Glycine from Thailand

Investigation No. 731-TA-1415 (Final)

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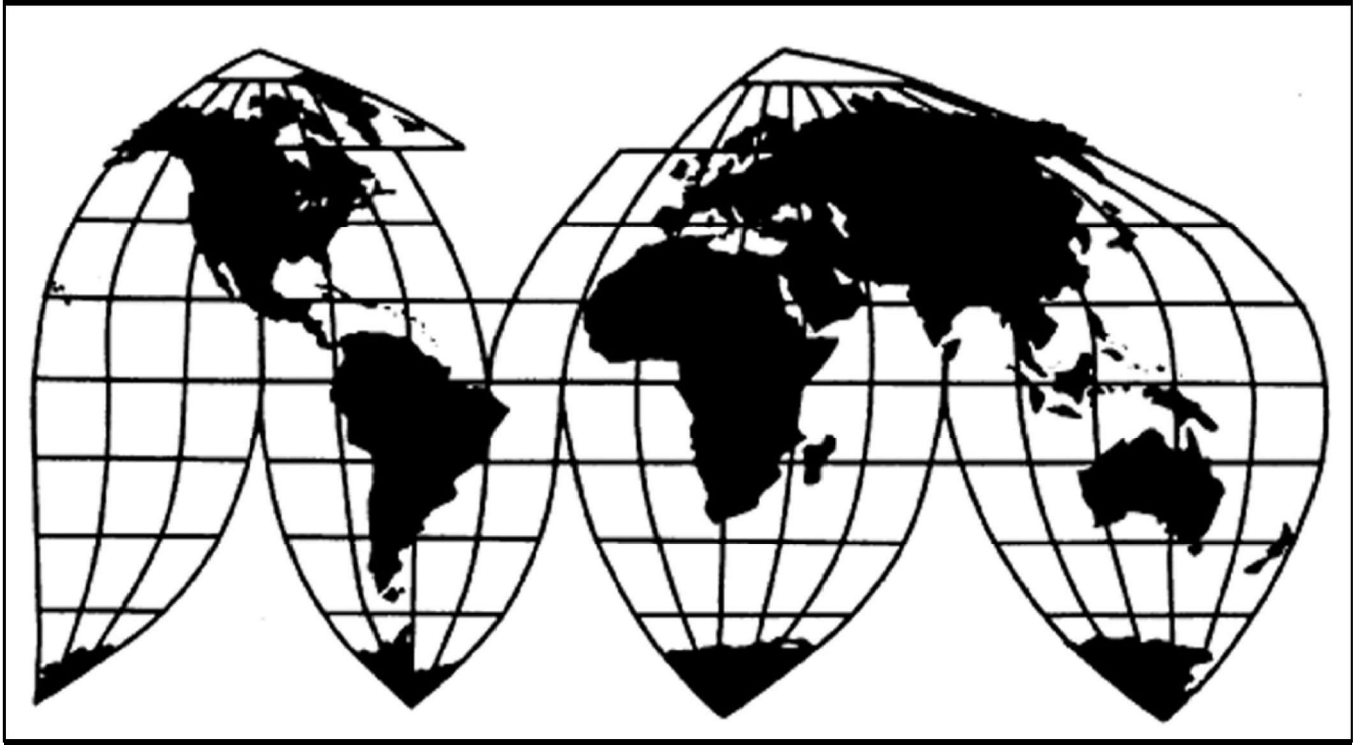
U.S. International Trade Commission



Washington, DC 20436

U.S. International Trade Commission

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William Kent, Attorney
Douglas Corkran, Supervisory Investigator

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

U.S. International Trade Commission

Washington, DC 20436
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UNITED STATES INTERNATIONAL TRADE COMMISSION

Investigation No. 731-TA-1415 (Final)

Glycine from Thailand

DETERMINATION

On the basis of the record[1] developed in the subject investigation, the United States International Trade Commission ("Commission") determines, pursuant to the Tariff Act of 1930 ("the Act"), that an industry in the United States is materially injured by reason of imports of glycine from Thailand, provided for in subheadings 2922.49.43 and 2922.49.80 of the Harmonized Tariff Schedule of the United States, that have been found by the U.S. Department of Commerce ("Commerce") to be sold in the United States at less than fair value ("LTFV").[2] [3] [4]

