; *Polyvinyl Alcohol from China and Korea*, USITC Pub. 3634 at 10; *Polyvinyl Alcohol from Germany and Japan*, USITC Pub. 3604 at 11.

[145] Confidential Second Review Determinations at 29–30; Second Review Determinations, USITC Pub. 4533 at 21.

[146] The share of U.S. shipments by domestic producers and importers of PVA from China and Japan to end users from 2017 to 2019 ranged from *** percent to *** percent. CR/PR at Table II-1.

Simultaneous Presence in Market. The domestic like product and imports from China and Japan were sold in the U.S. market throughout the original investigations.[147] After imposition of the orders, subject imports from Japan were limited, imports from China were present in the U.S. market during 66 of the 69 months covered by the first reviews, and the domestic like product was present in the U.S. market throughout that POR.[148] During the second reviews, imports from China entered the U.S. market in 78 of 81 months, imports from Japan of subject PVA entered in 50 of 81 months in limited quantities, and the domestic industry sold PVA in the U.S. market throughout that POR.[149] In these reviews, subject imports from China and domestically produced PVA were sold in the U.S. market throughout the period, and subject imports from Japan entered the U.S. market each year from 2017 to 2019 and during interim 2020.[150]

Conclusion. The record in these reviews indicates that there has been no significant change in the considerations that led the Commission to conclude in the original investigations and prior reviews that there was or was likely to be a reasonable overlap of competition among subject imports from each source and the domestic like product. In particular, the domestic like product and subject imports from China and Japan remain generally interchangeable, are primarily shipped through the same channels of distribution, overlap geographically to some degree, and were simultaneously present in the U.S. market throughout the POR. The record also indicates that upon revocation, subject imports from China and Japan and the domestic like product likely would be sold for overlapping end uses, as they were during the original investigations and prior reviews. In light of this and the lack of any contrary argument, we find that there would likely be a reasonable overlap in competition among subject imports from China and Japan and the domestic like product if the orders were revoked.

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[147] First Review Determinations, USITC Pub. 4067 at 16; *Polyvinyl Alcohol from China and Korea*, USITC Pub. 3634 at 10; *Polyvinyl Alcohol from Germany and Japan*, USITC Pub. 3604 at 11.

[148] First Review Determinations, USITC Pub. 4067 at 16.

[149] Second Review Determinations, USITC Pub. 4533 at 22.

[150] CR/PR at Tables IV-16, V-3 to V-6. *See id.* at Table IV-6 (including subject and out-of-scope merchandise). *See also id.* at Table IV-2 (indicating ***).

E. Likely Conditions of Competition

In determining whether to exercise our discretion to cumulate the subject imports, we assess whether subject imports from China and Japan would likely compete under similar or different conditions of competition in the U.S. market after revocation of the orders. No party has asserted, and (as was the case in the previous reviews) we do not find, that there would likely be any significant difference in the conditions of competition between subject imports from China and Japan upon revocation of the orders.

F. Conclusion

Based on the record, we find that subject imports from China and Japan, considered individually, would not be likely to have no discernible adverse impact on the domestic industry if the corresponding orders were revoked. We also find a likely reasonable overlap of competition between and among subject imports from China and Japan and the domestic like product, and that imports from China and Japan are likely to compete in the U.S. market under similar conditions of competition, if the orders were revoked. We therefore exercise our discretion to cumulate subject imports from China and Japan for purposes of our analysis in these reviews.

IV. Revocation of the Antidumping Duty Orders Would Likely Lead to Continuation or Recurrence of Material Injury Within a Reasonably Foreseeable Time

A. Legal Standards

In a five-year review conducted under section 751(c) of the Tariff Act, Commerce will revoke an antidumping or countervailing duty order unless: (1) it makes a determination that dumping or subsidization is likely to continue or recur and (2) the Commission makes a determination that revocation of the antidumping or countervailing duty order "would be likely to lead to continuation or recurrence of material injury within a reasonably foreseeable time."[151] The SAA states that "under the likelihood standard, the Commission will engage in a counterfactual analysis; it must decide the likely impact in the reasonably foreseeable future of an important change in the status quo – the revocation or termination of a proceeding and the elimination of its restraining effects on volumes and prices of imports."[152] Thus, the likelihood standard is prospective in nature.[153] The U.S. Court of International Trade has found that "likely," as used in the five-year review provisions of the Act, means "probable," and the Commission applies that standard in five-year reviews.[154]

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[151] 19 U.S.C. § 1675a(a).

[152] SAA at 883–84. The SAA states that "{t}he likelihood of injury standard applies regardless of the nature of the Commission's original determination (material injury, threat of material injury, or material retardation of an industry). Likewise, the standard applies to suspended investigations that were never completed." *Id*. at 883.

[153] While the SAA states that "a separate determination regarding current material injury is not necessary," it indicates that "the Commission may consider relevant factors such as current and likely continued depressed shipment levels and current and likely continued {sic} prices for the domestic like product in the U.S. market in making its determination of the likelihood of continuation or recurrence of material injury if the order is revoked." SAA at 884.

[154] *See NMB Singapore Ltd. v. United States*, 288 F. Supp. 2d 1306, 1352 (Ct. Int'l Trade 2003) ("'likely' means probable within the context of 19 U.S.C. § 1675(c) and 19 U.S.C. § 1675a(a)"), *aff'd mem.*, 140 Fed. Appx. 268 (Fed. Cir. 2005); *Nippon Steel Corp. v. United States*, 26 CIT 1416, 1419 (2002) (same); *Usinor Industeel, S.A. v. United States*, 26 CIT 1402, 1404 nn.3, 6 (2002) ("more likely than not" standard is "consistent with the court's opinion;" "the court has not interpreted 'likely' to imply any particular degree of 'certainty'"); *Indorama Chemicals (Thailand) Ltd. v. United States*, 26 CIT 1059, 1070 (2002) ("standard is based on a likelihood of continuation or recurrence of injury, not a certainty"); *Usinor v. United States*, 26 CIT 767, 794 (2002) ("'likely' is tantamount to 'probable,' not merely 'possible'").

The statute states that "the Commission shall consider that the effects of revocation or termination may not be imminent, but may manifest themselves only over a longer period of time."[155] According to the SAA, a "'reasonably foreseeable time' will vary from case-to-case, but normally will exceed the 'imminent' timeframe applicable in a threat of injury analysis in original investigations."[156]

Although the standard in a five-year review is not the same as the standard applied in an original investigation, it contains some of the same fundamental elements. The statute provides that the Commission is to "consider the likely volume, price effect, and impact of imports of the subject merchandise on the industry if the orders are revoked or the suspended investigation is terminated."[157] It directs the Commission to take into account its prior injury determination, whether any improvement in the state of the industry is related to the order or the suspension agreement under review, whether the industry is vulnerable to material injury if an order is revoked or a suspension agreement is terminated, and any findings by Commerce regarding duty absorption pursuant to 19 U.S.C. § 1675(a)(4).[158] The statute further provides that the presence or absence of any factor that the Commission is required to consider shall not necessarily give decisive guidance with respect to the Commission's determination.[159]

In evaluating the likely volume of imports of subject merchandise if an order under review is revoked and/or a suspended investigation is terminated, the Commission is directed to consider whether the likely volume of imports would be significant either in absolute terms or relative to production or consumption in the United States.[160] In doing so, the Commission must consider "all relevant economic factors," including four enumerated factors: (1) any likely increase in production capacity or existing unused production capacity in the exporting country; (2) existing inventories of the subject merchandise, or likely increases in inventories; (3) the

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[155] 19 U.S.C. § 1675a(a)(5).

[156] SAA at 887. Among the factors that the Commission should consider in this regard are "the fungibility or differentiation within the product in question, the level of substitutability between the imported and domestic products, the channels of distribution used, the methods of contracting (such as spot sales or long-term contracts), and lead times for delivery of goods, as well as other factors that may only manifest themselves in the longer term, such as planned investment and the shifting of production facilities." *Id*.

[157] 19 U.S.C. § 1675a(a)(1).

[158] 19 U.S.C. § 1675a(a)(1). Commerce has not made any duty absorption findings since the imposition of the orders. CR/PR at I-16.

[159] 19 U.S.C. § 1675a(a)(5). Although the Commission must consider all factors, no one factor is necessarily dispositive. SAA at 886.

[160] 19 U.S.C. § 1675a(a)(2).

existence of barriers to the importation of the subject merchandise into countries other than the United States; and (4) 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.[161]

In evaluating the likely price effects of subject imports if an order under review is revoked and/or a suspended investigation is terminated, the Commission is directed to consider whether there is likely to be significant underselling by the subject imports as compared to the domestic like product and whether the subject imports are likely to enter the United States at prices that otherwise would have a significant depressing or suppressing effect on the price of the domestic like product.[162]

In evaluating the likely impact of imports of subject merchandise if an order under review is revoked and/or a suspended investigation is terminated, the Commission is directed to consider all relevant economic factors that are likely to have a bearing on the state of the industry in the United States, including but not limited to the following: (1) likely declines in output, sales, market share, profits, productivity, return on investments, and utilization of capacity; (2) likely negative effects on cash flow, inventories, employment, wages, growth, ability to raise capital, and investment; and (3) likely negative effects on the existing development and production efforts of the industry, including efforts to develop a derivative or more advanced version of the domestic like product.[163] All relevant economic factors are to be considered within the context of the business cycle and the conditions of competition that are distinctive to the industry. As instructed by the statute, we have considered the extent to which any improvement in the state of the domestic industry is related to the orders under review and whether the industry is vulnerable to material injury upon revocation.[164]

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[161] 19 U.S.C. § 1675a(a)(2)(A–D).

[162] *See* 19 U.S.C. § 1675a(a)(3). The SAA states that "{c}onsistent with its practice in investigations, in considering the likely price effects of imports in the event of revocation and termination, the Commission may rely on circumstantial, as well as direct, evidence of the adverse effects of unfairly traded imports on domestic prices." SAA at 886.

[163] 19 U.S.C. § 1675a(a)(4).

[164] The SAA states that in assessing whether the domestic industry is vulnerable to injury if the order is revoked, the Commission "considers, in addition to imports, other factors that may be contributing to overall injury. While these factors, in some cases, may account for the injury to the domestic industry, they may also demonstrate that an industry is facing difficulties from a variety of sources and is vulnerable to dumped or subsidized imports." SAA at 885.

B. Conditions of Competition and the Business Cycle

In evaluating the likely impact of the subject imports on the domestic industry if an order is revoked, the statute directs the Commission to consider all relevant economic factors "within the context of the business cycle and conditions of competition that are distinctive to the affected industry."[165] The following conditions of competition inform our determinations. Many of the conditions of competition that were relevant in the original investigations and prior reviews remain pertinent in the current reviews.

1. Findings in the Prior Proceedings

In its original determinations, the Commission found that market participants commonly perceived the PVA market by reference to the different applications for which it is sold.[166] PVB production was the highest-volume application in the United States at that time, and this application was then supplied primarily by captive consumption.[167] The two next-largest applications, which were supplied exclusively by sales in the commercial market, were textiles and adhesives/emulsifiers.[168] The Commission found that apparent U.S. consumption, whether measured in terms of the commercial market or the total market, declined from 2000 to 2001 and increased from 2001 to 2002, with the 2002 level below that of 2000.[169] It observed that the domestic PVA market was supplied principally by the domestic industry, with nonsubject

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[165] 19 U.S.C. § 1675a(a)(4).

[166] *Polyvinyl Alcohol from Germany and Japan*, USITC Pub. 3604 at 15; *Polyvinyl Alcohol from China and Korea*, USITC Pub. 3634 at 10.

[167] *Polyvinyl Alcohol from Germany and Japan*, USITC Pub. 3604 at 15; *Polyvinyl Alcohol from China and Korea*, USITC Pub. 3634 at 10.

[168] *Polyvinyl Alcohol from Germany and Japan*, USITC Pub. 3604 at 15–16; *Polyvinyl Alcohol from China and Korea*, USITC Pub. 3634 at 10. During the period of investigation, only two of the three domestic producers (DuPont and Celanese) produced PVA for the commercial market. *Polyvinyl Alcohol from Germany and Japan*, USITC Pub. 3604 at 16; *Polyvinyl Alcohol from China and Korea*, USITC Pub. 3634 at 10. The Commission concluded that all elements of the statutory captive production provision (19 U.S.C. § 1677(7)(C)(iv)) were met and therefore focused primarily on the commercial market for the domestic like product in determining market share and the factors affecting financial performance, although it also analyzed these factors with respect to the whole market. *Polyvinyl Alcohol from Germany and Japan*, USITC Pub. 3604 at 14–15; *Polyvinyl Alcohol from China and Korea*, USITC Pub. 3634 at 10.

[169] *Polyvinyl Alcohol from Germany and Japan*, USITC Pub. 3604 at 16; *Polyvinyl Alcohol from China and Korea*, USITC Pub. 3634 at 10.

imports representing the second-largest source of supply.[170] The Commission noted that the domestic industry's capacity in 2002 was *** greater than the largest amount of apparent U.S. consumption observed at any point between 2000 and 2002.[171]

In the first reviews, the Commission again observed that PVA is used in a wide variety of end-use applications, and participants still viewed the PVA market by reference to the applications for which PVA is sold, with PVB production continuing to be by far the largest end-use application.[172] It found that Solutia and DuPont each internally consumed PVA for the production of PVB.[173] During that POR, apparent U.S. consumption increased overall from 2003 to 2007, but the Commission found that that demand was likely to slow or decline in the reasonably foreseeable future in light of economic conditions and demand for specific end-use applications.[174] The Commission further found that, in order by volume, the domestic industry, nonsubject imports, and subject imports supplied the U.S. market during that POR.[175] In examining the domestic industry's significant internal consumption, it considered captive production to be a pertinent condition of competition even though it did not apply the captive production provision in those reviews, consistent with its practice, and focused its analysis on the market as a whole.[176] As was the case during the original investigations, the Commission found that PVA manufacturing is a capital-intensive business that entails high fixed costs and that producers must maintain relatively high production rates and achieve profit margins high enough to cover the substantial costs of maintaining plants and equipment.[177]

In the second reviews, the Commission again found that PVA continued to be used in a wide variety of applications, and market participants commonly viewed the PVA market by reference to the applications for which it is sold.[178] It observed that PVB production was still the largest end use for PVA in the United States, and that the few firms that used PVB-grade

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[170] *Polyvinyl Alcohol from Germany and Japan*, USITC Pub. 3604 at 17; *Polyvinyl Alcohol from China and Korea*, USITC Pub. 3634 at 10.

[171] Confidential Original Final Determinations for Germany and Japan, EDIS Doc. 712009 (June 5, 2020) ("Confidential Original Final Determinations for Germany and Japan") at 26; *Polyvinyl Alcohol from Germany and Japan*, USITC Pub. 3604 at 16.

[172] First Review Determinations, USITC Pub. 4067 at 21.

[173] First Review Determinations, USITC Pub. 4067 at 21.

[174] First Review Determinations, USITC Pub. 4067 at 22–23.

[175] First Review Determinations, USITC Pub. 4067 at 23.

[176] First Review Determinations, USITC Pub. 4067 at 23.

[177] First Review Determinations, USITC Pub. 4067 at 24.

[178] Second Review Determinations, USITC Pub. 4533 at 27.

PVA were supplied primarily by captive consumption.[179] Apparent U.S. consumption had not returned to the levels reached in the original investigations but did increase irregularly from 2008 to 2013.[180] The U.S. market continued to be supplied by the domestic industry and imports from nonsubject and subject sources, with the domestic industry the predominant supplier to the U.S. market since the original investigations.[181] The Commission observed that the domestic industry's PVA production capacity had been *** greater than apparent U.S. consumption since 2002, even before the addition of Kuraray America's new production facility, scheduled to begin operations in 2015.[182] It found that two of the three domestic producers had manufactured PVA for the commercial market in the United States, and that internal consumption had accounted for an irregularly declining share of the domestic industry's total shipments since the original investigations.[183] It found that subject imports were at least moderately substitutable for the domestic like product and that price remained an important factor in purchasing decisions.[184] As during the prior proceedings, it found that the manufacturing process remained a capital-intensive, high-fixed-cost business, in which producers must maintain relatively high production rates and achieve profit margins sufficient to cover the substantial cost of maintaining plants and equipment.[185]

2. Demand Conditions

PVA continues to be used in a wide variety of applications, and market participants commonly view the PVA market by reference to the applications for which it is sold.[186] PVB production remains the largest end use for PVA in the United States, and all internal

[179] Second Review Determinations, USITC Pub. 4533 at 27.

[180] Second Review Determinations, USITC Pub. 4533 at 28.

[181] Second Review Determinations, USITC Pub. 4533 at 29.

[182] Confidential Second Review Determinations at 42; Second Review Determinations, USITC Pub. 4533 at 29.

[183] Second Review Determinations, USITC Pub. 4533 at 29–30. As in the first reviews, the Commission considered significant captive production to be a pertinent condition of competition but focus its analysis on the market as a whole. *Id.* at 30. *See* 19 U.S.C. § 1677(7)(C)(iv).

[184] Second Review Determinations, USITC Pub. 4533 at 31.

[185] Second Review Determinations, USITC Pub. 4533 at 31.

[186] CR/PR at I-22 to I-24, II-1.

consumption by ***.[187] Purchases in the rest of the U.S. PVA market are for various end uses.[188] PVA is used in the textile and paper industries in sizing formulations, as a binder in adhesive and soil binding formulations, in the manufacture of non-woven glass paper, and as an emulsion or polymerization aid in colloidal suspensions, water-soluble films, cosmetics, and joint compounds.[189]

PVA accounts for a small to moderate share of the total cost of some of the end-use products in which it is an input (*e.g.*, adhesives, building products, emulsion polymers, paper products, PVC, vinyl acetate ethylene, and automotive paint) and a moderate to large share of others (*e.g.*, PVA film, PVB, PVB film, specialty resins, textiles, and water-soluble film).[190] There are no substitutes for PVA for several of its end uses, and for those end uses for which there are substitutes, questionnaire respondents reported that prices of most of those substitutes did not affect PVA prices.[191]

Demand for PVA is driven by demand for its primary end uses.[192] In the current reviews, apparent U.S. consumption of PVA approached the same levels reached in the original investigations in 2017 but decreased modestly thereafter, from *** pounds in 2017 to *** pounds in 2018 and 2019.[193] Apparent U.S. consumption for PVA was significantly lower in interim 2020, at *** pounds, when compared to interim 2019, at *** pounds, as major PVA-consuming industries shut down completely due to COVID-19 restrictions.[194] Most questionnaire respondents anticipate increases in demand for PVA in the future.[195] Likewise, the *Chemical Economics Handbook* anticipates that demand for PVA will increase by ***

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[187] CR/PR at II-1, III-16 n.10, III-24 n.13. In the current reviews, *** of all domestic PVA production was internally consumed, principally for manufacturing PVB products, with ***. *Id.* at III-9 n.5, Table III-4.

[188] In the current reviews, purchasers of PVA included three adhesives producers, four distributors, four emulsion polymerization producers, one building products producer, one textile products producer, one purchaser using PVA for film applications/production, one chemical blender, and one manufacturer of PVB resin and film. CR/PR at I-32.

[189] CR/PR at I-22, II-8.

[190] CR/PR at II-9.

[191] CR/PR at II-10.

[192] CR/PR at II-8 to II-10.

[193] CR/PR at Table I-9. During the original investigations, apparent U.S. consumption was *** pounds in 2000, *** pounds in 2001, and *** pounds in 2002. *Id.* at C-7.

[194] CR/PR at III-4 n.2 and Table I-9.

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

percent annually between 2019 and 2024, driven by projected annual PVA demand growth of *** percent for PVB applications.[196]

3. Supply Conditions

The U.S. market continues to be supplied by the domestic industry and imports from subject and nonsubject sources.[197] The domestic industry was the largest source of supply to the U.S. market during the POR. Its share of apparent U.S. consumption fluctuated within a narrow band between 2017 and 2019, increasing from *** percent in 2017 to *** percent in 2018 before declining to *** percent in 2019; the industry's share was lower in interim 2020 (at *** percent) compared to interim 2019 (at *** percent).[198] The domestic industry's capacity increased ***, from *** pounds in 2017 to *** pounds in 2019, and was flat between the interim periods.[199] The industry's reported capacity utilization fluctuated between 2017 and 2019, increasing from *** percent in 2017 to *** percent in 2018 before declining to *** percent in 2019; its utilization was lower in interim 2020 (at *** percent) than in interim 2019 (at *** percent).[200]

Since the second reviews, the domestic industry has undergone changes in composition. Kuraray America acquired DuPont's PVA production assets on June 1, 2014, ***.[201] The domestic industry's PVA production capacity has been *** greater than apparent U.S. consumption since the original investigations.[202] Since the original investigations, only two of the three domestic producers have manufactured PVA for the commercial market in the United

[196] CR/PR at II-10.
[197] CR/PR at Table I-9.
[198] CR/PR at Table I-9.
[199] CR/PR at Table III-3. It was *** pounds in interim 2019 and interim 2020. *Id.*
[200] CR/PR at Table III-3.
[201] CR/PR at I-27, Table III-1.
[202] *Compare, e.g.*, CR/PR at Table I-9 (apparent U.S. consumption of *** pounds in 2019) *with, e.g.*, CR/PR at Table III-2 (domestic industry capacity of *** pounds in 2019). *See* Confidential Second Review Determinations at 42; Second Review Determinations, USITC Pub. 4533 at 29; Confidential First Review Determinations at 32; First Review Determinations, USITC Pub. 4067 at 21; *Polyvinyl Alcohol from Germany and Japan*, USITC Pub. 3604 at n.83; *Polyvinyl Alcohol from China and Korea*, USITC Pub. 3634 at 10.

States,[203] and internal consumption has accounted for a significant but irregularly declining share of the domestic industry's total shipments.[204] Consistent with our determinations in prior reviews, we consider significant captive production in these reviews to be a pertinent condition of competition but focus our analysis on the market as a whole.[205]

Two purchasers reported supply constraints during the POR. *** reported that ***.[206] *** reported that a ***.[207]

Subject imports declined irregularly as a share of apparent U.S. consumption, from *** percent in 2017 to *** percent in 2019.[208] As discussed above, the Commission received no usable questionnaire responses from 29 firms identified as possible producers/exporters of PVA in China, and must therefore rely on the information available concerning the Chinese industry.[209] As in the prior proceedings, the PVA industry in Japan consists of four producers.[210] Kuraray Japan accounted for *** percent of PVA production in Japan and *** exports of PVA to the United States in 2019, and is indirectly affiliated with a domestic producer, as discussed

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[203] CR/PR at III-9 n.5, Table III-4; *Polyvinyl Alcohol from Germany and Japan*, USITC Pub. 3604 at 16; *Polyvinyl Alcohol from China and Korea*, USITC Pub. 3634 at 10; Confidential First Review Determinations at 36–37; First Review Determinations, USITC Pub. 4067 at 23; Second Review Determinations, USITC Pub. 4533 at 29–30.

[204] Internal transfers accounted for *** percent of the domestic industry's domestic shipments of PVA in 2002. Confidential Original Final Determinations for Germany and Japan at 16; *Polyvinyl Alcohol from Germany and Japan*, USITC Pub. 3604 at 11. During the first reviews, internal consumption accounted for between *** percent and *** percent of the domestic industry's total shipments. Confidential Report, Memorandum INV-GG-015 (Feb. 26, 2009), EDIS Doc. 712010 (June 5, 2020) at Table III-4. During the second reviews, internal consumption accounted for between *** percent and *** percent of the domestic industry's total shipments by quantity. Confidential Second Review Determinations at 43 n.171; Second Review Determinations, USITC Pub. 4533 at 30 n.171. During these reviews, internal consumption accounted for between *** percent and *** percent of the domestic industry's total shipments by quantity. CR/PR at Table III-4.

[205] First Review Determinations, USITC Pub. 4067 at 23–24; Second Review Determinations, USITC Pub. 4533 at 30.

[206] CR/PR at II-7.

[207] ***, EDIS Doc. *** at Q. III-15.

[208] CR/PR at Table I-9. Subject import market share was *** percent in interim 2019 and *** percent in interim 2020. *Id.*

[209] CR/PR at IV-19 & nn.11–12.

[210] CR/PR at Table IV-14; Second Review Determinations, USITC Pub. 4533 at 16; First Review Determinations, USITC Pub. 4067 at 23.

above.[211] Subject imports from China and Japan entered the U.S. market each year from 2017 to 2019 and during interim 2019 and 2020.[212]

Nonsubject imports were the second-largest source of supply to the U.S. market from 2017 to 2019 and during interim 2019 and 2020. Nonsubject imports' market share increased irregularly from *** percent in 2017 to *** percent in 2019.[213] The largest country sources of nonsubject imports from 2017 to 2019 were Germany, Singapore, and Taiwan.[214]

4. Substitutability and Other Conditions

As in the prior proceedings, we find that there continues to be at least a moderate degree of substitutability between domestically produced PVA and subject imports from China and Japan, and that price remains an important factor in purchasing decisions.[215] As previously stated, a majority of U.S. producers, importers, and purchasers reported PVA to be "always" or "frequently" interchangeable in all comparisons involving domestic and subject sources.[216] Most responding purchasers reported that domestically produced PVA and imports from each subject country were comparable, or that domestically produced PVA was superior on most purchasing factors except for price.[217] Responding purchasers ranked price as one of the most important factors in purchasing decisions, along with product consistency, availability, and

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[211] Kuraray Japan Foreign Producer/Exporter Questionnaire Response at Q. II-4; CR/PR at IV-27, Table I-7.

[212] CR/PR at Tables IV-16, V-3 to V-6. *See id.* at Table IV-6. *See also id.* at Table I-8 note.

[213] CR/PR at Table I-6. It was *** percent in interim 2019 and *** percent in interim 2020. *Id.*

[214] CR/PR at II-7.

[215] CR/PR at II-11 to II-13, II-16 to II-20, V-3 to V-4, Tables II-6, II-7, II-9 to II-11, V-2; Second Review Determinations, USITC Pub. 4533 at 31; First Review Determinations, USITC Pub. 4067 at 14–15, 29–30; *Polyvinyl Alcohol from China and Korea*, USITC Pub. 3634 at 8–9, 20–22; *Polyvinyl Alcohol from Germany and Japan*, USITC Pub. 3604 at 9–10. In these reviews, the record shows that there is a moderate degree of substitutability between domestically produced PVA and subject imports from China, but a high degree of substitutability between domestically produced PVA and subject imports from Japan. CR/PR at II-11. The factors limiting substitutability include quality (with responding purchasers reporting that subject imports from China are lower quality compared to domestically produced PVA while subject imports from Japan are of comparable quality), specific grades of PVA, and customer requirements for the domestic like product. CR/PR at II-11.

[216] CR/PR at Table II-10.

[217] CR/PR at Table II-9. With regard to price, a majority of responding purchasers rated domestically produced PVA to be inferior to (*i.e.,* higher priced than) PVA from China and comparable to PVA from Japan. *Id.*

reliability of supply.[218] Fourteen of 15 responding purchasers reported that price was a very important factor in purchasing decisions, and 11 of 15 purchasers reported that they sometimes or usually purchase the lowest-priced product.[219]

The domestic industry and subject importers reported selling comparably large shares of their U.S. commercial shipments of PVA through long-term contracts and spot sales.[220] The continuous PVA manufacturing process remains a capital-intensive, high-fixed-cost business. As a result, producers must maintain relatively high production rates and achieve profit margins sufficient to cover the substantial cost of maintaining plants and equipment.[221]

The primary raw materials used in PVA production are ethylene, acetic acid, and methanol, or VAM and methanol, all of which are petrochemicals.[222] The ratio of domestic producers' raw material costs to the cost of goods sold ("COGS") declined during the POR, from *** percent in 2017 to *** percent in 2018 and *** percent in 2019.[223] Natural gas prices peaked at the beginning of 2018, declined through the end of 2019, and fluctuated throughout 2020.[224]

On August 23, 2018, subject imports from China became subject to an additional 25 percent ad valorem duty under Section 301 of the Trade Act of 1974.[225]

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[218] CR/PR at Table II-7.

[219] CR/PR at II-12, Table II-7.

[220] CR/PR at V-3, Table V-2.

[221] CR/PR at I-24, III-6, III-9 n.6, Table III-13; Second Review Determinations, USITC Pub. 4533 at 31; First Review Determinations, USITC Pub. 4067 at 24; *Polyvinyl Alcohol from Germany and Japan*, USITC Pub. 3604 at 16; *Polyvinyl Alcohol from China and Korea*, USITC Pub. 3634 at 10.

[222] CR/PR at V-1.

[223] CR/PR at Table III-8. It was *** percent in interim 2019 and *** percent in interim 2020. *Id.*

[224] CR/PR at V-1.

[225] *Notice of Action Pursuant to Section 301: China's Acts, Policies, and Practices Related to Technology Transfer, Intellectual Property, and Innovation*, 83 Fed. Reg. 40823 (Aug. 16, 2018). *See* CR/PR at I-20.

C. Likely Volume of Subject Imports

1. The Original Investigations and Prior Reviews

In its final determinations concerning subject imports from China and Korea, the Commission found that, even absent an overall increase, cumulated subject imports from China, Korea, and Japan maintained a significant share of the U.S. market, including during the period after demand declined. It found the volume of cumulated subject imports both absolutely and relative to production and consumption in the United States to be significant.[226]

In its determinations in the first reviews, the Commission observed that cumulated subject imports from China, Japan, and Korea declined significantly after the orders were imposed,[227] but it found that the subject industries would likely increase PVA exports to the United States if the orders were revoked. As support for this finding, the Commission pointed to the following: (1) even though the orders had a restraining effect, PVA producers in China

[226] *Polyvinyl Alcohol from China and Korea*, USITC Pub. 3634 at 11–12. In its final determinations concerning subject imports from Japan, the Commission found that the absolute volume of cumulated subject imports from Japan and Korea increased rapidly between 2000 and 2001 and between 2001 and 2002 as did their share of the U.S. market. Notwithstanding this rapid growth, it found that their U.S. market presence was small, and it did not deem their volume relative to production and consumption in the United States to be significant. The Commission, however, made an affirmative threat determination concerning imports from Japan, based on cumulated subject imports from Japan and Korea. *Polyvinyl Alcohol from Germany and Japan*, USITC Pub. 3604 at 20, 32–34.

[227] During the original investigations, the volume of cumulated subject imports from China, Japan, and Korea declined from *** pounds in 2000 to *** pounds in 2001 and then increased to *** pounds in 2002. Confidential First Review Determinations at 40; First Review Determinations, USITC Pub. 4067 at 25. After the orders were imposed in July 2003 (Japan) and October 2003 (China and Korea), the volume of cumulated subject imports initially declined and then increased somewhat. The volume of cumulated subject imports fell dramatically to *** pounds in 2003 and *** pounds in 2004 before rising somewhat to *** pounds in 2005 and *** pounds in 2006 and then declining to *** pounds in 2007; cumulated subject imports in the first nine months of 2007 (*** pounds) were higher than in the first nine months of 2008 (*** pounds). Confidential First Review Determinations at 40; First Review Determinations, USITC Pub. 4067 at 25.

and Japan maintained a presence in the U.S. market;[228] (2) the subject industries collectively had substantial and unused production capacity[229] and *** end-of-period inventories;[230] (3) subject imports and the domestic like product were likely to compete for sales if the orders were revoked given that the industries in the subject countries had the capacity to manufacture products accounting for a significant percentage of purchases in the U.S. commercial market for

[228] From a period high of *** percent in 2000, cumulated subject imports' share of total apparent U.S. consumption dropped to *** percent in 2003 and was never higher than *** percent during the first reviews. Confidential First Review Determinations at 41 n.180; First Review Determinations, USITC Pub. 4067 at 25 n.180. In terms of the U.S. commercial market, cumulated subject imports held a period high share of *** percent in 2003, and their share of the U.S. commercial market was never higher than *** percent during the first reviews. Confidential First Review Determinations at 41 n.180; First Review Determinations, USITC Pub. 4067 at 25 n.180. Imports from Korea largely disappeared from the U.S. market after the orders were imposed. By contrast, the Commission observed that Chinese producer SVW continued to export and ***. Confidential First Review Determinations at 43; First Review Determinations, USITC Pub. 4067 at 26–27. Likewise, imports of PVA from Japan continued either despite the antidumping duties or via products that were specifically excluded from the orders, so producers in Japan also had a ready U.S. distribution network through which to increase exports in the event of revocation of the order. Confidential First Review Determinations at 43; First Review Determinations, USITC Pub. 4067 at 27.

[229] The record indicated capacity in China of nearly *** pounds in 2006 and PVA production of *** pounds; of the 14 reported PVA producers in China, the only responding firm (SVW) reported capacity of *** pounds, and production in ***. Confidential First Review Determinations at 41–42; First Review Determinations, USITC Pub. 4067 at 26. Production of PVA in Japan increased from *** pounds in 2003 to *** pounds in 2006, whereas total production capacity was even higher (*** pounds in 2006). Confidential First Review Determinations at 42; First Review Determinations, USITC Pub. 4067 at 26. The only responding producer of PVA in Japan (JVP) reported *** its capacity from *** pounds in 2003 to *** pounds in 2007, although it also reported *** its capacity utilization from *** percent in 2003 to *** percent in 2007. Confidential First Review Determinations at 42; First Review Determinations, USITC Pub. 4067 at 26.

[230] The Commission noted that *** reported end-of-period inventories that individually exceeded *** pounds throughout the first reviews, a level that substantially exceeded inventory levels of U.S. producers. Confidential First Review Determinations at 43; First Review Determinations, USITC Pub. 4067 at 26.

PVA;[231] (4) consistent with their need to maintain high levels of capacity utilization, the subject industries were significant worldwide exporters of PVA;[232] (5) the U.S. PVA market was relatively large compared to other regional markets and its prices were at least comparable with other global markets;[233] and (6) questionnaire respondents representing a wide range of PVA end users had reported their intention to seek imports from the subject countries in the event the orders were revoked.[234]

In its determinations in the second reviews, the Commission found that the cumulated volume of subject imports from China and Japan was likely to be significant absolutely and relative to apparent U.S. consumption in the event of revocation.[235] It found that the subject industries in China and Japan had the ability to export substantial volumes because both were large and had substantial unused capacity, and manufactured many of the same PVA products made by the domestic industry.[236] The industries in China and Japan had also demonstrated an increased interest in the U.S. market since 2008 notwithstanding the restraining effects of the orders, with import levels increasing absolutely and relative to apparent U.S. consumption.[237] Furthermore, producers in China and Japan maintained contacts in the U.S. market and a ready distribution network through which to increase exports in the event of revocation.[238] The

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[231] The Commission explained that subject producers manufactured and sold a wide variety of PVA products during the first reviews, and the domestic industry manufactured PVA for *** end uses. Confidential First Review Determinations at 44; First Review Determinations, USITC Pub. 4067 at 27. In 2007, the domestic industry and producers in the subject countries reported producing PVA of a hydrolysis level ***. Confidential First Review Determinations at 45; First Review Determinations, USITC Pub. 4067 at 27. Acknowledging that the domestic industry's sales of PVB-grade PVA might have been largely sheltered from import competition in the original investigations, the Commission did not find that would likely be the case in the reasonably foreseeable future (***). Confidential First Review Determinations at 45, 46; First Review Determinations, USITC Pub. 4067 at 28.

[232] During the first reviews, SVW's exports as a share of its total shipments ranged from *** percent in interim 2008 to *** percent in 2004, and exports from China ranged from a low of *** pounds in 2003 to a high of *** pounds in 2006; JVP's exports as a share of its total shipments ranged from a low of *** percent in 2005 to *** percent in interim 2007, and exports from Japan ranged from a low of *** pounds in 2005 to a high of *** pounds in 2007. Confidential First Review Determinations at 45 n.201; First Review Determinations, USITC Pub. 4067 at 28 n.201.

[233] First Review Determinations, USITC Pub. 4067 at 28 (expressing reservations about using AUVs for exports, particularly where there might be differences in product mix, but finding that these data suggested that U.S. prices are at least comparable to those in other markets).

[234] First Review Determinations, USITC Pub. 4067 at 24–28.

[235] Second Review Determinations, USITC Pub. 4533 at 34.

[236] Second Review Determinations, USITC Pub. 4533 at 33–34.

[237] Second Review Determinations, USITC Pub. 4533 at 34–35.

[238] Second Review Determinations, USITC Pub. 4533 at 35.

Commission observed that questionnaire respondents reported their intention to seek imports from the subject countries in the event the orders were revoked.[239] It also found that subject producers in China and Japan already exported substantial volumes of PVA worldwide, that the U.S. PVA market was relatively large compared to other regional markets, and that U.S. PVA prices were at least comparable to those in other global markets.[240]

2. Current Reviews

As discussed above, despite the disciplining effect of the orders, cumulated subject imports maintained a continuous presence in the U.S. market during the POR. Cumulated subject import volume declined *** from *** pounds in 2017 to *** pounds in 2018 and *** pounds in 2019.[241] Cumulated subject imports were *** pounds in interim 2020, compared to *** pounds in interim 2019.[242] Cumulated subject imports as a share of apparent U.S. consumption increased from *** percent in 2017 to *** percent in 2018 before declining to *** percent in 2019.[243] Cumulated subject imports as a share of apparent U.S. consumption were *** percent in interim 2020, compared to *** percent in interim 2019.

Subject producers in China and Japan also maintain the ability to significantly increase their exports to the United States. Cumulated production capacity in the subject countries is substantial, and increased during the POR.[244] The information available on the record indicates that cumulated Chinese and Japanese PVA producers possessed capacity of *** pounds in 2019, including unused capacity of *** pounds that year.[245] Thus, subject foreign producers

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[239] Second Review Determinations, USITC Pub. 4533 at 35.

[240] Second Review Determinations, USITC Pub. 4533 at 35.

[241] CR/PR at Table I-9.

[242] CR/PR at Table I-9.

[243] CR/PR at Table I-9.

[244] CR/PR at Table IV-22. As discussed above, questionnaire responses were received from two firms in Japan, which accounted for an estimated *** percent of production of PVA in Japan in 2019, but no usable questionnaire responses were received from the 29 firms identified as possible producers/exporters of PVA in China. CR/PR at IV-19, IV-27. The information available in these reviews from the *Chemical Economics Handbook*, which publishes authoritative data concerning the PVA industry, indicates that the industry in China is approximately *** times as large as the industry in Japan. *See id.* at Table IV-25. When discussing the cumulated subject industries in China and Japan, we rely on data from the *Chemical Economics Handbook*, while recognizing that these data may contain out-of-scope PVA and thus be overstated.

[245] CR/PR at Table IV-22.

possessed unused capacity equivalent to nearly *** apparent U.S. consumption in 2019, which was *** pounds.[246] Moreover, one responding Japanese producer ***.[247]

We also find that subject producers in China and Japan would have the incentive to significantly increase their exports to the United States if the orders were revoked.[248] The subject industries in China and Japan were export oriented during the POR, ranking respectively as the world's largest and third-largest exporters of PVA in 2019.[249] In 2019, the United States was the second-largest market for PVA imports and the third-largest market overall.[250] In addition, the record in these reviews indicates that the United States has been the highest-priced market, or among the highest-priced markets, for PVA exported from the subject countries from 2017 to 2019.[251] Moreover, the continuous presence of subject imports during

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[246] CR/PR at Table I-9.

[247] Specifically, JVP reported ***. CR/PR at IV-29.

[248] We are unpersuaded by JVP's argument that if the order on PVA from Japan were revoked, imports from Japan would be "limited" in quantity and would be out-of-scope product. JVP Response to the Notice of Institution at 1. These arguments are premised on an individual analysis of subject imports from Japan, but as explained above, we have exercised our discretion to cumulate subject imports for our analysis. *See* section III.F. They are also based on the view that subject producers in Japan lack the capability or incentive to increase their exports of subject PVA to the U.S. market upon revocation. Yet, responding Japanese producers possessed substantial unused capacity at the end of the POR, with a capacity utilization rate of *** percent in interim 2020, and exported a substantial share of their total shipments throughout the POR, including *** percent in interim 2020. CR/PR at Table IV-16. We further note that the industry in Japan continues to produce subject PVA in considerable volumes and exported those volumes worldwide, including to the U.S. market while subject to the order covering those exports. *Id.*

[249] CR/PR at Tables IV-22, IV-27. According to the *Chemical Economics Handbook*, the cumulated Chinese and Japanese industries exported *** percent of their production of PVA in 2019. *Id.* at Table IV-22. Responding Japanese producers reported exporting *** percent of their total shipments in 2019. *Id.* at Table IV-16. Responding producers in Japan reported that they are not able to shift production between PVA and other products. *Id.* at IV-36. Yet, approximately *** of the production on the equipment used to produce subject PVA in Japan is also used to produce other products, such as out-of-scope PVA. *Id.* & Table IV-19. The record contains no comparable information regarding the industry in China because of the absence of responding PVA producers in China. *See id.* at IV-19.

[250] CR/PR at Table IV-25.