BACKGROUND

The Commission, pursuant to section 735(b) of the Act (19 U.S.C. 1673d(b)), instituted this investigation effective March 28, 2018, following receipt of petitions filed with the Commission and Commerce by Chattem Chemicals Inc., Chattanooga, Tennessee, and GEO Specialty Chemicals, Inc., Lafayette, Indiana. Effective October 31, 2018, the Commission established a general schedule[5] for the conduct of the final phase of its antidumping and countervailing duty investigations on glycine from China, India, Japan, and Thailand, following notification of preliminary determinations by Commerce that imports of glycine from China and India were subsidized within the meaning of section 703(b) of the Act (19 U.S.C.1671b(b)) and that imports of glycine from India and Japan were being sold at LTFV within the meaning of 733(b) of the Act (19 U.S.C. 1673b(b)).[6] Notice of the scheduling of the final phase of the Commission's investigations 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 December

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

[2] 84 FR 37998, August 5, 2019.

[3] Commissioners Randolph J. Stayin and Amy A. Karpel did not participate in this investigation.

[4] The Commission also finds that imports subject to Commerce's affirmative critical circumstances determination are not likely to undermine seriously the remedial effect of the antidumping duty order on Thailand.

[5] 83 FR 62345, December 3, 2018.

[6] Commerce issued preliminary negative determinations on its antidumping and countervailing duty investigations for glycine from Thailand (83 FR 54717 and 83 FR 44861).

3, 2018 (83 FR 62345).[7] The hearing was held in Washington, DC, on April 30, 2019 and all persons who requested the opportunity were permitted to appear in person or by counsel. On May 1, 2019, Commerce published its final affirmative determinations for its countervailing duty investigations for glycine from China and India and also for its antidumping duty investigations for glycine from India and Japan.[8] On April 24, 2019, Commerce postponed until further notice the issuance of the final determination regarding glycine from Thailand. (See Memorandum from Gary Taverman, Deputy Assistant Secretary for Antidumping and Countervailing Duty Operations, to Jeffrey Kessler, Assistant Secretary for Enforcement and Compliance, "Postponement of the Final Determinations in the Less-Than-Fair Value and Countervailing Duty Investigations of Glycine from Thailand," April 24, 2019.) The Commission issued its affirmative determinations for its countervailing duty investigations for glycine from China and India and its antidumping duty investigations for India and Japan on June 14, 2019.[9] Following notification of a final determination by Commerce that imports of glycine from Thailand were being sold at LTFV within the meaning of section 735(a) of the Act (19 U.S.C. 1673d(a)),[10] notice of the supplemental scheduling of the final phase of the Commission's antidumping duty investigation with respect to glycine from Thailand was given by posting copies of the notice in the Office of the Secretary, U.S. International Trade Commission, Washington, DC, and by publishing notice in the *Federal Register* of August 23, 2019 (84 FR 44334).

The Commission made this determination pursuant to section 735(b) of the Act (19 U.S.C. 1673d(b)).

[7] Due to the lapse in appropriations and ensuing cessation of Commission operations, the Commission published its revised schedule on February 12, 2019.

[8] 84 FR 18489, 84 FR 18482, 84 FR 18487, and 84 FR 18484, respectively.

[9] 84 FR 29238, June 21, 2019.

[10] On August 5, 2019, Commerce published in the *Federal Register* its final affirmative determination of sales at less than fair value and of critical circumstances for glycine from Thailand (84 FR 37998) as well as its final negative countervailing duty determination and final negative critical circumstances determination for glycine from Thailand (84 FR 38007). Consequently, effective August 5, 2019, the Commission terminated its countervailing duty investigation concerning glycine from Thailand (84 FR 43618, August 21, 2019).

Views of the Commission

Based on the record of the final phase of this investigation, we determine that an industry in the United States is materially injured by reason of imports of glycine from Thailand found by the U. S. Department of Commerce ("Commerce") to be sold in the United States at less than fair value ("LTFV").[1] We also find that critical circumstances do not exist with respect to imports of glycine from Thailand subject to Commerce's affirmative critical circumstances determination.[2]

I. Background

GEO Specialty Chemicals, Inc. ("GEO") and Chattem Chemicals, Inc. ("Chattem"), domestic producers of glycine filed a petition in this investigation, as well as petitions on antidumping and countervailing duty investigations on imports of glycine from China, India, and Japan, on the same day, March 28, 2018. However, the investigation schedules became staggered when Commerce, after making negative preliminary determinations in both its antidumping and countervailing duty investigations with respect to imports of glycine from Thailand,[3] on April 24, 2019, postponed until further notice its issuance of final determinations in its antidumping and countervailing duty investigations with respect to imports of glycine from Thailand.[4] Commerce issued its final determinations on May 1, 2019 in its antidumping duty investigations of glycine from India and Japan and its countervailing duty investigations of glycine from China and India.[5] In June 2019, the Commission made affirmative final

[1] Commissioners Randolph J. Stayin and Amy A. Karpel did not participate in this investigation.

[2] Commissioner Kearns made an affirmative finding on critical circumstances. *See* Separate Views of Commissioner Jason E. Kearns Concerning Critical Circumstances. He joins sections I through IV.B of this opinion.

[3] *See Glycine from Thailand: Preliminary Negative Countervailing Duty Determination, Preliminary Negative Critical Circumstances Determination, and Alignment of Final Determination With Final Antidumping Duty Determination*, 83 Fed. Reg. 44861 (September 4, 2018), and *Glycine from Thailand: Preliminary Determination of Sales at Not Less Than Fair Value*, 83 Fed. Reg. 54717 (October 31, 2018).

[4] Commerce stated that it was postponing those investigations in light of new information submitted regarding notice of commencement by U.S. Customs and Border Protection ("CBP") of a formal investigation and imposition of interim measures under the Trade Facilitation and Trade Enforcement Act of 2015. April 24, 2019 Department of Commerce Memorandum from Gary Taverman to Jeffrey I. Kessler, Investigations A-549-837 and C-549-838, (EDIS Document No. 676649) ("April 24, 2019 Commerce Thailand Memo") at 1-2, 9.

[5] *See Countervailing Duty Investigation of Glycine From India: Affirmative Final Determination*, 84 Fed. Reg. 18482 (May 1, 2019); *Glycine From the People's Republic of China: Final Affirmative Countervailing Duty Determination*, 84 Fed. Reg. 18489 (May 1, 2019); *Glycine From Japan: Final Determination of Sales at Less Than Fair Value*, 84 Fed. Reg. 18484 (May 1, 2019); *Glycine From India: Final Determination of Sales at Less Than Fair Value*, 84 Fed. Reg. 18487 (May 1, 2019); *see also Glycine*

determinations regarding LTFV imports of glycine from India and Japan and subsidized imports by the governments of China and India.[6]

Since Commerce issued negative preliminary determinations in both its antidumping and countervailing duty investigations of glycine from Thailand, subject imports from Thailand were not eligible for cumulation under the statute[7] with imports from the other subject countries in the Commission's final investigations of glycine from China, India, and Japan. Commerce subsequently has made an affirmative final determination and an affirmative critical circumstances finding in its antidumping duty investigation regarding Thailand.[8] Therefore, because Commerce has subsequently issued an affirmative antidumping duty determination, subject LTFV imports from Thailand are eligible for cumulation with subject imports from the other subject sources for purposes of the antidumping duty investigation of glycine from Thailand.

Petitioners subsequently filed a supplemental brief and final comments with respect to the antidumping duty investigation that are the subject of this investigation.[9] In addition, Innospec Active Chemicals LLC, an importer of glycine from Thailand, filed a supplemental brief.[10] No other parties filed a supplemental brief.

We herein adopt the findings and analysis regarding the domestic like product and the domestic industry from our prior affirmative determination.[11]

From India and Japan: Amended Final Affirmative Antidumping Duty Determination and Antidumping Duty Orders, 84 Fed. Reg. 29170 (June 21, 2019).

[6] *See Glycine from China, India, and Japan*, Inv. Nos. 701-TA-603-604 and 731-TA-1413-1414 (Final), USITC Pub. 4900 (June 2019).

[7] 19 U.S.C. § 1677(7)(G)(ii)(1).