[251] CR/PR at Tables IV-12 (indicating that AUVs for exports of PVA from China to the U.S. market from 2017 to 2019 were higher than any other major export market for PVA from China and higher than the average for all export markets for PVA from China), IV-21 (indicating that AUVs for exports of PVA from Japan to the U.S. market from 2017 to 2019 were higher than most other major export markets for PVA from Japan and higher than the average for all export markets for PVA from Japan). This trend is more pronounced when examining data from responding Japanese producers. *Id.* at Table IV-16. Furthermore, U.S. producers ***, five importers, and Japanese producer *** responded that PVA prices were higher in the United States than in other markets. *Id.* at IV-50.

the POR, as well as the presence of out-of-scope PVA imported from Japan, reflects the subject producers' continued interest in serving the U.S. market.[252] It also reflects their continued access to U.S. distribution networks that could be used to expand their presence in the market.

The record also shows an existing barrier to exports of PVA from China to the European Union ("EU"); specifically, the imposition in 2020 by the EU of antidumping duties with margins ranging from 17.3 percent to 72.9 percent ad valorem.[253] Countries in the EU were among the largest destinations for PVA from China from 2017 to 2019.[254] This order by the EU would make the U.S. market a relatively more attractive destination for exports of PVA from China in the event of revocation of the order on subject imports from China.

On a cumulated basis, subject producers have the means and the incentive to export subject merchandise to the U.S. market in significant volumes within a reasonably foreseeable time if the orders were revoked. Given the cumulated subject producers' excess capacity and overall export orientation, and the size and relative attractiveness of the U.S. market, we find that the cumulated volume of subject imports, both in absolute terms and relative to U.S. consumption, would likely be significant if the orders were revoked.[255]

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[252] CR/PR at Tables I-9, IV-20.

[253] CR/PR at IV-41.

[254] CR/PR at Table IV-12.

[255] We have also considered other statutory factors in our analysis of likely subject import volume. Reported end-of-period inventories of subject merchandise maintained in Japan were *** pounds in 2017, *** pounds in 2018, and *** pounds in 2019; they were *** pounds in interim 2019 and *** pounds in interim 2020. CR/PR at Table IV-16. The record contains no comparable information regarding the industry in China because of the absence of responding PVA producers in China. U.S. inventories of subject merchandise were present in the United States in appreciable amounts during the POR. U.S. importers' inventories of cumulated subject imports were *** pounds in 2017, *** pounds in 2018, and *** pounds in 2019; they were *** pounds in interim 2019 and *** pounds in interim 2020. *Id.* at Table IV-8. We observe that domestic producer *** reported that *** percent of its 2019 sales were from inventory and domestic producer *** reported that *** percent of its 2019 sales were from inventory. *Id.* at II-11 n.17.

While Section 301 tariffs currently impose a 25 percent *ad valorem* duty on subject imports from China, no responding domestic producer, importer, or purchaser reported that these tariffs have had an effect on either the supply of or demand for subject imports or that they anticipated such effects in the reasonably foreseeable future. *See* CR/PR at II-9, Table D-1. We note that imports of PVA from China were subject to antidumping duties of up to 97.86 percent during the POR. *See id.* at Tables I-3, I-4.

D. Likely Price Effects

1. The Original Investigations and Prior Reviews

In its determinations in the original investigations and prior reviews, the Commission found that subject imports from China, Japan, and Korea were at least moderately substitutable for the domestic like product.[256] It found that price was an important factor in purchasing decisions, particularly given the prevalence of spot sales and short-term contracts and the use of "meet-or-release clauses."[257]

In its final determinations concerning subject imports from China and Korea, the Commission found widespread underselling of the domestic like product by cumulated subject imports at significant margins for the four pricing products for which there was an overlap in competition among PVA made in the United States, China, Japan, and Korea.[258] The domestic industry's prices for all four of these products declined.[259] The Commission acknowledged that declining apparent U.S. consumption put downward pressure on prices and that declining unit costs permitted some pricing flexibility,[260] but it found that significant underselling by subject imports depressed domestic like product prices significantly toward the end of the original investigations.[261]

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[256] Second Review Determinations, USITC Pub. 4533 at 36; First Review Determinations, USITC Pub. 4067 at 30; *Polyvinyl Alcohol from China and Korea*, USITC Pub. 3634 at 8–10, 13–14.

[257] Second Review Determinations, USITC Pub. 4533 at 36; First Review Determinations, USITC Pub. 4067 at 29, 30; Preliminary Determinations, USITC Pub. 3553 at 21. In the original investigations and first reviews, the Commission found that PVA prices in the U.S. market were based on end use and not grade or physical characteristics. First Review Determinations, USITC Pub. 4067 at 29, 30; *Polyvinyl Alcohol from China and Korea*, USITC Pub. 3634 at 13 (noting that during the original investigations, prices for PVA used in paper applications were highest, followed by construction, adhesives/emulsions, PVB, and textiles). *See also* First Review Determinations, USITC Pub. 4067 at 7–8.

[258] *Polyvinyl Alcohol from China and Korea*, USITC Pub. 3634 at 14–15.

[259] *Polyvinyl Alcohol from China and Korea*, USITC Pub. 3634 at 15.

[260] The Commission acknowledged that nonsubject imports from Germany and Taiwan may have had an effect, but it found that nonsubject imports undersold the domestic like product less frequently and at smaller margins than subject imports. Moreover, in 2002, when prices of the domestic like product were declining, cumulated subject imports increased absolutely and relative to commercial and total apparent U.S. consumption, but nonsubject imports declined. *Polyvinyl Alcohol from China and Korea*, USITC Pub. 3634 at 16.

[261] *Polyvinyl Alcohol from China and Korea*, USITC Pub. 3634 at 15–17.

In the prior reviews, cumulated subject imports continued to undersell the domestic like product occasionally despite the discipline of the orders.[262] Questionnaire respondents continued to report their expectation that revocation of the orders would lead to aggressive price competition in the U.S. market and that subject imports would be priced lower than the domestic like product as a consequence.[263] In light of this and the underselling observed in the original investigations, the Commission found it likely that subject imports would significantly undersell the domestic like product to enable subject producers to increase their share of the U.S. market if the orders were revoked.[264] Consequently, the Commission found that if the orders were revoked, the significant volume of low-priced cumulated subject imports would likely have significant adverse price effects, including a depressing or suppressing effect on domestic prices, as subject producers compete with the domestic industry for sales in the U.S. market.[265]

2. Current Reviews

As previously stated, we find that there is at least a moderate degree of substitutability between the domestic like product and subject imports and that price is an important factor in purchasing decisions for PVA.

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[262] In the first reviews, subject imports undersold the domestic like product in *** of *** possible comparisons (*** percent of comparisons) at margins of *** to *** percent. Confidential First Review Determinations at 50; First Review Determinations, USITC Pub. 4067 at 30. In the second reviews, cumulated subject imports from China and Japan undersold the domestic like product in 67 of 125 possible comparisons (53.6 percent of comparisons), ***, at margins of *** to *** percent. Confidential Second Review Determinations at 53 n.210; Second Review Determinations, USITC Pub. 4533 at 36 n.210.

[263] Second Review Determinations, USITC Pub. 4533 at 37. S*ee also* First Review Determinations, USITC Pub. 4067 at 31. During the first reviews, the Commission observed that the domestic industry succeeded in increasing prices of the domestic like product as its production costs increased. First Review Determinations, USITC Pub. 4067 at 30. During the second reviews, the Commission observed that the domestic industry's unit cost of goods sold ("COGS") was considerably lower than its unit net sales value. Second Reviews Determinations, USITC Pub. 4533 at 37.

[264] Second Review Determinations, USITC Pub. 4533 at 37; First Review Determinations, USITC Pub. 4067 at 30.

[265] Second Review Determinations, USITC Pub. 4533 at 37; First Review Determinations, USITC Pub. 4067 at 30–31.

The Commission requested pricing data for four pricing products in these reviews.[266] Two U.S. producers and two importers provided usable pricing data for sales of the requested products, although not all firms reported pricing data for all products for all quarters.[267] Pricing data reported by these firms accounted for approximately *** percent of U.S. producers' shipments of PVA and *** percent of U.S. shipments of subject imports from China in 2019.[268] No pricing data were reported for U.S. shipments of subject imports from Japan.[269] Price comparisons were available for *** quarters for each pricing product.[270] Subject imports from China undersold the domestic like product in 18 of 60 quarterly comparisons (30.0 percent of comparisons) involving 12.5 million pounds of subject imports and oversold the domestic like product in the remaining 42 comparisons involving 21.8 million pounds of subject imports.[271] Margins of underselling ranged from 1.0 to 22.5 percent and averaged 10.7 percent.[272]

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[266] The Commission requested pricing data on the following products:

Product 1.-- PVA for use in textile applications with a range of hydrolysis between 89–100 (percent) and a viscosity between 13–35 (centipois), sold in bags;

Product 2.-- PVA for use in paper applications with a range of hydrolysis between 87–100 (percent) and a viscosity between 13–55 (centipois), sold in bags;

Product 3.-- PVA for use in adhesive applications with a range of hydrolysis between 80–100 (percent) and a viscosity between 0–19 (centipois), sold in bags; and

Product 4.-- PVA for use in adhesive applications with a range of hydrolysis between 80–89 (percent) and a viscosity between 36–55 (centipois), sold in bags.

CR/PR at V-6.

[267] CR/PR at V-6.

[268] CR/PR at V-6.

[269] CR/PR at V-6 n.6.

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

[271] CR/PR at Table V-8.

[272] CR/PR at Table V-8.

Given the predominant underselling during prior reviews and the significant underselling in the original investigations,[273] as well as our findings that subject import volume would be significant upon revocation, we find that there would likely be significant underselling by cumulated subject imports if the orders were revoked, as Chinese and Japanese producers would likely revert to underselling the domestic like product to rapidly increase their penetration of the U.S. market. Because of the importance of price in purchasing decisions, this underselling would likely cause the domestic industry to either reduce its prices or forego price increases that would otherwise have occurred, or risk losing market share to subject imports. If the orders were revoked, the significant volume of low-priced cumulated subject imports would likely have significant adverse price effects including a depressing or suppressing effect on domestic prices as subject producers compete with the domestic industry for sales in the U.S. market or would likely undersell the domestic like product to a significant degree to gain market share.[274]

[273] In the original investigations, subject imports from China were priced lower than the domestic like product in 41 of 46 comparisons (89.1 percent of comparisons), with underselling margins ranging from *** percent; subject imports from Japan were priced lower than the domestic like product in three of six comparisons (50.0 percent of comparisons), with underselling margins ranging from *** percent. CR/PR at Table V-8 note. In the first reviews, subject imports from China were priced lower than the domestic like product in 40 of 90 comparisons (44.4 percent of comparisons), with underselling margins ranging from *** percent; and subject imports from Japan were priced lower than the domestic like product in both comparisons, with underselling margins of *** percent. *Id.* In the second reviews, subject imports from China were priced lower than the domestic like product in 67 of 116 comparisons (57.2 percent of comparisons), with underselling margins ranging from *** percent; and subject imports from Japan showed no instances of underselling out of nine quarterly comparisons. *Id.*; Second Review Determinations, USITC Pub. 4533 at Table V-11.

[274] We are unpersuaded by JVP's argument that if the order on PVA from Japan were revoked, imports from Japan would have no price effects because PVA from Japan is higher priced than the domestic like product. JVP Response to the Notice of Institution at 1. This argument is premised on an individual analysis of subject imports from Japan, but as explained above, we have exercised our discretion to cumulate subject imports for our analysis. *See* section III.F. Furthermore, in light of the absence of pricing data on PVA from Japan in these reviews, we point out that pricing data concerning PVA from Japan on the record from the original investigations and prior reviews show some underselling by subject imports from Japan.

E. Likely Impact

1. The Original Investigations and Prior Reviews

In the original investigations, the Commission concluded for purposes of its final determinations concerning imports from China and Korea, which it cumulated with imports from Japan, that subject imports had a significant adverse impact on the domestic industry. It based this conclusion on its findings of a significant volume of cumulated subject imports both absolutely and as a share of apparent U.S. consumption and production, evidence of significant underselling and price depression by subject imports, and corresponding declines in many of the domestic industry's performance indicators, especially in 2001 and 2002.[275]

In its determinations in the first reviews, the Commission found that the orders had restrained the volume of subject imports from China, Japan, and Korea, enabling the domestic industry to raise prices, reduce its inventories, increase or maintain its market share, and increase its production capacity, production, U.S. shipments, and productivity notwithstanding certain production disruptions.[276] The domestic industry's financial performance, while still weak, had improved from losses at the end of the original investigations to limited profitability by the close of the first reviews.[277] If the orders were revoked, the Commission found that low-priced cumulated subject imports would likely increase absolutely and take market share from the domestic industry, significantly undersell the domestic like product, and depress and

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[275] *Polyvinyl Alcohol from Germany and Japan*, USITC Pub. 3604 at 17–20. For purposes of its final determinations concerning imports from Japan, which it cumulated with subject imports from Korea, the Commission did not find that cumulated subject imports had a significant adverse impact on the domestic industry, and it consequently made a negative present material injury determination regarding imports from Japan. *Polyvinyl Alcohol from Germany and Japan*, USITC Pub. 3604 at 23–27. The Commission, however, reached an affirmative threat determination concerning subject imports from Japan on the basis of cumulated subject imports from Japan and Korea. *Id.* at 32–34.

[276] First Review Determinations, USITC Pub. 4067 at 32–34. During the first reviews, Solutia asserted that it needed alternate supply sources ***; Solutia reported that it and other major purchasers had difficulty obtaining adequate supply of PVA from the domestic industry. Domestic producers Celanese and DuPont countered that they had produced all the PVA they could during the periods in which they experienced unusual prolonged shutdowns and/or production curtailments. Confidential First Review Determinations at 38 & n.174; First Review Determinations, USITC Pub. 4067 at 24 & n.174 (noting that Celanese ***, and experienced a *force majeure* from *** and that DuPont experienced a *force majeure* when Hurricane Ike forced it to idle its La Porte, Texas facility for three weeks in 2008).

[277] First Review Determinations, USITC Pub. 4067 at 32–34.

suppress prices of domestically produced PVA.[278] Given then-prevailing demand conditions and the likelihood that subject imports would compete with the domestic industry for an even broader range of applications than in the original investigations, the Commission concluded that revoking the orders would materially impact the domestic industry, adversely affecting its output, sales, market share, employment, profitability, and return on investment.[279]

In its determinations in the second reviews, the Commission found that the domestic industry's performance factors were mixed, with substantial end-of-period inventories, declining employment levels and market share, and mediocre financial performance.[280] It found that the domestic industry's total COGS rose during the POR mostly due to overall increased raw material costs.[281] By contrast, the Commission observed that the domestic industry's performance was stable or improved overall in terms of production capacity, production, capacity utilization, and U.S. shipments.[282] In addition, Kuraray America began construction on a new production facility in Texas and ***.[283] With demand for PVA in the U.S. market expected to be stable or increase in the reasonably foreseeable future and some new end uses for PVA being developed, the Commission concluded that the domestic industry was not vulnerable.[284] Nevertheless, the Commission found that the likely significant volume of cumulated subject imports from China and Japan would likely significantly undersell the domestic like product, take market share from the domestic industry, and cause significant adverse price effects, including price depression or suppression.[285] The Commission therefore concluded that revocation of the orders on subject imports from China and Japan would likely have a significant impact on the domestic industry, adversely affecting its output, sales, market share, employment, profitability, and return on investment.[286]

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[278] First Review Determinations, USITC Pub. 4067 at 34.

[279] First Review Determinations, USITC Pub. 4067 at 34.

[280] Second Review Determinations, USITC Pub. 4533 at 38–39.

[281] Second Review Determinations, USITC Pub. 4533 at 39.

[282] Second Review Determinations, USITC Pub. 4533 at 39–40.

[283] Confidential Second Review Determinations at 58; Second Review Determinations, USITC Pub. 4533 at 40.

[284] Second Review Determinations, USITC Pub. 4533 at 40.

[285] Second Review Determinations, USITC Pub. 4533 at 40.

[286] Second Review Determinations, USITC Pub. 4533 at 40. The Commission considered factors other than subject imports in its injury analysis, observing that the domestic industry had experienced some declines and some improvements despite a relatively steady presence of nonsubject imports in the U.S. market. *Id.* It found that any likely effects of nonsubject imports were distinguishable from those attributed to the subject imports. *Id.*

2. Current Reviews

Measures of the domestic industry's performance were mixed over the POR, with certain production indicators rising while most financial indicators declined. The industry's capacity was stable from 2017 to 2018, then increased from 2018 to 2019 and remained stable between the interim periods.[287] Production and capacity utilization increased from 2017 to 2018, then decreased in 2019; both measures were lower in interim 2020 than in interim 2019.[288] The domestic industry's U.S. shipments and share of apparent U.S. consumption declined overall from 2017 to 2019 and were lower in interim 2020 than in interim 2019.[289]

Employment indicators were mixed during the POR. The number of production and related workers ("PRWs"), number of hours worked, and wages paid increased from 2017 to 2019, but were lower in interim 2020 compared to interim 2019.[290] Productivity declined over that same period.[291]

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[287] The domestic industry's capacity was *** pounds in 2017 and 2018 and *** pounds in 2019, an increase of *** percent from 2017 to 2019. CR/PR at C-3, Table III-2. It was *** pounds in interim 2019 and *** pounds in interim 2020. *Id.* at Table III-2.

[288] The domestic industry's production was *** pounds in 2017, *** pounds in 2018, and *** pounds in 2019, an increase of *** percent from 2017 to 2019. CR/PR at C-3, Table III-2. It was *** pounds in interim 2019 and *** pounds in interim 2020. *Id.* at Table III-2. Capacity utilization was *** percent in 2017, *** percent in 2018, and *** percent in 2019, an increase of *** percentage points from 2017 to 2019. *Id.* at C-3, Table III-2. It was *** percent in interim 2019 and *** percent in interim 2020. *Id.* at Table III-2.

[289] The domestic industry's U.S. shipments were *** pounds in 2017, *** pounds in 2018, and *** pounds in 2019, a decline of *** percent from 2017 to 2019. CR/PR at C-3, Table III-4. They were *** pounds in interim 2019 and *** pounds in interim 2020. *Id.* at Table III-4. The domestic industry's share of apparent U.S. consumption was *** percent in 2017, *** percent in 2018, and *** percent in 2019, a decrease of *** percentage points from 2017 to 2019. CR/PR at C-3, Table I-9. It was *** percent in interim 2019 and *** percent in interim 2020. *Id.* at Table I-9.

[290] CR/PR at Table III-7. The average number of PRWs was *** in 2017, *** in 2018, and *** in 2019, an increase of *** percent from 2017 to 2019. *Id.* at C-3, Table III-7. They were *** in interim 2019 and *** in interim 2020. *Id.* at Table III-7. The number of hours worked was *** in 2017, *** in 2018, and *** in 2019, an increase of *** percent from 2017 to 2019. *Id.* at C-3, Table III-7. They were *** in interim 2019 and *** in interim 2020. *Id.* at Table III-7. Wages paid were $*** in 2017, $*** in 2018, and $*** in 2019, an increase of *** percent from 2017 to 2019. *Id.* at C-3, Table III-7. They were $*** in interim 2019 and $*** in interim 2020. *Id.* at Table III-7.

[291] CR/PR at Table III-7. Productivity in pounds per hour was *** in 2017, *** in 2018, and *** in 2019, a decline of *** percent from 2017 to 2019. *Id.* at C-3, Table III-7. It was *** in interim 2019 and *** in interim 2020. *Id.* at Table III-7.

The domestic industry's total net sales irregularly declined during the POR.[292] The domestic industry's gross profit, operating income, net income, and ratio of operating income to sales steadily declined from 2017 to 2019, with worsening operating and net losses.[293] Although the industry's operating and net losses narrowed in interim 2020 compared to interim 2019, they remained ***.[294]

In sum, the domestic industry's employment indicators generally improved, while its production and market share indicators were mixed during the period. The industry's financial indicators, however, trended downward and were all negative by the end of the period. Based on the foregoing, we find the domestic industry to be in a vulnerable condition.

As discussed above, if the orders were revoked, the volume of cumulated subject imports would likely increase to a significant level, as subject producers revert to significant underselling to rapidly increase their penetration of the U.S. market. Given that there is at least a moderate degree of substitutability between subject imports and the domestic like product and the importance of price to purchasers, the domestic industry would need to respond by either forgoing sales and ceding market share to subject imports, lowering their prices, or forgoing price increases that would otherwise have occurred. Under these circumstances, the likely significant volume and price effects of the subject imports would likely have a significant impact on the production, shipments, sales, market share, and revenue of the domestic

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[292] CR/PR at Table III-8. Total net sales were $*** in 2017, $*** in 2018, and $*** in 2019, a decline of 17.7 percent from 2017 to 2019. *Id.* at C-4, Table III-8. They were $*** in interim 2019 and $*** in interim 2020. *Id.* at Table III-8. Total COGS was $*** in 2017, $*** in 2018, and $*** in 2019, an increase of 16.8 percent from 2017 to 2019. *Id.* at C-4, Table III-8. It was $*** in interim 2019 and $*** in interim 2020. *Id.* at Table III-8. The average ratio of COGS to net sales value for the domestic industry was *** percent in 2017, *** percent in 2018, and *** percent in 2019, an increase of 10.8 percentage points from 2017 to 2019. CR/PR at C-4, Table III-8. It was *** percent in interim 2019 and *** percent in interim 2020. *Id.* at Table III-8.

[293] CR/PR at Table III-8. The domestic industry's gross profits were $*** in 2017 and $*** in 2018, *** in 2019. *Id.* They were ***. *Id.* It had ***. *Id.* ***. *Id.* The domestic industry had a net ***. *Id.* Its ratio of operating income to sales was *** percent in 2017, *** percent in 2018, and *** percent in 2019. *Id.* It was *** percent in interim 2019 and *** percent in interim 2020. *Id.* Capital expenditures decreased steadily, and research and development expenses increased irregularly from 2017 to 2019. CR/PR at Table III-13. Total capital expenditures were $*** in 2017, $*** in 2018, and $*** in 2019, a decrease of *** percent from 2017 to 2019. *Id.* at C-4, Table III-13. They were $*** in interim 2019 and interim 2020. *Id.* at Table III-13. Research and development expenses were $*** in 2017, $*** in 2018, and $*** in 2019, an increase of *** percent from 2017 to 2019. *Id.* at C-4, Table III-13. They were $*** in interim 2019 and $*** in interim 2020. *Id.* at Table III-13.

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

industry. These declines would likely impact the domestic industry's profitability and employment, its ability to raise capital, and to make and maintain capital investments.

We have also considered the role of factors other than subject imports, specifically the presence of nonsubject imports, so as not to attribute injury from other factors to the subject imports. In these reviews, the domestic industry has experienced some declines and some improvements despite a relatively steady presence of nonsubject imports in the U.S. market, similar to the presence of nonsubject imports in the U.S. market during the second reviews.[295] Consequently, any likely effects of nonsubject imports are distinguishable from those that we have attributed to the subject imports. We find the continued presence of nonsubject imports in the U.S. market would not preclude likely subject imports from taking market share from the domestic industry, the largest supplier of PVA to the U.S. market, or forcing the domestic industry to lower its prices to compete if the orders were revoked.

Accordingly, we conclude that, if the orders were to be revoked, subject imports would likely have a significant impact on domestic producers of PVA within a reasonably foreseeable time.

V. Conclusion

For the foregoing reasons, we determine that revocation of the antidumping duty orders on PVA from China and Japan would be likely to lead to continuation or recurrence of material injury to an industry in the United States within a reasonably foreseeable time.

[295] In these reviews, nonsubject imports' market share was *** percent in 2017, *** percent in 2018, and *** percent in 2019, an increase of *** percentage points from 2017 to 2019. CR/PR at C-3, Table I-9. It was *** percent in interim 2019 and *** percent in interim 2020. *Id.* at Table I-9. During the second reviews, nonsubject imports' market share was *** percent in 2008, *** percent in 2009, *** percent in 2010, *** percent in 2011, *** percent in 2012, and *** percent in 2013. Confidential Second Review Determinations at 59 n.232; Second Review Determinations, USITC Pub. 4533 at 40–41 n.232.

Part I: Introduction

Background

On April 1, 2020, the U.S. International Trade Commission ("Commission" or "USITC") gave notice, pursuant to section 751(c) of the Tariff Act of 1930, as amended ("the Act"),[1] that it had instituted reviews to determine whether revocation of the antidumping duty orders on polyvinyl alcohol ("PVA") from China and Japan would be likely to lead to the continuation or recurrence of material injury to a domestic industry.[2] [3] On July 6, 2020, the Commission determined that it would conduct full reviews pursuant to section 751(c)(5) of the Act.[4] The following tabulation presents information relating to the background and schedule of this proceeding:[5]

[1] 19 U.S.C. 1675(c).

[2] 85 FR 18271, April 1, 2020. All interested parties were requested to respond to this notice by submitting the information requested by the Commission.

[3] In accordance with section 751(c) of the Act, the U.S. Department of Commerce ("Commerce") published a notice of initiation of five-year reviews of the subject antidumping duty orders. 85 FR 18189, April 1, 2020.

[4] 85 FR 42005, July 13, 2020. The Commission found that the domestic interested party group response to its notice of institution was adequate and that the respondent interested party group response with respect to Japan was adequate and decided to conduct a full review with respect to the antidumping duty order concerning PVA from Japan. The Commission found that the respondent interested party group response with respect to China was inadequate. However, the Commission determined to conduct a full review concerning the antidumping duty order on PVA from China to promote administrative efficiency in light of its decision to conduct a full review with respect to the order concerning PVA from Japan.

[5] The Commission's notice of institution, notice to conduct full reviews, scheduling notice, and statement on adequacy are referenced in appendix A and may also be found at the Commission's web site (internet address *www.usitc.gov*). Commissioners' votes on whether to conduct expedited or full reviews may also be found at the web site. Appendix B presents the domestic interested parties' request to cancel the hearing.

Effective date	Action
July 2, 2003	Commerce's antidumping duty order on PVA from Japan (68 FR 39518, July 2, 2003)
October 1, 2003	Commerce's antidumping duty orders on PVA from China and Korea (68 FR 56620 and 56621, October 1, 2003)
April 13, 2009	Commerce's continuation of the antidumping duty orders on PVA from China, Japan, and Korea (74 FR 16834, April 13, 2009)
April 13, 2014	Commerce's revocation of the antidumping duty order on PVA from Korea (80 FR 30208, May 27, 2015)
May 27, 2015	Commerce's continuation of the antidumping duty orders on PVA from China and Japan (80 FR 30208, May 27, 2015)
April 1, 2020	Commerce's initiation of five-year reviews (85 FR 18189, April 1, 2020)
April 1, 2020	Commission's institution of five-year reviews (85 FR 18271, April 1, 2020)
July 6, 2020	Commission's determinations to conduct full five-year reviews (85 FR 42005, July 13, 2020)
July 15, 2020	Commerce's final results of expedited five-year reviews of the antidumping duty orders (85 FR 42828, July 15, 2020)
September 17, 2020	Commission's scheduling of the reviews (85 FR 59545, September 22, 2020)
February 2, 2021	Commission's hearing—Cancelled (86 FR 8034, February 3, 2021)
March 12, 2021	Commission's vote
March 29, 2021	Commission's determinations and views

The original investigations

The original investigations resulted from petitions filed by domestic PVA producers Celanese Chemicals, Ltd. ("Celanese") (Dallas, Texas)[6] and E.I. DuPont de Nemours & Co. ("DuPont") (Wilmington, Delaware)[7] on September 5, 2002, alleging that an industry in the United States was materially injured and threatened with material injury by reason of less-than-fair-value ("LTFV") imports of PVA from China, Germany, Japan, Korea, and Singapore.[8] In the preliminary phase of the original investigations, the Commission made affirmative determinations with respect to imports of PVA from China, Germany, Japan, and Korea, but found imports of PVA from Singapore to be negligible (thereby terminating the investigation on PVA from the latter country).[9]

Following notification of staggered final determinations by Commerce that imports of PVA from China, Germany, Japan, and Korea were being sold at LTFV, the Commission determined that a domestic industry was threatened with material injury by reason of LTFV imports of PVA from Japan in June 2003 and was materially injured by reason of LTFV imports of PVA from China and Korea in September 2003.[10] Commerce published the antidumping duty order on subject imports of PVA from Japan on July 2, 2003.[11] Commerce published the antidumping duty orders on subject imports of PVA from China and Korea on October 1, 2003.[12]

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[6] On July 1, 2009, Sekisui America acquired the assets of Celanese's PVA business, creating Sekisui Specialty Chemicals America, LLC. *Polyvinyl Alcohol from Taiwan, Inv. No. 731-TA-1088 (Final)*, USITC Publication 4218, March 2011, p. I-1.

[7] On June 5, 2014, Kuraray America acquired DuPont's PVA operations.

[8] The only other U.S. producer at that time, Solutia, Inc. ("Solutia"), opposed the petitions.

[9] 67 FR 65597, October 25, 2002; and *Polyvinyl Alcohol from China and Korea, Inv. Nos. 731-TA-1014 and 1017 (Final)*, USITC Publication 3634, September 2003 ("Original China and Korea publication"), p. I-1, fn. 2.

[10] In June 2003, the Commission also made a negative final determination with respect to imports from Germany. Original China and Korea publication, p. 1; and *Polyvinyl Alcohol from Germany and Japan, Inv. Nos. 731-TA-1015-1016 (Final)*, USITC Publication 3604, June 2003 ("Original Germany and Japan publication"), p. 1.

[11] 68 FR 39518, July 2, 2003.

[12] 68 FR 56620, October 1, 2003 (China); 68 FR 56621, October 1, 2003 (Korea); and 68 FR 58169, October 8, 2003 (China correction).

Litigation

Chinese producer Sinopec Sichuan Vinylon Works ("SVW") filed a summons with the U.S. Court of International Trade ("CIT") to appeal the Commission's final affirmative injury determination regarding imports from China but did not perfect the appeal by filing a complaint, so the CIT summarily dismissed the appeal. No other party appealed the Commission's final original injury determinations.[13]

Chinese producer SVW also appealed Commerce's final determination in the original investigation of imports from China to the CIT and, as a result of that appeal, SVW's antidumping margin was recalculated from an amended final determination rate of 6.91 percent ad valorem to 5.51 percent ad valorem.[14] SVW then appealed the CIT's judgment to the U.S. Court of Appeals for the Federal Circuit ("Federal Circuit"), but the parties ultimately agreed to dismiss the appeal.[15] As discussed below, Commerce subsequently conducted administrative reviews of SVW's imports for the 2003/2004 and 2004/2005 periods, and calculated de minimis and zero antidumping duty margins, respectively.

First five-year reviews

In March 2009, the Commission completed full first five-year reviews of the subject orders and determined that revocation of the antidumping duty orders on PVA from China, Japan, and Korea would be likely to lead to continuation or recurrence of material injury to an industry in the United States within a reasonably foreseeable time.[16] Following affirmative determinations in the first five-year reviews by Commerce and the Commission,[17] Commerce issued a continuation of the antidumping duty orders on imports of PVA from China, Japan, and Korea, effective April 13, 2009.[18] The Commission's five-year review determinations were not litigated.[19]

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[13] *Polyvinyl Alcohol from China, Japan, and Korea, Inv. Nos. 731-TA-1014, 1016, and 1017 (Review)*, USITC Publication 4067, March 2009 ("First review publication"), p. I-2.

[14] 72 FR 36960, July 6, 2007; *Sinopec Sichuan Vinylon Works v. United States*, 29 ITRD 1985, Slip Op. 07-88 (Ct. Int'l Trade May 30, 2007); *Sinopec Sichuan Vinylon Works v. United States*, 29 ITRD 1257, Slip Op. 06-191 (Ct. Int'l Trade December 28, 2006).

[15] First review publication, pp. I-2-I-3.

[16] Vice Chairman Pearson dissented with respect to Korea. First review publication, p. 1.

[17] 73 FR 57596, October 3, 2008; and 74 FR 14999, April 2, 2009.

[18] 74 FR 16834, April 13, 2009.

[19] Solutia filed a summons but withdrew its appeal on May 29, 2009. CIT Ct. No. 09-184.

Second five-year reviews

In May 2015, the Commission completed full second five-year reviews of the subject orders and determined that revocation of the antidumping duty orders on PVA from China and Japan would be likely to lead to continuation or recurrence of material injury to an industry in the United States within a reasonably foreseeable time and that revocation of the antidumping duty order on PVA from Korea would not be likely to lead to continuation or recurrence of material injury to an industry in the United States within a reasonably foreseeable time.[20] Following affirmative determinations in the five-year reviews by Commerce[21] and the Commission, effective May 27, 2015, Commerce issued a continuation of the antidumping duty orders on imports of PVA from China and Japan.[22] Effective April 13, 2014, Commerce revoked the antidumping duty order on imports of PVA from Korea.[23] The Commission's five-year review determinations were not litigated.

[20] 80 FR 28300, May 18, 2015; and *Polyvinyl Alcohol from China, Japan, and Korea, Inv. Nos. 731-TA-1014, 1015 and 1017 (Second Review)*, USITC Publication 4533, May 2015 ("Second Review Publication), p. 1.

[21] 79 FR 38278, July 7, 2014.

[22] 80 FR 30208, May 27, 2015.

[23] Ibid.

Previous and related investigations

The Commission has conducted several previous import relief investigations on PVA. Table I-1 presents data on previous and related title VII investigations.

Table I-1
PVA: Previous and related Commission proceedings

Original Investigation				
Date	**Number(s)**	**Country**	**Outcome**	**Current status**
1995	731-TA-726	China	Affirmative	Order revoked due to a lack of domestic interested party participation in the first reviews of those orders, effective May 14, 2001.
	731-TA-727	Japan	Affirmative	Order revoked due to a lack of domestic interested party participation in the first reviews of those orders effective May 14, 2001.
	731-TA-728	Korea	Negligible/Terminated	—
	731-TA-729	Taiwan	Affirmative	Order revoked due to a lack of domestic interested party participation in the first reviews of those orders, effective May 14, 2001.
2002	731-TA-1014	China	Affirmative	Ongoing third review.
	731-TA-1015	Germany	Negative	—
	731-TA-1016	Japan	Affirmative	Ongoing third review.
	731-TA-1017	Korea	Affirmative	Order revoked after second review, effective April 13, 2014.
	731-TA-1018	Singapore	Negligible/Terminated	—
2004	731-TA-1088	Taiwan	Affirmative	Order revoked after Commerce remand redetermination, January 28, 2014.

Note: “Date” refers to the year in which the investigation was instituted by the Commission.

Source: U.S. International Trade Commission publications and Federal Register notices.

Litigation in related investigations

The Commission has conducted two other PVA investigations, but no U.S. orders currently are in effect regarding PVA from other sources. In April 2001, Commerce revoked prior antidumping duty orders regarding PVA from China, Japan, and Taiwan due to a lack of domestic interested party participation in the first reviews of those orders.[24]

Commerce and the Commission also conducted investigations of PVA imports from Taiwan in response to a September 7, 2004 antidumping duty petition filed by domestic producer Celanese. The Commission initially made a negative preliminary determination,[25] but after the case was remanded by the CIT,[26] the Commission issued an affirmative preliminary determination on remand.[27] Commerce and the Commission resumed their investigations of PVA from Taiwan after the Federal Circuit affirmed the Commission's affirmative preliminary determination on remand.[28] Commerce made an affirmative antidumping duty determination

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[24] Commerce had originally issued those orders in May 1996, 61 FR 24286, May 14, 1996; see also *Polyvinyl Alcohol from China, Japan, and Taiwan, Inv. Nos. 731-TA-726, 727, and 729 (Final)*, USITC Publication 2960, May 1996. A companion investigation of PVA from Korea had been terminated after the Commission found imports from Korea to be negligible. *Polyvinyl Alcohol from China, Japan, Korea, and Taiwan, Inv. Nos. 731-TA-726-729 (Preliminary)*, USITC Publication 2883, April 1995.

[25] The Commission determined on October 21, 2004, that there was no reasonable indication that an industry in the United States was materially injured or threatened with material injury by reason of subject imports from Taiwan. *Polyvinyl Alcohol from Taiwan, Inv. No. 731-TA-1088 (Preliminary)*, USITC Publication 3732, October 2004 (reflecting the views of Commissioners Okun, Lane, and Pearson) (Commissioners Koplan and Miller dissenting and Commissioner Hillman not participating).

[26] On November 24, 2004, Celanese appealed the negative preliminary determination to the CIT. On January 29, 2007, the Court issued a decision affirming the Commission's determination in part and remanding it in part. *Celanese Chems. Ltd. v. United States, 31 CIT 279 (2007)*.

[27] In a remand determination issued on April 30, 2007, Commissioners Aranoff, Williamson, and Pinkert who had not participated in the original investigations reviewed the record *de novo* and formed a new Commission majority that found a reasonable indication that an industry in the United States was materially injured by reason of subject imports from Taiwan. Commissioners Okun, Lane, and Pearson, who had participated in the original investigations, issued dissenting remand views in which they again reached a negative preliminary determination. *Polyvinyl Alcohol from Taiwan, Inv. No. 731-TA-1088 (Preliminary) (Remand)*, USITC Publication 3920, April 2007.

[28] On November 19, 2008, the CIT affirmed the affirmative preliminary injury determination on remand. *Celanese Chems. Ltd. v. United States, 32 CIT 1250 (2008)*. On January 16, 2009, domestic producer DuPont and Taiwan producer Chang Chun appealed the CIT's judgment to the Federal Circuit. On December 23, 2009, the Federal Circuit affirmed, without opinion, the CIT's November 19, 2008 decision. *Celanese Chems. Ltd. v. United States, 358 Fed. Appx. 174 (Fed. Cir. 2009)*. Once the judicial proceedings had ended, on March 30, 2010, the Commission published notice of its preliminary determination on remand. 75 FR 15726, March 30, 2010.

regarding imports of PVA from Taiwan,[29] and the Commission determined that the domestic industry was materially injured by reason of PVA imports from Taiwan.[30] Commerce imposed an antidumping duty order on PVA from Taiwan.[31] Following a challenge by respondent Chang Chun Petrochemical Co. Ltd. ("CCPC"), however, the CIT remanded Commerce's final determination for further consideration on April 10, 2013.[32] On remand, Commerce amended its final determination, finding a revised weighted-average dumping margin for the only mandatory respondent CCPC of 0.00 percent for the period July 1, 2003 through June 30, 2004. On December 18, 2013, the CIT sustained Commerce's remand redetermination.[33] Pursuant to the CIT's decision affirming its remand redetermination, Commerce revoked the antidumping duty order on PVA from Taiwan.[34]

Summary data

Table I-2 presents a summary of data from the original investigations, as well as from the first, second, and current full five-year reviews, and Figure I-1 presents U.S. producers' U.S. shipments and U.S. imports during 2000-19.[35] As shown, imports of PVA from Japan declined as a share of the U.S. market from *** percent in 2002 to below *** percent in 2007 and 2013, but recovered to *** percent in these current reviews. The share of imports from China has varied over time, declining from *** percent in 2002 to *** percent in 2007, recovering to *** percent in 2013,[36] and then declining to *** percent in 2019.

[29] 76 FR 5562, February 1, 2011.

[30] See *Polyvinyl Alcohol from Taiwan, Investigation No. 731-TA-1088 (Final)*, USITC Publication 4218, March 2011, p. 1.

[31] 76 FR 13982, March 15, 2011.

[32] *Chang Chun Petrochemical Co. Ltd. v. United States*, 906 F. Supp. 2d 1369 (Ct. Int'l Trade 2013).

[33] *Chang Chun Petrochemical Co. Ltd. v. United States*, 906 F. Supp. 2d 1369 (Ct. Int'l Trade 2013).

[34] 79 FR 4442, January 28, 2014.

[35] A more detailed presentation of the data from the original investigations and subsequent reviews appears in Appendix C.

[36] The increased U.S. imports from China after 2007 might be related to Commerce's final results of administrative reviews published in 2006 concerning imports from China, in which it calculated 0.03 percent (*de minimis*) and then 0.00 percent dumping margins for Chinese producers SVW. 71 FR 27991, May 15, 2006 (as amended 71 FR 35616, June 21, 2006) and 71 FR 62086, October 23, 2006.

Table I-2
PVA: Comparative data from the original investigations and subsequent reviews, 2002, 2007, 2013, and 2019

Item	Original investigations	First reviews	Second reviews	Third reviews
	2002	2007	2013	2019
	Quantity (1,000 pounds)			
U.S. consumption quantity	***	***	***	***
	Share of quantity (percent)			
Share of U.S. consumption: U.S. producers' share	***	***	***	***
U.S. importers' share: China	***	***	***	***
Japan	***	***	***	***
Subject sources	***	***	***	***
Korea	***	***	***	***
All other sources	***	***	***	***
Nonsubject sources	***	***	***	***
All import sources	***	***	***	***
	Value (1,000 dollars)			
U.S. consumption	***	***	***	***
	Share of value (percent)			
Share of U.S. consumption: U.S. producers' share	***	***	***	***
U.S. importers' share: China	***	***	***	***
Japan	***	***	***	***
Subject sources	***	***	***	***
Korea	***	***	***	***
All other sources	***	***	***	***
Nonsubject sources	***	***	***	***
All import sources	***	***	***	***

Table continued on next page.