[8] *See Glycine from Thailand: Final Determination of Sales at Less Than Fair Value and Final Affirmative Determination of Critical Circumstances in Part*, 84 Fed. Reg. 37998 (August 5, 2019). In the companion countervailing duty investigation, Commerce determined that countervailable subsidies were not provided to producers or exporters of glycine by the government of Thailand and that critical circumstances did not exist with respect to imports of the subject merchandise. *See Glycine from Thailand: Final Negative Countervailing Duty Determination and Final Negative Critical Circumstances Determination*, 84 Fed. Reg. 38007 (August 5, 2019). Accordingly, the Commission terminated its countervailing duty investigation of imports of glycine from Thailand. *See Glycine from Thailand: Termination of Investigation*, 84 Fed. Reg. 43618 (August 21, 2019).

[9] Petitioners Supplemental Brief (August 30, 2019); Petitioners Final Comments (September 10, 2019).

[10] Innospec Supplemental Brief (August 30, 2019).

[11] *See Glycine from China, India, and Japan*, Inv. Nos. 701-TA-603-604 and 731-TA-1413-1414 (Final), USITC Pub. 4900 (June 2019), at 5-11.

II. Cumulation[12]

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

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

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

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

(4) whether the subject imports are simultaneously present in the market.[13]

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[12] Pursuant to Section 771(24) of the Tariff Act, imports from a subject country of merchandise corresponding to the domestic like product that account for less than 3 percent of the volume of all such merchandise imported into the United States in the most recent 12-month period for which data are available that precedes the filing of the petition or self-initiation, as the case may be, shall be deemed negligible. 19 U.S.C. §§ 1677(24)(A)(i), 1673b(a), 1677(24)(A)(i), 1677(24)(B); *see also* 15 C.F.R. § 2013.1 (developing countries for purposes of 19 U.S.C. § 1677(36)). The statute further provides that subject imports from a single country which comprise less than 3 percent of total such imports of the product may not be considered negligible if there are several countries subject to investigation with negligible imports and the sum of such imports from all those countries collectively accounts for more than 7 percent of the volume of all such merchandise imported into the United States. 19 U.S.C. § 1677(24)(A)(ii).

Subject imports from Thailand exceed the statutory negligibility threshold. Based on official import statistics, during the 12-month period prior to the filing of the petitions (March 2017 through February 2018), subject imports from Thailand accounted for 23.5 percent of total U.S. imports of glycine by quantity. Confidential Report ("CR"), INV-RR-044 at Table IV-4, Public Report ("PR") at Table IV-4 (as amended by INV-RR-046). Due to the staggered nature of this investigation, the Commission produced a supplementary confidential report for this investigation. *See* Confidential Report, INV-RR-089 ("Suppl. CR"). Citations in these Views are to the Commission's initial Confidential Report INV-RR-089 unless otherwise noted. Because subject imports from Thailand exceed the 3 percent individual subject country statutory negligibility threshold applicable to antidumping duty investigations during the 12-month period prior to the filing of the petitions, we find that subject imports from Thailand are not negligible.

While no single factor is necessarily determinative, and the list of factors is not exclusive, these factors are intended to provide the Commission with a framework for determining whether the subject imports compete with each other and with the domestic like product.[14] Only a "reasonable overlap" of competition is required.[15]

Petitioners argue that subject imports from Thailand should be cumulated with subject imports from China, India, and Japan. They point out that the Commission did not previously cumulate subject imports from Thailand with the other subject imports because, when the Commission voted on the petitions against China, India, and Japan, Commerce had made negative preliminary determinations in the AD and CVD investigations of subject imports from Thailand and had not yet made final determinations. In light of Commerce's subsequent affirmative determination that subject imports from Thailand were sold at LTFV, they contend, the Commission should find that subject imports from Thailand are eligible for cumulation.[16] Petitioners argue that subject imports from all four countries are highly fungible with each other and the domestic like product.[17] They contend that imports from each subject country and the domestic like product are sold in the same geographic markets through similar channels of distribution, and had a consistent and simultaneous presence in the U.S. market.[18]

We consider subject imports from Thailand with those from China, India, and Japan because the record indicates that the statutory criteria for cumulation are satisfied. As an initial matter, petitioners filed the antidumping/countervailing duty petitions with respect to all four subject countries on the same day, March 28, 2018.[19] The Commission is required to

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[13] *See Certain Cast-Iron Pipe Fittings from Brazil, the Republic of Korea, and Taiwan*, Inv. Nos. 731-TA-278-280 (Final), USITC Pub. 1845 (May 1986), *aff'd*, *Fundicao Tupy, S.A. v. United States*, 678 F. Supp. 898 (Ct. Int'l Trade), aff'd, 859 F.2d 915 (Fed. Cir. 1988).