Table I-2--Continued
PVA: Comparative data from the original investigations and subsequent reviews, 2002, 2007, 2013, and 2019

Item	Original investigations	First reviews	Second reviews	Third reviews
	2002	2007	2013	2019
	Quantity (1,000 pounds); Value (1,000 dollars); and Unit Value (dollars per pound)			
U.S. imports.--				
China				
Quantity	***	4,539	12,399	***
Value	***	3,813	12,496	***
Unit value	***	$0.84	$1.01	***
Japan				
Quantity	***	***	***	***
Value	***	***	***	***
Unit value	***	***	***	***
Subject sources:				
Quantity	***	***	***	***
Value	***	***	***	***
Unit value	***	***	***	***
Korea:				
Quantity	***	---	---	---
Value	***	---	---	---
Unit value	***	---	---	---
All other sources:				
Quantity	***	***	***	***
Value	***	***	***	***
Unit value	***	***	***	***
All import sources:				
Quantity	***	***	***	60,751
Value	***	***	***	95,697
Unit value	***	***	***	$1.58

Table continued on next page.

Table I-2--Continued
PVA: Comparative data from the original investigations and subsequent reviews, 2002, 2007, 2013, and 2019

Item	Original investigations	First reviews	Second reviews	Third reviews
	2002	2007	2013	2019
	Quantity (1,000 pounds); Value (1,000 dollars); and Unit Value (dollars per pound)			
U.S. industry:				
Capacity (quantity)	***	***	***	***
Production (quantity)	***	***	***	***
Capacity utilization (percent)	***	***	***	***
U.S. shipments:				
Quantity	***	***	***	***
Value	***	***	***	***
Unit value	***	***	***	***
Ending inventory	***	***	***	***
Inventories/total shipments	***	***	***	***
Production workers	***	***	***	***
Hours worked (1,000)	***	***	***	***
Wages paid (1,000 dollars)	***	***	***	***
Hourly wages	***	***	***	***
Productivity (pounds per hour)	***	***	***	***
Financial data:				
Net sales:				
Quantity	***	***	***	***
Value	***	***	***	***
Unit value	***	***	***	***
Cost of goods sold	***	***	***	***
Gross profit or (loss)	***	***	***	***
SG&A expense	***	***	***	***
Operating income or (loss)	***	***	***	***
Net income or loss	***	***	***	***
COGS/sales (percent)	***	***	***	***
Gross profit or (loss)/sales (percent)	***	***	***	***
Operating income or (loss)/sales (percent)	***	***	***	***
Net income or (loss)/sales (percent)	***	***	***	***

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

Note: During the preliminary phase of the original investigations, the Commission determined that PVA imports from Singapore were negligible and terminated its investigation with respect to those imports. In the final phase of the investigations, the Commission made a negative determination with respect to PVA from Germany. Both Singapore and Germany are included in “all other sources.”

Source: Office of Investigations memorandum INV-AA-056 (May 27, 2003), memorandum INV-GG-015 (February 26, 2009), memorandum INV-NN-019 (April 14, 2015), official U.S. import statistics, and data submitted in response to Commission questionnaires.

Figure I-1
PVA: U.S. producers' U.S. shipments and U.S. imports, 2000-19

* * * * * * *

Source: Office of Investigations memorandum INV-AA-056 (May 27, 2003), memorandum INV-GG-015 (February 26, 2009), memorandum INV-NN-019 (April 14, 2015), official U.S. import statistics, and data submitted in response to Commission questionnaires.

Statutory criteria

Section 751(c) of the Act requires Commerce and the Commission to conduct a review no later than five years after the issuance of an antidumping or countervailing duty order or the suspension of an investigation to determine whether revocation of the order or termination of the suspended investigation "would be likely to lead to continuation or recurrence of dumping or a countervailable subsidy (as the case may be) and of material injury."

Section 752(a) of the Act provides that in making its determination of likelihood of continuation or recurrence of material injury--

> *(1) IN GENERAL.-- . . . the Commission shall determine whether revocation of an order, or termination of a suspended investigation, would be likely to lead to continuation or recurrence of material injury within a reasonably foreseeable time. The Commission shall consider the likely volume, price effect, and impact of imports of the subject merchandise on the industry if the order is revoked or the suspended investigation is terminated. The Commission shall take into account--*
>
> *(A) its prior injury determinations, including the volume, price effect, and impact of imports of the subject merchandise on the industry before the order was issued or the suspension agreement was accepted,*
>
> *(B) whether any improvement in the state of the industry is related to the order or the suspension agreement,*
>
> *(C) whether the industry is vulnerable to material injury if the order is revoked or the suspension agreement is terminated, and*
>
> *(D) in an antidumping proceeding . . ., (Commerce's findings) regarding duty absorption . . ..*
>
> *(2) VOLUME.--In evaluating the likely volume of imports of the subject merchandise if the order is revoked or the suspended investigation is terminated, the Commission shall consider whether the likely volume of imports of the subject merchandise would be significant if the order is revoked or the suspended investigation is terminated, either in absolute terms or relative to production or consumption in the United States. In so doing, the Commission shall consider all relevant economic factors, including--*
>
> *(A) any likely increase in production capacity or existing unused production capacity in the exporting country,*
>
> *(B) existing inventories of the subject merchandise, or likely increases in inventories,*
>
> *(C) the existence of barriers to the importation of such merchandise into countries other than the United States, and*
>
> *(D) 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.*

(3) PRICE.--In evaluating the likely price effects of imports of the subject merchandise if the order is revoked or the suspended investigation is terminated, the Commission shall consider whether--

> *(A) there is likely to be significant price underselling by imports of the subject merchandise as compared to domestic like products, and*
> *(B) imports of the subject merchandise are likely to enter the United States at prices that otherwise would have a significant depressing or suppressing effect on the price of domestic like products.*

(4) IMPACT ON THE INDUSTRY.--In evaluating the likely impact of imports of the subject merchandise on the industry if the order is revoked or the suspended investigation is terminated, the Commission shall consider all relevant economic factors which are likely to have a bearing on the state of the industry in the United States, including, but not limited to–

> *(A) likely declines in output, sales, market share, profits, productivity, return on investments, and utilization of capacity,*
> *(B) likely negative effects on cash flow, inventories, employment, wages, growth, ability to raise capital, and investment, and*
> *(C) likely negative effects on the existing development and production efforts of the industry, including efforts to develop a derivative or more advanced version of the domestic like product.*

The Commission shall evaluate all such relevant economic factors . . . within the context of the business cycle and the conditions of competition that are distinctive to the affected industry.

Section 752(a)(6) of the Act states further that in making its determination, "the Commission may consider the magnitude of the margin of dumping or the magnitude of the net countervailable subsidy. If a countervailable subsidy is involved, the Commission shall consider information regarding the nature of the countervailable subsidy and whether the subsidy is a subsidy described in Article 3 or 6.1 of the Subsidies Agreement."

Organization of report

Information obtained during the course of the reviews that relates to the statutory criteria is presented throughout this report. A summary of trade and financial data for PVA as collected in the reviews is presented in appendix C.

U.S. industry data are based on the questionnaire responses of three U.S. producers of PVA that are believed to have accounted for all domestic production of PVA during 2019. U.S. import data and related information are based on Commerce's official import statistics[37] and the questionnaire responses of 15 U.S. importers of PVA, which are believed to have accounted for *** percent of U.S. imports of PVA from all sources during 2019.[38] Chinese industry data and related information are based on industry research and Commerce's official import statistics.[39] Japanese industry data and related information are based on industry research and the questionnaire responses of two firms, which accounted for an estimated *** percent of production of PVA in Japan in 2019.[40]

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[37] PVA is imported under HTSUS subheading 3905.30.0000, which includes out-of-scope ("excluded") and in-scope ("subject") forms of PVA.

[38] The coverage estimate is based on U.S. importers' imports of in-scope and excluded forms of PVA as a share of official Commerce statistics during 2019. In terms of in-scope forms of PVA specifically, U.S. importers' questionnaire data are believed to accounted for *** imports from Japan and *** imports from China and nonsubject sources during 2019. See Part IV for further information on U.S. importers' imports and coverage estimates.

[39] The Commission received one foreign/producer exporter questionnaire from a company in China, Marubeni (Shanghai) Co., Ltd., which reported that it had produced or exported PVA since January 2014. However, the firm provided neither production nor export data. The questionnaire was ultimately excluded from the analysis as the firm did not respond to the Commission's subsequent follow-up attempts to cure the questionnaire.

The Commission was also in communication with SVW, a Chinese firm that participated in the original investigations and the first full five-year reviews. After granting the firm several extensions to complete the questionnaire, SVW ultimately stated that it could not provide a questionnaire to the Commission.

[40] On May 1, 2020, Japanese producer Denka Company, Ltd. ("Denka Japan") and U.S. importer Denka Corporation ("Denka") collectively submitted a response to the Commission's notice of institution, stating, in part, that they were "willing to participate in the Commission's third sunset review by providing the information requested by the Commission." The Commission subsequently determined to conduct full reviews noting in part that the respondent interested party group response with respect to Japan, which included Denka Japan and Japan VAM & Poval, was adequate. Foreign producer/exporter questionnaires were sent to these two and other Japanese firms on October 16, 2020. Those questionnaires were to be received by the Commission by November 16, 2020. The Commission did not receive Denka Japan's foreign producer/exporter questionnaire on November 16, nor has it received the questionnaire after two follow-up correspondences. In its last communication to

(*continued*...)

Responses by U.S. producers, importers, purchasers, and foreign producers of PVA to a series of questions concerning the significance of the existing antidumping duty orders and the likely effects of revocation of such orders are presented in appendix D.

Commerce's reviews

Commerce has not issued any duty absorption findings, any company revocations, or anti-circumvention findings since the imposition of the orders.[41]

Administrative reviews

Commerce has completed two administrative reviews of the antidumping duty order on PVA from China (as shown in table I-3).[42] Commerce has not completed any other administrative reviews of PVA from China or Japan.[43]

Table I-3
PVA: Administrative reviews of antidumping duty order for China

Date results published	Period of review	Producer or exporter	Margin (percent)
May 15, 2006 (71 FR 27991) (as amended on June 21, 2006 (71 FR 35616))	8/11/2003 - 9/30/2004	SVW	0.03 *(de minimis*)
		All others	97.86
October 23, 2006 (71 FR 62086)	10/1/2004 - 9/30/2005	SVW	0.00
		All others	97.86

Source: Cited Federal Register notices.

(…*continued*)
the Commission, Denka Japan stated that "circumstances changed and Denka Japan is no longer in a position to respond." Email from Denka Japan, November 23, 2020 (EDIS #726988).

[41] *Decision Memorandum for the Expedited Sunset Reviews of the Antidumping Duty Orders on Polyvinyl Alcohol from the People's Republic of China and Japan*, July 9, 2020, p. 5.

[42] For previously reviewed or investigated companies not included in an administrative review, the cash deposit rate continues to be the company-specific rate published for the most recent period.

[43] *Decision Memorandum for the Expedited Sunset Reviews of the Antidumping Duty Orders on Polyvinyl Alcohol from the People's Republic of China and Japan*, July 9, 2020, p. 4.

Changed circumstances reviews

Commerce completed a changed circumstances review in 2019 with respect to PVA from China, determining that Sinopec Chongqing SVW Chemical Co., Ltd. is the successor-in-interest to SVW.[44]

Scope rulings

Commerce has completed a scope ruling covering PVA from Japan, determining that Kuraray Poval 3-86 SD, when imported as certified for use in a paper application, is not covered by the scope of the order on PVA from Japan.[45]

Five-year reviews

Commerce has issued the final results of its expedited reviews with respect to both subject countries.[46] Table I-4 and table I-5 present the dumping margins calculated by Commerce for producers/exporters in China and Japan, respectively, in its original investigations and subsequent five-year reviews.

[44] *Decision Memorandum for the Expedited Sunset Reviews of the Antidumping Duty Orders on Polyvinyl Alcohol from the People's Republic of China and Japan*, July 9, 2020, p. 5.

[45] Ibid.

[46] 85 FR 42828, July 15, 2020.

Table I-4
PVA: Commerce's original investigation and subsequent five-year review dumping margins for producers/exporters in China

Producer/exporter	Original investigation margin (percent)	First five-year review margin (percent)	Second five-year review margin (percent)	Third five-year review margin (percent)
Sinopec Sichuan Vinylon Works ("SVW")	6.91	5.51	3.45	3.45
All others	97.86	97.86	97.86	97.86

Source: 68 FR 56620, October 1, 2003;68 FR 58169, October 8, 2003; 72 FR 36960, July 6, 2007; 73 FR 57596, October 3, 2008; 79 FR 38278, July 7, 2014; and 85 FR 42828, July 15, 2020.

Table I-5
PVA: Commerce's original investigation and subsequent five-year review dumping margins for producers/exporters in Japan

Producer/exporter	Original investigation margin (percent)	First five-year review margin (percent)	Second five-year review margin (percent)	Third five-year review margin (percent)
Denki Kagaku Kogyo Kabushiki Kaisha	144.16	144.16	144.16	144.16
Japan VAM & POVAL Co., Ltd.	144.16	144.16	144.16	144.16
Kuraray Co., Ltd.	144.16	144.16	144.16	144.16
The Nippon Synthetic Chemical Industry Co., Ltd.	144.16	144.16	144.16	144.16
All others	76.78	76.78	76.78	76.78

Source: 68 FR 39518, July 2, 2003; 73 FR 57596, October 3, 2008; 79 FR 38278, July 7, 2014; and 85 FR 42828, July 15, 2020.

The subject merchandise

Commerce's scope

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

The merchandise covered by these orders is PVA. This product consists of all PVA hydrolyzed in excess of 80 percent, whether or not mixed or diluted with commercial levels of defoamer or boric acid, except as noted below.

The following products are specifically excluded from the scope of these orders:

1) *PVA in fiber form.*
2) *PVA with hydrolysis less than 83 mole percent and certified not for use in the production of textiles.*
3) *PVA with hydrolysis greater than 85 percent and viscosity greater than or equal to 90 cps.*
4) *PVA with a hydrolysis greater than 85 percent, viscosity greater than or equal to 80 cps but less than 90 cps, certified for use in an ink jet application.*
5) *PVA for use in the manufacture of an excipient or as an excipient in the manufacture of film coating systems which are components of a drug or dietary supplement, and accompanied by an end-use certification.*
6) *PVA covalently bonded with cationic monomer uniformly present on all polymer chains in a concentration equal to or greater than one mole percent.*
7) *PVA covalently bonded with carboxylic acid uniformly present on all polymer chains in a concentration equal to or greater than two mole percent, certified for use in a paper application.*
8) *PVA covalently bonded with thiol uniformly present on all polymer chains, certified for use in emulsion polymerization of non-vinyl acetic material.*
9) *PVA covalently bonded with paraffin uniformly present on all polymer chains in a concentration equal to or greater than one mole percent.*
10) *PVA covalently bonded with silan uniformly present on all polymer chains certified for use in paper coating applications.*
11) *PVA covalently bonded with sulfonic acid uniformly present on all polymer chains in a concentration level equal to or greater than one mole percent.*
12) *PVA covalently bonded with acetoacetylate uniformly present on all polymer chains in a concentration level equal to or greater than one mole percent.*
13) *PVA covalently bonded with polyethylene oxide uniformly present on all polymer chains in a concentration level equal to or greater than one mole percent.*
14) *PVA covalently bonded with quaternary amine uniformly present on all polymer chains in a concentration level equal to or greater than one mole percent.*
15) *PVA covalently bonded with diacetoneacrylamide uniformly present on all polymer chains in a concentration level greater than three mole percent, certified for use in a paper application.*

The merchandise subject to these orders is currently classifiable under subheading 3905.30.00 of the Harmonized Tariff Schedule of the United States (HTSUS). Although the HTSUS subheading is provided for convenience and customs purposes, the written description of the scope of these orders is dispositive.[47]

Tariff treatment

PVA is classifiable in the Harmonized Tariff Schedule of the United States ("HTSUS" or "HTS") under subheading 3905.30.00 and reported for statistical purposes under statistical reporting number 3905.30.0000. The subject product imported from China and Japan enters the U.S. market at a column 1-general duty rate of 3.2 percent ad valorem.[48] PVA that is the product of China is subject to an additional 25 percent ad valorem duty under Section 301 of the Trade Act of 1974, as amended ("Trade Act"),[49] effective August 23, 2018.[50] As of February 6, 2021,[51] no exclusions from these additional duties have been granted for in-scope PVA originating in China.[52] Decisions on the tariff classification and treatment of imported goods are within the authority of U.S. Customs and Border Protection.

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[47] 85 FR 42828, July 15, 2020.

[48] *HTSUS (2021) Preliminary Revision 3*, USITC Publication 5161, February 2021, pp. 39-10, 39-45.

[49] Section 301 of the Trade Act (19 U.S.C. § 2411) authorizes the Office of the United States Trade Representative ("USTR"), at the direction of the President, to take appropriate action to respond to a foreign country's unfair trade practices. Following investigations into "China's acts, policies, and practices related to technology transfer, intellectual property, and innovation" (82 FR 40213, August 24, 2017), USTR published its determination, on April 6, 2018, that the acts, policies, and practices of China under investigation are unreasonable or discriminatory and burden or restrict U.S. commerce, and are thus actionable under section 301(b) of the Trade Act (83 FR 14906, April 6, 2018).

[50] HTSUS subheading 3905.30.00 was included in the USTR's second enumeration ("Tranche 2" or "List 2") of products originating in China that became subject to the additional 25 percent ad valorem duties (Annexes A and C of 83 FR 40823, August 16, 2018). See U.S. notes 20(c) and 20(d) to subchapter III of HTS chapter 99. *HTSUS (2021) Preliminary Revision 3*, USITC Publication 5161, February 2021, pp. 99-III-20 – 99-III-22, 99-III-240 – 99-III-242, 99-III-246 – 99-III-247.

[51] USITC, "About Harmonized Tariff Schedule," February 6, 2021, https://www.usitc.gov/harmonized_tariff_information, retrieved February 8, 2021.

[52] Moreover, there are currently no duty suspensions or reductions for the subject product in effect under the American Manufacturing Competitiveness Act of 2016 (Pub. L. No. 114-159, § 3(a), 130 Stat. 397 (2016)). In 2016-17, three duty-suspension petitions were submitted for imports of PVA, but the Commission did not recommend their inclusion in a miscellaneous tariff bill due to domestic producer objection(s). *American Manufacturing Competitiveness Act of 2016: Final Report*, USITC Publication 4712, August 2017, pp. 10-11; App. A: All Petitions, pp. 36, 50; App. H: Category VI Petitions, pp. 5, 8, 299-300, 477-480, https://www.usitc.gov/trade_tariffs/mtb_program_information/reports?items_per_page=All.

The product

Description and applications[53]

PVA (sometimes also referred to as "PVOH" or "POVAL") is a water-soluble synthetic polymer, usually sold as a white granular solid or powder, or less commonly dissolved in liquid form.[54] PVA can be categorized on the basis of the degree of hydrolysis, the viscosity of an aqueous solution, and the average molecular weight of the finished product.[55] PVA is highly stable in dry form. It is nontoxic and therefore considered safe to handle and relatively environmentally friendly. Care must be taken, however, to minimize airborne dust concentrations during shipping and storage to reduce the potential for dust explosions.

The degree of hydrolysis is determined by the percentage of acetate groups in the polyvinyl acetate feedstock that are replaced by hydroxyl groups in the finished PVA (figure I-2). Fully hydrolyzed PVA has a replacement percentage in excess of 98 percent. The viscosity (resistance to shear stress or flow) of an aqueous solution of PVA increases as the molecular weight of the PVA increases. The molecular weight is determined by the average length of the polymer chain in the finished product in terms of monomer units. Low-viscosity grades tend to have PVA chain lengths as low as 300 monomer units, with average molecular weights around 45,000 to 55,000 unified atomic mass units ("uamu"), whereas high-viscosity, fully hydrolyzed grades have PVA chain lengths up to 3,500 monomer units and average molecular weights around 200,000 to 225,000 uamu. The degree of hydrolysis of PVA affects a variety of PVA properties, such as solution interfacial tensions, compatibility, reaction kinetics, rheology, and water solubility.

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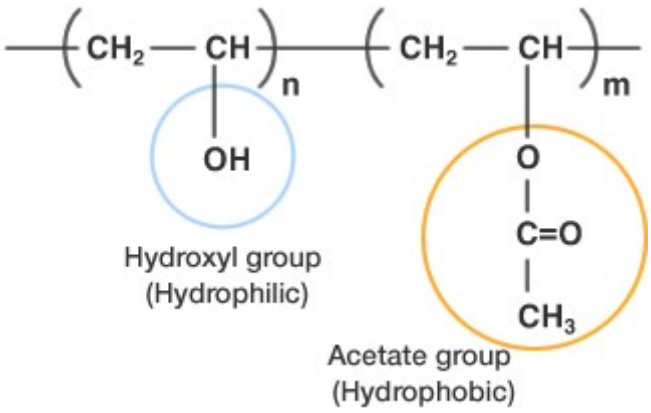
[53] Second review publication, pp. I-16-I-18; and Investigation Nos. 731-TA-1014, 1016, and 1017 (Second Review): *Polyvinyl Alcohol from China, Japan, and Korea*, Confidential Report, INV-NN-019, April 14, 2015 ("Second review confidential report"), pp. I-20-I-23.

[54] More than *** percent of PVA is sold in solid forms by the domestic industry. Sekisui / Kuraray Posthearing Brief, pp. 11-12.

[55] Forms of PVA excluded from Commerce's scope are summarized by domestic interested parties as 1) copolymers, that are covalently bonded with a monomer to create unique properties; 2) outside the typical range of hydrolysis and viscosity levels for PVA; or 3) of unique physical forms not common in the United States, e.g., PVA fibers. Being formulated to meet specific specialty end-use requirements, excluded forms are generally of low-volume and either high development or production costs compared to the more conventional forms of PVA produced and sold in the United States. Sekisui / Kuraray Posthearing Brief, p. 11.

Figure I-2
PVA: Polymer molecular structure



Note: The degree of polymerization is calculated as *n+m*. The degree of hydrolysis is calculated as (*n/(n+m))*100*.

Source: Japan VAM & Poval Co. Ltd. ("JVP"), "POVAL," no date, https://www.j-vp.co.jp/english/product/pva/index.html, retrieved June 2, 2020.

In the United States, PVA is used primarily as an intermediate in the production of polyvinyl butyral ("PVB"), which is an adhesive used between panes of automotive safety glass or load-resistant architectural glass. PVA is also used in the textile and paper industries in sizing formulations; as a binder in adhesive and soil binding formulations; and as an emulsion or polymerization aid in colloidal suspensions, water-soluble films, cosmetics, and joint compounds. A more recently developed use reported for PVA in the United States (though not outside the United States) is in non-woven glass paper. The domestic interested parties also noted the following examples of promising advances in products that would use PVA: ***.

For most applications, PVA is dissolved in an aqueous solution. PVA's solubility behavior in water depends on several factors, including degree of polymerization, degree of hydrolysis, drying temperature, particle size, and molecular weight. PVA polymers possess variable solubility properties, ranging from soluble in cold (room temperature) water to soluble only in hot water. For example, PVA of 88 percent hydrolysis is soluble in both cold and hot water, whereas 98 percent hydrolyzed PVA may be soluble only in hot water. All other characteristics being equal, the higher the degree of hydrolysis, the lower the solubility. By altering certain product characteristics, however, solubility can be changed. All standard grades of PVA, regardless of degree of hydrolysis, must be "cooked" to achieve complete solubility.

At the end of the saponification process[56] PVA is a hard solid suitable for grinding into granular form. PVA in powdered or liquid forms require additional processing steps either to further reduce the solid-PVA particle size or to dissolve the solid PVA into a suitable liquid form, respectively, to meet specific end-use application requirements. According to domestic interested parties, U.S. producers sell PVA in solid, powder, and liquid forms, with generally, more than *** percent of PVA being sold as solid forms in the domestic industry.[57]

PVA is sold in a variety of standard and specialty grades, each varying according to its molecular weight and the degree of hydrolysis. According to the petitioners in the original investigations, the degree of hydrolysis is commonly denoted as super (more than 99 percent hydrolyzed), fully (98-99 percent hydrolyzed), intermediate (90-98 percent hydrolyzed), and partial (85-89 percent hydrolyzed).[58] The specific performance of various grades of PVA varies with the degree of hydrolysis and viscosity. For example, the greater the degree of hydrolysis, the better the water resistance. For this reason, in adhesive applications that require water resistance, a fully hydrolyzed grade of PVA is used. On the other hand, in adhesive applications that do not require water resistance, a partially hydrolyzed PVA may be used. Similarly, paper manufacturers select a specific grade of PVA depending on the property required for the paper. Grease and water resistance, ink receptivity, and other components of the size solution determine grade selection. In the textile market, where PVA is used as a warp sizing for yarns to prevent breakage during weaving, various grades of PVA are selected for use depending on the yarn, machine type, other components of the sizing solution (e.g., starch), required viscosity, abrasion resistance, and ease of solution removal after fabric weaving.

Although all grades of PVA are not completely interchangeable with other grades, more than one grade may be sold to specific end-use markets. For example, fully hydrolyzed PVA can be used in many of the same end uses in which intermediate or partially hydrolyzed PVA can be used, such as textiles, paper, and adhesives.[59] The same grade of PVA is frequently sold for different commercial uses, and many end users can use a wide range of grades. However, many

[56] Saponification is the chemical reaction in which an ester is heated with aqueous alkali to form an alcohol and the sodium salt of the acid corresponding to the ester.

[57] More specifically, Sekisui's average PVA sales shares ***. Sekisui / Kuraray Posthearing Brief, p. 12.

[58] The definitions of fully, intermediate, and partially hydrolyzed PVA in terms of degrees of hydrolysis vary somewhat within the industry.

[59] Despite different applications possibly requiring different PVA grades with different specifications, a specific grade is not specific to an end use. Sekisui / Kuraray Posthearing Brief, p. 17.

applications have evolved using particular grades such that substitution, although possible, could involve some cost and time to reformulate, and end users tend to avoid changing the grade of PVA they use in their applications because their formulas and process parameters might have to be adjusted. Otherwise, as a synthetic water-soluble polymer with unique characteristics, PVA has few substitutes for most end-use applications.

Among the PVA grades available from domestic versus subject foreign producers, the domestic interested parties claim a high degree of substitutability for standard grades, in terms of both (1) meeting the relevant hydrolysis and viscosity specifications and (2) product quality.[60] However, not all grades of PVAs are available from each producer, according to Wacker Chemical Corp. ("Wacker"), and that there are product quality variations among domestic and subject PVA producers in terms of viscosity, hydrolysis, volatiles content, particle size, ash content, acidity-alkalinity level, purity, color, etc.[61]

Manufacturing processes[62]

PVA is typically manufactured on dedicated processing lines and equipment[63] by first polymerizing the vinyl acetate monomer ("VAM") into polyvinyl acetate[64] and then hydrolyzing the acetate groups with methanol in the presence of anhydrous sodium methylate or aqueous sodium hydroxide at moderate temperatures and pressures (figure I-3). This is a continuous process in which the end-product PVA is hydrolyzed in excess of 80 percent. All U.S. and foreign producers are believed to use some form of a continuous manufacturing process to make PVA. The by-product acetic acid can either be recycled to produce VAM or sold in the acetic acid market. Given the high volume of acetic acid needed to make VAM, producers generally return the by-product to their own production process rather than selling it on the market.

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[60] Sekisui / Kuraray Posthearing Brief, p. 17.

[61] Wacker Posthearing Brief, pp. 1-5. For further information, see the "Substitutability issues" section of Part II.

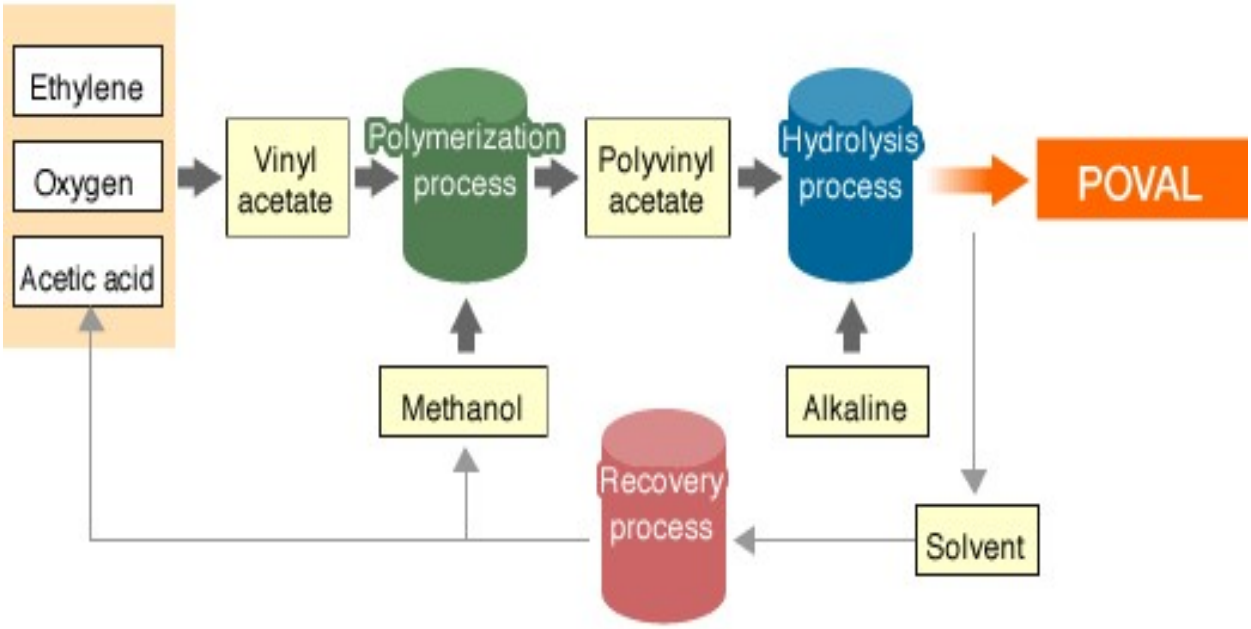
[62] Unless otherwise noted, this information is based on the second review publication, p. I-18 and second review confidential report, pp. I-23-I-24.

[63] *** producer questionnaire responses, II-3e-ii.

More specifically, ***.

[64] The polymerization process controls the length of the vinyl acetate molecular chains, which in turn influences the PVA membrane strength, aqueous solution viscosity, and other properties that are determined by the degree of polymerization. Japan VAM & Poval Co. Ltd. ("JVP"), "POVAL," no date, https://www.j-vp.co.jp/english/product/pva/index.html, retrieved June 2, 2020.

Figure I-3
PVA: Production process flow chart



Source: Japan VAM & Poval Co. Ltd. ("JVP"), "POVAL," no date, https://www.j-vp.co.jp/english/product/pva/index.html, retrieved June 2, 2020.

Domestic like product issues

In its original determinations and its full first and second five-year reviews, the Commission defined the domestic like product as all domestically produced PVA meeting the specifications stated in Commerce's scope definition, and it defined the domestic industry as all domestic producers of PVA, whether captively consumed or produced for commercial market.[65] In its notice of institution in these current five-year reviews, the Commission solicited comments from interested parties regarding the appropriate definitions of the domestic like product and domestic industry.[66] In their response to the Commission's notice of institution, both the domestic interested parties (Sekisui and Kuraray America) and respondent Japan VAM & Poval Co., Ltd.("JVP") indicated that they agreed with this definition of the domestic like product.[67] In their collective response to the Commission's notice of institution, respondents Denka Corporation ("Denka") and Denka Company, Ltd. ("Denka Japan") stated that they were evaluating issues relating to the domestic like product and the domestic industry and may address them at a later date if necessary.[68] As stated earlier, the Commission did not receive Denka Japan's foreign producer/exporter questionnaire by the November 16, 2020, due date, and Denka Japan subsequently indicated that it would not submit a questionnaire response in these reviews.[69] No party requested that the Commission collect data concerning other possible domestic like products in their comments on the Commission's draft questionnaires. In its prehearing brief, counsel for Sekisui and Kuraray America agreed with the definition of the domestic like product set forth in the original investigations.[70] No other interested party provided further comment on the domestic like product.

[65] Original Germany and Japan publication, p. 6; first review publication, pp. 8-9; and second review publication, pp. 8-9.

[66] 85 FR 18271, April 1, 2020.

[67] Domestic interested party's response to the notice of institution, May 1, 2020, p. 4; and JVP's response to the notice of institution, June 9, 2020, p. 2.

[68] Denka and Denka Japan's collective response to the notice of institution, May 1, 2020, p. 6.

[69] Email from Denka Japan, November 23, 2020 (EDIS #726988).

[70] Sekisui / Kuraray Prehearing Brief, p. 3.

U.S. market participants

U.S. producers

As was the case in the original investigations and full first and second five-year reviews, there are currently three producers of PVA in the United States, although the ownership of all three producers has changed. Sekisui Specialty Chemicals America, LLC ("Sekisui") acquired from Celanese Corp. what was previously an integrated PVA business unit on July 1, 2009. On July 2, 2012, Eastman Chemical Co. ("Eastman") completed its acquisition of Solutia, Inc. On June 1, 2014, the DuPont Elvanol® PVA and related businesses were acquired by the ultimate Japanese parent company of Kuraray America, Inc. ("Kuraray America"). All three producers provided responses to the Commission's questionnaires in the original investigations, as well as in the first, second, and third five-year reviews.

Eastman, Kuraray America, and Sekisui account for all U.S. production of PVA. Details regarding each firm's production locations, share of 2019 PVA production, and position on continuation of the orders are presented in table I-6.

Table I-6
PVA: U.S. producers, positions on orders, U.S. production locations, related and/or affiliated firms, and shares of 2019 reported U.S. production

Firm	Position on continuation of orders	Production location(s)	Share of production (percent)
Eastman	***	Indian Orchard, MA; Trenton, MI	***
Kuraray America	Support	La Porte, TX; Bayport, TX	***
Sekisui	Support	Dallas, TX; Calvert City, KY; Pasadena, TX (Plant); Pasadena, TX (R&D)	***
All firms			100.0

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

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

Table I-7 presents information on U.S. producers' ownership, related and affiliate firms. Eastman is a U.S. producer of the subject forms of PVA *** for internal consumption. Eastman also reported that it has purchased PVA ***. Eastman is not a U.S. importer of PVA, nor is it related to any U.S. importers or subject foreign producers of PVA, although it is related to a producer of PVA in Belgium.

Kuraray America is a producer of excluded and subject forms of PVA in the United States. It reported that it has not purchased PVA domestically, but it has imported for its own use excluded and subject forms of PVA from ***. Kuraray America is 100-percent owned by Kuraray Holdings U.S.A., Inc., which is 100-percent owned by Japanese corporation Kuraray Co., Ltd. ("Kuraray Japan"). Kuraray Japan is a producer in Japan of subject and excluded forms of PVA, as well as other products (i.e., ethylene vinyl alcohol copolymer). Kuraray Japan also owns PVA production facilities in Germany (Kuraray Europe GmbH) and Singapore (Kuraray Asia Pacific Pte. Ltd.). Kuraray America is indirectly related to MonoSol, LLC ("MonoSol"), a U.S. importer of subject forms of PVA from ***.[71]

Sekisui is a producer of subject forms of PVA in the United States. It reported that it has imported subject forms of PVA from ***, as well as excluded and subject forms of PVA from ***. It also reported that it has purchased subject forms of PVA ***. Sekisui reports that the joint venture, DS Poval, its parent company, Sekisui Chemical Co., entered into with Japanese PVA producer Denka Japan in April 2010 ***. Sekisui's parent company also owns Sekisui Specialty Chemicals Europe, S.L., a producer of PVA in Spain. The firm notes that it exports material ***.

[71] Importer MonoSol, LLC is 100-percent owned by MonoSol Holdings Inc., which is 100-percent owned by Kuraray Holdings U.S.A., Inc., the parent of Kuraray America.

Table I-7
PVA: U.S. producers' ownership, related and/or affiliated firms

Firm	Firm name	Affiliated / Ownership
Ownership:		
***	***	***
***	***	***
Related importers/exporters:		
***	***	***
***	***	***
***	***	***
Related producers:		
***	***	***
***	***	***
***	***	***
***	***	***
***	***	***
***	***	***

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

U.S. importers

U.S. import data presented in the staff reports of the original investigations and the full first five-year reviews were based on official import statistics as adjusted using questionnaire responses. Completed U.S. importer questionnaire responses were received from 16 companies in the original investigations and 13 firms in the first reviews.[72] During the full second five-year reviews, the Commission received U.S. importer questionnaires from 23 firms. Import data presented in the second reviews were based on official Commerce statistics as adjusted using questionnaire response and proprietary Customs information.[73]

In the current proceedings, the Commission issued U.S. importers' questionnaires to 47 potential importers of PVA between 2014 and 2019, as well as to all U.S. producers of PVA. Usable questionnaire responses were received from 15 firms, which are believed to have accounted for *** percent of U.S. imports of PVA from all sources during 2019.[74] Table I-8 lists all responding U.S. importers of PVA from China, Japan, and other sources, their locations, and their shares of U.S. imports in 2019.

[72] Original Germany and Japan publication, p. IV-1; Original China and Korea publication, p. I-2; and First review publication, pp. I-9 and IV-1.

[73] Second review publication, p. IV-1.

[74] See Part IV for further information on U.S. importers' imports and coverage estimates.

Table I-8
PVA: U.S. importers, their U.S. headquarters, and share of imports by source in 2019

Firm	Headquarters	Share of imports by source (percent)				
		China	Japan	Subject sources	Nonsubject sources	All import sources
Axiall	Houston, TX	***	***	***	***	***
Cytech[1]	Elizabethtown, KY	***	***	***	***	***
D&J Associates	Greer, SC	***	***	***	***	***
Denka[1]	New York, NY	***	***	***	***	***
H&C	Torrance, CA	***	***	***	***	***
Kodak	Rochester, NY	***	***	***	***	***
Kuraray America[1 2]	Houston, TX	***	***	***	***	***
Marubeni	New York, NY	***	***	***	***	***
MonoSol	Merrillville, IN	***	***	***	***	***
Perry	Flushing, NY	***	***	***	***	***
Sekisui[2]	Dallas, TX	***	***	***	***	***
Shintech[1 2]	Houston, TX	***	***	***	***	***
Soarus[1]	Arlington Heights, IL	***	***	***	***	***
Wego	Great Neck, NY	***	***	***	***	***
Westlake[1]	Houston, TX	***	***	***	***	***
All firms		***	***	***	***	***

[1] U.S. importer of ***.
[2] U.S. importer of ***.

Note: *** U.S. importer ***.

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

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

U.S. purchasers

The Commission received 15 purchaser questionnaire responses from firms that have purchased PVA since January 1, 2017. These purchasers reported purchasing more than *** pounds of PVA in 2019.[75] The purchasers included three adhesives producers,[76] four distributors, four emulsion polymerization producers,[77] one building products producer,[78] one textile products producer,[79] one purchaser using PVA for film applications/production, one chemical blender,[80] and one manufacturer of PVB resin and film.

Apparent U.S. consumption and market shares

Data concerning apparent U.S. consumption and market shares of PVA are shown in table I-9 and figure I-4. Apparent U.S. consumption decreased by *** percent during 2017-19 and was *** percent lower in 2020 compared to interim 2019. U.S. producers' market share decreased *** percentage points during 2017-19 and was *** percentage points lower in interim 2020 compared to interim 2019. Subject imports' market share also decreased by *** percentage points during 2017-19. However, subject imports' market share was *** percentage points higher interim 2020 compared to interim 2019. Nonsubject imports' market share increased by *** percentage points during 2017-19 and was *** percentage points higher in interim 2020 compared to interim 2019.

[75] Thirteen purchasers reported purchasing PVA produced in the United States, three reported purchasing PVA produced in China, two reported purchasing PVA produced in Japan, and eight reported purchasing PVA produced other nonsubject sources (Germany, Taiwan, Spain, and Singapore) during 2019.

[76] These firms reported producing industrial and water based adhesives and blended tackified resins.

[77] These firms reported producing adhesives, coatings, construction, and engineering fabrics.

[78] These firms reported producing joint compound and texture products, water-based adhesives, and glass fiber veils for flooring, ceilings, and wall coverings.

[79] One purchaser ***.

[80] Purchaser *** is a chemical blender that supplies PVA to textiles and adhesive manufacturers.

Table I-9
PVA: U.S. shipments of domestic product, U.S. shipments of imports, and apparent U.S. consumption, 2017-19, January-September 2019, and January-September 2020

Item	Calendar year			January to September	
	2017	2018	2019	2019	2020
	Quantity (1,000 pounds)				
U.S. producers' U.S. shipments	***	***	***	***	***
U.S. shipments of imports from.--					
China	***	***	***	***	***
Japan	***	***	***	***	***
Subject sources	***	***	***	***	***
Nonsubject sources	***	***	***	***	***
All import sources	60,136	53,823	60,751	46,494	45,625
Apparent consumption	***	***	***	***	***
	Value (1,000 dollars)				
U.S. producers' U.S. shipments	***	***	***	***	***
U.S. shipments of imports from.--					
China	***	***	***	***	***
Japan	***	***	***	***	***
Subject sources	***	***	***	***	***
Nonsubject sources	***	***	***	***	***
All import sources	81,049	75,057	95,697	71,135	66,383
Apparent consumption	***	***	***	***	***
	Share of quantity (percent)				
U.S. producers' U.S. shipments	***	***	***	***	***
U.S. shipments of imports from.--					
China	***	***	***	***	***
Japan	***	***	***	***	***
Subject sources	***	***	***	***	***
Nonsubject sources	***	***	***	***	***
All import sources	***	***	***	***	***
	Share of value (percent)				
U.S. producers' U.S. shipments	***	***	***	***	***
U.S. shipments of imports from.--					
China	***	***	***	***	***
Japan	***	***	***	***	***
Subject sources	***	***	***	***	***
Nonsubject sources	***	***	***	***	***
All import sources	***	***	***	***	***

Note: Japanese firm Kuraray Japan reported that it accounted for *** exports of PVA from Japan to the United States in 2019. Kuraray Japan's related firm MonoSol reported being the *** U.S. importer of PVA from Japan during 2017-19.

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

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

Figure I-4
PVA: Apparent U.S. consumption, 2017-19, January to September 2019, and January to September 2020

* * * * * * *

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

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

U.S. market characteristics

PVA is used in a wide variety of end-use products, of which PVB (polyvinyl butyral) is the largest in the United States.[1] Other major end uses for PVA include adhesives, paper, emulsion polymerization, and textiles. PVA is also used to manufacture other products including building products, film, ceramics, and skin care products.

U.S. producers Kuraray America and Sekisui produce PVA ***. U.S. producer *** internally consumes *** the PVA it produces in its manufacturing of PVB and sells *** PVA on the open market.

Apparent U.S. consumption of PVA, by quantity, decreased from 2017 to 2019, declining from *** pounds to *** pounds. Overall, apparent U.S. consumption in 2019 was *** percent lower than in 2017. Apparent U.S. consumption in January-September 2020 was *** lower than in January-September 2019.

[1] *Chemical Economics Handbook: Polyvinyl Alcohols*, IHS Markit Ltd., May 29, 2020, p. 10. PVB is primarily used to manufacture laminated safety glass for automobile windshields and architectural applications while small amounts of PVB resin are used in adhesive and surface coating applications. *Chemical Economics Handbook: Polyvinyl Alcohols*, IHS Markit Ltd, May 29, 2020, p. 21.

Channels of distribution

U.S. producers and importers sold PVA primarily to end users, as shown in table II-1.

Table II-1
PVA: U.S. producers' and importers' share of reported U.S. shipments, by sources and channels of distribution, 2017-19, January-September 2019, and January-September 2020

Item	Calendar year			January to September	
	2017	2018	2019	2019	2020
	Share of U.S. shipments (percent)				
U.S. producers: Distributors	***	***	***	***	***
End users	***	***	***	***	***
U.S. importers: China Distributors	***	***	***	***	***
End users	***	***	***	***	***
U.S. importers: Japan Distributors	***	***	***	***	***
End users	***	***	***	***	***
U.S. importers: Subject Distributors	***	***	***	***	***
End users	***	***	***	***	***
U.S. importers: All other sources Distributors	***	***	***	***	***
End users	***	***	***	***	***
U.S. importers: All imports Distributors	***	***	***	***	***
End users	***	***	***	***	***

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

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

Geographic distribution

Two responding U.S. producers and 1 of 4 importers of PVA reported selling product in all regions in the contiguous United States (table II-2). Importers of PVA from China reported primarily serving the Midwest and Southeast regions, and importers of PVA from Japan reported only serving the Northeast, Midwest, and Southeast regions.

Table II-2
PVA: Geographic market areas in the United States served by U.S. producers and importers, by number of responding firms

Region	U.S. producers	Subject U.S. importers
Northeast	2	4
Midwest	2	4
Southeast	2	5
Central Southwest	2	4
Mountains	2	2
Pacific Coast	2	3
Other	1	---
All regions (except Other)	2	2
Reporting firms	2	7

Note: Other is all other U.S. markets, including AK, HI, PR, and VI.

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

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 of PVA reported *** percent of sales within 100 miles of their U.S. point of shipment, *** percent between 101 and 1,000 miles, and *** percent over 1,000 miles.

Supply and demand considerations

U.S. supply

Table II-3
PVA: U.S and foreign industry ability to increase shipments to the U.S. market

Item	2017	2019	2017	2019	2017	2019	Shipments by market in 2019 (percent)		Able to shift to alternate products
	Capacity (1,000 pounds)		Capacity utilization (percent)		Inventories as a ratio to total shipments (percent)		Home market shipments	Exports to non-U.S. markets	No. of firms reporting "yes"
United States	***	***	***	***	***	***	***	***	0 of 3
China	***	***	***	***	***	***	***	***	0 of 0
Japan	***	***	***	***	***	***	***	***	0 of 2

Note: Responding U.S. producers accounted all known U.S. production of PVA in 2019. Responding foreign producer/exporter firms accounted for the large majority of U.S. imports of PVA from Japan during 2019; there were no responding foreign producers from China. For additional data on the number of responding firms and their share of U.S. production and of U.S. imports from each subject country, please refer to Part I, "Summary Data and Data Sources."

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

Domestic production

Based on available information, U.S. producers of PVA have the ability to respond to changes in demand with at least moderate to large changes in the quantity of shipments of U.S.-produced PVA to the U.S. market. The main contributing factors to this degree of responsiveness of supply are the availability of some unused capacity, existence of alternative markets, and some available inventories. Supply responsiveness is constrained by an inability to produce alternate products.

U.S. producers have somewhat limited unused capacity with which they could increase production of PVA in the event of a price change. Domestic capacity utilization increased from 2017 to 2019, increasing overall from *** percent in 2017 to *** percent in 2019.[2]

[2] Domestic capacity utilization was *** percent in January-September 2019 and *** percent in January-September 2020.

U.S. producers have some ability to shift shipments of PVA from other markets to the United States in response to a change in price. U.S. producers export PVA when U.S. production exceeds U.S. demand for PVA and export sales allow steadier and higher capacity utilization rates.[3] U.S. producers' exports, as a share of total shipments, increased from *** percent in 2017 to *** percent in 2019.[4] U.S. producer *** reported that the United States is its largest market, but that it has exported PVA in response to lower U.S. demand. *** also noted that there are higher freight costs associated with exporting PVA. U.S. producer *** stated that shifting sales between the United States and alternative country markets to a significant degree is not feasible because of higher transportation costs, longer lead times, increased rigidity of financial requirements, and weakening Asian currencies. *** U.S. producers, ***, reported that their U.S.-produced PVA for export is subject to trade barriers in other countries (China, European Union, India, Indonesia, Korea, Malaysia, and most South American countries).[5] In addition to producing PVA, U.S. producers state that they purchase and import PVA in order to provide a continuity of supply to U.S. customers during times of disruptions and in order to source certain grades of PVA that cannot be made in U.S. plants or difficult to produce.[6]

U.S. producers have some ability to use inventories as a means of increasing shipments of PVA to the U.S. market. The ratio of end-of-period inventories to total shipments for U.S. producers increased from *** percent in 2017 to *** percent in 2019.[7]

*** U.S. producers stated that they could not switch production from PVA to other products.

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[3] Domestic interested party Sekisui / Kuraray posthearing brief, p. 28.

[4] U.S. producers' exports as a share of total shipments were *** percent in January-September 2019 and *** percent in January-September 2020.

[5] U.S. producer ***.

[6] Domestic interested party Sekisui / Kuraray posthearing brief, p. 21.

[7] U.S. producers' ratio of end-of-period inventories to total shipments was *** in January-September 2019 and *** percent in January-September 2020.

Subject imports from China

The Commission received one questionnaire response from a Chinese producer/exporter of PVA,[8] ***.[9] *** questionnaire was not included in the analysis due to the lack of data.[10]

Data published in the *Chemical Economics Handbook* indicate that ***.[11]

Subject imports from Japan

Based on available information, producers of PVA from Japan have the ability to respond to changes in demand with moderate to large changes in the quantity of shipments of PVA to the U.S. market. The main contributing factors to this degree of responsiveness of supply are the availability of unused capacity, ability to shift sales from alternate markets, and availability of inventories. Supply responsiveness is constrained by the inability to produce alternative products.

Japanese producers' capacity utilization decreased from *** percent in 2017 to *** percent in 2019.[12] Japanese producers' capacity decreased by *** percent during 2017-19 while production decreased by *** percent.

[8] There are believed to be 13 producers of PVA in China. Please see Part IV of this report for more information on the PVA industry in China.

[9] *** exports to the United States are exported directly to its importer company ***.

[10] *** reported that it had produced or exported PVA since January 2014. However, the firm provided neither production nor export data. The questionnaire was ultimately excluded from the analysis as the firm did not respond to the Commission's subsequent follow-up attempts to cure the questionnaire. Additionally, *** estimated shipping only *** percent of its exports of PVA in 2019 to the United States. Please see Part IV of this report for more information on the PVA industry in China.

[11] Production of PVA in China increased by *** percent during 2017-19. *Chemical Economics Handbook: Polyvinyl Alcohols*, IHS Markit Ltd., May 29, 2020, pp. 46-48.

[12] Japanese producers' capacity utilization was *** percent in January-September 2019 and *** percent in January-September 2020.

Japanese producers reported that the largest share of their total shipments of subject PVA were shipped to their home market during *** and ***, with *** exported to Asia and the European Union. Japanese producers exported less than *** percent of their total shipments of subject PVA to the United States during 2017-19.[13]

Japanese producer *** stated that it does not have excess volume that it could shift to the United States because it is meeting strong demand in its home market and the Asian market.

Japanese producers have some ability to use inventories as a means of increasing shipments of PVA. The ratio of end-of-period inventories to total shipments for Japanese producers increased from *** percent in 2017 to *** percent in 2019.[14]

*** responding Japanese producers reported that they are not able to shift production between PVA and other products.

Imports from nonsubject sources

The largest nonsubject sources of imports during 2017-19 were from Germany, Singapore, and Taiwan. Imports from nonsubject sources accounted for *** percent of the total U.S. import quantity in 2019, up from *** percent in 2017.[15]

Supply constraints

One purchaser reported supply constraints. Purchaser *** reported that ***. Purchaser *** reported that a ***.

[13] Japanese producers reported exporting *** pounds of subject PVA and *** pounds of out of scope PVA to the United States during 2019.

[14] Japanese producers' ratio of end-of-period inventories to total shipments was *** percent in January-September 2019 and *** percent in January-September 2020.

[15] Imports from nonsubject sources accounted for *** percent of PVA imports in January-September 2019 and *** percent in January-September 2020.

New suppliers

Two of 15 purchasers indicated that new suppliers entered the U.S. market since January 1, 2017, and four purchasers expect additional entrants. Purchaser *** cited Kuraray America as a new supplier and purchaser *** mentioned Kuraray America's new facility in Bayport, Texas. Three purchasers expect new suppliers from China and Japan if the duties on these countries were to be removed.

U.S. demand

Based on available information, the overall demand for PVA is likely to experience moderate changes in response to changes in price. The main contributing factors are the somewhat limited range of substitute products and the small cost share of PVA in most of its end-use products. However, some factors increase the responsiveness of demand, including the large cost share of PVA in some end-use products and the existence of substitutes for some applications of PVA.

End uses and cost share

U.S. producers, importers, and purchasers reported similar end uses for PVA, including adhesives (angle board adhesive, core adhesive, laminating adhesive, towel and tissue adhesive, and wood glue); building products (joint treatment, synthetic grout, and texture products); ceramic proppant; emulsion polymers; paper products (paper, paper towels, paperboard, personal tissue, and toilet tissue); PVA film; PVB; PVB film; PVC; specialty resin; textile products (spun yarn warp sizing and textiles); vinyl acetate ethylene; automotive paint; and water soluble film. Foreign producers reported many of the same end-use products and added agrochemicals, excipients, pharmaceutical products, PVA fiber, and vinylon fiber. Foreign producers also reported that the end uses are the same in their home and export markets.

All U.S. producers, 11 of 12 importers, 8 of 15 purchasers, and all foreign producers reported no changes in end uses since January 1, 2017. All U.S. producers, 10 of 11 importers, all foreign producers, and 11 of 13 purchasers also reported that they do not anticipate any changes in end uses.

Cost share

PVA accounts for a varying share of the cost of the end-use products in which it is used. In general, PVA accounts for a small to moderate share of the total cost of adhesives products, building products, emulsion polymers, paper products, PVC, vinyl acetate ethylene, and automotive paint, and it accounts for a moderate to large share of the total cost of PVA film, PVB, PVB film, specialty resin, textile products, and water soluble film.

Business cycles

All U.S. producers, 8 of 11 importers, and 10 of 15 purchasers indicated that the PVA market was not subject to business cycles or conditions of competition. Of the firms that reported the PVA market was subject to business cycles or conditions of competition, *** reported some seasonality, as a portion of PVA demand is for applications in the building and construction industry, for which demand increases during warmer months and decreases during colder months.

Demand trends

Most firms reported that demand increased overall or did not change since January 1, 2017, and they expect these trends to continue (table II-4). Firms also reported that demand for 2020 decreased due to the COVID-19 pandemic. In additional comments, firms reported that demand tends to keep pace with GDP, which increased from 2014 to 2019. Firms have also reported that demand will increase due to the recovery from the COVID-19 pandemic and new products such as PVA film.

Table II-4
PVA: Firms' responses regarding U.S. demand, by number of responding firms

Item	Number of firms reporting			
	Increase	No change	Decrease	Fluctuate
Demand in the United States:				
U.S. producers	1	---	---	1
Importers	5	5	1	---
Purchasers	8	2	1	2
Foreign producers	---	1	---	1
Anticipated future demand in the United States:				
U.S. producers	2	---	---	---
Importers	4	6	1	---
Purchasers	9	3	---	1
Foreign producers	---	1	---	1
Demand for purchasers' final products:				
Purchasers	7	3	1	2

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

According to the *Chemical Economics Handbook*, overall demand for PVA is expected to increase by *** percent per year during 2019-24. The largest growing market for PVA is ***. Growth for PVA used in PVB applications is forecasted at *** percent per year during 2019-24.[16]

Substitute products

Only 1 of 3 U.S. producers and 1 of 11 importers reported that there had been changes in substitutes for PVA since January 1, 2014; no purchasers or foreign producers reported changes. None of the producers, importers, purchasers, or foreign producers anticipate changes in substitute products. The most commonly identified substitute product was starch. Starch can be substituted for PVA in textile, paper, and adhesives applications. No firm reported that the price of starch affected the price of PVA.

[16] *Chemical Economics Handbook: Polyvinyl Alcohols*, IHS Markit Ltd., May 29, 2020, p. 11.

Substitutability issues

The degree of substitution between domestic and imported PVA depends upon such factors as relative prices, quality (e.g., grade standards, reliability of supply, etc.), and conditions of sale (e.g., price discounts/rebates, lead times between order and delivery dates, payment terms, product services, etc.). Based on available data, staff believes that there is a moderate to high degree of substitutability between domestically produced PVA and PVA imported from subject sources—with a moderate degree of substitutability for PVA from China and a higher degree of substitutability for PVA from Japan. Factors limiting substitutability include quality (with PVA from China being reported as lower quality and PVA from Japan being more comparable in quality), specific grade of PVA, and customer domestic requirements.

Lead times

PVA is primarily sold from inventory. U.S. producers reported that *** percent of their 2019 sales were from inventory, with lead times of *** days.[17]Importers of PVA from subject sources reported that *** percent of their 2019 sales were from U.S. inventories, with lead times of *** days, and *** percent were from foreign inventories, with lead times of *** days.

Knowledge of country sources

Fifteen purchasers indicated they had marketing/pricing knowledge of U.S.-produced PVA, 8 of PVA from China, 6 of PVA from Japan, 5 of PVA from Germany, 3 of PVA from Spain, 6 of PVA from Singapore, and 9 of PVA from Taiwan.

As shown in table II-5, purchasers' responses regarding whether they make purchasing decisions based on the producer and country of origin were mixed, but a plurality reported never making decision based on the producer or country of origin. One purchaser that reported always making purchasing decisions based on the producer and country of origin reported doing so because its only qualified supplier is a U.S. producer, while another purchaser reported making sourcing decisions based on the best total value among vendors, including cost, innovation, quality, logistics, and supplier responsiveness. All purchasers reported that their customers either sometimes or never make purchasing decisions based on the producer or country of origin.

[17] U.S. producer *** reported that *** percent of its 2019 sales were from inventory, and U.S producer *** reported that *** percent of its 2019 sales were from inventory and the remaining *** percent were produced to order with lead times of *** days.

Table II-5
PVA: Purchasing decisions based on producer and country of origin, by number of reporting firms

Decision	Always	Usually	Sometimes	Never
Purchases based on producer:				
Purchaser's decision	4	2	4	5
Purchaser's customer's decision	---	---	3	7
Purchases based on country of origin:				
Purchaser's decision	4	1	2	8
Purchaser's customer's decision	---	---	4	7

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

Factors affecting purchasing decisions

As shown in table II-6, the leading factors that firms consider in their purchasing decisions for PVA were price/cost (13 firms), quality (12 firms), and availability/supply (10 firms). Quality was the most frequently cited first-most important factor (cited by 7 firms); and availability/supply was most frequently reported as the second- or third-most important factor (5 and 3 firms, respectively).

Table II-6
PVA: Ranking of factors used in purchasing decisions as reported by U.S. purchasers, by factor

Item	1st	2nd	3rd	Total
	Number of firms (number)			
Price / Pricing / Cost	3	4	6	13
Quality	7	3	3	12
Availability / Supply	2	5	3	10
All other factors	3	2	2	NA

Note: Purchasers defined quality as certificate of analysis, grade/fineness of material (ash content, heavy metals, hydrolysis, viscosity, and volatiles/organic volatiles), meeting/consistently meeting manufacturer's published specifications, pH levels, quality of the end product produced with the PVA, and water resistance.

Note: Other factors include ability to meet specifications, contracts, credit/payment terms, and functionality.

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

Six of 15 purchasers reported that they sometimes purchase the lowest priced product for their purchases. Five of 15 purchasers reported that they usually purchase the lowest priced products, and four purchasers reported that they never purchase the lowest priced product.

Importance of specified purchase factors

Purchasers were asked to rate the importance of 19 factors in their purchasing decisions (table II-7). The factors rated as "very important" by more than half of responding purchasers were product consistency (all 15 firms); availability, price, and reliability of supply (14 firms each); quality meets industry standards (12 firms each); availability of preferred type (10 firms); viscosity, supplier prequalification, and delivery time (9 firms each); and hydrolysis (8 firms).

Table II-7
PVA: Importance of purchase factors, as reported by U.S. purchasers, by number of responding firms

Factor	Number of firms reporting		
	Very important	Somewhat important	Not important
Availability	14	1	---
Availability of preferred type	10	4	1
Delivery terms	4	11	---
Delivery time	9	6	---
Discounts offered	2	10	3
Extension of credit	2	7	6
Hydrolysis	8	7	---
Minimum quantity requirements	5	4	6
Packaging	4	9	2
Price	14	1	---
Product consistency	15	---	---
Product range	3	11	1
Quality exceeds industry standards	4	7	4
Quality meets industry standards	12	3	---
Reliability of supply	14	1	---
Supplier prequalification	9	5	2
Technical support/service	5	7	3
U.S. transportation costs	5	7	3
Viscosity	9	5	---

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

Supplier certification

Ten of 15 responding purchasers require their suppliers to become certified or qualified to sell PVA to their firm.[18] Due to the different uses for PVA, purchasers differ in their time frame for certification. One purchaser reported that the time to qualify a new supplier ranged between 180-500 days, one purchaser reported 540 days, four purchasers reported 180 days, one purchaser reported 30 days, one purchaser reported 10 days, and one purchaser reported that the time to qualify a new supplier was variable.

Purchasers reported varying certification processes. Several purchasers require an ISO quality certification, while others run production tests on sample product. Purchaser *** reported that its qualification process includes ***. *** explained that ***. Purchaser *** reported that ***. Two purchasers (***) reported that a supplier had failed in its attempt to qualify product or had lost its approval status since January 1, 2017. ***. Purchaser *** reported that ***.

Changes in purchasing patterns

Purchasers were asked about changes in their purchasing patterns from different sources since January 1, 2017 (table II-8). Purchasers that reported increasing purchases of U.S.-produced PVA indicated that they expanded their market share or added a new production facility, while purchasers that reported decreasing purchases of U.S.-produced product reported that their business had slowed, or purchases fluctuated with market cycles.

[18] Of the five firms that do not require their suppliers to become certified or qualified, one is a distributor, one is an adhesives producer, and one is a textile producer.

Table II-8
PVA: Changes in purchase patterns from U.S., subject, and nonsubject sources

Factor	Did not purchase	Decreased	Increased	Constant	Fluctuated
United States	1	3	5	4	2
China	9	1	1	---	2
Japan	10	1	1	1	---
All other sources	5	3	2	1	3
Sources unknown	10	---	---	---	---

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

Four of 15 responding purchasers reported that they had changed suppliers since January 1, 2017. All four purchasers (***) reported changing to U.S. producer Kuraray. One purchaser *** reported dropping ***. Purchaser *** reported that it switched to ***.

Importance of purchasing domestic product

Eleven of 15 responding purchasers reported that 100 percent of their purchases did not require U.S.-produced PVA. Four of 15 purchasers have a 5 to 95 percent requirement for purchasing U.S.-produced PVA. Purchaser *** stated that it has a ***. *** reported that there is a specific modified resin that requires it to purchase *** percent domestic. Purchaser (***) reported that U.S.-produced PVA was sometimes required by its customers for *** percent of its purchases, and *** stated that technical requirements was the reason for purchasing U.S.-produced PVA. No purchaser reported that U.S.-produced product was required by law for any of their 2019 purchases.

Comparisons of domestic products, subject imports, and nonsubject imports

Purchasers were asked a number of questions comparing PVA produced in the United States, subject countries, and nonsubject countries. First, purchasers were asked for a country-by-country comparison on the same 19 factors (table II-9) for which they were asked to rate the importance. When comparing PVA from the United States with PVA from subject and nonsubject sources, most purchasers reported that the product was comparable for most factors. Most purchasers reported that the U.S. is superior to China for availability, delivery time, delivery terms, product consistency, quality, reliability, technical support/service, and U.S. transportation cost; and reported that the U.S. is inferior to China only on price. Purchasers reported that the U.S. was superior to Japan in availability, delivery terms, and delivery time.

Most responding purchasers reported that U.S. and nonsubject PVA were comparable on 14 of 19 factors. Most purchasers also reported that U.S. product was superior for availability, delivery terms, delivery time, and technical support/service. One purchaser reported that PVA produced in the United States was inferior to PVA from nonsubject sources with respect to price.

Table II-9
PVA: Purchasers' comparisons between U.S.-produced and imported product

Factor	Number of firms reporting								
	U.S. vs. China			U.S. vs. Japan			China vs. Japan		
	S	C	I	S	C	I	S	C	I
Availability	6	2	---	5	2	---	1	1	1
Availability of preferred type	4	5	---	2	5	---	1	1	1
Delivery terms	5	2	---	4	2	---	---	2	---
Delivery time	8	1	---	4	2	1	---	3	---
Discounts offered	1	5	---	1	5	---	---	3	---
Extension of credit	2	4	---	1	4	---	---	2	---
Hydrolysis	2	7	---	1	7	---	---	4	---
Minimum quantity requirements	2	4	1	1	4	---	---	2	---
Packaging	2	7	---	---	8	---	---	4	---
Price	1	3	5	1	4	2	2	2	---
Product consistency	4	4	---	1	6	---	---	2	1
Product range	3	6	---	1	6	1	---	3	1
Quality exceeds industry standards	4	3	---	---	7	---	---	1	2
Quality meets industry standards	1	6	---	---	7	---	---	3	---
Reliability of supply	7	1	---	2	4	---	---	2	---
Supplier prequalification	2	5	---	---	7	---	---	3	---
Technical support/service	7	1	---	2	4	1	---	---	3
U.S. transportation costs	6	3	---	1	5	---	---	4	---
Viscosity	3	5	---	---	7	---	---	3	---

Table continued on next page.

Table II-9 –Continued
PVA: Purchasers' comparisons between U.S.-produced and imported product

Factor	Number of firms reporting								
	U.S. vs. Nonsubject			China Vs. Nonsubject			Japan vs. Nonsubject		
	S	C	I	S	C	I	S	C	I
Availability	4	4	---	---	4	---	---	3	1
Availability of preferred type	3	5	---	---	4	1	1	2	1
Delivery terms	6	3	---	---	4	---	---	2	1
Delivery time	7	2	---	---	4	---	---	3	---
Discounts offered	---	7	---	---	3	---	---	3	---
Extension of credit	---	7	---	---	3	---	---	3	---
Hydrolysis	1	8	---	---	3	1	---	4	---
Minimum quantity requirements	---	8	---	---	4	---	---	3	---
Packaging	1	9	---	---	4	---	---	4	---
Price	1	7	1	2	2	---	---	3	---
Product consistency	2	6	---	---	2	2	1	3	---
Product range	2	6	---	---	3	1	1	3	---
Quality exceeds industry standards	---	8	---	---	2	2	---	4	---
Quality meets industry standards	---	8	---	---	4	---	---	4	---
Reliability of supply	3	5	---	---	3	1	---	3	---
Supplier prequalification	---	8	---	---	4	---	---	4	---
Technical support/service	6	2	---	---	2	2	1	3	---
U.S. transportation costs	2	6	---	---	3	1	---	4	---
Viscosity	1	7	---	---	3	1	---	4	---

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

Note: S=first listed country's product is superior; C=both countries' products are comparable; I=first list country's product is inferior.

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

Comparison of U.S.-produced and imported PVA

In order to determine whether U.S.-produced PVA can generally be used in the same applications as imports from China, Japan, and all other countries, U.S. producers, importers, and purchasers were asked whether the products can "always," "frequently," "sometimes," or "never" be used interchangeably. As shown in table II-10, most U.S. producers, importers, and purchasers reported that product from the United States and China is frequently or sometimes interchangeable. *** U.S. producer and *** importer compared PVA from the United States and China and reported that it was always interchangeable. *** U.S. producer responded that the interchangeability of PVA produced in the United States and Japan were sometimes interchangeable; most producers and importers reported that product from these sources was frequently or sometimes interchangeable. Most purchasers reported that PVA from the United States and Japan were always or frequently interchangeable. Most importers and purchasers reported that Japan and nonsubject sources were always or frequently interchangeable and that PVA from China and nonsubject sources were more frequently interchangeable. Most importers and purchasers reported that PVA from the U.S. and nonsubject sources were frequently interchangeable.

Table II-10
PVA: Interchangeability between PVA produced in the United States and in other countries, by country pair

Country pair	U.S. producers				U.S. importers				U.S. purchasers			
	A	F	S	N	A	F	S	N	A	F	S	N
United States vs. China	1	1	1	---	1	3	3	---	3	3	5	---
United States vs. Japan	---	2	1	---	1	5	3	1	3	7	2	---
China vs. Japan	---	2	1	---	---	4	3	---	1	4	2	---
United States vs. Other	1	1	1	---	1	5	1	---	3	6	3	---
China vs. Other	---	2	1	---	---	5	1	---	1	3	2	---
Japan vs. Other	1	1	1	---	2	4	1	1	3	3	2	---

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

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

As can be seen from table II-11, the majority of responding purchasers reported that domestically produced and nonsubject sources PVA always or usually meets minimum quality specifications. Most purchasers reported that imports from Japan always or usually meets minimum quality specifications; while imports from China "sometimes" meets minimum quality specification.

Table II-11
PVA: Ability to meet minimum quality specifications, by source

Factor	Always	Usually	Sometimes	Rarely or never
United States	11	3	---	---
China	2	1	5	---
Japan	4	3	2	---
Other	5	3	---	---

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

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

Additionally, U.S. producers, importers, and purchasers were asked to assess how often differences other than price were significant in sales of PVA from the United States, subject, or nonsubject countries. As seen in table II-12, U.S. producers reported that differences other than price were "never" significant in all country comparisons, and most importers reported that differences other than price were mixed among "always", "sometimes", or "never" significant. Purchasers' responses regarding the significance of differences other than price were mixed among "always," "frequently", "sometimes," and "never." Importers *** stated that PVA supplied by non-Japanese countries did not work in their manufacturing processes or that the product they require is only produced in Japan. *** states that it almost always (with one exception) acquires its PVA domestically due to preferable pricing and logistics. Importer *** cite certain grades of PVA as only available from certain sources. Purchaser *** stated that their customers prefer US sourced products due to availability, quality, and available technical support if needed. Purchaser *** states that quality and performance are significant non-price factors in their decision-making processes.

Table II-12
PVA: Significance of differences other than price between PVA produced in the United States and in other countries, by country pair

Country pair	U.S. producers				U.S. importers				U.S. purchasers			
	A	F	S	N	A	F	S	N	A	F	S	N
United States vs. China	---	---	---	2	2	---	3	2	2	2	5	2
United States vs. Japan	---	---	---	2	3	2	3	2	1	2	7	1
China vs. Japan	---	---	---	2	1	---	3	2	1	1	4	1
United States vs. Other	---	---	---	2	2	---	3	2	2	1	8	1
China vs. Other	---	---	---	2	1	---	3	2	1	2	4	1
Japan vs. Other	---	---	---	2	2	---	4	2	1	1	4	2

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

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

Elasticity estimates

This section discusses elasticity estimates; parties were encouraged to comment on these estimates; these are addressed where appropriate.

U.S. supply elasticity

The domestic supply elasticity[19] for PVA measures the sensitivity of the quantity supplied by U.S. producers to changes in the U.S. market price of PVA. The elasticity of domestic supply depends on several factors including the level of excess capacity, the ease with which producers can alter capacity, producers' ability to shift to production of other products, the existence of inventories, and the availability of alternate markets for U.S.-produced PVA. Analysis of these factors earlier indicates that the U.S. industry has a moderate to large ability to increase or decrease shipments to the U.S. market; an estimate in the range of 4 to 6 is suggested.

U.S. demand elasticity

The U.S. demand elasticity for PVA measures the sensitivity of the overall quantity demanded to a change in the U.S. market price of PVA. This estimate depends on factors discussed earlier such as the existence, availability, and commercial viability of substitute products, as well as the component share of the PVA in the production of any downstream products. Based on the available information, the demand elasticity for PVA is likely to be in the range of -0.5 to -1.5.

Substitution elasticity

The elasticity of substitution depends upon the extent of product differentiation between the domestic and imported products.[20] Product differentiation, in turn, depends upon such factors as quality (e.g., chemistry, appearance, etc.) and conditions of sale (e.g., availability, sales terms/discounts/promotions, etc.). Based on available information, the elasticity of substitution between U.S.-produced PVA and imported PVA is likely to be in the range of 3 to 6.

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[19] A supply function is not defined in the case of a non-competitive market.

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

Domestic interested party stated that Chinese and Japanese PVA are highly substitutable with one another and domestically produced PVA with regards to standard grades and end-uses.[21] Based on purchaser questionnaire responses along with the differentiating characteristics and specialized end-uses described by purchaser Wacker for PVA,[22] staff maintains its current assessment on substitution elasticity.

[21] Domestic interested party Sekisui / Kuraray posthearing brief, pp. 17-19.
[22] Respondent interested party Wacker posthearing brief, pp. 3-5.

Part III: Condition of the U.S. industry

Overview

The information in this section of the report was compiled from responses to the Commission's questionnaires. Three firms, which accounted for all U.S. production of PVA during 2019, supplied information on their operations in these reviews.[1] Sekisui is the *** domestic producer of PVA, accounting for *** percent of U.S. production in 2019. The firm, which acquired the assets of the domestic Celanese PVA businesses on July 1, 2009, reported production of PVA in Calvert City, Kentucky, Dallas, Texas, and Pasadena, Texas ***. The *** producer of PVA is Kuraray America, accounting for *** percent of U.S. production in 2019. Kuraray America, which acquired the DuPont Elvanol® PVA and related businesses on June 1, 2014, reported production of PVA in Bayport, Texas and La Porte, Texas ***. Eastman is the *** U.S. producer of PVA, accounting for *** percent of domestic production in 2019. Eastman, which acquired Solutia on July 2, 2012, reported production of PVA in Indian Orchard, Massachusetts and Trenton, Michigan ***.

Changes experienced by the industry

Domestic producers were asked to indicate whether their firm had experienced any plant openings, relocations, expansions, acquisitions, consolidations, closures, or prolonged shutdowns because of strikes or equipment failure; curtailment of production because of shortages of materials or other reasons, including revision of labor agreements; or any other change in the character of their operations or organization relating to the production of PVA since 2014. Two of the three domestic producers indicated that they had experienced such changes; their responses are presented in table III-1.

[1] Of these three firms, *** reported producing excluded forms of PVA.

Table III-1
PVA: U.S. producers' reported changes in operations

Firm	Reported changed in operations
Plant openings	
***	***
Acquisitions	
***	***
Prolonged shutdowns or curtailments	
***	***
***	***

Table continued on next page.

Table III-1--Continued
PVA: U.S. producers' reported changes in operations

Firm	Reported changed in operations
Revised labor agreements	
***	***
Other	
***	***

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

Anticipated changes in operations

The Commission asked domestic producers to report anticipated changes in the character of their operations relating to the production of PVA. Eastman reported ***. Eastman explained that due to the effects of the COVID-19 pandemic on production and shipments, its "***" Kuraray America and Sekisui reported ***.

Impact of the COVID-19 pandemic

In the current proceedings, U.S. producers were asked to discuss the current and potential future impact of the COVID-19 pandemic on their firms' supply chain arrangements, production, shipments, and employment relating to PVA. Sekisui reported ***. Sekisui ***. Kuraray America reported that the net effect on their manufacturing operations ***. Kuraray America also stated that COVID-19 ***.[2] Eastman reported that "***." Sekisui and Kuraray America anticipate that the impact of the COVID-19 on their operations will continue into 2021.[3] Eastman anticipates, as discussed above, that ***.

[2] Demand for PVA started declining significantly in the latter part of the first quarter and into the second quarter of 2020, as major industries that consume PVA shut down completely due to COVID-19 restrictions. According to U.S. producers Sekisui and Kuraray America, "This impact was felt broadly across essentially all end uses and applications, with particularly significant short-term impact on PVB for auto glass. For example, during the early days of the COVID-19 pandemic, consumption of PVB film for automotive windshields fell 10 percent as U.S. automakers halted production for two months in Q1-Q2 2020. Demand recovered slightly in the second half of 2020, but the effects of COVID-19 related shutdowns are still being felt, particularly in end uses/applications such as automotive, textile, construction, and oil & gas." Sekisui / Kuraray Posthearing Brief, pp. 15-16.

[3] U.S. producers Sekisui and Kuraray America report that demand for PVA generally moves with increases or decreases in overall GDP. Accordingly, long-term recovery in PVA demand will be linked closely to how the overall U.S. economy recovers. At present, there is still considerable uncertainty as to whether changes in the U.S. economy driven by the COVID-19 crisis will be long-lasting, such as the shift to working remotely which has impacted demand in end-use industries such as paper, textiles, and construction. Moreover, there currently is no indication that any PVA end-use industry will increase consumption of PVA beyond pre-COVID levels. Sekisui / Kuraray Posthearing Brief, pp. 16-17.

U.S. production, capacity, and capacity utilization

Table III-2 and figure III-1 presents U.S. producers' production, capacity, and capacity utilization. U.S. producers' capacity was relatively flat during 2017-19,[4] increasing by *** percent from *** pounds in 2017 to *** pounds in 2019. U.S. producers' production increased by *** percent from 2017 to 2019, increasing from *** pounds in 2017 to *** pounds in 2018 and then decreasing to *** pounds in 2019. Capacity utilization also peaked in 2018, increasing from *** percent in 2017 to *** percent in 2018 and then declining to *** percent in 2019. U.S. producers' capacity, production, and capacity utilization were lower in interim 2020 compared with interim 2019.

Table III-2
PVA: U.S. producers' production, capacity, and capacity utilization, 2017-19, January-September 2019, January-September 2020

Item	Calendar year			January to September	
	2017	2018	2019	2019	2020
	Capacity (1,000 pounds)				
Eastman	***	***	***	***	***
Kuraray America	***	***	***	***	***
Sekisui	***	***	***	***	***
All firms	***	***	***	***	***
	Production (1,000 pounds)				
Eastman	***	***	***	***	***
Kuraray America	***	***	***	***	***
Sekisui	***	***	***	***	***
All firms	***	***	***	***	***
	Capacity utilization (percent)				
Eastman	***	***	***	***	***
Kuraray America	***	***	***	***	***
Sekisui	***	***	***	***	***
All firms	***	***	***	***	***

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

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

[4] As noted above, ***.

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

* * * * * * *

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

Constraints on capacity

U.S. producers were asked to describe the constraints that set the limit of their production capacity. Eastman reported ***. Kuraray America reported ***. Kuraray America also noted that "***." Sekisui reported ***. It noted that its PVA business is "***."

Alternative products

U.S. producers were asked to describe their ability to switch production between in-scope PVA and other products using the same equipment and/or labor. Eastman reported ***. Kuraray America reported ***. Sekisui reported ***. Sekisui also noted ***. Table III-3 presents the U.S. producers' overall capacity and production of PVA and other products.

Table III-3
PVA: U.S. producers' overall capacity and production of products on the same machinery as PVA, 2017-19, January-September 2019, and January-September 2020

Item	Calendar year			January to September	
	2017	2018	2019	2019	2020
	Quantity (1,000 pounds)				
Overall capacity	***	***	***	***	***
Production:					
PVA	***	***	***	***	***
Excluded PVA products	***	***	***	***	***
Other products	***	***	***	***	***
Total out-of-scope merchandise	***	***	***	***	***
Total production	***	***	***	***	***
	Ratios and shares (percent)				
Capacity utilization	***	***	***	***	***
Production:					
PVA	***	***	***	***	***
Excluded PVA products	***	***	***	***	***
Other products	***	***	***	***	***
Total out-of-scope merchandise	***	***	***	***	***
Total production	***	***	***	***	***

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

Note: Overall capacity figure in table III-3 differs from capacity figure in table III-2, as *** noted that its capacity figure in table III-3 is the combined nameplate capacity of its *** plants in Texas and its capacity figure in table II-2 is the practical translation of nameplate to production volumes due to product transition efficiency losses.

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

Toll production

Kuraray America reported that it had "***." Eastman reported that "***." Sekisui reported ***.

Foreign trade zone

None of the U.S. PVA producers produce PVA in and/or admit PVA into a foreign trade zone ("FTZ") and none were aware of any firms in the United States that import PVA into an FTZ for use in distribution of PVA and/or the production of downstream articles.

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

Table III-4 presents U.S. producers' U.S. shipments, export shipments, and total shipments. The quantity of U.S. producers' U.S. shipments declined by *** percent from 2017 to 2019. U.S. shipments were *** percent lower in January-September 2020 than in January-September 2019. U.S. commercial shipments were consistently the larger component of overall U.S. shipments, accounting for between *** and *** percent of total shipments during 2017-19. The unit values of commercial U.S. shipments ranged from *** per pound in 2017 to *** per pound in 2019, whereas the unit value of internal consumption remained at *** per pound during 2017 and 2019. Internal consumption as a share of total shipments ranged from *** percent to *** percent during 2017-19.[5]

The quantity of U.S. producers' export shipments, in contrast to U.S. shipments, increased by *** percent during 2017-19.[6] However, export shipments were *** percent lower in January-September 2020 than in January-September 2019. Transfers to related firms outside of the United States were consistently the *** component of overall export shipments, accounting for between *** and *** percent of total shipments during 2017-19. Sekisui, which has related PVA facilities in Japan and Spain, reported *** exports *** to ***. Kuraray America, which has related PVA facilities in Germany and Singapore, reported *** exports *** to ***. Eastman, which has a related PVA facility in Belgium, reported ***.

[5] During the period for which data were collected, Sekisui reported ***. Kuraray America reported ***. Eastman ***.

[6] Sekisui and Kuraray America report that domestic producers export PVA to other markets not because they are more attractive than the U.S. market, but rather because U.S. production of PVA exceeds U.S. demand. They note that PVA production is capital-intensive and requires high levels of capacity utilization in order to be profitable. Exports allow domestic producers to run higher and steadier capacity utilization, and cover fixed costs to a greater degree, than would be possible otherwise. Sekisui / Kuraray Posthearing Brief, pp. 24, 28.