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

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

[16] Petitioners' Supplemental Brief at 3-4.

[17] Petitioners' Prehearing Brief at 14-19; Petitioners' Supplemental Brief at 4-5.

[18] Petitioners' Prehearing Brief at 17-20; Petitioners' Supplemental Brief at 3-5. Petitioners contend that Japanese Respondents' arguments that subject imports from Japan should not be cumulated with imports from other subject sources are based on considerations irrelevant to the Commission's cumulation analysis and are factually unsupported by the record. Petitioners' Posthearing Brief, Answers to Commission Questions, at 36-41. Innospec does not address cumulation in its supplemental brief. *See* Innospec Supplemental Brief.

[19] CR/PR at I-1. Confidential Report ("CR"), INV-RR-044 at I-1, Public Report ("PR") at I-1 (as amended by INV-RR-046). Due to the staggered nature of this investigation, the Commission produced a supplementary confidential report for this investigation. *See* Confidential Report, INV-RR-089 ("Suppl. CR"). Citations in these Views are to the Commission's initial Confidential Report INV-RR-044/046 unless otherwise noted.

cumulate subject imports from all countries for which petitions were filed on the same day "if such imports compete with each other and with domestic like products in the United States market."[20] The sole statutory exception is section 771(7)(G)(ii)(1) of the Tariff Act which states that the Commission shall not cumulate imports "with respect to which {Commerce} has made a negative preliminary determination, unless {Commerce} subsequently made a final affirmative determination with respect to those imports before the Commission's final determination is made.[21]

Commerce made negative preliminary determinations in both its antidumping and countervailing duty investigations with respect to imports from Thailand.[22] However, on April 24, 2019, Commerce postponed the final determinations in its antidumping and countervailing duty investigations of imports from Thailand beyond the statutory deadline in order to investigate an alleged scheme to transship Chinese-origin glycine through Thailand, to evade antidumping duties on glycine from China.[23] On August 5, 2019, Commerce issued its final affirmative determination that exporters from Thailand sold glycine at LTFV in the United States and a negative final determination in the countervailing duty investigation of imports of glycine from Thailand.[24] With Commerce's affirmative determination, imports from Thailand are no longer subject to exception and are eligible for cumulation with imports of glycine from the other three subject country sources – China, India, and Japan.

Fungibility. The record indicates that subject imports from each of the subject countries eligible for cumulation (China, India, Japan, and Thailand) are fungible with both the domestic like product and each other. U.S. shipments of the domestic like product and of the subject imports from China, India, Japan, and Thailand were *** of USP grade glycine.[25] Thus, there was substantial overlap between subject imports from China, India, Japan, Thailand and the domestic like product with respect to U.S. shipments of USP grade. While Japanese Respondents argue that shipments of specialty products from Japan such as dual-certified glycine for pharmaceutical IV solutions limit the fungibility and competitive overlap of subject

[20] 19 U.S.C. § 1677(7)(G)(i).

[21] 19 U.S.C. § 1677(7)(G)(ii)(1).

[22] *Glycine from Thailand: Preliminary Determination of Sales at Not Less Than Fair Value*, 83 Fed. Reg. 54717 (Oct. 31, 2018); *Glycine from Thailand: Preliminary Negative Countervailing Duty Determination, Preliminary Negative Critical Circumstances Determination, and Alignment of Final Determination With Final Antidumping Duty Determination*, 83 Fed. Reg. 44861 (Sept. 4, 2018).

[23] April 24, 2019 Department of Commerce Memorandum from Gary Taverman to Jeffrey I. Kessler, Investigations A-549-837 and C-549-838 (EDIS Document No. 676649).

[24] *Glycine from Thailand: Final Determination of Sales at Less Than Fair Value and Final Affirmative Determination of Critical Circumstances in Part*, 84 Fed. Reg. 37998 (Aug. 5, 2019) and accompanying Issues and Decision Memorandum at Comment 2; *Glycine from Thailand: Final Negative Countervailing Duty Determination and Final Negative Critical Circumstances Determination*, 84 Fed. Reg. 38007 (Aug. 5, 2019).