Table III-4
PVA: U.S. producers' U.S. shipments, exports shipments, and total shipments, 2017-19, January-September 2019, and January-September 2020

Item	Calendar year			January to September	
	2017	2018	2019	2019	2020
	Quantity (1,000 pounds)				
Commercial shipments	***	***	***	***	***
Internal consumption	***	***	***	***	***
Transfer to related firms	***	***	***	***	***
U.S. shipments	***	***	***	***	***
Commercial export shipments	***	***	***	***	***
Transfers to related firms outside of US	***	***	***	***	***
Export shipments	***	***	***	***	***
Total shipments	***	***	***	***	***
	Value (1,000 dollars)				
Commercial shipments	***	***	***	***	***
Internal consumption	***	***	***	***	***
Transfer to related firms	***	***	***	***	***
U.S. shipments	***	***	***	***	***
Commercial export shipments	***	***	***	***	***
Transfers to related firms outside of US	***	***	***	***	***
Export shipments	***	***	***	***	***
Total shipments	***	***	***	***	***
	Unit value (dollars per pound)				
Commercial shipments	***	***	***	***	***
Internal consumption	***	***	***	***	***
Transfer to related firms	***	***	***	***	***
U.S. shipments	***	***	***	***	***
Commercial export shipments	***	***	***	***	***
Transfers to related firms outside of US	***	***	***	***	***
Export shipments	***	***	***	***	***
Total shipments	***	***	***	***	***

Table continued on next page.

Table III-4--Continued
PVA: U.S. producers' U.S. shipments, exports shipments, and total shipments, 2017-19, January-September 2019, and January-September 2020

Item	Calendar year			January to September	
	2017	2018	2019	2019	2020
	Share of quantity (percent)				
Commercial shipments	***	***	***	***	***
Internal consumption	***	***	***	***	***
Transfer to related firms	***	***	***	***	***
U.S. shipments	***	***	***	***	***
Commercial export shipments	***	***	***	***	***
Transfers to related firms outside of US	***	***	***	***	***
Export shipments	***	***	***	***	***
Total shipments	***	***	***	***	***
	Share of value (percent)				
Commercial shipments	***	***	***	***	***
Internal consumption	***	***	***	***	***
Transfer to related firms	***	***	***	***	***
U.S. shipments	***	***	***	***	***
Commercial export shipments	***	***	***	***	***
Transfers to related firms outside of US	***	***	***	***	***
Export shipments	***	***	***	***	***
Total shipments	***	***	***	***	***

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

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

U.S. producers' inventories

Table III-5 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. U.S. producers' inventories increased by *** percent during 2017-19 but were *** percent lower in interim 2020 compared to interim 2019. Inventories relative to U.S. producers' production, U.S. shipments, and total shipments increased during 2017-19; these ratios were also higher in interim 2020 compared with interim 2019.

Table III-5
PVA: U.S. producers' inventories, 2017-19, January-September 2019, and January-September 2020

Item	Calendar year			January to September	
	2017	2018	2019	2019	2020
	Quantity (1,000 pounds)				
U.S. producers' end-of-period inventories	***	***	***	***	***
	Ratio (percent)				
Ratio of inventories to.--					
U.S. production	***	***	***	***	***
U.S. shipments	***	***	***	***	***
Total shipments	***	***	***	***	***

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

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

U.S. producers' imports and purchases

Table III-6 presents data on U.S. producers' U.S. production and U.S. producers' and related importers' U.S. imports, purchases of imports, and ratios of imports to U.S. production of PVA. Eastman reported that it does not import subject merchandise, ***. Eastman states ***. Kuraray America reported *** it has directly imported excluded and subject forms of PVA from ***. Kuraray America is also indirectly related to MonoSol LLC, a U.S. importer of subject forms of PVA from ***.[7] Kuraray America indicated that it has imported PVA in the past ***.[8]

Sekisui reported that it has directly imported excluded and subject forms of PVA from ***. The firm explained that ***. Additionally, Sekisui ***. The firm reported *** Wego, who imported subject forms of PVA from China. Sekisui explained:

> ***.[9]

[7] Kuraray America's parent Kuraray Holdings U.S.A. wholly owns MonoSol Holdings, Inc., which in turn *** MonoSol LLC (MonoSol), an importer subject forms of PVA from ***. Kuraray America's U.S. Importer Questionnaire at I-3, I-4.

[8] Kuraray America states that ***. Sekisui / Kuraray Posthearing Brief, p. 20.

[9] Sekisui's U.S. Producer Questionnaire at II-9; and Sekisui / Kuraray Posthearing Brief, p. 15.

Table III-6
PVA: U.S. producers' U.S. production and U.S. producers' and related importers' U.S. imports, purchases of imports, and ratios of imports to U.S. production of subject PVA, 2017-19, January-September 2019, and January-September 2020

* * * * * * *

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

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

U.S. employment, wages, and productivity

Table III-7 shows U.S. producers' employment-related data. The number of production and related workers ("PRWs") engaged in the production of PVA remained relatively stable from 2017 to 2019 and during interim 2019 and 2020. Total hours worked, hours worked per PRW, and wages paid increased from 2017-19, but were lower in interim 2020 compared to interim 2019. Hourly wages increased from 2017 to 2019 and were higher in interim 2020 compared to interim 2019. Productivity decreased from 2017 to 2019 and was lower in interim 2020 compared to interim 2019. The combination of rising wage rates and declining productivity resulted in higher unit labor costs after 2018.

Table III-7
PVA: U.S. producers' employment related data, 2017-19, January-September 2019, and January-September 2020

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

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

Financial experience of U.S. producers

Background

U.S. producers, Kuraray America, Sekisui, and Eastman provided usable financial data. *** also provided data on its PVA tolling operation on behalf of ***. [10]

All of the responding U.S. producers provided their results on the basis of generally accepted accounting principles ("GAAP") and on a calendar-year basis.

Operations on PVA

Table III-8 presents aggregated data on U.S. producers' operations in relation to PVA over the period for which data were collected, while table III-9 presents corresponding changes in average unit values ("AUVs"). Table III-10 presents selected company-specific financial data.

[10] As noted above, ***. U.S. producer questionnaire response, II-11, II-9, and email from ***, November 24, 2020 ***. ***. Email from ***, November 30, 2020 ***. The average unit value of these ***.

Table III-8
PVA: Results of operations of U.S. producers, 2017-19, January-September 2019, and January-September 2020

Item	Calendar year			January to September	
	2017	2018	2019	2019	2020
	Quantity (1,000 pounds)				
Commercial shipments	***	***	***	***	***
Internal consumption	***	***	***	***	***
Transfers to related firms	***	***	***	***	***
Total net sales	***	***	***	***	***
	Value (1,000 dollars)				
Commercial shipments	***	***	***	***	***
Internal consumption	***	***	***	***	***
Transfers to related firms	***	***	***	***	***
Total net sales	***	***	***	***	***
Cost of goods sold.-- Raw materials	***	***	***	***	***
Direct labor	***	***	***	***	***
Other factory costs	***	***	***	***	***
Less: by-product revenue	***	***	***	***	***
Total COGS	***	***	***	***	***
Gross profit	***	***	***	***	***
SG&A expense	***	***	***	***	***
Operating income or (loss)	***	***	***	***	***
Interest expense	***	***	***	***	***
All other expenses	***	***	***	***	***
All other income	***	***	***	***	***
Net income or (loss)	***	***	***	***	***
Depreciation/amortization	***	***	***	***	***
Cash flow	***	***	***	***	***
	Unit value (dollars per pound)				
Commercial shipments	***	***	***	***	***
Internal consumption	***	***	***	***	***
Transfers to related firms	***	***	***	***	***
Total net sales	***	***	***	***	***
Cost of goods sold.-- Raw materials	***	***	***	***	***
Direct labor	***	***	***	***	***
Other factory costs	***	***	***	***	***
Less: by-product revenue	***	***	***	***	***
Average COGS	***	***	***	***	***
Gross profit	***	***	***	***	***
SG&A expense	***	***	***	***	***
Operating income or (loss)	***	***	***	***	***
Net income or (loss)	***	***	***	***	***

Table continued on next page.

Table III-8--Continued
PVA: Results of operations of U.S. producers, 2017-19, January-September 2019, and January-September 2020

Item	Calendar year			January to September	
	2017	2018	2019	2019	2020
	Ratio to COGS before by-product offset (percent)				
Cost of goods sold.-- Raw materials	***	***	***	***	***
Direct labor	***	***	***	***	***
Other factory costs	***	***	***	***	***
Total COGS	***	***	***	***	***
	Ratio to net sales (percent)				
Cost of goods sold.-- Raw materials	***	***	***	***	***
Direct labor	***	***	***	***	***
Other factory costs	***	***	***	***	***
Less: by-product revenue	***	***	***	***	***
Total COGS	***	***	***	***	***
Gross profit	***	***	***	***	***
SG&A expense	***	***	***	***	***
Operating income or (loss)	***	***	***	***	***
Net income or (loss)	***	***	***	***	***
	Number of firms reporting				
Operating losses	***	***	***	***	***
Net losses	***	***	***	***	***
Data	3	3	3	3	3

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

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

Table III-9
PVA: Changes in average unit values, between calendar years and partial year periods

Item	Between calendar years			January to September
	2017-19	2017-18	2018-19	2019-20
	Change in AUVs (percent)			
Commercial sales	***	***	***	***
Internal consumption	***	***	***	***
Transfers to related firms	***	***	***	***
Total net sales	***	***	***	***
Cost of goods sold.-- Raw materials	***	***	***	***
Direct labor	***	***	***	***
Other factory costs	***	***	***	***
Less: by-product revenue	***	***	***	***
Average COGS	***	***	***	***
	Changes in AUVs (dollars per pound)			
Commercial shipments	***	***	***	***
Internal consumption	***	***	***	***
Transfers to related firms	***	***	***	***
Total net sales	***	***	***	***
Cost of goods sold.-- Raw materials	***	***	***	***
Direct labor	***	***	***	***
Other factory costs	***	***	***	***
Less: by-product revenue	***	***	***	***
Average COGS	***	***	***	***
Gross profit	***	***	***	***
SG&A expense	***	***	***	***
Operating income or (loss)	***	***	***	***
Net income or (loss)	***	***	***	***

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

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

Table III-10
PVA: Select results of operations of U.S. producers, by company, 2017-19, January-September 2019, and January-September 2020

Firm	Calendar year			January to September	
	2017	2018	2019	2019	2020
	Net sales quantity (1,000 pounds)				
Eastman	***	***	***	***	***
Kuraray America	***	***	***	***	***
Sekisui	***	***	***	***	***
All firms	***	***	***	***	***
	Net sales value (1,000 dollars)				
Eastman	***	***	***	***	***
Kuraray America	***	***	***	***	***
Sekisui	***	***	***	***	***
All firms	***	***	***	***	***
	COGS (1,000 dollars)				
Eastman	***	***	***	***	***
Kuraray America	***	***	***	***	***
Sekisui	***	***	***	***	***
All firms	***	***	***	***	***
	Gross profit or (loss) (1,000 dollars)				
Eastman	***	***	***	***	***
Kuraray America	***	***	***	***	***
Sekisui	***	***	***	***	***
All firms	***	***	***	***	***
	SG&A expenses (1,000 dollars)				
Eastman	***	***	***	***	***
Kuraray America	***	***	***	***	***
Sekisui	***	***	***	***	***
All firms	***	***	***	***	***
	Operating income or (loss) (1,000 dollars)				
Eastman	***	***	***	***	***
Kuraray America	***	***	***	***	***
Sekisui	***	***	***	***	***
All firms	***	***	***	***	***

Table continued on next page.

Table III-10--Continued
PVA: Select results of operations of U.S. producers, by company, 2017-19, January-September 2019, and January-September 2020

Firm	Calendar year			January to September	
	2017	2018	2019	2019	2020
	Net income or (loss) (1,000 dollars)				
Eastman	***	***	***	***	***
Kuraray America	***	***	***	***	***
Sekisui	***	***	***	***	***
All firms	***	***	***	***	***
	COGS to net sales value (percent)				
Eastman	***	***	***	***	***
Kuraray America	***	***	***	***	***
Sekisui	***	***	***	***	***
All firms	***	***	***	***	***
	Gross profit or (loss) to net sales value (percent)				
Eastman	***	***	***	***	***
Kuraray America	***	***	***	***	***
Sekisui	***	***	***	***	***
All firms	***	***	***	***	***
	SG&A expenses to net sales value (percent)				
Eastman	***	***	***	***	***
Kuraray America	***	***	***	***	***
Sekisui	***	***	***	***	***
All firms	***	***	***	***	***
	Operating income or (loss) to net sales value (percent)				
Eastman	***	***	***	***	***
Kuraray America	***	***	***	***	***
Sekisui	***	***	***	***	***
All firms	***	***	***	***	***
	Net income or (loss) to net sales value (percent)				
Eastman	***	***	***	***	***
Kuraray America	***	***	***	***	***
Sekisui	***	***	***	***	***
All firms	***	***	***	***	***

Table continued on next page.

Table III-10--Continued
PVA: Select results of operations of U.S. producers, by company, 2017-19, January-September 2019, and January-September 2020

Firm	Calendar year			January to September	
	2017	2018	2019	2019	2020
	Unit net sales value (dollars per pound)				
Eastman	***	***	***	***	***
Kuraray America	***	***	***	***	***
Sekisui	***	***	***	***	***
All firms	***	***	***	***	***
	Unit raw materials (dollars per pound)				
Eastman	***	***	***	***	***
Kuraray America	***	***	***	***	***
Sekisui	***	***	***	***	***
All firms	***	***	***	***	***
	Unit direct labor (dollars per pound)				
Eastman	***	***	***	***	***
Kuraray America	***	***	***	***	***
Sekisui	***	***	***	***	***
All firms	***	***	***	***	***
	Unit other factory costs (dollars per pound)				
Eastman	***	***	***	***	***
Kuraray America	***	***	***	***	***
Sekisui	***	***	***	***	***
All firms	***	***	***	***	***
	Unit COGS (dollars per pound)				
Eastman	***	***	***	***	***
Kuraray America	***	***	***	***	***
Sekisui	***	***	***	***	***
All firms	***	***	***	***	***
	Unit gross profit or (loss) (dollars per pound)				
Eastman	***	***	***	***	***
Kuraray America	***	***	***	***	***
Sekisui	***	***	***	***	***
All firms	***	***	***	***	***

Table continued on next page.

Table III-10--Continued
PVA: Select results of operations of U.S. producers, by company, 2017-19, January-September 2019, and January-September 2020

Firm	Calendar year			January to September	
	2017	2018	2019	2019	2020
	Unit SG&A expense (dollars per pound)				
Eastman	***	***	***	***	***
Kuraray America	***	***	***	***	***
Sekisui	***	***	***	***	***
All firms	***	***	***	***	***
	Unit operating income or (loss) (dollars per pound)				
Eastman	***	***	***	***	***
Kuraray America	***	***	***	***	***
Sekisui	***	***	***	***	***
All firms	***	***	***	***	***
	Unit net income or (loss) (dollars per pound)				
Eastman	***	***	***	***	***
Kuraray America	***	***	***	***	***
Sekisui	***	***	***	***	***
All firms	***	***	***	***	***

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

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

Net sales

As presented in table III-8, total net sales include commercial sales, internal consumption and transfers to related firms, accounting for ***, ***, and *** percent, respectively, of total reported net sales by quantity; and ***, *** and *** percent of total reported net sales by value, respectively, in 2019. While both *** and *** reported commercial sales and transfers to related firms, *** accounted for the majority of the reported sales in these two categories.[11] Internal consumption was reported by ***; *** classified all of its reported sales as internal consumption.[12] [13]

Total net sales quantity decreased from *** pounds in 2017 to *** pounds in 2019 after an increase of *** percent between 2017 and 2018 and was lower in interim 2020 at *** pounds than in interim 2019 at *** pounds. Total net sales value declined from $*** to $*** between 2017 and 2019 and was lower in interim 2020 at $*** than in interim 2019 at $***. The total net sales AUV slightly decreased from 2017 to 2018, remained unchanged from 2018 to 2019, and was slightly higher in interim 2020 compared to interim 2019. The quantities of internal consumption and transfers to related firms increased by *** and *** percent respectively between 2017 and 2019, and were both lower in interim 2020 than in interim 2019. The value of internal consumption and transfers to related firms followed the same trend as the quantity.

[11] ***. Email from ***, December 9, 2020 ***.
[12] As previously noted, *** and *** entered a tolling agreement in 2018, ***.
[13] ***. Email from ***, December 17, 2020 ***. ***. *** U.S. producers' questionnaire, II-8.

The AUVs of these two categories of sales fluctuated within a narrow range, for internal consumption the AUV increased from $*** per pound in 2017 to $*** per pound in 2019, while the AUV of transfers to related firms increased from $*** per pound in 2017 to $*** per pound in 2019. The AUV of internal consumption was higher in interim 2020 at $*** per pound than in interim 2019 at $*** per pound, while that of transfers to related firms was lower in interim 2020 $*** per pound compared to interim 2019 at $*** per pound.

Cost of goods sold and gross profit or loss

PVA is manufactured by first combining ethylene with acetic acid to produce vinyl acetate monomer ("VAM"), polymerizing the VAM into polyvinyl acetate and then hydrolyzing the acetate groups with methanol in the presence of anhydrous sodium methylate or aqueous sodium hydroxide at moderate temperatures and pressures. [14] [15] As presented in table III-8, raw material costs represented the largest component of total COGS (*** percent) in 2019 before by-product offset.

[14] Ethylene may be produced by refining petroleum raw materials, or from ethane, which is a natural gas derivative; acetic acid may be produced through the aerobic bacterial oxidation of alcohol or the fermentation of dilute alcohol. Methanol is manufactured by the high-pressure organic synthesis of carbon monoxide and hydrogen. According to ***, PVA cost moves with the costs of VAM, which in turn are primarily driven by global ethylene costs. The firm also stated that supply-chain problems after Hurricane Harvey in 2017 increased VAM prices, which were affected by the force majeure declared by acetic acid manufacturers (***) in 2018, while the ethylene price remained stable. U.S. producer's questionnaire response of ***, IV-18.

[15] *** acquired the two U.S. plants making PVA from Celanese, ***. *** U.S. producers' questionnaire response, II-2a. Kuraray America ***. *** U.S. producers questionnaire response, II-2a.

Raw material costs overall decreased by *** percent between 2017 and 2019, increasing by *** percent between 2017 and 2018, and decreasing by *** percent between 2018 and 2019. Raw material costs were also lower in interim 2020 at $*** compared to interim 2019 at $*** primarily reflecting the decrease in sales volume.[16] On a per pound basis, raw material costs also increased between 2017 and 2018 from $*** to $*** before declining by $*** between 2018 and 2019. They were also lower in interim 2020 by $*** than in interim 2019. As a ratio to net sales, raw material costs decreased irregularly from *** percent in 2017 to *** percent in 2019 and were lower in interim 2020 at *** percent than in interim 2019 at *** percent. Table III-11 presents the value, average unit value, and share of value of raw materials, by type, for 2019.

Table III-11
PVA: Raw material costs, 2019

Raw materials	Calendar year 2019		
	Value (1,000 dollars)	Unit value (dollars per pound)	Share of value (percent)
VAM	***	***	***
Other raw material inputs	***	***	***
Total raw materials	***	***	***

Note: Other raw material inputs include sodium methylate, ethanol, methanol and variable energy.

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

[16] ***. Email from ***, November 30, 2020 ***.

Other factory costs, the second largest component of total COGS (*** percent) in 2019 before by-product offset, increased by *** percent between 2017 and 2019.[17] Other factory costs were however *** percent lower in interim 2020 than in interim 2019. On a per unit basis, other factory costs continuously increased between 2017 and 2019 and were lower in interim 2020 at $*** per pound than in interim 2019 at $*** per pound. As a ratio to net sales, other factory costs increased between 2017 and 2019 and were lower in interim 2020 at *** percent than in interim 2019 at *** percent.

Direct labor costs, the smallest share of total COGS (*** percent) in 2019 before by-product offset, increased continuously between 2017 and 2019 despite a decrease in net sales quantities during the same period; in interim 2020 direct labor costs were also higher at $*** than in interim 2019 at $***. Average per unit direct labor costs fluctuated within a narrow range of $*** between 2017 and 2019 and were higher in interim 2020 at $*** per pound than in interim 2019 at $*** per pound.[18]

The sale or reuse of by-products generated by the production of PVA provide some cost compensation or revenue. By-products vary: acetic acid recovery was reported by ***. The Commission's questionnaire requested firms to offset cost of goods sold with the value of by-products (table III-8) adding to the comparability of the data.[19] As presented in table III-8, by-product revenue increased irregularly, from $*** in 2017 to $*** in 2019 but was much lower in interim 2020 at $*** than in

[17] ***. Email from ***, December 15, 2020 ***.

[18] ***. Email from ***, February 23, 2021 ***.

[19] Firms may classify by-products as sales, an offset to raw material costs or total COGS, or as other income. However classified, by-products are valued at fair market value; the cost of recovering a by-product is embodied in the cost of the product, hence, by-products are considered to have zero cost. Sekisui normally classifies by-product revenues ***. Kuraray America classifies ***. Eastman ***.

interim 2019 at $***. In 2019, Sekisui reported $***, Kuraray America reported $***, and Eastman reported $*** of by-product revenues.

Overall total COGS increased by *** percent between 2017 and 2018 before decreasing by *** percent between 2018 and 2019, for an overall increase of *** percent between 2017 and 2019. Total COGS were also lower in interim 2020 than in interim 2019.

As presented in table III-8, gross profit declined from $*** in 2017 to $*** in 2018, and declined further to *** of $*** in 2019. In interim 2020 however the *** were lower at *** compared to interim 2019 at $***. On a per unit basis, gross profit also declined between 2017 and 2019 and the *** were lower in interim 2020 than in interim 2019. Only *** reported *** throughout the period for which data were collected.[20]

SG&A expenses and operating income or loss

As presented in table III-8, U.S. producers' selling, general, and administrative ("SG&A") expenses irregularly increased by *** percent between 2017 and 2019, and were lower in interim 2020 than in interim 2019 by *** percent. Relative to net sales, SG&A expenses increased from *** percent in 2017 to *** percent in 2019 and were higher in interim 2020 at *** percent than in interim 2019 at *** percent.

The U.S. industry reported *** from 2017 to 2019. However, in interim 2020 the *** at $*** compared to $*** in interim 2019. On a per unit basis, *** from 2017 to 2019, and was essentially unchanged in interim 2020 compared to interim 2019. Similarly, as a percentage to net sales, *** between 2017 and 2019 and was *** in interim 2020 than in interim 2019. *** was the *** U.S. producer to report *** throughout the period for which data were collected (see earlier discussion). *** decreased between 2017 and 2018, and overall slightly increased between 2017 and 2019, it was however lower in interim 2020 than in interim 2019. *** increased between 2017 and 2019 and was higher in interim 2020 than in interim 2019.

[20] ***. Email from ***, November 30, 2020 ***.

All other expenses and net income or loss

The industry's total interest expense decreased from $*** in 2017 to $*** in 2019 and was lower in interim 2020 at $*** than in interim 2019 at $***. All other expenses increased from $*** in 2017 to $*** in 2019 and were higher in interim 2020 at $*** than in interim 2019 at $***. The majority of the other expenses was reported by *** influencing the results of the industry's total. [21] The U.S. industry also reported a substantial increase in other income from $*** in interim 2020 compared to $*** in interim 2019. The majority of this increase was reported by ***.[22]

*** followed the trends of operating and gross *** by continuing to increase between 2017 and 2019, primarily driven by ***. *** also contributed to a substantial decrease in cash flow during the period of for which data were collected.

[21] ***. Email from ***, November 30, 2020 ***.

[22] ***. Email from ***, January 4, 2020 ***.

Variance analysis

A variance analysis for the operations of U.S. producers of PVA is presented in table III-12.[23] The information for this variance analysis is derived from table III-8. The analysis presents that the increased operating loss from 2017 to 2019 primarily reflects both a negative price variance and a negative net cost/expense variance (that is, prices declined while costs/expenses increased. Between the comparable interim periods, the lower operating loss primarily reflects a relatively large positive volume variance, reflecting the generally beneficial effects on operating income of lower net costs/expenses related due to lower volume. The positive price variance and negative net/cost expense variance between the comparable interim periods essentially offset each other.

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

Table III-12
PVA: Variance analysis on the operations of U.S. producers, between calendar years, and between partial year periods

Item	Between calendar years			January to September
	2017-19	2017-18	2018-19	2019-20
Net sales:				
Price variance	***	***	***	***
Volume variance	***	***	***	***
Net sales variance	***	***	***	***
Cost of sales:				
Cost/expense variance	***	***	***	***
Volume variance	***	***	***	***
Total cost of sales variance	***	***	***	***
Gross profit variance	***	***	***	***
SG&A expenses:				
Cost/expense variance	***	***	***	***
Volume variance	***	***	***	***
Total SG&A expense variance	***	***	***	***
Operating income variance	***	***	***	***
Summarized as:				
Price variance	***	***	***	***
Net cost/expense variance	***	***	***	***
Net volume variance	***	***	***	***

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

Capital expenditures and research and development expenses

Table III-13 presents capital expenditures and research and developments ("R&D") expenses by firm. Comments on the nature and focus of capital expenditures and R&D expenses are presented in table III-14.

The industry's capital expenditures decreased from $*** in 2017 to $*** in 2019 and were lower in interim 2020 than in interim 2019. *** 's capital expenditures decreased substantially between 2017 and 2019 compared to *** and ***.[24] [25] R&D expenses increased from $*** in 2017 to $*** in 2019 and were lower in interim 2020 than in interim 2019.

Table III-13
PVA: Capital expenditures and research and development expenses for U.S. producers, by firm, 2017-19, January-September 2019, and January-September 2020

	Calendar year			January to September	
	2017	2018	2019	2019	2020
Firm	Capital expenditures (1,000 dollars)				
Eastman	***	***	***	***	***
Kuraray America	***	***	***	***	***
Sekisui	***	***	***	***	***
All firms	***	***	***	***	***
	Research and development expenses (1,000 dollars)				
Eastman	***	***	***	***	***
Kuraray America	***	***	***	***	***
Sekisui	***	***	***	***	***
All firms	***	***	***	***	***

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

[24] ***. Email from ***, December 15, 2020 ***.
[25] ***. Email from ***, December 9, 2020 ***.

Table III-14
PVA: Nature and focus of capital expenditures and research and development (R&D) expenses for U.S. producers by firm since January 1, 2017

Firm	Nature and focus of capital expenditures
***	***
***	***
***	***
	Nature and focus of R&D expenses
***	***
***	***
***	***

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

Assets and return on assets

Table III-15 presents data on the U.S. producers' total assets and their return on assets ("ROA").[26] Total assets decreased by *** percent between 2017 and 2019. Both *** and *** reported an increase in their total assets between 2017 and 2019, while *** reported a decrease of *** percent during the same period, influencing the U.S. industry's combined data. ***'s negative ROA also influenced the industry's results, as it was the only U.S. producer to report a negative ROA. While both *** and *** reported a positive ROA, ***'s was substantially higher than that of ***.[27]

[26] The return on assets ("ROA") is calculated as operating income divided by total assets. With respect to a firm's overall operations, the total asset value reflects an aggregation of a number of assets which are generally not product specific. Thus, high-level allocations are generally required in order to report a total asset value for the subject product.

[27] ***. Email from ***, January 4, 2020 ***.

Table III-15
PVA: Value of assets used in production, warehousing, and sales and return on investment for U.S. producers by firm, calendar years 2017-19

Firm	Calendar year		
	2017	2018	2019
	Total net assets (1,000 dollars)		
Eastman	***	***	***
Kuraray America	***	***	***
Sekisui	***	***	***
All firms	***	***	***
	Operating return on assets (percent)		
Eastman	***	***	***
Kuraray America	***	***	***
Sekisui	***	***	***
All firms	***	***	***

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

Part IV: U.S. imports and the foreign industries

U.S. imports

Overview

The Commissioned issued questionnaires to 47 potential importers of PVA between 2014 and 2019.[1] Fifteen firms provided usable data and information in response to the questionnaires, while three firms indicated that they had not imported PVA during the period for which the data was collected. Based on official Commerce statistics for imports of PVA under HTSUS subheading 3905.30.0000, which includes excluded and subject forms of PVA, U.S. importers' questionnaire data accounted for *** percent of U.S. imports of PVA from all import sources during 2019.[2] In terms of imports of in-scope PVA, U.S. importers' questionnaire data accounted for *** U.S. imports of subject PVA from Japan[3] and *** U.S. imports of subject PVA from China[4] and nonsubject sources[5] during 2019.

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[1] The Commission issued questionnaires to firms identified in the responses to the Commission's noticed of institution, along with firms that, based on a review of data provided by U.S. Customs and Border Protection ("Customs"), may have imported PVA under HTS subheading 3905.30.00, which includes out-of-scope ("excluded") and in-scope ("subject") forms of PVA, between January 2014 and November 2019.

[2] U.S. importers reported importing *** pounds and 62,407,000 pounds of excluded and subject PVA, respectively, from all import sources during 2019. According to official import statistics, a total of 75,406,000 pounds of PVA was imported into the United States in 2019. Accordingly, it is estimated that U.S. importers' questionnaire data accounted for *** percent of U.S. imports of PVA from all import sources during 2019.

[3] Four firms responded to the Commission's questionnaire providing data on U.S. imports of subject PVA from Japan. *** firms provided data on U.S. imports of excluded PVA from Japan.

Japanese firm Kuraray Japan estimated that it produced *** the subject PVA that was exported from Japan to the United States in 2019. Based on Kuraray Japan's production figures and U.S. importers imports during 2019, it is estimated that the firms responding to the Commissioner's questionnaire accounted for *** imports of subject PVA from Japan during 2019.

[4] Four firms responded to the Commission's questionnaire providing data on imports of subject PVA from China. There were *** of excluded PVA from China.

U.S. importers' imports of PVA from China were *** pounds in 2019. According to official import statistics, 7,715,000 pounds of PVA from China entered the United States in 2019. Accordingly, it estimated that U.S. importers accounted for *** percent of U.S. imports of PVA from China during 2019.

[5] Six firms responded to the Commission's questionnaire providing data on U.S. imports of in-scope PVA from nonsubject sources (primarily from Germany and Taiwan). *** firms responded to the Commission's questionnaire providing data on U.S. imports of excluded PVA from nonsubject sources ***.

(*continued*...)

In light of the data coverage by the Commission's questionnaires, import data in this report are based on questionnaire responses reflecting subject forms of PVA. Import data presented in the geographical markets and presence in the market sections are based on official Commerce statistics which, as noted above, include excluded and in-scope forms of PVA.

Imports from subject and nonsubject sources

Table IV-1 and figure IV-1 present information on U.S. imports of in-scope PVA from China, Japan, and all other sources over the period for which data were collected. Subject imports from China decreased by *** percent during 2017-19 and were lower in interim 2020 as compared to interim 2019. Similarly, the share of total U.S. imports held by subject imports from China decreased from *** percent in 2017 to *** percent in 2019 and was at *** percent during January-September 2020. In contrast, subject imports from Japan increased by *** percent during 2017-19 but were lower in interim 2020 as compared to interim 2019. The share of total imports held by subject imports from Japan similarly increased from *** percent in 2017 to *** percent in 2019 but was lower at *** percent during January-September 2020. Imports from nonsubject sources also increased from 2017 to 2019 but were lower in interim 2020 as compared to interim 2019. Imports of subject PVA from Taiwan were the largest among nonsubject sources. During 2017-19, *** percent of imports from nonsubject sources were from Taiwan.

The unit values of U.S. imports from China increased from *** per pound in 2017 to *** per pound in 2019, and were at *** per pound during January-September 2020.[6] The unit values of U.S. imports from Japan decreased from *** per pound in 2017 to *** per pound in 2019 and were at *** per pound during January-September 2020. The unit values of U.S. imports from nonsubject sources increased from *** per pound in 2017 to *** per pound in 2019 and were at *** per pound during January-September 2020.

(…*continued*)

U.S. importers reported importing *** pounds and *** pounds of excluded and in-scope PVA, respectively, from nonsubject sources in 2019. According to official import statistics, 58,977,000 pounds of PVA from nonsubject sources were imported into the United States in 2019. Accordingly, it is estimated that U.S. importers' questionnaire data accounted for *** percent of U.S. imports of PVA from nonsubject sources during 2019.

[6] ***, which ***, reported ***. *** response ***, January 6, 2021 ***.

The ratio of subject imports from China to U.S. production decreased over the period of review from *** percent in 2017 to *** percent in 2019. By comparison, the ratio of subject imports from Japan to U.S. production increased from *** percent in 2017 to *** percent in 2019. The ratio of subject imports from nonsubject sources to U.S. production varied, decreasing from *** percent in 2017 to *** percent in 2018 and then increasing to *** percent in 2019. During January-September 2020, the ratio reached *** percent.

Table IV-1
PVA: U.S. imports of in-scope PVA by source 2017-19, January-September 2019, and January-September 2020

Item	Calendar year			January to September	
	2017	2018	2019	2019	2020
	Quantity (1,000 pounds)				
U.S. imports from.--					
China	***	***	***	***	***
Japan	***	***	***	***	***
Subject sources	***	***	***	***	***
Nonsubject sources	***	***	***	***	***
All import sources	62,699	56,700	62,407	49,231	43,108
	Value (1,000 dollars)				
U.S. imports from.--					
China	***	***	***	***	***
Japan	***	***	***	***	***
Subject sources	***	***	***	***	***
Nonsubject sources	***	***	***	***	***
All import sources	74,660	65,210	78,079	61,523	53,187
	Unit value (dollars per pound)				
U.S. imports from.--					
China	***	***	***	***	***
Japan	***	***	***	***	***
Subject sources	***	***	***	***	***
Nonsubject sources	***	***	***	***	***
All import sources	1.19	1.15	1.25	1.25	1.23

Table continued on the next page.

Table IV-1--Continued
PVA: U.S. imports of in-scope PVA by source 2017-19, January-September 2019, and January-September 2020

Item	Calendar year			January to September	
	2017	2018	2019	2019	2020
	Share of quantity (percent)				
U.S. imports from.-- China	***	***	***	***	***
Japan	***	***	***	***	***
Subject sources	***	***	***	***	***
Nonsubject sources	***	***	***	***	***
All import sources	***	***	***	***	***
	Share of value (percent)				
U.S. imports from.-- China	***	***	***	***	***
Japan	***	***	***	***	***
Subject sources	***	***	***	***	***
Nonsubject sources	***	***	***	***	***
All import sources	***	***	***	***	***
	Ratio to U.S. production (percent)				
U.S. imports from.-- China	***	***	***	***	***
Japan	***	***	***	***	***
Subject sources	***	***	***	***	***
Nonsubject sources	***	***	***	***	***
All import sources	***	***	***	***	***

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

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

Figure IV-1
PVA: U.S. import quantities and average unit values for in-scope PVA, 2017-19, January to September 2019, and January to September 2020

* * * * * * *

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

Excluded forms of PVA

Table IV-2 presents U.S. imports of excluded forms of PVA. U.S. imports from Japan comprised the largest share of such imports in each annual and interim period.

Table IV-2
Excluded PVA: U.S. imports of excluded PVA, 2017-19, January-September 2019, and January-September 2020

Item	Calendar year			January to September	
	2017	2018	2019	2019	2020
	Quantity (1,000 pounds)				
Excluded PVA from.--					
China	***	***	***	***	***
Japan	***	***	***	***	***
Germany	***	***	***	***	***
Singapore	***	***	***	***	***
Taiwan	***	***	***	***	***
All other sources[1]	***	***	***	***	***
All sources	***	***	***	***	***
	Value (1,000 dollars)				
Excluded PVA from.--					
China	***	***	***	***	***
Japan	***	***	***	***	***
Germany	***	***	***	***	***
Singapore	***	***	***	***	***
Taiwan	***	***	***	***	***
All other sources[1]	***	***	***	***	***
All sources	***	***	***	***	***
	Unit value (dollars per pound)				
Excluded PVA from.--					
China	***	***	***	***	***
Japan	***	***	***	***	***
Germany	***	***	***	***	***
Singapore	***	***	***	***	***
Taiwan	***	***	***	***	***
All other sources[1]	***	***	***	***	***
All sources	***	***	***	***	***

[1] Other sources ***.

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

Cumulation considerations

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

Fungibility

One of the largest end use applications in the United States for PVA is polyvinyl butyral (PVB). Kuraray and Sekisui reported the production of PVA for most major applications; in contrast, Eastman reported the production of PVA *** for PVB applications. Table IV-3 and figure IV-2 present U.S. shipments of PVA produced in the United States and U.S. imports of subject forms of PVA from subject and nonsubject sources by end use application during 2019. Table IV-4 and figure IV-3 present U.S. shipments of PVA produced in the United States and U.S. imports of subject forms of PVA from subject and nonsubject sources by hydrolysis level during 2019.

Table IV-3
PVA: U.S. producers and U.S. importers' U.S. shipments by end use application, 2019

Item	U.S.	China	Japan	Subject sources	Nonsubject sources	All import sources	U.S. producers and U.S. importers combined
	Quantity (1,000 pounds)						
Polyvinyl butyral	***	***	***	***	***	***	***
Textiles	***	***	***	***	***	***	***
Paper	***	***	***	***	***	***	***
Adhesive	***	***	***	***	***	***	***
Emulsion polymerization	***	***	***	***	***	***	***
Building materials	***	***	***	***	***	***	***
Pharmaceuticals	***	***	***	***	***	***	***
Other[1]	***	***	***	***	***	***	***
All end use applications	***	***	***	***	***	***	***
	Share across (percent)						
Polyvinyl butyral	***	***	***	***	***	***	***
Textiles	***	***	***	***	***	***	***
Paper	***	***	***	***	***	***	***
Adhesive	***	***	***	***	***	***	***
Emulsion polymerization	***	***	***	***	***	***	***
Building materials	***	***	***	***	***	***	***
Pharmaceuticals	***	***	***	***	***	***	***
Other[1]	***	***	***	***	***	***	***
All end use applications	***	***	***	***	***	***	***
	Share down (percent)						
Polyvinyl butyral	***	***	***	***	***	***	***
Textiles	***	***	***	***	***	***	***
Paper	***	***	***	***	***	***	***
Adhesive	***	***	***	***	***	***	***
Emulsion polymerization	***	***	***	***	***	***	***
Building materials	***	***	***	***	***	***	***
Pharmaceuticals	***	***	***	***	***	***	***
Other[1]	***	***	***	***	***	***	***
All end use applications	***	***	***	***	***	***	***

[1] ***.

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

Figure IV-2
PVA: U.S. producers and U.S. importers' U.S. shipments by end use application, 2019

* * * * * * *

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

Table IV-4
PVA: U.S. producers and U.S. importers' U.S. shipments by hydrolysis level, 2019

Item	U.S.	China	Japan	Subject sources	Nonsubject sources	All import sources	U.S. producers and U.S. importers combined
	Quantity (1,000 pounds)						
Greater than or equal to 97 percent	***	***	***	***	***	***	***
Greater than 85 percent but less than 97 percent	***	***	***	***	***	***	***
Less than or equal 85 percent	***	***	***	***	***	***	***
All hydrolysis levels	***	***	***	***	***	***	***
	Share across (percent)						
Greater than or equal to 97 percent	***	***	***	***	***	***	***
Greater than 85 percent but less than 97 percent	***	***	***	***	***	***	***
Less than or equal 85 percent	***	***	***	***	***	***	***
All hydrolysis levels	***	***	***	***	***	***	***
	Share down (percent)						
Greater than or equal to 97 percent	***	***	***	***	***	***	***
Greater than 85 percent but less than 97 percent	***	***	***	***	***	***	***
Less than or equal 85 percent	***	***	***	***	***	***	***
All hydrolysis levels	***	***	***	***	***	***	***

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

Figure IV-3
PVA: U.S. producers and U.S. importers' U.S. shipments by hydrolysis level, 2019

* * * * * * *

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

Geographical markets

Table IV-5 presents U.S. imports of excluded and subject forms of PVA (as reported in official Commerce statistics) from China and Japan during 2019 by border entry. Two-thirds of U.S. imports of PVA from China entered the United States through an eastern[7] point of entry. By comparison, two-thirds of U.S. imports of PVA from Japan entered the United States through a southern[8] point of entry. The majority of U.S. imports of PVA from nonsubject sources entered through a northern[9] point of entry. Only about a tenth of U.S. imports of PVA from all import sources entered through a western[10] point of entry.

[7] The "East" includes the following Customs entry districts: Boston, Massachusetts; Buffalo, New York; Charleston, South Carolina; Charlotte, North Carolina; New York, New York; Norfolk, Virginia; Ogdensburg, New York; Philadelphia, Pennsylvania; San Juan, Puerto Rico; Savannah, Georgia; and St. Albans, Vermont.

[8] The "South" includes the following Customs entry districts: Dallas-Fort Worth, Texas; Houston-Galveston, Texas; Laredo, Texas; New Orleans, Louisiana; and Mobile, Alabama.

[9] The "North" includes the following Customs entry districts: Chicago, Illinois; Cleveland, Ohio; Detroit, Michigan; St. Louis, Missouri; Great Falls, Montana; Milwaukee, Wisconsin; Minneapolis, Minnesota; and Pembina, North Dakota.

[10] The "West" includes the following Customs entry districts: Los Angeles, California; Nogales, Arizona; San Francisco, California; and Seattle, Washington.

Table IV-5
PVA: U.S. imports by border of entry, 2019

Item	Border of entry				
	East	North	South	West	All borders
	Quantity (1,000 pounds)				
U.S. imports from.--					
China	5,328	365	320	1,702	7,715
Japan	1,379	1,642	5,607	86	8,714
Subject sources	6,706	2,008	5,927	1,788	16,429
Nonsubject sources	13,439	26,066	14,655	4,816	58,977
All import sources	20,146	28,074	20,582	6,604	75,406
	Share across (percent)				
U.S. imports from.--					
China	69.1	4.7	4.1	22.1	100.0
Japan	15.8	18.8	64.3	1.0	100.0
Subject sources	40.8	12.2	36.1	10.9	100.0
Nonsubject sources	22.8	44.2	24.8	8.2	100.0
All import sources	26.7	37.2	27.3	8.8	100.0
	Share down (percent)				
U.S. imports from.--					
China	26.4	1.3	1.6	25.8	10.2
Japan	6.8	5.9	27.2	1.3	11.6
Subject sources	33.3	7.2	28.8	27.1	21.8
Nonsubject sources	66.7	92.8	71.2	72.9	78.2
All import sources	100.0	100.0	100.0	100.0	100.0

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

Note: Official imports statistics include excluded PVA.

Source: Official U.S. import statistics for HTS statistical reporting number 3905.30.0000, accessed November 20, 2020.

Presence in the market

Table IV-6 and figures IV-4 and IV-5 present information on U.S. imports of excluded and subject forms of PVA (as reported in official Commerce statistics) from subject and nonsubject sources by month. Imports of PVA from China, Japan, and nonsubject sources have entered the U.S. market in 45 of 45 months between January 2017 and September 2020.

Table IV-6
PVA: U.S. imports by month, January 2017-September 2020

U.S. imports	China	Japan	Subject sources	Nonsubject sources	All import sources
	Quantity (1,000 pounds)				
2017:					
January	1,536	492	2,029	4,835	6,864
February	615	708	1,323	4,702	6,025
March	858	749	1,607	4,025	5,632
April	1,260	843	2,104	6,373	8,477
May	797	851	1,648	3,614	5,261
June	1,159	783	1,942	5,098	7,040
July	1,519	980	2,499	5,893	8,393
August	514	562	1,076	4,310	5,386
September	566	717	1,283	4,804	6,087
October	517	1,085	1,602	4,723	6,325
November	629	1,064	1,693	3,340	5,032
December	1,223	1,427	2,650	4,982	7,632
2018:					
January	631	765	1,396	4,197	5,593
February	200	631	831	4,805	5,636
March	884	962	1,846	4,772	6,618
April	1,660	793	2,452	4,163	6,615
May	1,433	984	2,418	5,503	7,921
June	319	847	1,166	4,990	6,157
July	769	759	1,527	4,884	6,411
August	1,888	730	2,618	3,395	6,013
September	924	679	1,603	5,121	6,724
October	36	1,178	1,214	5,338	6,552
November	802	1,156	1,958	5,543	7,500
December	496	760	1,256	3,902	5,157

Table continued on the next page.

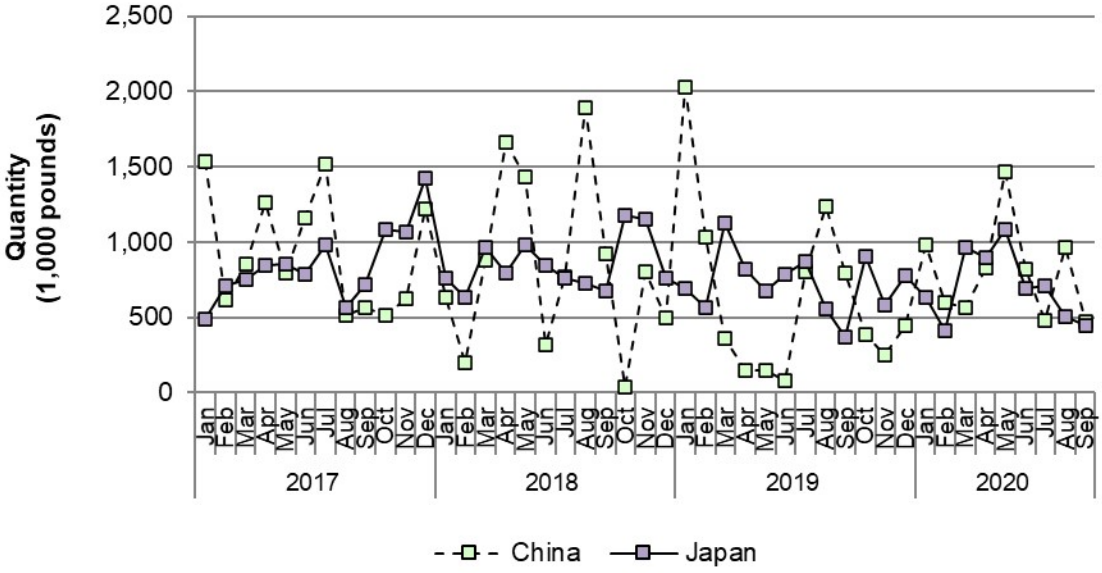
Table IV-6--Continued
PVA: U.S. imports by month, January 2017-September 2020

U.S. imports	China	Japan	Subject sources	Nonsubject sources	All import sources
	Quantity (1,000 pounds)				
2019:					
January	2,025	693	2,718	5,079	7,796
February	1,030	567	1,597	3,347	4,944
March	365	1,123	1,488	5,257	6,745
April	152	817	969	8,141	9,110
May	151	676	827	4,671	5,499
June	77	783	861	4,657	5,518
July	806	869	1,675	5,896	7,570
August	1,240	558	1,799	4,586	6,385
September	795	367	1,163	3,562	4,725
October	384	906	1,289	4,506	5,795
November	247	579	826	5,720	6,546
December	443	776	1,219	3,555	4,774
2020:					
January	984	632	1,616	4,963	6,579
February	598	409	1,007	4,957	5,964
March	568	964	1,533	5,753	7,286
April	825	899	1,724	6,246	7,970
May	1,465	1,083	2,548	6,698	9,246
June	822	692	1,514	5,608	7,122
July	482	706	1,188	5,080	6,268
August	961	509	1,470	5,025	6,495
September	475	450	925	3,593	4,518

Note: Official imports statistics include excluded PVA.

Source: Official U.S. import statistics for HTS statistical reporting number 3905.30.0000, accessed November 20, 2020.

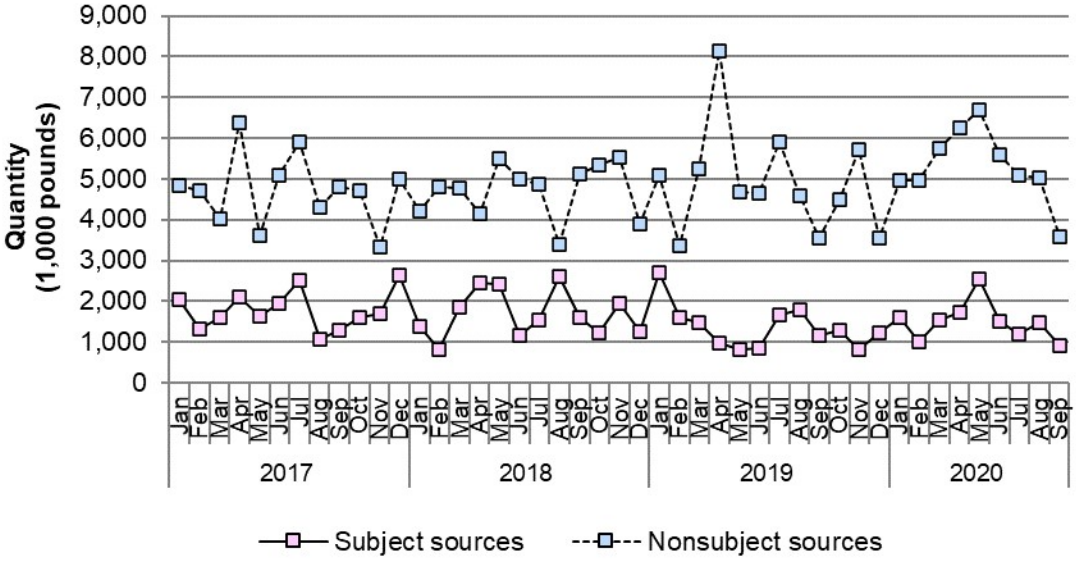
Figure IV-4
PVA: U.S. imports from individual subject source by month, January 2017-September 2020



Note: Official imports statistics include excluded PVA.

Source: Official U.S. import statistics for HTS statistical reporting number 3905.30.0000, accessed November 20, 2020.

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



Note: Official imports statistics include excluded PVA.

Source: Official U.S. import statistics for HTS statistical reporting number 3905.30.0000, accessed November 20, 2020.

U.S. importers' imports subsequent to September 2019

The Commission requested importers to indicate whether they had imported or arranged for the importation of subject forms of PVA from China, Japan, and all other sources combined for delivery after September 2020. Nine firms indicated that they had arranged such imports and provided quarterly data for their arranged imports for October 2020 through September 2021. Two firms reported arranged imports of PVA from China, four firms reported arranged imports of PVA imports from Japan, and four firms reported arranged imports of PVA from nonsubject sources. Table IV-7 presents data provided by U.S. importers on such arranged imports.

Table IV-7
PVA: U.S. importers' arranged imports, October 2020-September 2021

Item	Period				
	Oct-Dec 2020	Jan-Mar 2021	Apr-Jun 2021	Jul-Sep 2021	Total
	Quantity (1,000 pounds)				
Arranged U.S. imports from.--					
China	***	***	***	***	***
Japan	***	***	***	***	***
Subject sources	***	***	***	***	***
Nonsubject sources	***	***	***	***	***
All import sources	***	***	***	***	***

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

U.S. importers' inventories

Data relating to U.S. importers' inventories of PVA are presented in table IV-8. Although inventories of imports from Japan increased during 2017-19 and were higher interim 2020 than in interim 2019, inventories of subject sources combined decreased during the same periods. At the same time, inventories of imports from nonsubject sources increased.

Table IV-8
PVA: U.S. importers' end-of-period inventories of imports by source, 2017-19, January-September 2019, and January-September 2020

Item	Calendar year			January to September	
	2017	2018	2019	2019	2020
	Inventories (1,000 pounds); Ratios (percent)				
Imports from China: Inventories	***	***	***	***	***
Ratio to U.S. imports	***	***	***	***	***
Ratio to U.S. shipments of imports	***	***	***	***	***
Ratio to total shipments of imports	***	***	***	***	***
Imports from Japan: Inventories	***	***	***	***	***
Ratio to U.S. imports	***	***	***	***	***
Ratio to U.S. shipments of imports	***	***	***	***	***
Ratio to total shipments of imports	***	***	***	***	***
Imports from subject sources: Inventories	***	***	***	***	***
Ratio to U.S. imports	***	***	***	***	***
Ratio to U.S. shipments of imports	***	***	***	***	***
Ratio to total shipments of imports	***	***	***	***	***
Imports from nonsubject sources Inventories	***	***	***	***	***
Ratio to U.S. imports	***	***	***	***	***
Ratio to U.S. shipments of imports	***	***	***	***	***
Ratio to total shipments of imports	***	***	***	***	***
Imports from all import sources: Inventories	10,340	13,056	15,413	14,699	13,349
Ratio to U.S. imports	16.5	23.0	24.7	22.4	23.2
Ratio to U.S. shipments of imports	17.2	24.3	25.4	23.7	21.9
Ratio to total shipments of imports	17.2	24.2	25.4	23.7	21.9

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

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

The industry in China

Overview

In the original investigations and first full first-year reviews, the Commission collected data from Sinopec Sichuan Vinylon Works ("SVW"), the Chinese manufacturer/exporter that accounted for *** of China's reported exports of PVA to the United States during 2000-02. The Commission noted in the first full five-year reviews, however, that while SVW had been a primary exporter of Chinese PVA to the U.S. market, it was only one of approximately 14 firms believed to have produced PVA in China at that time. As noted in Part I, Commerce has completed two administrative reviews of SVW's antidumping duty margins for 2003-04 and 2014-05, in which it calculated 0.03 percent (*de minimis*) and 0.00 percent antidumping margins for SVW, respectively. In the second full five-year reviews, the Commission received a questionnaire from one exporting firm in China, which accounted for *** percent of PVA exports from China to the United States from January 2008 to September 2014.

In these third full five-year reviews, the Commission issued foreign producer/exporter questionnaires to 29 firms identified as possible producers or exporters of PVA in China. Despite repeated attempts by staff to elicit responses from Chinese producers,[11] only one firm responded to the Commission's questionnaire. Ultimately, the firm's questionnaire was not included in the analysis due to lack of data.[12]

[11] The Commission was in communication with SVW. However, after granting the firm several extensions to complete the questionnaire, SVW ultimately stated that it could not provide a questionnaire to the Commission.

[12] The firm in question, ***, reported that it had produced or exported PVA since January 2014. However, the firm provided neither production nor export data. The questionnaire was ultimately excluded from the analysis as the firm did not respond to the Commission's subsequent follow-up attempts to cure the questionnaire.

Table IV- 9 presents known Chinese producers of PVA in China and their annual production capacities, as reported by a secondary information source.

Table IV-9
PVA: Summary data for producers in China, 2014, 2017, and 2019

Item	2014	2017	2019
	Annual capacity (million pounds)		
Anhui Vinylon Co. Ltd.	***	***	***
Beijing Organic Co. Ltd.	***	***	***
Chang Chun PC Co. Ltd.	***	***	***
Guangxi Vinyon Co. Ltd.	***	***	***
Guodian Sinopec Co. Ltd.	***	***	***
Hunan Xiangwei Co. Ltd.	***	***	***
Inner Mongolia Xuangxin Co. Ltd.	***	***	***
Ningxai Dadi Chemical Co. Ltd.	***	***	***
Shanghai PC Co. Ltd.	***	***	***
Shanxi Sanwei Group Ltd.	***	***	***
Shijiazhuang Chemical Co. Ltd.	***	***	***
Sinopec Sichuan Vinylon ("SSV") Co. Ltd.	***	***	***
Yunnan Yunwei Co. Ltd.	***	***	***
Total	***	***	***

Source: Compiled from IHS Markit Ltd., "Polyvinyl Alcohol," *Chemical Economics Handbook*, May 29, 2020, p. 45. (converted from data originally presented in terms of thousands of metric tons).

Changes experienced by the industry

Several producers in China opened new or expanded their existing PVA production capacity. Although other Chinese producers shut down production capacity and exited the industry, ***.[13] Table IV-10 presents events in the Chinese industry since the previous five-year reviews.

[13] Chinese producers' combined PVA capacity totaled *** pounds in 2002, the original final year of investigation, and *** pounds in 2012 in the previous five-year reviews. Table IV-9, PVA: China production, imports, exports, and apparent consumption, 2002, 2007, and 2008-12, in: Second review confidential report, p. IV-18. See also table IV-11, PVA: Data on industry and market in China, 2014-19, in the "PVA operations" section below.

Table IV-10
PVA: Recent developments in the Chinese industry

Item	Firm	Event
Plant opening	***	***.
Expansion	***	***.
Expansion	***	***.
Expansion	***	***.
Expansion	***	***.
Idling	***	***.
Idling	***	***.
Closure	***	***.
Closure	***	***.
Closure	***	***.

Table continued on the next page.

Table IV-10--Continued
PVA: Recent developments in the Chinese industry

Item	Firm	Event
Closure	***	***.
Closure	***	***.
Restart	***	***.
Acquisition	***	***

Source: Wang, Joanne, "China's Ningxia Younglight Delays VAM Unit Commissioning to April," Independent Commodity Intelligence Services ("ICIS"), January 27, 2014, https://www.icis.com/explore/resources/news/2014/01/27/9747156/chinas-ningxia-younglight-delays-vamunit-commissioning-to-april/, retrieved June 2, 2020; Zhang, Fanny, "China's Ningxia Energy and Chemical Export PVOH For the First Time," ICIS, June 5, 2017, https://www.icis.com/explore/resources/news/2017/06/05/10112973/china-s-ningxia-energy-andchemical-export-pvoh-for-the-first-time/, retrieved June 2, 2020; Domestic interested parties' response to notice of institution, May 1, 2020, Attachment 1: "SSCA Market Data;" Attachment 2: "IHS Markit Report, Polyvinyl Alcohol (July 16, 2018)," p. 46; Attachment 3: "Sublime China Information, 2019-2020 China PVA Market Annual Report," p. 8; IHS Markit Ltd., "Polyvinyl Alcohol," *Chemical Economics Handbook*, May 29, 2020, pp. 45-46.

PVA operations

As previously noted above, no responses to the Commission's foreign producer/exporter questionnaire were received from producers of PVA from China. Information presented in this report for the Chinese industry has largely been obtained from secondary sources.

Table IV-11 presents data for the PVA industry and market in China.[14]

Table IV-11
PVA: Data on industry and market in China, 2014-19

Item	2014	2015	2016	2017	2018	2019
	Quantity (million pounds)					
Capacity	***	***	***	***	***	***
Production	***	***	***	***	***	***
Imports	***	***	***	***	***	***
Exports	***	***	***	***	***	***
Apparent consumption	***	***	***	***	***	***
	Ratio (percent)					
Capacity utilization	***	***	***	***	***	***

Source: Compiled from IHS Markit Ltd., "Polyvinyl Alcohol," *Chemical Economics Handbook*, May 29, 2020, p. 46 (converted from data originally presented in terms of thousands of metric tons).

China-wide PVA capacity increased by *** pounds between 2014 and 2019 as new capacity startups and capacity expansions more than offset reductions from facilities idling and closures.[15] Although China's PVA exports turned down in 2019 after consecutive year-on-year increases since 2014, export opportunities and an upturn of domestic demand reportedly prompted *** to restart production in *** at its previously idled facility.[16]

Alternative products

Since no Chinese producers provided a response to the Commission's questionnaire, data on the production of alternative products (e.g., excluded forms of PVA) in the same production facilities using the same production workers are not presented. However, according, to importer questionnaire responses received in these reviews, there were no U.S. imports of excluded forms of PVA from China during January 2017-September 2020.

[14] Information was not readily available about shipments and inventory levels in the PVA industry in China.

[15] For more details, see the discussion of "Production capacity" in the "Global markets" section below.

[16] IHS Markit Ltd., "Polyvinyl Alcohol," *Chemical Economics Handbook*, May 29, 2020, p. 46.

Exports

According to GTA, the leading export markets for PVA (broadly defined) from China are India and Belgium (table IV-12). During 2019, the United States accounted for only 1.7 percent of total PVA exports from China.

Table IV-12
PVA: Exports from China by destination market, 2017-19

Destination market	Calendar year		
	2017	2018	2019
	Quantity (1,000 pounds)		
United States	9,534	11,680	6,602
India	31,856	31,752	43,839
Belgium	25,591	21,902	34,822
Netherlands	29,267	30,261	29,912
Italy	16,436	17,891	24,612
Pakistan	19,004	18,096	22,915
Indonesia	17,829	18,052	22,374
Turkey	15,726	14,280	20,049
Germany	14,063	21,714	19,648
All other destination markets	113,148	138,835	152,771
All destination markets	292,454	324,463	377,545
	Value (1,000 dollars)		
United States	7,585	9,433	5,634
India	22,409	24,711	35,374
Belgium	17,304	15,738	27,355
Netherlands	18,657	20,505	22,435
Italy	10,726	12,786	18,781
Pakistan	13,637	13,502	18,581
Indonesia	12,664	13,799	17,513
Turkey	10,371	10,170	15,349
Germany	9,333	15,286	14,754
All other destination markets	78,510	106,358	123,975
All destination markets	201,195	242,287	299,751

Table continued on the next page.

Table IV-12--Continued
PVA: Exports from China by destination market, 2017-19

Destination market	Calendar year		
	2017	2018	2019
	Unit value (dollars per pound)		
United States	0.80	0.81	0.85
India	0.70	0.78	0.81
Belgium	0.68	0.72	0.79
Netherlands	0.64	0.68	0.75
Italy	0.65	0.71	0.76
Pakistan	0.72	0.75	0.81
Indonesia	0.71	0.76	0.78
Turkey	0.66	0.71	0.77
Germany	0.66	0.70	0.75
All other destination markets	0.69	0.77	0.81
All destination markets	0.69	0.75	0.79
	Share of quantity (percent)		
United States	3.3	3.6	1.7
India	10.9	9.8	11.6
Belgium	8.8	6.8	9.2
Netherlands	10.0	9.3	7.9
Italy	5.6	5.5	6.5
Pakistan	6.5	5.6	6.1
Indonesia	6.1	5.6	5.9
Turkey	5.4	4.4	5.3
Germany	4.8	6.7	5.2
All other destination markets	38.7	42.8	40.5
All destination markets	100.0	100.0	100.0

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. United States is shown at the top, all remaining top export destinations shown in descending order of 2019 data.

Source: Official exports statistics under HS subheading 3905.30 as reported by China Customs in the Global Trade Atlas database, accessed November 24, 2020.

The industry in Japan

Overview

During the Commission's original investigations and first five-year reviews, there were four known producers of PVA in Japan. In the original investigations, questionnaires were provided by Japanese producers Denki Kagaku Kogyo Kabushiki Kaisha ("DKK"), Japan VAM & Poval Co., Ltd. ("JVP"), and Kuraray Co. Ltd. ("Kuraray Japan").[17] These three Japanese producers accounted for *** percent of total capacity to produce PVA in Japan during 2003.[18] Only JVP, a wholly owned subsidiary of Shin-Etsu Group Co., provided a response to the Commission's questionnaire in the first full five-year reviews. The Commission noted that JVP, which was the *** producer of PVA in Japan, accounted for *** percent of total Japanese capacity to produce PVA during 2007.[19] In the second full five-year reviews, the Commission issued foreign producer/exporter questionnaires to the four firms identified as producers of PVA in Japan, all of which provided responses.

[17] Nippon Gohsei provided a complete response to the Commission's questionnaire in the preliminary phase of the original investigations, but provided only limited data in the final phase. *Investigations Nos. 731-TA-1014-1017 (Final): Polyvinyl Alcohol from China, Germany, Japan, and Korea*—Staff Report, INV-AA-056, May 27, 2003, p. VII-6.

[18] *Polyvinyl Alcohols, Chemical Economics Handbook*, SRI Consulting, December 2003, p. 32.

[19] *Investigation Nos. 731-TA-1014, 1016, and 1017 (Review): Polyvinyl Alcohol from China, Japan, and Korea—Report*, INV-GG-015, February 26, 2009, pp. I-24 and IV-22; *Polyvinyl Alcohols, Chemical Economics Handbook*, SRI Consulting, March 2007, p. 40.

In these third full five-year reviews, the Commission issued questionnaires to 18 firms identified as producers/exporters of PVA in Japan. Two firms, JPV and Kuraray Japan, provided a response.[20] The two firms estimate that they accounted for *** percent of production of subject PVA in Japan during 2019. Kuraray Japan estimates that it accounted for *** exports of subject PVA from Japan to the United States in 2019.[21] JVP exports *** excluded forms of PVA to the United States. Table IV-13 presents summary data on producer in Japan during 2019.

Table IV-13
PVA: Summary data on producers in Japan, 2019

Firm	Production (1,000 pounds)	Share of reported production (percent)	Exports to the United States (1,000 pounds)	Share of reported exports to the United States (percent)	Total shipments (1,000 pounds)	Share of firm's total shipments exported to the United States (percent)
JVP	***	***	***	***	***	***
Kuraray Japan	***	***	***	***	***	***
All firms	***	***	***	***	***	***

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

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

[20] Japanese producer Denka Company, Ltd. ("Denka Japan") and U.S. importer Denka Corporation ("Denka") collectively submitted a response to the Commission's notice of institution, stating, in part, that they were willing to participate in these reviews by providing the information requested by the Commission. The Commission subsequently determined to conduct full reviews noting in part that the respondent interested party group response with respect to Japan, which included Denka Japan and Japan VAM & Poval, was adequate. Foreign producer/exporter questionnaires were sent to these two and other Japanese firms. The Commission did not receive Denka Japan's foreign producer/exporter questionnaire by the return deadline, nor has it received the questionnaire after two follow-up correspondences. In its last communication to the Commission, Denka Japan stated that "circumstances changed and Denka Japan is no longer in a position to respond." Email from Denka Japan, November 23, 2020 (EDIS #726988).

[21] Kuraray Japan has two affiliated U.S. importers, Kuraray America and MonoSol LLC, ***.

As noted above, the Commission received responses to the foreign producer/exporter questionnaire from only two producers of PVA from Japan; therefore, information presented in this report for the Japanese industry has also been obtained from secondary sources. Table IV-14 presents Japanese producers of PVA in Japan and their annual production capacities from secondary sources.

Table IV-14
PVA: Summary data for producers in Japan, 2014, 2017, and 2019

Item	Plant location(s)	2014	2017	2019
		Quantity (million pounds)		
DS Poval Co. Ltd.	Itoigawa, Niigata Prefecture	***	***	***
JVP	Sakai, Osaka Prefecture	***	***	***
Kuraray Japan	Okayama, Okayama Prefecture	***	***	***
	Tainai, Niigata Prefecture	***	***	***
Nippon Gohsei[1]	Kurashiki, Okayama Prefecture	***	***	***
	Uto, Kumamoto Prefecture	***	***	***
Total		***	***	***

[1] Previously Nippon Synthetic Chemical Industry Co. Ltd.

Source: Compiled from IHS Markit Ltd., "Polyvinyl Alcohol," *Chemical Economics Handbook*, May 29, 2020, p. 51 (converted from data originally presented in terms of thousands of metric tons).

Changes experienced by the industry

Japanese producers were asked to indicate whether their firm had experienced any plant openings, relocations, expansions, acquisitions, consolidations, closures, or prolonged shutdowns because of strikes or equipment failure; curtailment of production because of shortages of materials or other reasons, including revision of labor agreements; or any other change in the character of their operations or organization relating to the production of PVA since January 2014. One firm, ***, responded and provide details on the topic of ***. It stated that it had "***."

Other events in the Japanese industry since the previous five-year reviews include corporate acquisitions by Mitsubishi Chemical Corp. ("MCC") and Denka Japan *** in Japan.[22] Table IV-15 presents events in the Japanese industry since the previous five-year reviews.

[22] Domestic interested parties' response to notice of institution, May 1, 2020, Attachment 1: "SSCA Market Data;" Attachment 2: "IHS Markit Report, Polyvinyl Alcohol (July 16, 2018)," p. 46.

Table IV-15
PVA: Recent developments in the Japanese industry

Item	Firm	Event
Acquisition	MCC	November 2016: MCC paid $425 million to acquire the remaining 49 percent of Nippon Gohsei and subsequently converted this PVA producer into a wholly owned subsidiary of the MCC Group.
Acquisition	MCC	April 2019: MCC subsequently merged the previously separate management of Nippon Gohsei as part of a broader corporate strategy "…to expand the profits of existing businesses and drive further growth of associated businesses in the MCC Group through new application and new product development..."
Acquisition	Denka Japan	March 2020: Denka Japan bought-out Sekisui Chemical Co. Ltd.'s ("Sekisui Japan") 49-percent stake in their former joint venture to produce PVA resin in Japan, DS Poval. Since then, DS Poval produces PVA for Denka Japan.

Source: *Plastics Today*, Mitsubishi Chemical to Acquire Specialty Resins Supplier," August 15, 2016, https://www.plasticstoday.com/packaging/mitsubishi-chemical-acquire-specialty-resinssupplier/115147157525043, retrieved June 2, 2020; Tremblay, Jean-François, "Mitsubishi Seeks Rest of Nippon Synthetic," *Chemical & Engineering News*, August 22, 2016, https://cen.acs.org/articles/94/i33/Mitsubishi-seeks-rest-Nippon-Synthetic.html#:~:text=Mitsubishi%20Chemical%20Holdings%20has%20offered,rest%20of%20the%20Japanese%20firm, retrieved June 2, 2020; Stark, Alexander, "Nippon Synthetic Chemical Absorbed by Mitsubishi Chemical," *Process-Worldwide*, October 25, 2018, https://www.processworldwide.com/nippon-synthetic-chemical-absorbed-by-mitsubishi-chemical-a-769888/, retrieved June 2, 2020; Domestic interested parties' response to notice of institution, May 1, 2020, p. 15; Denka's response to notice of institution, May 1, 2020, pp. 5-6; Denka, "Notice Regarding Termination of Joint Venture for Manufacturing Polyvinyl Alcohol Resins," March 19, 2020, https://www.denka.co.jp/eng/storage/news/pdf/272/20200319_denka_dspoval_en.pdf, retrieved June 2, 2020.

Anticipated changes in operations

The Commission asked Japanese producers to report anticipated changes in the character of their operations relating to the production of PVA. Kuraray Japan reported ***. JVP reported ***.

Operation on PVA

Table IV-16 presents data provided in response to the Commission's foreign producer/exporter questionnaire by the two Japanese producers of PVA.

Table IV-16
PVA: Data on industry in Japan, 2017-19, January-September 2019, and January-September 2020

Item	Calendar year			January to September	
	2017	2018	2019	2019	2020
	Quantity (1,000 pounds)				
Capacity	***	***	***	***	***
Production	***	***	***	***	***
End-of-period inventories	***	***	***	***	***
Shipments: Internal consumption/ transfers	***	***	***	***	***
Commercial home market shipments	***	***	***	***	***
Total home market shipments	***	***	***	***	***
Export shipments to: United States	***	***	***	***	***
European Union[1]	***	***	***	***	***
Asia[2]	***	***	***	***	***
All other markets[3]	***	***	***	***	***
Exports to other than the US	***	***	***	***	***
Total exports	***	***	***	***	***
Total shipments	***	***	***	***	***
	Value (1,000 dollars)				
Shipments: Internal consumption/ transfers	***	***	***	***	***
Commercial home market shipments	***	***	***	***	***
Total home market shipments	***	***	***	***	***
Export shipments to: United States	***	***	***	***	***
European Union[1]	***	***	***	***	***
Asia[2]	***	***	***	***	***
All other markets[3]	***	***	***	***	***
Exports to other than the US	***	***	***	***	***
Total exports	***	***	***	***	***
Total shipments	***	***	***	***	***

Table continued on the next page.

Table IV-16--Continued
PVA: Data on industry in Japan, 2017-19, January-September 2019, and January-September 2020

Item	Calendar year			January to September	
	2017	2018	2019	2019	2020
	Unit value (dollars per pound)				
Shipments: Internal consumption/ transfers	***	***	***	***	***
Commercial home market shipments	***	***	***	***	***
Total home market shipments	***	***	***	***	***
Export shipments to: United States	***	***	***	***	***
European Union[1]	***	***	***	***	***
Asia[2]	***	***	***	***	***
All other markets[3]	***	***	***	***	***
Exports to other than the US	***	***	***	***	***
Total exports	***	***	***	***	***
Total shipments	***	***	***	***	***
	Ratios and shares (percent)				
Capacity utilization	***	***	***	***	***
Inventories/production	***	***	***	***	***
Inventories/total shipments	***	***	***	***	***
Share of total shipments: Internal consumption/ transfers	***	***	***	***	***
Commercial home market shipments	***	***	***	***	***
Total home market shipments	***	***	***	***	***
Export shipments to: United States	***	***	***	***	***
European Union[1]	***	***	***	***	***
Asia[2]	***	***	***	***	***
All other markets[3]	***	***	***	***	***
Exports to other than the US	***	***	***	***	***
Total exports	***	***	***	***	***
Total shipments	***	***	***	***	***

[1] Principal European Union export markets are: ***.
[2] Principal Asian export markets are: ***.
[3] Principal other markets are: ***.

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

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

Table IV-17 presents data available from a secondary information source for the PVA industry and market in Japan.[23]

Table IV-17
PVA: Data on industry and market in Japan, 2014-19

Item	2014	2015	2016	2017	2018	2019
	Quantity (million pounds)					
Capacity	***	***	***	***	***	***
Production	***	***	***	***	***	***
Imports	***	***	***	***	***	***
Exports	***	***	***	***	***	***
Apparent consumption	***	***	***	***	***	***
	Ratio (percent)					
Capacity utilization	***	***	***	***	***	***

Source: Compiled from IHS Markit Ltd., "Polyvinyl Alcohol," *Chemical Economics Handbook*, May 29, 2020, p. 52 (converted from data originally presented in terms of thousands of metric tons).

Capacity, production, and capacity utilization

The Japanese industry's capacity to produce subject forms of PVA, which was based on operating 168 hours per week and 50-52 weeks per year, decreased overall by *** percent from 2017 to 2019, and was *** percent lower in interim 2020 than reported in interim 2019. Production of subject PVA decreased by *** percent during 2017-19 and was *** percent lower in interim 2020 than in interim 2019. As both capacity and production fell, capacity utilization also decreased from *** percent in 2017 to *** percent in 2019 and was at *** percent in January-September 2020.

Producers were asked to describe the constraints that set the limit on their production capacity. JVP reported that its constraints ***. Kuraray Japan reported ***.

[23] Information was not readily available about shipments and inventory levels in the PVA industry in Japan.

Shipments

The quantity of Japanese producers' shipments to the home market, which accounted for between *** to *** percent of their total shipments of subject PVA, increased from 2017 to 2018 but was lower in interim 2020 than in interim 2019. Internal consumption/transfers were the *** component of total home market shipments during 2017-19 and in interim periods 2019 and 2020. The unit values of commercial home market shipments ranged from $*** per pound in 2017 to $*** per pound in 2019, whereas unit values for internal consumption/transfer were lower, ranging from $*** per pound in 2017 to $*** per pound in 2019.

Japanese producers' exports, which accounted for between *** percent in 2018 and *** percent in 2017, decreased overall from 2017 to 2019. However, Japanese producers' exports were higher in January-September 2020 than in January-September 2019. Japanese producers' export to the United Stated ranged from *** to *** percent of total shipments during 2017-19. During 2019, *** percent of Japanese producers' total shipments of subject forms of PVA were to Asian countries, whereas *** percent were to countries within the European Union.

The Japanese producers were asked to identify any export markets (other than the United States) that they had developed or where they had increased their sales of PVA since 2014. JVP reported ***. Kuraray Japan stated "***."

Inventories

The Japanese industry's inventories increased by *** percent from 2017 to 2019. Inventories held at the end of September 2020 were lower than for same time period in 2019. The Japanese producers' ratio of inventories to production increased from 2017 to 2019 and were higher in interim 2020 than in interim 2019. Similarly, the Japanese producers' ratio of inventories to total shipments increased from 2017 to 2019 but was lower in January-September 2020 than in January-September 2019.

End-use application and hydrolysis levels

Table IV-18 presents the Japanese producers' production of subject forms of PVA by end use applications in 2019. Although over *** of production of subject forms of PVA in Japan are for "other" end uses (i.e., internal consumption, cosmetics, photo resist, PVC polymerization, oil and gas application, sales to distributors, water soluble film, and miscellaneous end uses), the single *** specified end-use application for subject forms of PVA produced in Japan is ***, followed by *** and ***. In terms of hydrolysis, *** of Japanese production of subject forms of PVA was hydrolyzed to a level greater than or equal to 97 percent. *** percent of subject forms of PVA was hydrolyzed to a level of less than or equal to 85 percent.

Table IV-18
PVA: Japanese industry's total shipments by hydrolysis and end use application, 2019

End use	Greater than or equal to 97 percent	Greater than 85 percent but less than 97 percent	Less than or equal to 85 percent	All hydrolysis
	Quantity (1,000 pounds)			
Polyvinyl butyral	***	***	***	***
Textiles	***	***	***	***
Paper	***	***	***	***
Adhesive	***	***	***	***
Emulsion polymerization	***	***	***	***
Building materials	***	***	***	***
Pharmaceuticals	***	***	***	***
Other[1]	***	***	***	***
All end use applications	***	***	***	***
	Ratios and shares (percent)			
Polyvinyl butyral	***	***	***	***
Textiles	***	***	***	***
Paper	***	***	***	***
Adhesive	***	***	***	***
Emulsion polymerization	***	***	***	***
Building materials	***	***	***	***
Pharmaceuticals	***	***	***	***
Other[1]	***	***	***	***
All end use applications	***	***	***	***

[1] Other end use applications included internal consumption, cosmetics, photo resist, PVC polymerization, oil and gas application, sales to distributors, water soluble film, and miscellaneous.

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

Alternative products

Japanese producers were asked about their ability to switch production (capacity) between subject forms of PVA and other products (such as excluded forms of PVA) using the same equipment and/or labor. JVP and Kuraray Japan reported ***. However, approximately *** of the production on the equipment used to produce subject PVA is also used to produce other products such as excluded forms of PVA. Table IV-19 presents the Japanese producers' overall plant capacity and production of PVA (both subject and excluded forms) and other products.

Table IV-19
PVA: Overall capacity and production on the same equipment as in-scope production for firms in Japan, 2017-19, January-September 2019, and January-September 2020

Item	Calendar year			January to September	
	2017	2018	2019	2019	2020
	Quantity (1,000 pounds)				
Overall capacity	***	***	***	***	***
Production:					
PVA	***	***	***	***	***
Excluded PVA products	***	***	***	***	***
Other products[1]	***	***	***	***	***
Out-of-scope production	***	***	***	***	***
Total production	***	***	***	***	***
	Ratios and shares (percent)				
Capacity utilization	***	***	***	***	***
Share of production:					
PVA	***	***	***	***	***
Excluded PVA products	***	***	***	***	***
Other products[1]	***	***	***	***	***
Out-of-scope production	***	***	***	***	***
Total production	***	***	***	***	***

[1] Other products include ***.

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

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

Excluded forms of PVA

Table IV-20 presents the Japanese producers' exports of the excluded forms of PVA to the United States. JVP and Kuraray Japan ***.

Table IV-20
PVA: Japanese producers' exports of excluded forms of PVA to the United States, 2017-19, January-September 2019, and January-September 2020

Item	Calendar year			January to September	
	2017	2018	2019	2019	2020
Exports of excluded forms of PVA to the U.S.:					
Quantity (1,000 pounds)	***	***	***	***	***
Value (1,000 dollars)	***	***	***	***	***
Unit value (dollars per pound)	***	***	***	***	***

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

Exports

According to GTA, the leading export markets for PVA (broadly defined) from Japan are China, the Netherlands, and Korea (table IV-21). During 2019, the United States was the sixth-largest export market for all forms of PVA from Japan, accounting for 6.5 percent.

Table IV-21
PVA: Exports from Japan by destination market, 2017-19

Destination market	Calendar year		
	2017	2018	2019
	Quantity (1,000 pounds)		
United States	9,805	12,306	10,741
China	42,671	40,432	40,178
Netherlands	19,244	21,720	18,596
Korea	18,775	18,953	15,207
India	15,965	15,347	14,817
Indonesia	15,055	12,575	12,879
Thailand	10,087	10,003	8,668
Belgium	17,306	9,187	6,446
Germany	5,631	5,187	5,226
All other destination markets	44,683	36,620	33,162
All destination markets	199,222	182,330	165,919
	Value (1,000 dollars)		
United States	15,887	20,433	17,928
China	49,826	49,657	48,607
Netherlands	21,205	26,339	21,881
Korea	19,886	20,675	19,455
India	15,414	15,416	15,486
Indonesia	15,199	13,354	13,424
Thailand	10,087	10,500	9,527
Belgium	15,560	10,562	7,421
Germany	8,205	8,912	8,986
All other destination markets	48,686	44,896	41,646
All destination markets	219,954	220,744	204,360

Table continued on the next page.

Table IV-21--Continued
PVA: Exports from Japan by destination market, 2017-19

Destination market	Calendar year		
	2017	2018	2019
	Unit value (dollars per pound)		
United States	1.62	1.66	1.67
China	1.17	1.23	1.21
Netherlands	1.10	1.21	1.18
Korea	1.06	1.09	1.28
India	0.97	1.00	1.05
Indonesia	1.01	1.06	1.04
Thailand	1.00	1.05	1.10
Belgium	0.90	1.15	1.15
Germany	1.46	1.72	1.72
All other destination markets	1.09	1.23	1.26
All destination markets	1.10	1.21	1.23
	Share of quantity (percent)		
United States	4.9	6.7	6.5
China	21.4	22.2	24.2
Netherlands	9.7	11.9	11.2
Korea	9.4	10.4	9.2
India	8.0	8.4	8.9
Indonesia	7.6	6.9	7.8
Thailand	5.1	5.5	5.2
Belgium	8.7	5.0	3.9
Germany	2.8	2.8	3.1
All other destination markets	22.4	20.1	20.0
All destination markets	100.0	100.0	100.0

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. United States is shown at the top, all remaining top export destinations shown in descending order of 2019 data.

Source: Official exports statistics under HS subheading 3905.30 as reported by Japan Ministry of Finance in the Global Trade Atlas database, accessed November 24, 2020.GTIS/GTA database.

Subject sources combined

Table IV-22 presents combined summary data on the industries and markets in China and Japan during 2014-19.

Table IV-22
PVA: Data on the industry in subject sources, 2014-19

Item	2014	2015	2016	2017	2018	2019
	Quantity (million pounds)					
China:						
Capacity	***	***	***	***	***	***
Production	***	***	***	***	***	***
Imports	***	***	***	***	***	***
Exports	***	***	***	***	***	***
Apparent consumption	***	***	***	***	***	***
Japan:						
Capacity	***	***	***	***	***	***
Production	***	***	***	***	***	***
Imports	***	***	***	***	***	***
Exports	***	***	***	***	***	***
Apparent consumption	***	***	***	***	***	***
Total, subject sources:						
Capacity	***	***	***	***	***	***
Production	***	***	***	***	***	***
Imports	***	***	***	***	***	***
Exports	***	***	***	***	***	***
Apparent consumption	***	***	***	***	***	***
	Capacity utilization (percent)					
China	***	***	***	***	***	***
Japan	***	***	***	***	***	***
Total, subject sources	***	***	***	***	***	***

[1] Not applicable.

Source: Compiled from IHS Markit Ltd., "Polyvinyl Alcohol," *Chemical Economics Handbook*, May 29, 2020, pp. 46, 52 (converted from data originally presented in terms of thousands of metric tons).

Antidumping or countervailing duty orders in third-country markets

The European Commission's ("EC") Directorate General for Trade ("EC-DGT") initiated an antidumping investigation of imports into the European Union of certain polyvinyl alcohols originating in China on July 30, 2019.[24] The EC-DGT informed interested parties, on March 30, 2020, that it did not intended to impose provisional measures and that its investigation will be continued.[25] The EC published its determinations and imposition of determinative measures, effective September 30, 2020, with definitive antidumping margins ranging from 17.3 percent to 72.9 percent ad valorem upon the subject product imported from cooperating Chinese producers and 72.9 percent ad valorem upon other Chinese producers.[26] These five-year

[24] The EC-DGT's notice of initiation described the product under investigation as: "…certain PVA in the form of homopolymer resins with a viscosity (measured in 4 % solution) of 3 mPas or more but not exceeding 61 mPas and a degree of hydrolysis of 80,0 mol% or more but not exceeding 99,9 mol%." EC-DGT, "Notice of Initiation of an Anti-dumping Proceeding Concerning Imports of Certain Polyvinyl Alcohols Originating in the People's Republic of China," 2019/C 256/03, July 30, 2019, p. C 256/4, https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52019XC0730%2801%29&from=EN, retrieved May 26, 2020.

After the investigation revealed that the measurement method for viscosity and degree of hydrolysis was not sufficiently precise and could lead to misinterpretation and misclassification by national customs authorities, the EC-DGT subsequently clarified the product description as: "…poly(vinyl alcohol), whether or not containing unhydrolysed acetate groups, in the form of homopolymer resins with a viscosity (measured in 4 % aqueous solution at 20 °C) of 3 mPa·s or more but not more than 61 mPa·s and a degree of hydrolysis of 80,0 mol% or more but not more than 99,9 mol%, both measured according to the ISO 15023-2 method." EC-DGT, "Notice Clarifying the Notice of Initiation of an Anti-dumping Proceeding Concerning Imports of Certain Polyvinyl Alcohols Originating in the People's Republic of China," 2019/C 378/08, November 7, 2019, p. C 378/9, https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=OJ:JOC_2019_378_R_0008&from=EN, retrieved May 26, 2020.

[25] EC-DGT, "Information at Provisional Stage (Pre-disclosure)," 2930, March 9, 2020, https://trade.ec.europa.eu/tdi/notices.cfm?syear=2020&publication=2930&action=readfile, retrieved May 26, 2020.

[26] EC, "Commission Implementing Regulation (EU) 2020/1336 of 25 September 2020 Imposing Definitive Anti-dumping Duties on Imports of Certain Polyvinyl Alcohols Originating in the People's Republic of China," *Official Journal of the European Union*, September 29, 2020, para. 659, p. L 315/53; and para. 673, p. L 315/82, https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32020R1336&from=EN.

antidumping duties are scheduled to expire on September 30, 2025.[27] [28] The United Kingdom's HM Revenue & Customs ("HMRC") separately announced the EC's imposition of these antidumping duties.[29] Domestic interested parties claimed not to be aware of any other antidumping or countervailing duty investigations in third-country markets on PVA originating in either China or Japan.[30]

Global market

Production capacity

Global PVA production capacity is concentrated in China, which accounted for the majority (*** percent) of the worldwide total in 2019 (table IV-23). By contrast, Japan accounted for *** percent and the United States accounted for *** percent of global capacity in that year.[31] Between 2014 and 2017, capacity expansions in China, Germany, and the United States increased overall global PVA capacity (by *** percent) from *** pounds to *** pounds. Subsequently, between 2017 and 2019, capacity expansions in China and Taiwan resulted in slightly increased overall global PVA capacity (by slightly more than *** percent) from *** pounds to *** pounds.

[27] EC-DGT, "Case History, Polyvinyl Alcohol (Certain) (PVA)," last update: December 21, 2020, https://trade.ec.europa.eu/tdi/case_history.cfm?id=2405&init=2405, retrieved December 21, 2020.

[28] Three of the subject Chinese producers reportedly filed challenges to the EC antidumping order. Wacker Posthearing Brief, p. 14; Exhibit 3 "Info Curia, Case Law, Case Information, Cases T-762/20, T-763/20, T-764/20."

[29] HMRC, "Imports of certain polyvinyl alcohols from China (anti-dumping duty 2429)," October 12, 2020, https://www.gov.uk/government/publications/imports-of-certain-polyvinyl-alcohols-from-china-anti-dumping-duty-2429/imports-of-certain-polyvinyl-alcohols-from-china-anti-dumping-duty-2429, retrieved December 21, 2020.

[30] Sekisui / Kuraray Posthearing Brief, pp. 23-24. Wacker did not provide any further information in its posthearing brief.

[31] Korea, a subject source in the Commission's full second five-year reviews, no longer produces PVA as of early 2009, after the sole domestic producer, DC Chemical Co. Ltd. (subsequently renamed as OCI Co. Ltd.), decided to exit from PVA and several other product lines with limited growth potential. Second review publication, p. IV-22.

Table IV-23
PVA: Global annual capacity and capacity shares, by production locations, 2014, 2017, and 2019

Location	Annual production capacity			Share of global annual capacity		
	2014	2017	2019	2014	2017	2019
	Quantity (million pounds)			Share of quantity (percent)		
China	***	***	***	***	***	***
Japan	***	***	***	***	***	***
United States	***	***	***	***	***	***
Taiwan	***	***	***	***	***	***
Germany	***	***	***	***	***	***
Singapore	***	***	***	***	***	***
Spain	***	***	***	***	***	***
Belgium	***	***	***	***	***	***
United Kingdom	***	***	***	***	***	***
Russia	***	***	***	***	***	***
Slovakia	***	***	***	***	***	***
Ukraine	***	***	***	***	***	***
Total	***	***	***	***	***	***

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

Source: Compiled from IHS Markit Ltd., "Polyvinyl Alcohol," *Chemical Economics Handbook*, May 29, 2020, pp. 19, 30, 38, 46, 52, 58, 60 (converted from data originally presented in terms of thousands of metric tons).

Japan-based Kuraray Japan is the world's largest PVA producer, with facilities located in Germany, Japan, Singapore, and the United States, accounting for *** of global capacity in 2019 (table IV-24). After acquiring its first U.S. PVA facility in La Porte, Texas from Dupont in June 2014,[32] and expanding its capacity from *** pounds to *** pounds in that same year,[33] Kuraray Japan dedicated its new *** pounds PVA facility in Pasadena, Texas in April 2016.[34] In Germany, Kuraray Japan continued expanding the PVA production capacity at its facility in Frankfurt during 2014-15 from *** pounds to *** pounds,[35] reportedly to meet growing regional end-use

[32] Kuraray Japan, "Dedication Ceremony Held for New U.S. Polyvinyl alcohol ("PVA") Resin Plant," April 22, 2016, https://www.kuraray.com/news/2016/160422, retrieved May 27, 2020.

[33] IHS Markit Ltd., "Polyvinyl Alcohol," *Chemical Economics Handbook*, May 29, 2020, pp. 18, 19 (converted from data originally presented in terms of thousands of metric tons).

[34] Kuraray Japan , "Dedication Ceremony Held for New U.S. Polyvinyl alcohol ("PVA") Resin Plant," April 22, 2016, https://www.kuraray.com/news/2016/160422, retrieved May 27, 2020 (converted from data originally presented in terms of thousands of metric tons).

[35] IHS Markit Ltd., "Polyvinyl Alcohol," *Chemical Economics Handbook*, May 29, 2020, pp. 30, 32 (converted from data originally presented in terms of thousands of metric tons).

market demand for PVA.[36] However, ***.[37] PVA capacity in China increased by *** pounds over this six-year period. New capacity by *** along with capacity expansions by ***, which together totaled *** pounds, more than offset losses from facilities closures by ***, and facilities idling by ***, which together totaled *** pounds (tables IV-9 and IV-10).[38]

Taiwan-based Chang Chung Petrochemical's expansion of the annual PVA production capacity at its Lai Liao facility by *** pounds (table IV-24), was reportedly anticipated for completion by first-half 2018.[39]

[36] Kuraray Japan, "Kuraray to Expand PVA Resin Production Facility in Europe," January 14, 2011, https://www.kuraray.com/news/2011/110114, retrieved June 5, 2020.; Kuraray Europe GmbH, "Kuraray to Expand Production of Polyvinyl Alcohol in Frankfurt," January 21, 2011, https://www.kuraray.eu/company/media/singleview?tx_news_pi1%5Baction%5D=detail&tx_news_pi1%5Bcontroller%5D=News&tx_news_pi1%5Bnews%5D=34&cHash=88c2f74f95537c4d4124bc13c1d58cd1, retrieved June 5, 2020.

[37] Domestic interested parties' written submission, June 2, 2020, Attachment 1: "IHS Markit Report, Polyvinyl Alcohol (July 16, 2018)," p. 25.

[38] IHS Markit Ltd., "Polyvinyl Alcohol," *Chemical Economics Handbook*, May 29, 2020, pp. 45-46 (converted from data originally presented in terms of thousands of metric tons).

[39] Mitsubishi Power, "MHPS Receives Order for Steam Turbine Set for Chang Chun Petrochemical of Taiwan -- Core of Cogeneration Facility Expansion Project at Miaoli Plant," news release No. 071, August 8, 2016, https://power.mhi.com/news/20160808.html, retrieved December 21, 2020.

Table IV-24
PVA: Global producers and annual capacities, by production locations, 2014, 2017, and 2019

Producer	Location(s)	Annual capacity		
		2014	2017	2019
		Quantity (million pounds)		
	Japan	***	***	***
	United States	***	***	***
	Germany	***	***	***
Kuraray Co. Ltd.	Singapore	***	***	***
Subtotal		***	***	***
Anhui Vinylon	China	***	***	***
Sinopec Sichuan Vinylon ("SVW")	China	***	***	***
Inner Mongolia Xuangxin	China	***	***	***
Chang Chung Petrochemical Co. Ltd.	Taiwan	***	***	***
Ningxai Dadi Chemical	China	***	***	***
Chang Chun PC	China	***	***	***
	United States	***	***	***
Sekisui Chemical Co.	Spain	***	***	***
Subtotal		***	***	***
Guodian Sinopec	China	***	***	***
Shanxi Sanwei Group	China	***	***	***
Japan VAM & Poval Co. ("JVP")	Japan	***	***	***
Nippon Gohsei1	Japan	***	***	***
	United States	***	***	***
Eastman Chemical Co.	Belgium	***	***	***
Subtotal		***	***	***
DS Poval Co. Ltd. (“DS Poval”)	Japan	***	***	***
Wacker Chemie AG	Germany	***	***	***
Synthomer plc	United Kingdom	***	***	***
EuroChem Group	Russia	***	***	***
Novácke Chemické2	Slovakia	***	***	***
SSME Azot Association	Ukraine	***	***	***
Dupont de Nemours Inc.2	United States	***	***	***
Six other Chinese producers3	China	***	***	***
Total		***	***	***

[1] Previously Nippon Synthetic Chemical Industry Co. Ltd.
[2] Acquired by Fortischem a.s. in 2012.
[3] The largest producer’s annual production capacities do not exceed *** pounds.

Source: Compiled from IHS Markit Ltd., “Polyvinyl Alcohol,” *Chemical Economics Handbook*, May 29, 2020, pp. 18, 30, 38, 45, 51, 58, 60 (converted from data originally presented in terms of thousands of metric tons).

Consumption

Global PVA consumption is concentrated in Northeast Asia, as China accounted for almost *** (*** percent) and Japan accounted for *** percent of the worldwide total in 2019 (table IV-25). Other large consuming regions include Western Europe, which accounted for *** percent, and the United States, which accounted for *** percent of worldwide consumption in that year. Between 2014 and 2017, China's *** percent consumption decline was significant enough to offset increased consumption in the United States and Japan, for worldwide PVA consumption to decline by *** percent. Subsequently, between 2017 and 2019, global consumption turned upward by *** percent as U.S. consumption grew less (*** percent), Japanese consumption grew slightly more (*** percent), and Chinese consumption shrank less (*** percent). Over the entire 2014-19 period, global PVA consumption shrank slightly (*** percent).

Table IV-25
PVA: Global capacity, production, imports, exports, apparent consumption, and consumption growth, by region, 2014, 2017, and 2019

Item	2014	2017	2019	2014	2017	2019
	Capacity			Production		
	Quantity (million pounds)			Quantity (million pounds)		
North America: United States	***	***	***	***	***	***
Canada and Mexico	***	***	***	***	***	***
Subtotal	***	***	***	***	***	***
South America	***	***	***	***	***	***
Western Europe[1]	***	***	***	***	***	***
Central Europe[2]	***	***	***	***	***	***
Commonwealth of Independent States ("CIS")[3]	***	***	***	***	***	***
Africa and the Middle East[4]	***	***	***	***	***	***
Indian Subcontinent	***	***	***	***	***	***
Northeast Asia: China	***	***	***	***	***	***
Japan	***	***	***	***	***	***
Korea	***	***	***	***	***	***
Taiwan	***	***	***	***	***	***
Subtotal	***	***	***	***	***	***
Southeast Asia	***	***	***	***	***	***
Total	***	***	***	***	***	***
	Imports			Exports		
	Quantity (million pounds)			Quantity (million pounds)		
North America: United States	***	***	***	***	***	***
Canada and Mexico	***	***	***	***	***	***
Subtotal	***	***	***	***	***	***
South America	***	***	***	***	***	***
Western Europe[1]	***	***	***	***	***	***
Central Europe[2]	***	***	***	***	***	***
Commonwealth of Independent States ("CIS")[3]	***	***	***	***	***	***
Africa and the Middle East[4]	***	***	***	***	***	***
Indian Subcontinent	***	***	***	***	***	***
Northeast Asia: China	***	***	***	***	***	***
Japan	***	***	***	***	***	***
Korea	***	***	***	***	***	***
Taiwan	***	***	***	***	***	***
Subtotal	***	***	***	***	***	***
Southeast Asia	***	***	***	***	***	***
Total	***	***	***	***	***	***

Table continued on the next page.

Table IV-25--Continued
PVA: Global capacity, production, imports, exports, apparent consumption, and consumption growth, by region, 2014, 2017, and 2019

Item	2014	2017	2019	2014-17	2017-19	2014-19
	Apparent consumption			Consumption growth		
	Quantity (million pounds)			(percent)		
North America:						
United States	***	***	***	***	***	***
Canada and Mexico	***	***	***	***	***	***
Subtotal	***	***	***	***	***	***
South America	***	***	***	***	***	***
Western Europe[1]	***	***	***	***	***	***
Central Europe[2]	***	***	***	***	***	***
Commonwealth of Independent States ("CIS")[3]	***	***	***	***	***	***
Africa and the Middle East[4]	***	***	***	***	***	***
Indian Subcontinent	***	***	***	***	***	***
Northeast Asia:						
China	***	***	***	***	***	***
Japan	***	***	***	***	***	***
Korea	***	***	***	***	***	***
Taiwan	***	***	***	***	***	***
Subtotal	***	***	***	***	***	***
Southeast Asia	***	***	***	***	***	***
Total	***	***	***	***	***	***

[1] Western Europe includes the European Union-15 (Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain, Sweden, and the United Kingdom), Norway, and Switzerland.
[2] Central Europe includes Bulgaria, Czechia, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovakia, and Slovenia.
[3] CIS excludes Estonia, Latvia, and Lithuania.
[4] The Middle East includes Turkey.
[5] Not reported.
[6] Not applicable.

Source: Compiled from IHS Markit Ltd., "Polyvinyl Alcohol," *Chemical Economics Handbook*, May 29, 2020, pp. 19, 25, 27, 28, 32, 37, 39, 40, 42, 44, 46, 52, 57, 58, 60 (converted from data originally presented in terms of thousands of metric tons).

PVA consumption patterns among end-use industries are notably different among the major markets but are otherwise rather consistent across the years of 2014, 2017, and 2019 (table IV-26). In China, *** followed by (in descending order of consumption shares) *** were the leading end uses for PVA in these years. Japan's leading PVA consuming industry notably produces ***, followed by other industries that produce ***. However, it is ***, followed by ***, that were the leading PVA consuming industries within Western European countries. Finally, production of ***, followed by *** dominated U.S. industry consumption of PVA in these years.

Table IV-26
PVA: Global end-use consumption industries in major markets, 2014, 2017, and 2019

Market and end use	2014	2017	2019	2014	2017	2019
	Quantity (million pounds)			Share of quantity (percent)		
United States:						
Adhesives	***	***	***	***	***	***
Architectural coatings	***	***	***	***	***	***
Films	***	***	***	***	***	***
Paper sizing and coatings	***	***	***	***	***	***
Polymerization aids	***	***	***	***	***	***
Polyvinyl butyral	***	***	***	***	***	***
Textile warp sizing	***	***	***	***	***	***
Vinylon fibers	***	***	***	***	***	***
Others	***	***	***	***	***	***
Total	***	***	***	***	***	***
China:						
Adhesives	***	***	***	***	***	***
Architectural coatings	***	***	***	***	***	***
Films	***	***	***	***	***	***
Paper sizing and coatings	***	***	***	***	***	***
Polymerization aids	***	***	***	***	***	***
Polyvinyl butyral	***	***	***	***	***	***
Textile warp sizing	***	***	***	***	***	***
Vinylon fibers	***	***	***	***	***	***
Others	***	***	***	***	***	***
Total	***	***	***	***	***	***
Japan:						
Adhesives	***	***	***	***	***	***
Architectural coatings	***	***	***	***	***	***
Films	***	***	***	***	***	***
Paper processing	***	***	***	***	***	***
Polymerization aids	***	***	***	***	***	***
Polyvinyl butyral	***	***	***	***	***	***
Textile processing	***	***	***	***	***	***
Vinylon fibers (optical grade)	***	***	***	***	***	***
Vinylon fibers (other grades)	***	***	***	***	***	***
Others	***	***	***	***	***	***
Total	***	***	***	***	***	***

Table continued on the next page.

Table IV-26--Continued
PVA: Global end-use consumption industries in major markets, 2014, 2017, and 2019

Market and end use	2014	2017	2019	2014	2017	2019
	Quantity (million pounds)			Share of quantity (percent)		
Western Europe:						
Adhesives	***	***	***	***	***	***
Architectural coatings	***	***	***	***	***	***
Films	***	***	***	***	***	***
Paper chemicals	***	***	***	***	***	***
Polymerization aids	***	***	***	***	***	***
Polyvinyl butyral	***	***	***	***	***	***
Textile sizing and finishing	***	***	***	***	***	***
Vinylon fibers	***	***	***	***	***	***
Others	***	***	***	***	***	***
Total	***	***	***	***	***	***

[1] None reported.
[2] Not applicable.
[3] Vinylon fibers are included among "Others."
[4] Polymerization aids are included among both "Adhesives" and "Others."

Source: Compiled from IHS Markit Ltd., "Polyvinyl Alcohol," *Chemical Economics Handbook*, May 29, 2020, pp. 10, 20, 33, 47, 53 (converted from data originally presented in terms of thousands of metric tons).

Prices

Domestic producers, importers, and foreign producers were asked to compare prices of PVA in the U.S. and foreign markets. U.S. producers ***,[40] five importers,[41] and a Japanese producer ***[42] responded that PVA prices were higher in the United States than in other markets. The other markets specifically identified included Asia, China, Europe, Japan, and Latin America.

Exports

Table IV-27 presents global export data for HS subheading 3905.30, a category that includes both PVA and out-of-scope products (by source in descending order of quantity for 2019). Between 2018 and 2019, Japan's export quantities declined significantly, allowing the United States to overtake Japan to become the second-largest exporter behind world-leading China.

[40] Domestic producer questionnaire responses, question IV-20.
[41] Importer questionnaire responses, question III-20.
[42] Another Japanese producer ***. Foreign-producer questionnaire responses, question III-15.

Table IV-27
PVA: Global exports by major sources, 2017-19

Source	Calendar year		
	2017	2018	2019
	Quantity (1,000 pounds)		
United States	166,684	181,224	180,067
China	292,454	324,463	377,545
Japan	199,222	182,330	165,919
Taiwan	155,722	147,799	159,416
Singapore	75,200	81,021	90,568
Netherlands	29,962	32,502	38,274
United Kingdom	21,772	20,463	19,988
Spain	28,172	25,226	30,632
Italy	21,584	24,857	25,079
France	6,872	10,275	8,998
Belgium	12,093	10,607	9,158
Poland	4,155	5,145	4,522
All other sources	15,445	18,311	24,149
All global sources	1,029,337	1,064,225	1,134,315
	Value (1,000 dollars)		
United States	153,529	171,185	176,884
China	201,195	242,287	299,751
Japan	219,954	220,744	204,360
Taiwan	139,228	139,535	145,627
Singapore	74,450	88,218	103,073
Netherlands	29,713	33,419	41,818
United Kingdom	39,665	42,385	38,328
Spain	26,830	28,011	37,354
Italy	21,900	25,928	26,510
France	6,958	10,213	9,579
Belgium	11,933	10,220	7,402
Poland	4,572	8,025	6,219
All other sources	15,863	18,242	21,870
All global sources	945,790	1,038,412	1,118,776

Table continued on the next page.

Table IV-27--Continued
PVA: Global exports from major sources, 2017-19

Source	Calendar year		
	2017	2018	2019
	Unit value (dollars per pound)		
United States	0.92	0.94	0.98
China	0.69	0.75	0.79
Japan	1.10	1.21	1.23
Taiwan	0.89	0.94	0.91
Singapore	0.99	1.09	1.14
Netherlands	0.99	1.03	1.09
United Kingdom	1.82	2.07	1.92
Spain	0.95	1.11	1.22
Italy	1.01	1.04	1.06
France	1.01	0.99	1.06
Belgium	0.99	0.96	0.81
Poland	1.10	1.56	1.38
All other sources	1.03	1.00	0.91
All global sources	0.92	0.98	0.99
	Share of quantity (percent)		
United States	16.2	17.0	15.9
China	28.4	30.5	33.3
Japan	19.4	17.1	14.6
Taiwan	15.1	13.9	14.1
Singapore	7.3	7.6	8.0
Netherlands	2.9	3.1	3.4
United Kingdom	2.1	1.9	1.8
Spain	2.7	2.4	2.7
Italy	2.1	2.3	2.2
France	0.7	1.0	0.8
Belgium	1.2	1.0	0.8
Poland	0.4	0.5	0.4
All other sources	1.5	1.7	2.1
All global sources	100.0	100.0	100.0

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. United States is shown at the top, all remaining top export destinations shown in descending order of 2019 data.

Source: Official exports statistics under HS subheading 3905.30 reported by various national statistical authorities in the Global Trade Atlas database, accessed November 24, 2020.

Part V: Pricing data

Factors affecting prices

Raw material costs

The principal raw material inputs used to produce PVA are ethylene, acetic acid, and methanol, or vinyl acetate monomer (VAM), and methanol. Ethylene and acetic acid are combined to make VAM, which is polymerized and combined with methanol to produce PVA.[1] U.S. producers reported that raw materials as a share of cost of goods sold decreased from *** percent in 2017 to *** percent in 2019.[2] Two of three U.S. producers reported that raw material costs had fluctuated since January 1, 2017, and one of the three producers expect these trends to continue. Eight of 10 importers reported that raw material prices have either increased or fluctuated since January 1, 2017, and four importers expect that raw materials prices will continue to fluctuate. U.S. producer *** reported that PVA costs move with VAM costs and VAM prices are driven by global ethylene costs. U.S. producer *** reported that the pricing of raw materials (natural gas, ethylene, methanol, and VAM) increased in early 2008, but decreased in 2009 due to the recession. *** reported that raw material prices have increased since 2010, and that it has followed these increases and decreases with changes in its PVA prices. *** added that predicting raw material costs is difficult as prices for petroleum, natural gas, and their derivatives (ethylene, methanol, and VAM) continue to be volatile.

Natural gas, or its derivative ethane, is the primary feedstock used to manufacture VAM.[3] As shown in figure V-1, natural gas prices peaked at the beginning of 2018, declined through the end of 2019, and fluctuated throughout 2020. Overall, natural gas prices declined by 10.4 percent between the first quarter 2017 and fourth quarter 2020 and is forecasted to increase in the first quarter of 2021.

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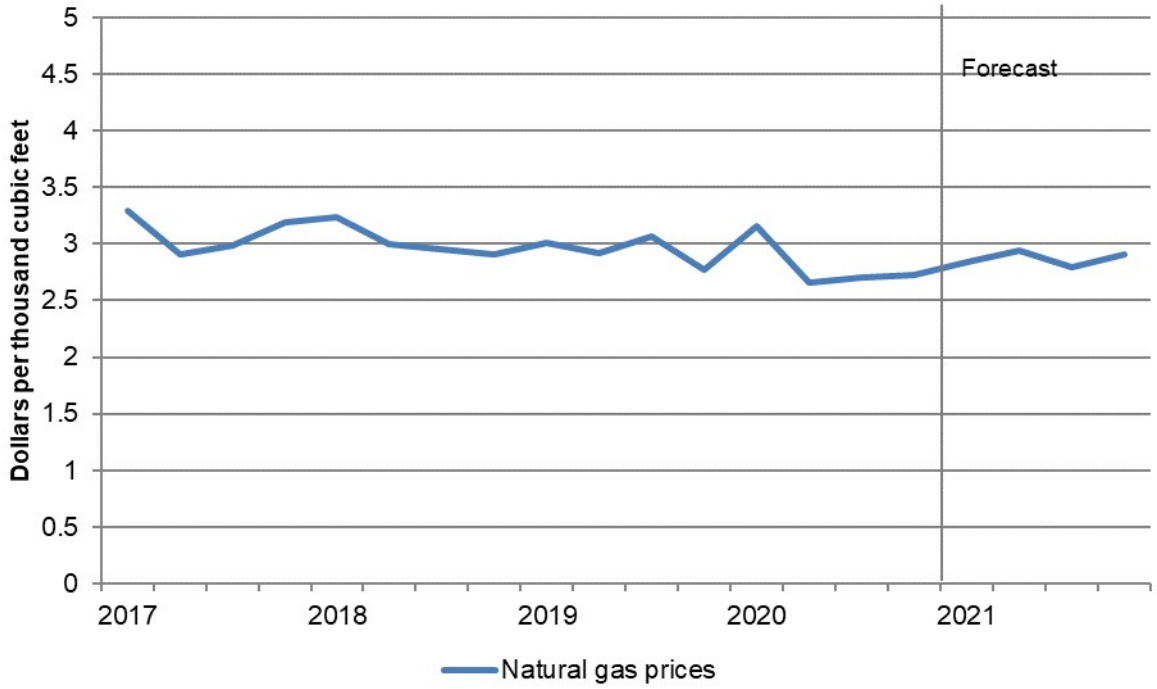
[1] *Polyvinyl Alcohol from China, Japan, and Korea, Inv. Nos. 731-TA-1014, 1016, and 1017 (2nd Review)*, USITC Publication 4067, March 2009, p. V-1.

[2] U.S. producers' raw materials as a share of cost of goods sold were *** percent in January-September 2019 and *** percent in January-September 2020.

[3] *Polyvinyl Alcohol from China, Japan, and Korea, Inv. Nos. 731-TA-1014, 1015, and 1017 (Second Review)*, USITC Publication 4533, May 2015, p. V-1.

Figure V-1
Natural gas: Quarterly average U.S. industrial prices, January 2017-December 2020, and January 2021-December 2021 (forecast)



Source: *Short Term Energy Outlook*, Energy Information Administration, www.eia.gov, retrieved February 17, 2020.

Transportation costs to the U.S. market

Transportation costs for PVA shipped from subject countries to the United States averaged 8.7 percent for China and 6.1 percent for Japan during 2017-19. These estimates were derived from official import data and represent the transportation and other charges on imports.[4]

U.S. inland transportation costs

*** U.S. producers and six of eight importers reported that they typically arrange transportation to their customers. U.S. producers reported that their U.S. inland transportation costs ranged from 5 to 7 percent while importers reported costs of 5 to 10 percent. Two importers reported shipping PVA from their point of importation, and six importers reported shipping from a storage facility.

[4] Staff estimated transportation costs by subtracting the customs value from the c.i.f. value of the imports for 2019 and then dividing by the customs value based on the HTS subheading 3905.30.00.

Pricing practices

Pricing methods

As presented in table V-1, U.S. producer *** reported determining PVA prices ***, while U.S. producer *** reported using ***. Importers primarily use transaction-by-transaction negotiations, although some use contracts. Other price setting methods reported by importers included meeting competitive offers and formulas based on adjustments in raw materials costs.

Table V-1
PVA: U.S. producers' and importers' reported price setting methods, by number of responding firms, 2019

Method	U.S. producers	U.S. importers
Transaction-by-transaction	2	7
Contract	2	3
Set price list	1	1
Other	3	4
Responding firms	3	9

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

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

U.S. producers reported selling most of their PVA *** and selling a smaller share *** (table V-2). Importers of PVA from subject countries reported selling *** of their PVA from *** and selling a smaller share ***.

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

Type of sale	Share of commercial U.S. shipments (percent)	
	U.S. producers	Subject U.S. 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.

U.S. producer *** report that its annual and long term contracts fix price and quantity and are not indexed to raw materials. U.S. producers *** reported that their prices can be renegotiated during the contract period. *** U.S. importers reported not having any short-term sales contracts. U.S. importer *** reported that its annual contracts fix price and quantity, cannot be renegotiated during the contract period, and are not indexed to raw materials. *** reported that its annual contracts fix both price and quantity, can be renegotiated during the contract period, and are not indexed to raw materials.

One purchaser reported that it purchases product daily, seven purchase weekly, and four purchase monthly. One purchaser expects to shift purchases to every two months due to lower demand, and one purchaser is shifting to purchasing via an annual contract. Thirteen of 15 responding purchasers reported that they did not expect their purchasing patterns to change in the next two years. Most (14 of 15) purchasers contact *** suppliers before making a purchase.

Sales terms and discounts

*** and 7 of 9 responding importers reported quoting prices on a delivered basis. U.S. producer and importer Kuraray America reported that it ***. U.S. producer and importer Sekisui reported that it ***. Six of 10 responding importers reported offering no discounts, two importers offer quantity discounts, and two importers reported offering annual total volume discounts.

Price leadership

Purchasers primarily reported that U.S. producers Sekisui (identified by 7 firms) and Kuraray America (6 firms) were price leaders in the U.S. market. Purchasers reported that these suppliers are usually the first to announce price increases. Several purchasers also stated that Kuraray is the largest supplier in the U.S. market. A single purchaser identified a firm other than the two largest U.S. producers (importer Perry) as a price leader.

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 PVA products shipped to unrelated U.S. customers during January 2017–September 2020.

Product 1.-- PVA for use in textile applications with a range of hydrolysis between 89-100 (percent) and a viscosity between 13-35 (centipois), sold in bags.

Product 2.-- PVA for use in paper applications with a range of hydrolysis between 87-100 (percent) and a viscosity between 13-55 (centipois), sold in bags.

Product 3.-- PVA for use in adhesive applications with a range of hydrolysis between 80-100 (percent) and a viscosity between 0-19 (centipois), sold in bags.

Product 4.-- PVA for use in adhesive applications with a range of hydrolysis between 80-89 (percent) and a viscosity between 36-55 (centipois), sold in bags.

Two U.S. producers and two importers provided usable pricing data for sales of the requested products, although not all firms reported pricing for all products for all quarters.[5] Pricing data reported by these firms accounted for approximately *** percent of U.S. producers' shipments of PVA and *** percent of U.S. shipments of subject imports from China in 2019.[6] [7] Price data for products 1-4 are presented in tables V-3 to V-6 and figures V-2 to V-5.

[5] 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.

[6] Pricing data were not provided for PVA from Japan.

[7] Pricing coverage is based on U.S. shipments reported in questionnaires.

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

Period	United States		China			Japan		
	Price (dollars per pound)	Quantity (pounds)	Price (dollars per pound)	Quantity (pounds)	Margin (percent)	Price (dollars per pound)	Quantity (pounds)	Margin (percent)
2017:								
Jan.-Mar.	***	***	***	***	***	***	***	***
Apr.-Jun.	***	***	***	***	***	***	***	***
Jul.-Sep.	***	***	***	***	***	***	***	***
Oct.-Dec.	***	***	***	***	***	***	***	***
2018:								
Jan.-Mar.	***	***	***	***	***	***	***	***
Apr.-Jun.	***	***	***	***	***	***	***	***
Jul.-Sep.	***	***	***	***	***	***	***	***
Oct.-Dec.	***	***	***	***	***	***	***	***
2019:								
Jan.-Mar.	***	***	***	***	***	***	***	***
Apr.-Jun.	***	***	***	***	***	***	***	***
Jul.-Sep.	***	***	***	***	***	***	***	***
Oct.-Dec.	***	***	***	***	***	***	***	***
2020:								
Jan.-Mar.	***	***	***	***	***	***	***	***
Apr.-Jun.	***	***	***	***	***	***	***	***
Jul.-Sep.	***	***	***	***	***	***	***	***

Note: Product 1: PVA for use in textile applications with a range of hydrolysis between 89-100 (percent) and a viscosity between 13-35 (centipois), sold in bags.

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

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

Period	United States		China			Japan		
	Price (dollars per pound)	Quantity (pounds)	Price (dollars per pound)	Quantity (pounds)	Margin (percent)	Price (dollars per pound)	Quantity (pounds)	Margin (percent)
2017:								
Jan.-Mar.	***	***	***	***	***	***	***	***
Apr.-Jun.	***	***	***	***	***	***	***	***
Jul.-Sep.	***	***	***	***	***	***	***	***
Oct.-Dec.	***	***	***	***	***	***	***	***
2018:								
Jan.-Mar.	***	***	***	***	***	***	***	***
Apr.-Jun.	***	***	***	***	***	***	***	***
Jul.-Sep.	***	***	***	***	***	***	***	***
Oct.-Dec.	***	***	***	***	***	***	***	***
2019:								
Jan.-Mar.	***	***	***	***	***	***	***	***
Apr.-Jun.	***	***	***	***	***	***	***	***
Jul.-Sep.	***	***	***	***	***	***	***	***
Oct.-Dec.	***	***	***	***	***	***	***	***
2020:								
Jan.-Mar.	***	***	***	***	***	***	***	***
Apr.-Jun.	***	***	***	***	***	***	***	***
Jul.-Sep.	***	***	***	***	***	***	***	***

Note: Product 2: PVA for use in paper applications with a range of hydrolysis between 87-100 (percent) and a viscosity between 13-55 (centipois), sold in bags.

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

Table V-5
PVA: Weighted-average f.o.b. prices and quantities of domestic and imported product 3 and margins of underselling/(overselling), by quarter, January 2017-September 2020

Period	United States		China			Japan		
	Price (dollars per pound)	Quantity (pounds)	Price (dollars per pound)	Quantity (pounds)	Margin (percent)	Price (dollars per pound)	Quantity (pounds)	Margin (percent)
2017:								
Jan.-Mar.	***	***	***	***	***	***	***	***
Apr.-Jun.	***	***	***	***	***	***	***	***
Jul.-Sep.	***	***	***	***	***	***	***	***
Oct.-Dec.	***	***	***	***	***	***	***	***
2018:								
Jan.-Mar.	***	***	***	***	***	***	***	***
Apr.-Jun.	***	***	***	***	***	***	***	***
Jul.-Sep.	***	***	***	***	***	***	***	***
Oct.-Dec.	***	***	***	***	***	***	***	***
2019:								
Jan.-Mar.	***	***	***	***	***	***	***	***
Apr.-Jun.	***	***	***	***	***	***	***	***
Jul.-Sep.	***	***	***	***	***	***	***	***
Oct.-Dec.	***	***	***	***	***	***	***	***
2020:								
Jan.-Mar.	***	***	***	***	***	***	***	***
Apr.-Jun.	***	***	***	***	***	***	***	***
Jul.-Sep.	***	***	***	***	***	***	***	***

Note: Product 3: PVA for use in adhesive applications with a range of hydrolysis between 80-100 (percent) and a viscosity between 0-19 (centipois), sold in bags.

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

Table V-6
PVA: Weighted-average f.o.b. prices and quantities of domestic and imported product 4 and margins of underselling/(overselling), by quarter, January 2017-September 2020

Period	United States		China			Japan		
	Price (dollars per pound)	Quantity (pounds)	Price (dollars per pound)	Quantity (pounds)	Margin (percent)	Price (dollars per pound)	Quantity (pounds)	Margin (percent)
2017:								
Jan.-Mar.	***	***	***	***	***	***	***	***
Apr.-Jun.	***	***	***	***	***	***	***	***
Jul.-Sep.	***	***	***	***	***	***	***	***
Oct.-Dec.	***	***	***	***	***	***	***	***
2018:								
Jan.-Mar.	***	***	***	***	***	***	***	***
Apr.-Jun.	***	***	***	***	***	***	***	***
Jul.-Sep.	***	***	***	***	***	***	***	***
Oct.-Dec.	***	***	***	***	***	***	***	***
2019:								
Jan.-Mar.	***	***	***	***	***	***	***	***
Apr.-Jun.	***	***	***	***	***	***	***	***
Jul.-Sep.	***	***	***	***	***	***	***	***
Oct.-Dec.	***	***	***	***	***	***	***	***
2020:								
Jan.-Mar.	***	***	***	***	***	***	***	***
Apr.-Jun.	***	***	***	***	***	***	***	***
Jul.-Sep.	***	***	***	***	***	***	***	***

Note: Product 4: PVA for use in adhesive applications with a range of hydrolysis between 80-89 (percent) and a viscosity between 36-55 (centipois), sold in bags.

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

Figure V-2
PVA: Weighted-average f.o.b. prices and quantities of domestic and imported product 1, by quarter, January 2017-September 2020

* * * * * * *

Product 1: PVA for use in textile applications with a range of hydrolysis between 89-100 (percent) and a viscosity between 13-35 (centipois), sold in bags.

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

Figure V-3
PVA: Weighted-average f.o.b. prices and quantities of domestic and imported product 2, by quarter, January 2017-September 2020

* * * * * * *

Product 2: PVA for use in paper applications with a range of hydrolysis between 87-100 (percent) and a viscosity between 13-55 (centipois), sold in bags.

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

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

* * * * * * *

Product 3: PVA for use in adhesive applications with a range of hydrolysis between 80-100 (percent) and a viscosity between 0-19 (centipois), sold in bags.

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

Figure V-5
PVA: Weighted-average f.o.b. prices and quantities of domestic and imported product 4, by quarter, January 2017-September 2020

* * * * * * *

Product 4: PVA for use in adhesive applications with a range of hydrolysis between 80-89 (percent) and a viscosity between 36-55 (centipois), sold in bags.

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

Price trends

In general, prices fluctuated during January 2017–September 2020. Table V-7 summarizes the price trends, by country and by product. As shown in the table, domestic prices for product 2 decreased by *** percent, while domestic price increases for products 1, 3, and 4 ranged from *** percent during the period for which data were collected. Import price decreases for products 1 and 3 ranged from *** percent and increases for products 2 and 4 ranged from *** percent.

Table V-7
PVA: Number of quarters containing observations low price, high price, and change in price over period, by product and source, January 2017-September 2020

Item	Number of quarters	Low price (dollars per pound)	High price (dollars per pound)	Change in price[1] (percent)
Product 1.-- United States	***	***	***	***
China	***	***	***	***
Japan	***	***	***	***
Product 2.-- United States	***	***	***	***
China	***	***	***	***
Japan	***	***	***	***
Product 3.-- United States	***	***	***	***
China	***	***	***	***
Japan	***	***	***	***
Product 4: United States	***	***	***	***
China	***	***	***	***
Japan	***	***	***	***

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

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

Purchasers were asked how the prices of PVA from the United States had changed relative to the prices of PVA from China and Japan since 2017. Four purchasers reported that prices had changed by the same amount. Two purchasers reported that the price of U.S.-produced PVA is now higher than PVA from China, and four purchasers reported that it is now lower. Two purchasers reported that the price of U.S.-produced PVA is now higher than PVA from Japan, and three purchasers reported that it is lower.

Price comparisons

As shown in table V-8, prices for PVA imported from China were below those for U.S.-produced product in 18 of 60 instances; margins of underselling ranged from 1.0 to 22.5 percent. In the remaining 42 instances, prices for PVA from China were between 0.2 to 31.0 percent above prices for the domestic product.[8] As a general matter, prices for lower-volume sales of PVA from China tended to be higher than those for U.S.-produced PVA.

Table V-8
PVA: Instances of underselling/overselling and the range and average of margins, by product and by country, January 2017-September 2020

	Underselling				
Source	Number of quarters	Quantity (pounds)	Average margin (percent)	Margin Range (percent) Min	Max
Product 1	***	***	***	***	***
Product 2	***	***	***	***	***
Product 3	***	***	***	***	***
Product 4	***	***	***	***	***
Total, underselling	18	12,530,206	10.7	1.0	22.5
China	18	12,530,206	10.7	1.0	22.5
Japan	---	---	---	---	---
Total, underselling	18	12,530,206	10.7	1.0	22.5
	(Overselling)				
Source	Number of quarters	Quantity (pounds)	Average margin (percent)	Margin Range (percent) Min	Max
Product 1	***	***	***	***	***
Product 2	***	***	***	***	***
Product 3	***	***	***	***	***
Product 4	***	***	***	***	***
Total, overselling	42	21,758,058	(16.1)	(0.2)	(31.0)
China	42	21,758,058	(16.1)	(0.2)	(31.0)
Japan	---	---	---	---	---
Total, overselling	42	21,758,058	(16.1)	(0.2)	(31.0)

Note: In the original investigations, subject imports from China were priced lower than domestic product in 41 of 46 comparisons, with underselling margins ranging from *** percent; subject imports from Japan were priced lower than domestic product in 3 of 6 comparisons, with underselling margins ranging from *** percent. In the first review, subject imports from China were priced lower than domestic product in 40 of 90 comparisons with underselling margins ranging from *** percent; and subject imports from Japan were priced lower than domestic product in both comparisons, with underselling margins of *** percent. In the second review, subject imports from China were priced lower than domestic product in 67 of 116 comparisons with underselling margins ranging from *** percent; and subject imports from Japan showed no instance of underselling. *Polyvinyl Alcohol from China, Japan, and Korea, Inv. Nos. 731-TA-1014, 1015, and 1017 (Second Review)*, USITC Publication 4533, May 2015, Table V-11.

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

[8] No U.S. importer reported price data for PVA from Japan.

APPENDIX A

FEDERAL REGISTER NOTICES

The Commission makes available notices relevant to its investigations and reviews on its website, www.usitc.gov. In addition, the following tabulation presents, in chronological order, *Federal Register* notices issued by the Commission and Commerce during the current proceeding.

Citation	Title	Link
85 FR 18189, April 1, 2020	*Initiation of Five-Year (Sunset) Reviews*	https://www.govinfo.gov/content/pkg/FR-2020-04-01/pdf/2020-06775.pdf
85 FR 18271, April 1, 2020	*Polyvinyl Alcohol From China and Japan; Institution of Five-Year Reviews*	https://www.govinfo.gov/content/pkg/FR-2020-04-01/pdf/2020-06775.pdf
85 FR 42005, July 13, 2020	*Polyvinyl Alcohol From China and Japan; Notice of Commission Determination To Conduct Full Five-Year Reviews*	https://www.govinfo.gov/content/pkg/FR-2020-07-13/pdf/2020-15007.pdf
85 FR 42828, July 15, 2020	*Polyvinyl Alcohol From the People's Republic of China and Japan: Final Results of the Expedited Sunset Reviews of the Antidumping Duty Orders*	https://www.govinfo.gov/content/pkg/FR-2020-07-15/pdf/2020-15282.pdf
85 FR 59545, September 22, 2020	*Polyvinyl Alcohol From China and Japan; Scheduling of Full Five-Year Reviews*	https://www.govinfo.gov/content/pkg/FR-2020-09-22/pdf/2020-20919.pdf

Table continued on next page.

Citation	Title	Link
86 FR 8034, February 3, 2021	*Polyvinyl Alcohol From China and Japan; Cancellation of Hearing for Third Full Five-Year Reviews*	https://www.govinfo.gov/content/pkg/FR-2021-02-03/pdf/2021-02221.pdf

Note: The press release announcing the Commission's determinations concerning adequacy and the conduct of a full or expedited review can be found at https://usitc.gov/investigations/701731/2020/polyvinyl_alcohol_china_and_japan/third_review_full.htm. A summary of the Commission's votes concerning adequacy and the conduct of a full or expedited review can be found at https://www.usitc.gov/polyvinyl_alcohol_china.htm and https://www.usitc.gov/polyvinyl_alcohol_japan.htm. The Commission's explanation of its determinations can be found at https://usitc.gov/investigations/701731/2020/polyvinyl_alcohol_china_and_japan/third_review_full.htm.

APPENDIX B

HEARING CANCELLATION REQUEST

WILMERHALE

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January 27, 2021

Inv. Nos. 731-TA-1014 and 1016
(Third Reviews)

PUBLIC DOCUMENT

VIA ELECTRONIC FILING (EDIS)

The Honorable Lisa R. Barton
Secretary to the Commission
U.S. International Trade Commission
500 E Street, SW, Room 112
Washington, DC 20436

Re: *Polyvinyl Alcohol from China and Japan (Third Reviews)*: Request to Consider Cancellation of Hearing

Dear Secretary Barton:

On behalf of Sekisui Specialty Chemicals America, Inc. and Kuraray America, Inc., U.S. producers of the domestic like product (collectively, "Petitioners"), we hereby respectfully request that the Commission consider cancelling the hearing in the above-captioned five-year (sunset) reviews of the antidumping duty orders on Polyvinyl Alcohol from China and Japan (the "Orders").

The Commission previously scheduled a hearing for 9:30 a.m. on February 2, 2021, and instructed that requests to appear at the hearing be filed by January 26, 2021.[1] On January 26, Petitioners timely submitted a request to appear at the hearing.[2] Petitioners support continuation of the Orders. To the best of our knowledge, no other party, and notably no interested party opposing continuation of the Orders, has submitted a timely request to appear at the hearing.

[1] *See Polyvinyl Alcohol From China and Japan; Scheduling of Full Five-Year Reviews*, 85 Fed. Reg. 59,545 (Int'l Trade Comm'n. Sept. 22, 2020).

[2] *See* Sekisui Specialty Chemicals America, Inc. and Kuraray America, Inc., Request to Appear at Hearing (January 26, 2021).

In the second reviews of the Orders, the Commission decided to cancel its scheduled hearing under similar circumstances.[3] Accordingly, and in the interest of conserving the Commission's resources, as well as those of Petitioners, we respectfully request that the Commission consider cancelling the hearing in the instant reviews as well. Petitioners will gladly respond in writing to any questions the Commission may have. Alternatively, if the Commission decides to move forward with the scheduled hearing, Petitioners will participate as previously indicated.

Please contact us if you have any questions regarding this submission.

Sincerely,

/s/ Patrick J. McLain
Patrick J. McLain
Stephanie E. Hartmann
Semira Nikou

Counsel to Sekisui Specialty Chemicals America, Inc. and Kuraray America, Inc.

[3] *See Polyvinyl Alcohol From China, Japan, and Korea; Revised Schedule for Full Five-Year Reviews*, 80 Fed. Reg. 13,024 (Int'l Trade Comm'n Mar. 12, 2015).

APPENDIX C

SUMMARY DATA

Table C-1
PVA: Summary data concerning the U.S. market, 2017-19, January to September 2019, and January to September 2020

(Quantity=1,000 pounds; 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 September		Comparison years			Jan-Sep
	2017	2018	2019	2019	2020	2017-19	2017-18	2018-19	2019-20
U.S. consumption quantity:									
Amount	***	***	***	***	***	▼***	▼***	▼***	▼***
Producers' share (fn1)	***	***	***	***	***	▼***	▲***	▼***	▼***
Importers' share (fn1):									
China	***	***	***	***	***	▼***	▲***	▼***	▲***
Japan	***	***	***	***	***	▲***	▼***	▲***	▼***
Subject sources	***	***	***	***	***	▼***	▲***	▼***	▲***
Nonsubject sources	***	***	***	***	***	▲***	▼***	▲***	▲***
All import sources	***	***	***	***	***	▲***	▼***	▲***	▲***
U.S. consumption value:									
Amount	***	***	***	***	***	▲***	▼***	▲***	▼***
Producers' share (fn1)	***	***	***	***	***	▼***	▲***	▼***	▼***
Importers' share (fn1):									
China	***	***	***	***	***	▼***	▲***	▼***	▲***
Japan	***	***	***	***	***	▲***	▲***	▲***	▼***
Subject sources	***	***	***	***	***	▲***	▲***	▲***	▲***
Nonsubject sources	***	***	***	***	***	▲***	▼***	▲***	▲***
All import sources	***	***	***	***	***	▲***	▼***	▲***	▲***
U.S. importers' U.S. shipments of imports from:									
China:									
Quantity	***	***	***	***	***	▼***	▲***	▼***	▲***
Value	***	***	***	***	***	▼***	▲***	▼***	▲***
Unit value	***	***	***	***	***	▲***	▲***	▲***	▼***
Ending inventory quantity	***	***	***	***	***	▼***	▼***	▼***	▼***
Japan:									
Quantity	***	***	***	***	***	▲***	▼***	▲***	▼***
Value	***	***	***	***	***	▲***	▲***	▲***	▼***
Unit value	***	***	***	***	***	▲***	▲***	▲***	▲***
Ending inventory quantity	***	***	***	***	***	▲***	▲***	▲***	▲***
Subject sources:									
Quantity	***	***	***	***	***	▼***	▼***	▼***	▲***
Value	***	***	***	***	***	▲***	▲***	▲***	▼***
Unit value	***	***	***	***	***	▲***	▲***	▲***	▼***
Ending inventory quantity	***	***	***	***	***	▼***	▼***	▼***	▼***
Nonsubject sources:									
Quantity	***	***	***	***	***	▲***	▼***	▲***	▼***
Value	***	***	***	***	***	▲***	▼***	▲***	▼***
Unit value	***	***	***	***	***	▲***	▼***	▲***	▼***
Ending inventory quantity	***	***	***	***	***	▲***	▲***	▲***	▲***
All import sources:									
Quantity	60,136	53,823	60,751	46,494	45,625	▲1.0	▼(10.5)	▲12.9	▼(1.9)
Value	81,049	75,057	95,697	71,135	66,383	▲18.1	▼(7.4)	▲27.5	▼(6.7)
Unit value	$1.35	$1.39	$1.58	$1.53	$1.45	▲16.9	▲3.5	▲13.0	▼(4.9)
Ending inventory quantity	10,340	13,056	15,413	14,699	13,349	▲49.1	▲26.3	▲18.1	▼(9.2)
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	***	***	***	***	***	▲***	▲***	▲***	▲***
Productivity (pounds per hour)	***	***	***	***	***	▼***	▲***	▼***	▼***
Unit labor costs	***	***	***	***	***	▲***	▼***	▲***	▲***

Table continued on next page.

Table C-1--Continued
PVA: Summary data concerning the U.S. market, 2017-19, January to September 2019, and January to September 2020

(Quantity=1,000 pounds; 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 September		Comparison years			Jan-Sep
	2017	2018	2019	2019	2020	2017-19	2017-18	2018-19	2019-20
U.S. producers'--Continued:									
Net sales:									
Quantity	***	***	***	***	***	▼***	▲***	▼***	▼***
Value	***	***	***	***	***	▼***	▲***	▼***	▼***
Unit value	***	***	***	***	***	▼***	▼***	▲***	▲***
Cost of goods sold (COGS)	***	***	***	***	***	▲***	▲***	▼***	▼***
Gross profit of (loss) (fn2)	***	***	***	***	***	▼***	▼***	▼***	▲***
SG&A expenses	***	***	***	***	***	▲***	▲***	▼***	▼***
Operating income or (loss) (fn2)	***	***	***	***	***	▼***	▼***	▼***	▲***
Net income or (loss) (fn2)	***	***	***	***	***	▼***	▼***	▼***	▲***
Capital expenditures	***	***	***	***	***	▼***	▼***	▼***	▼***
Research and development expenses	***	***	***	***	***	▲***	▲***	▼***	▼***
Net assets	***	***	***	***	***	▼***	▲***	▼***	***
Unit COGS	***	***	***	***	***	▲***	▲***	▲***	▼***
Unit SG&A expenses	***	***	***	***	***	▲***	▲***	▲***	▲***
Unit operating income or (loss) (fn2)	***	***	***	***	***	▼***	▼***	▼***	▼***
Unit net income or (loss) (fn2)	***	***	***	***	***	▼***	▼***	▼***	▼***
COGS/sales (fn1)	***	***	***	***	***	▲***	▲***	▲***	▼***
Operating income or (loss)/sales (fn1)	***	***	***	***	***	▼***	▼***	▼***	▲***
Net income or (loss)/sales (fn1)	***	***	***	***	***	▼***	▼***	▼***	▼***

Note.--Shares and ratios shown as "0.0" percent represent non-zero values less than "0.05" percent (if positive) and greater than "(0.05)" percent (if negative). Zeroes, null values, and undefined calculations are suppressed and shown as "---". Shares preceded by a "▲" represent an increase, while shares preceded by a "▼" represent a decrease.

fn1.--Reported data are in percent and period changes are in percentage points.
fn2.--Percent changes only calculated when both comparison values represent profits; The directional change in profitability provided when one or both comparison values represent a loss.

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

HISTORICAL SUMMARY DATA

FROM THE COMMISSION'S ORIGINAL INVESTIGATIONS

Table C-1
PVA: Summary data concerning the U.S. market, 2000-02

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Table C-2
PVA: Summary data concerning the U.S. commercial market, 2000-02

* * * * * * *

Table C-3
PVA: Financial data on U.S. producers' internal consumption, 2000-02

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HISTORICAL SUMMARY DATA

FROM THE COMMISSION'S FIRST FIVE-YEAR REVIEWS

Table C-1
PVA: Summary data concerning the U.S. market, 2003-07, January-September 2007, and January-September 2008

(Quantity=1,000 pounds, value=1,000 dollars, unit values, unit labor costs, and unit expenses are per pound; period changes=percent, except where noted)

	Reported data							Period changes					
						January-September							Jan.-Sept.
Item	2003	2004	2005	2006	2007	2007	2008	2003-07	2003-04	2004-05	2005-06	2006-07	2007-08
U.S. consumption quantity:													
Amount	***	***	***	***	***	***	***	***	***	***	***	***	***
Producers' share (1)	***	***	***	***	***	***	***	***	***	***	***	***	***
Importers' share (1):													
China	***	***	***	***	***	***	***	***	***	***	***	***	***
Japan	***	***	***	***	***	***	***	***	***	***	***	***	***
Korea	***	***	***	***	***	***	***	***	***	***	***	***	***
Subtotal (subject)	***	***	***	***	***	***	***	***	***	***	***	***	***
Taiwan	***	***	***	***	***	***	***	***	***	***	***	***	***
All other sources	***	***	***	***	***	***	***	***	***	***	***	***	***
Subtotal (nonsubject)	***	***	***	***	***	***	***	***	***	***	***	***	***
Total imports	***	***	***	***	***	***	***	***	***	***	***	***	***
U.S. consumption value:													
Amount	***	***	***	***	***	***	***	***	***	***	***	***	***
Producers' share (1)	***	***	***	***	***	***	***	***	***	***	***	***	***
Importers' share (1):													
China	***	***	***	***	***	***	***	***	***	***	***	***	***
Japan	***	***	***	***	***	***	***	***	***	***	***	***	***
Korea	***	***	***	***	***	***	***	***	***	***	***	***	***
Subtotal (subject)	***	***	***	***	***	***	***	***	***	***	***	***	***
Taiwan	***	***	***	***	***	***	***	***	***	***	***	***	***
All other sources	***	***	***	***	***	***	***	***	***	***	***	***	***
Subtotal (nonsubject)	***	***	***	***	***	***	***	***	***	***	***	***	***
Total imports	***	***	***	***	***	***	***	***	***	***	***	***	***
U.S. imports from:													
China:													
Quantity	5,869	5,519	6,155	6,662	4,539	4,329	1,295	-22.7	-6.0	11.5	8.2	-31.9	-70.1
Value	4,011	3,795	4,521	4,973	3,813	3,645	1,454	-4.9	-5.4	19.1	10.0	-23.3	-60.1
Unit value	$0.68	$0.69	$0.73	$0.75	$0.84	$0.84	$1.12	22.9	0.6	6.8	1.6	12.5	33.4
Ending inventory quantity	***	***	***	***	***	***	***	***	***	***	***	***	***
Japan:													
Quantity	***	***	***	***	***	***	***	***	***	***	***	***	***
Value	***	***	***	***	***	***	***	***	***	***	***	***	***
Unit value	***	***	***	***	***	***	***	***	***	***	***	***	***
Ending inventory quantity	***	***	***	***	***	***	***	***	***	***	***	***	***
Korea:													
Quantity	2,014	126	4	44	0	0	0	-100.0	-93.7	-96.6	920.0	-100.0	(2)
Value	1,500	114	44	85	0	0	0	-100.0	-92.4	-61.7	93.4	-100.0	(2)
Unit value	$0.74	$0.90	$10.17	$1.93	(2)	(2)	(2)	(2)	21.5	1024.2	-81.0	(2)	(2)
Ending inventory quantity	***	***	***	***	***	***	***	***	***	***	***	***	***
Subtotal (subject):													
Quantity	***	***	***	***	***	***	***	***	***	***	***	***	***
Value	***	***	***	***	***	***	***	***	***	***	***	***	***
Unit value	***	***	***	***	***	***	***	***	***	***	***	***	***
Ending inventory quantity	***	***	***	***	***	***	***	***	***	***	***	***	***
Taiwan:													
Quantity	23,539	28,117	20,777	23,354	26,127	18,207	24,903	11.0	19.4	-26.1	12.4	11.9	36.8
Value	16,402	19,048	16,654	19,340	24,012	16,395	27,466	46.4	16.1	-12.6	16.1	24.2	67.5
Unit value	$0.70	$0.68	$0.80	$0.83	$0.92	$0.90	$1.10	31.9	-2.8	18.3	3.3	11.0	22.5
Ending inventory quantity	***	***	***	***	***	***	***	***	***	***	***	***	***
All other sources:													
Quantity	4,871	5,120	7,780	10,413	11,346	8,397	5,816	132.9	5.1	52.0	33.8	9.0	-30.7
Value	4,481	5,009	7,795	9,876	11,807	8,494	7,454	163.5	11.8	55.6	26.7	19.6	-12.2
Unit value	*$0.92*	*$0.98*	*$1.00*	*$0.95*	*$1.04*	*$1.01*	*$1.28*	13.1	6.3	2.4	-5.3	9.7	26.7
Ending inventory quantity	***	***	***	***	***	***	***	***	***	***	***	***	***
Subtotal (nonsubject):													
Quantity	28,410	33,236	28,557	33,767	37,473	26,604	30,720	31.9	17.0	-14.1	18.2	11.0	15.5
Value	20,883	24,057	24,449	29,215	35,819	24,889	34,920	71.5	15.2	1.6	19.5	22.6	40.3
Unit value	$0.74	$0.72	$0.86	$0.87	$0.96	$0.94	$1.14	30.0	-1.5	18.3	1.1	10.5	21.5
Ending inventory quantity	***	***	***	***	***	***	***	***	***	***	***	***	***
All sources:													
Quantity	***	***	***	***	***	***	***	***	***	***	***	***	***
Value	***	***	***	***	***	***	***	***	***	***	***	***	***
Unit value	***	***	***	***	***	***	***	***	***	***	***	***	***
Ending inventory quantity	***	***	***	***	***	***	***	***	***	***	***	***	***

Table continued on next page.

Table C-1--Continued
PVA: Summary data concerning the U.S. market, 2003-07, January-September 2007, and January-September 2008

(Quantity=1,000 pounds, value=1,000 dollars, unit values, unit labor costs, and unit expenses are per pound; period changes=percent, except where noted)

Item	Reported data							Period changes					
						January-September							Jan.-Sept.
	2003	2004	2005	2006	2007	2007	2008	2003-07	2003-04	2004-05	2005-06	2006-07	2007-08
U.S. producers':													
Average capacity quantity	***	***	***	***	***	***	***	***	***	***	***	***	***
Production quantity	***	***	***	***	***	***	***	***	***	***	***	***	***
Capacity utilization (1)	***	***	***	***	***	***	***	***	***	***	***	***	***
U.S. shipments:													
Quantity	***	***	***	***	***	***	***	***	***	***	***	***	***
Value	***	***	***	***	***	***	***	***	***	***	***	***	***
Unit value	***	***	***	***	***	***	***	***	***	***	***	***	***
Export shipments:													
Quantity	***	***	***	***	***	***	***	***	***	***	***	***	***
Value	***	***	***	***	***	***	***	***	***	***	***	***	***
Unit value	***	***	***	***	***	***	***	***	***	***	***	***	***
Ending inventory quantity	***	***	***	***	***	***	***	***	***	***	***	***	***
Inventories/total shipments (1)	***	***	***	***	***	***	***	***	***	***	***	***	***
Production workers	***	***	***	***	***	***	***	***	***	***	***	***	***
Hours worked (1,000s)	***	***	***	***	***	***	***	***	***	***	***	***	***
Wages paid ($1,000)	***	***	***	***	***	***	***	***	***	***	***	***	***
Hourly wages	***	***	***	***	***	***	***	***	***	***	***	***	***
Productivity (pounds 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)	***	***	***	***	***	***	***	***	***	***	***	***	***
Capital expenditures	***	***	***	***	***	***	***	***	***	***	***	***	***
Unit COGS	***	***	***	***	***	***	***	***	***	***	***	***	***
Unit SG&A expenses	***	***	***	***	***	***	***	***	***	***	***	***	***
Unit operating income or (loss)	***	***	***	***	***	***	***	***	***	***	***	***	***
COGS/sales (1)	***	***	***	***	***	***	***	***	***	***	***	***	***
Operating income or (loss)/ sales (1)	***	***	***	***	***	***	***	***	***	***	***	***	***

(1) "Reported data" are in percent and "period changes" are in percentage points.
(2) Not applicable.
(3) Undefined.

Note.--Financial data are reported on a fiscal year basis and may not necessarily be comparable to data reported on a calendar year basis. Because of rounding, figures may not add to the totals shown. Unit values and shares are calculated from the unrounded figures.

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

Table C-2
PVA: Summary data concerning the U.S. open market, 2003-07, January-September 2007, and January-September 2008

(Quantity=1,000 pounds, value=1,000 dollars, unit values, unit labor costs, and unit expenses are per pound; period changes=percent, except where noted)

Item	Reported data					January-September		Period changes					Jan.-Sept.
	2003	2004	2005	2006	2007	2007	2008	2003-07	2003-04	2004-05	2005-06	2006-07	2007-08
U.S. consumption quantity:													
Amount	***	***	***	***	***	***	***	***	***	***	***	***	***
Producers' share (1)	***	***	***	***	***	***	***	***	***	***	***	***	***
Importers' share (1):													
China	***	***	***	***	***	***	***	***	***	***	***	***	***
Japan	***	***	***	***	***	***	***	***	***	***	***	***	***
Korea	***	***	***	***	***	***	***	***	***	***	***	***	***
Subtotal (subject)	***	***	***	***	***	***	***	***	***	***	***	***	***
Taiwan	***	***	***	***	***	***	***	***	***	***	***	***	***
All other sources	***	***	***	***	***	***	***	***	***	***	***	***	***
Subtotal (nonsubject)	***	***	***	***	***	***	***	***	***	***	***	***	***
Total imports	***	***	***	***	***	***	***	***	***	***	***	***	***
U.S. consumption value:													
Amount	***	***	***	***	***	***	***	***	***	***	***	***	***
Producers' share (1)	***	***	***	***	***	***	***	***	***	***	***	***	***
Importers' share (1):													
China	***	***	***	***	***	***	***	***	***	***	***	***	***
Japan	***	***	***	***	***	***	***	***	***	***	***	***	***
Korea	***	***	***	***	***	***	***	***	***	***	***	***	***
Subtotal (subject)	***	***	***	***	***	***	***	***	***	***	***	***	***
Taiwan	***	***	***	***	***	***	***	***	***	***	***	***	***
All other sources	***	***	***	***	***	***	***	***	***	***	***	***	***
Subtotal (nonsubject)	***	***	***	***	***	***	***	***	***	***	***	***	***
Total imports	***	***	***	***	***	***	***	***	***	***	***	***	***
U.S. imports from:													
China:													
Quantity	5,869	5,519	6,155	6,662	4,939	4,329	1,295	-22.7	-6.0	11.5	8.2	-31.9	-70.1
Value	4,011	3,795	4,521	4,973	3,813	3,645	1,454	-4.9	-5.4	19.1	10.0	-23.3	-60.1
Unit value	$0.68	$0.69	$0.73	$0.75	$0.84	$0.84	$1.12	22.9	0.6	6.8	1.6	12.5	33.4
Ending inventory quantity	***	***	***	***	***	***	***	***	***	***	***	***	***
Japan:													
Quantity	***	***	***	***	***	***	***	***	***	***	***	***	***
Value	***	***	***	***	***	***	***	***	***	***	***	***	***
Unit value	***	***	***	***	***	***	***	***	***	***	***	***	***
Ending inventory quantity	***	***	***	***	***	***	***	***	***	***	***	***	***
Korea:													
Quantity	2,014	126	4	44	0	0	0	-100.0	-93.7	-96.6	920.0	-100.0	(2)
Value	1,600	114	44	85	0	0	0	-100.0	-92.4	-61.7	93.4	-100.0	(2)
Unit value	$0.74	$0.90	$10.17	$1.93	(2)	(2)	(2)	(2)	21.5	1024.2	-81.0	(2)	(2)
Ending inventory quantity	***	***	***	***	***	***	***	***	***	***	***	***	***
Subtotal (subject):													
Quantity	***	***	***	***	***	***	***	***	***	***	***	***	***
Value	***	***	***	***	***	***	***	***	***	***	***	***	***
Unit value	***	***	***	***	***	***	***	***	***	***	***	***	***
Ending inventory quantity	***	***	***	***	***	***	***	***	***	***	***	***	***
Taiwan:													
Quantity	23,539	28,117	20,777	23,354	26,127	18,207	24,903	11.0	19.4	-26.1	12.4	11.9	36.8
Value	16,402	19,048	16,654	19,340	24,012	16,395	27,466	46.4	16.1	-12.6	16.1	24.2	67.5
Unit value	$0.70	$0.68	$0.80	$0.83	$0.92	$0.90	$1.10	31.9	-2.8	18.3	3.3	11.0	22.5
Ending inventory quantity	***	***	***	***	***	***	***	***	***	***	***	***	***
All other sources:													
Quantity	4,871	5,120	7,780	10,413	11,346	8,397	5,816	132.9	5.1	52.0	33.8	9.0	-30.7
Value	4,481	5,009	7,795	9,876	11,807	8,494	7,454	163.5	11.8	55.6	26.7	19.6	-12.2
Unit value	$0.92	$0.98	$1.00	$0.95	$1.04	$1.01	$1.28	13.1	6.3	2.4	-5.3	9.7	26.7
Ending inventory quantity	***	***	***	***	***	***	***	***	***	***	***	***	***
Subtotal (nonsubject):													
Quantity	28,410	33,236	28,557	33,767	37,473	26,604	30,720	31.9	17.0	-14.1	18.2	11.0	15.5
Value	20,883	24,057	24,449	29,215	35,819	24,889	34,920	71.5	15.2	1.6	19.5	22.6	40.3
Unit value	$0.74	$0.72	$0.86	$0.87	$0.96	$0.94	$1.14	30.0	-1.9	18.3	1.1	10.5	21.5
Ending inventory quantity	***	***	***	***	***	***	***	***	***	***	***	***	***
All sources:													
Quantity	***	***	***	***	***	***	***	***	***	***	***	***	***
Value	***	***	***	***	***	***	***	***	***	***	***	***	***
Unit value	***	***	***	***	***	***	***	***	***	***	***	***	***
Ending inventory quantity	***	***	***	***	***	***	***	***	***	***	***	***	***
U.S. producers':													
U.S. commercial shipments:													
Quantity	***	***	***	***	***	***	***	***	***	***	***	***	***
Value	***	***	***	***	***	***	***	***	***	***	***	***	***
Unit value	***	***	***	***	***	***	***	***	***	***	***	***	***
Net commercial sales:													
Quantity	***	***	***	***	***	***	***	***	***	***	***	***	***
Value	***	***	***	***	***	***	***	***	***	***	***	***	***
Unit value	***	***	***	***	***	***	***	***	***	***	***	***	***
Cost of goods sold (COGS)	***	***	***	***	***	***	***	***	***	***	***	***	***
Gross profit or (loss)	***	***	***	***	***	***	***	***	***	***	***	***	***
SG&A expenses	***	***	***	***	***	***	***	***	***	***	***	***	***
Operating income or (loss)	***	***	***	***	***	***	***	***	***	***	***	***	***
Unit COGS	***	***	***	***	***	***	***	***	***	***	***	***	***
Unit SG&A expenses	***	***	***	***	***	***	***	***	***	***	***	***	***
Unit operating income or (loss)	***	***	***	***	***	***	***	***	***	***	***	***	***
COGS/sales (1)	***	***	***	***	***	***	***	***	***	***	***	***	***
Operating income or (loss)/ sales (1)	***	***	***	***	***	***	***	***	***	***	***	***	***

(1) "Reported date" are in percent and "period changes" are in percentage points.
(2) Not applicable.
(3) Undefined.

Note.--Financial data are reported on a fiscal year basis and may not necessarily be comparable to data reported on a calendar year basis. Because of rounding, figures may not add to the totals shown. Unit values and shares are calculated from the unrounded figures.

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

HISTORICAL SUMMARY DATA

FROM THE COMMISSION'S SECOND FIVE-VEAR REVIEWS

Table C-1
PVA: Summary data concerning the U.S. market, 2008-13, January to September 2013, and January to September 2014

(Quantity=1,000 pounds; Value=1,000 dollars; Unit values, unit labor costs, and unit expenses=dollars per pound; Period changes=percent--exceptions noted)

	Reported data							
	Calendar year						January to September	
	2008	2009	2010	2011	2012	2013	2013	2014
U.S. consumption quantity:								
Amount	***	***	***	***	***	***	***	***
Producers' share (fn1)	***	***	***	***	***	***	***	***
Importers' share (fn1):								
China	***	***	***	***	***	***	***	***
Japan	***	***	***	***	***	***	***	***
Korea	***	***	***	***	***	***	***	***
Subject sources	***	***	***	***	***	***	***	***
Taiwan	***	***	***	***	***	***	***	***
All others sources	***	***	***	***	***	***	***	***
Nonsubject sources	***	***	***	***	***	***	***	***
Total imports	***	***	***	***	***	***	***	***
U.S. consumption value:								
Amount	***	***	***	***	***	***	***	***
Producers' share (fn1)	***	***	***	***	***	***	***	***
Importers' share (fn1):								
China	***	***	***	***	***	***	***	***
Japan	***	***	***	***	***	***	***	***
Korea	***	***	***	***	***	***	***	***
Subject sources	***	***	***	***	***	***	***	***
Taiwan	***	***	***	***	***	***	***	***
All others sources	***	***	***	***	***	***	***	***
Nonsubject sources	***	***	***	***	***	***	***	***
Total imports	***	***	***	***	***	***	***	***
U.S. imports from:								
China:								
Quantity	1,449	5,776	7,904	6,525	11,394	12,399	9,385	10,892
Value	1,675	5,738	7,861	6,965	11,870	12,496	9,462	11,386
Unit value	$1.16	$0.99	$0.99	$1.07	$1.04	$1.01	$1.01	$1.05
Ending inventory quantity	***	***	***	***	***	***	***	***
Japan:								
Quantity	***	***	***	***	***	***	***	***
Value	***	***	***	***	***	***	***	***
Unit value	***	***	***	***	***	***	***	***
Ending inventory quantity	***	***	***	***	***	***	***	***
Korea:								
Quantity	0	0	0	0	0	0	0	0
Value	0	0	0	0	0	0	0	0
Unit value	fn3	fn3	fn3	fn3	fn3	fn3	fn3	fn3
Ending inventory quantity	***	***	***	***	***	***	***	***
Subject sources:								
Quantity	***	***	***	***	***	***	***	***
Value	***	***	***	***	***	***	***	***
Unit value	***	***	***	***	***	***	***	***
Ending inventory quantity	***	***	***	***	***	***	***	***
Taiwan:								
Quantity	***	***	***	***	***	***	***	***
Value	***	***	***	***	***	***	***	***
Unit value	***	***	***	***	***	***	***	***
Ending inventory quantity	***	***	***	***	***	***	***	***
All other sources:								
Quantity	***	***	***	***	***	***	***	***
Value	***	***	***	***	***	***	***	***
Unit value	***	***	***	***	***	***	***	***
Ending inventory quantity	***	***	***	***	***	***	***	***
Nonsubject sources:								
Quantity	***	***	***	***	***	***	***	***
Value	***	***	***	***	***	***	***	***
Unit value	***	***	***	***	***	***	***	***
Ending inventory quantity	***	***	***	***	***	***	***	***
Total imports:								
Quantity	***	***	***	***	***	***	***	***
Value	***	***	***	***	***	***	***	***
Unit value	***	***	***	***	***	***	***	***
Ending inventory quantity	***	***	***	***	***	***	***	***

Table continued next page.

Table C-1--Continued
PVA: Summary data concerning the U.S. market, 2008-13, January to September 2013, and January to September 2014

(Quantity=1,000 pounds; Value=1,000 dollars; Unit values, unit labor costs, and unit expenses=dollars per pound; Period changes=percent--exceptions noted)

	Period changes						
		Calendar year					Jan-Sep
	2008-13	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14
U.S. consumption quantity:							
Amount	***	***	***	***	***	***	***
Producers' share (fn1)	***	***	***	***	***	***	***
Importers' share (fn1):							
China	***	***	***	***	***	***	***
Japan	***	***	***	***	***	***	***
Korea	***	***	***	***	***	***	***
Subject sources	***	***	***	***	***	***	***
Taiwan	***	***	***	***	***	***	***
All others sources	***	***	***	***	***	***	***
Nonsubject sources	***	***	***	***	***	***	***
Total imports	***	***	***	***	***	***	***
U.S. consumption value:							
Amount	***	***	***	***	***	***	***
Producers' share (fn1)	***	***	***	***	***	***	***
Importers' share (fn1):							
China	***	***	***	***	***	***	***
Japan	***	***	***	***	***	***	***
Korea	***	***	***	***	***	***	***
Subject sources	***	***	***	***	***	***	***
Taiwan	***	***	***	***	***	***	***
All others sources	***	***	***	***	***	***	***
Nonsubject sources	***	***	***	***	***	***	***
Total imports	***	***	***	***	***	***	***
U.S. imports from:							
China:							
Quantity	755.8	298.7	36.9	(17.5)	74.6	8.8	16.1
Value	646.0	242.6	37.0	(11.4)	70.4	5.3	20.3
Unit value	(12.8)	(14.1)	0.1	7.3	(2.4)	(3.3)	3.7
Ending inventory quantity	***	***	***	***	***	***	***
Japan:							
Quantity	***	***	***	***	***	***	***
Value	***	***	***	***	***	***	***
Unit value	***	***	***	***	***	***	***
Ending inventory quantity	***	***	***	***	***	***	***
Korea:							
Quantity	fn3	fn3	fn3	fn3	fn3	fn3	fn3
Value	fn3	fn3	fn3	fn3	fn3	fn3	fn3
Unit value	fn3	fn3	fn3	fn3	fn3	fn3	fn3
Ending inventory quantity	***	***	***	***	***	***	***
Subject sources:							
Quantity	***	***	***	***	***	***	***
Value	***	***	***	***	***	***	***
Unit value	***	***	***	***	***	***	***
Ending inventory quantity	***	***	***	***	***	***	***
Taiwan:							
Quantity	***	***	***	***	***	***	***
Value	***	***	***	***	***	***	***
Unit value	***	***	***	***	***	***	***
Ending inventory quantity	***	***	***	***	***	***	***
All other sources:							
Quantity	***	***	***	***	***	***	***
Value	***	***	***	***	***	***	***
Unit value	***	***	***	***	***	***	***
Ending inventory quantity	***	***	***	***	***	***	***
Nonsubject sources:							
Quantity	***	***	***	***	***	***	***
Value	***	***	***	***	***	***	***
Unit value	***	***	***	***	***	***	***
Ending inventory quantity	***	***	***	***	***	***	***
Total imports:							
Quantity	***	***	***	***	***	***	***
Value	***	***	***	***	***	***	***
Unit value	***	***	***	***	***	***	***
Ending inventory quantity	***	***	***	***	***	***	***

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Table C-1--Continued
PVA: Summary data concerning the U.S. market, 2008-13, January to September 2013, and January to September 2014

(Quantity=1,000 pounds; Value=1,000 dollars; Unit values, unit labor costs, and unit expenses=dollars per pound; Period changes=percent--exceptions noted)

	Reported data							
	Calendar year						January to September	
	2008	2009	2010	2011	2012	2013	2013	2014
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-related workers	***	***	***	***	***	***	***	***
Hours worked (1,000s)	***	***	***	***	***	***	***	***
Wages paid ($1,000)	***	***	***	***	***	***	***	***
Hourly wages	***	***	***	***	***	***	***	***
Productivity (pounds 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)	***	***	***	***	***	***	***	***
Unit COGS	***	***	***	***	***	***	***	***
Unit SG&A expenses	***	***	***	***	***	***	***	***
Unit operating income or (loss)	***	***	***	***	***	***	***	***
COGS/sales (fn1)	***	***	***	***	***	***	***	***
Operating income or (loss)/sales (fn1)	***	***	***	***	***	***	***	***
Capital expenditures	***	***	***	***	***	***	***	***

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Table C-1--Continued
PVA: Summary data concerning the U.S. market, 2008-13, January to September 2013, and January to September 2014

(Quantity=1,000 pounds; Value=1,000 dollars; Unit values, unit labor costs, and unit expenses=dollars per pound; Period changes=percent--exceptions noted)

	Period changes						
		Calendar year					Jan-Sep
	2008-13	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14
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-related workers	***	***	***	***	***	***	***
Hours worked (1,000s)	***	***	***	***	***	***	***
Wages paid ($1,000)	***	***	***	***	***	***	***
Hourly wages	***	***	***	***	***	***	***
Productivity (pounds 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)	***	***	***	***	***	***	***
Unit COGS	***	***	***	***	***	***	***
Unit SG&A expenses	***	***	***	***	***	***	***
Unit operating income or (loss)	***	***	***	***	***	***	***
COGS/sales (fn1)	***	***	***	***	***	***	***
Operating income or (loss)/sales (fn1)	***	***	***	***	***	***	***
Capital expenditures	***	***	***	***	***	***	***

Notes:
fn1.--Reported data are in percent and period changes are in percentage points.
fn2.--Less than 0.5 percent.
fn3.--Undefined.

Source: U.S. producer data compiled from data submitted in response to Commission questionnaires and U.S. import data compiled from a variety of sources as specified in Part IV of this report.

APPENDIX D

LIKELY EFFECTS OF REVOCATION

Table D-1
PVA: Firms' narratives on the impact of the orders and the likely impact of revocation

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Table D-1--Continued
PVA: Firms' narratives on the impact of the orders and the likely impact of revocation

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Table D-1--Continued
PVA: Firms' narratives on the impact of the orders and the likely impact of revocation

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Table D-1--Continued
PVA: Firms' narratives on the impact of the orders and the likely impact of revocation

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Table D-1--Continued
PVA: Firms' narratives on the impact of the orders and the likely impact of revocation

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Table D-1--Continued
PVA: Firms' narratives on the impact of the orders and the likely impact of revocation

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Table D-1--Continued
PVA: Firms' narratives on the impact of the orders and the likely impact of revocation

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Table D-1--Continued
PVA: Firms' narratives on the impact of the orders and the likely impact of revocation

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Table D-1--Continued
PVA: Firms' narratives on the impact of the orders and the likely impact of revocation

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