[25] CR/PR at Table IV-6. In 2017, USP grade glycine accounted for *** percent of U.S. shipments of glycine, *** percent of subject imports from China, *** percent of subject imports from India, *** percent of subject imports from Japan, and *** percent of subject imports from Thailand. CR/PR at Table IV-6.

imports from Japan with imports from other subject sources, dual-certified glycine for pharmaceutical IV solutions accounted for *** percent of U.S. shipments of Japanese product in 2017.[26]

Both U.S. producers reported that the domestic like product and subject imports from China, India, Japan, and Thailand are "frequently" interchangeable, while a majority of responding U.S. importers reported that the domestic like product and subject imports from China, India, Japan, and Thailand are "always" or "frequently" interchangeable. While a majority of responding U.S. purchasers reported that subject imports from India, Japan, and Thailand are "always" or "frequently" interchangeable with the domestic like product, six of 11 responding purchasers reported that subject imports from China are only "sometimes" or "never" interchangeable with the domestic like product.[27] A majority of responding U.S. importers reported that subject imports from each of the subject countries were "always" or "frequently" interchangeable with each other. A majority of responding purchasers reported that subject imports from India, Japan, and Thailand were "always" or "frequently" interchangeable with each other. A majority of responding purchasers reported that subject imports from China and Thailand are "frequently" interchangeable. However, majorities of responding purchasers reported that subject imports from China and India are only "sometimes" or "never" interchangeable with each other and that subject imports from China and Japan are only "sometimes" or "never" interchangeable with each other.[28] Thus, responding U.S. producers and importers generally reported that the domestic like product and subject imports from China, India, Japan, and Thailand are interchangeable, but U.S. purchasers reported some limitations on interchangeability of subject imports from China with subject imports from India and Japan and the domestic like product.

In purchasers' comparisons of subject imports and the domestic like product, majorities of responding purchasers reported that subject imports from Japan were "comparable" to the domestic like product with respect to 19 of 20 factors.[29] Similarly, majorities or pluralities of responding purchasers reported that subject imports from India were "comparable" to the domestic like product with respect to 18 of 20 factors.[30] Majorities or pluralities of responding purchasers reported that subject imports from Thailand and subject imports from China were "comparable" to the domestic like product with respect to 13 of 20 factors.[31]

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[26] CR/PR at Table IV-7.

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

[28] CR/PR at Table II-10. No U.S. producer reported on the interchangeability among subject imports from China, India, Japan, and Thailand.

[29] CR/PR at Table II-9. Purchasers found subject imports from Japan to be "superior" to domestic product only with respect to price. *Id.*

[30] CR/PR at Table II-9. Purchasers found subject imports from India to be "inferior" to domestic product only with respect to injectability. Purchasers were divided as to price, with five purchasers reporting that subject imports from India and domestic product were "comparable," five reporting that subject imports were "superior," and three reporting that domestic like product was "superior." *Id.*

[31] CR/PR at Table II-9. Purchasers found subject imports from China and Thailand to be "superior" to domestic product with respect to four factors: availability, discounts offered, price, and

Channels of Distribution. A *** majority of the U.S. shipments by U.S. producers during the January 2015 to September 2018 period of investigation ("POI") went to end users, and an *** share went to distributors. *** subject imports from Japan during the POI went to end users, with *** percentages (between *** and *** percent) going to distributors. Subject imports from India went to both distributors and end users, with majorities of U.S. shipments going to distributors in 2016 and 2017, and majorities going to end users in 2015 and January-September ("interim") 2018. Subject imports from Thailand went to both distributors and end users, with majorities of U.S. shipments going to distributors in 2015 to 2017, and majorities going to end users in interim 2018. Subject imports from China went primarily to distributors, with *** shipments to end users in 2015, but *** shipments to end users thereafter.[32] Thus, while there was substantial overlap in channels of distribution between subject imports from Japan, India, and Thailand, and the domestic like product, overlap between subject imports from Japan and subject imports from China was more limited.[33] The record indicates that one purchaser, ***, reported purchasing subject imports from China, India, and Japan during the POI, supporting a reasonable overlap in competition among these sources, although it did not report purchasing any subject imports from Thailand or any of the domestic like product.[34]

Geographic Overlap. The domestic like product and subject imports from India, Japan, and Thailand were sold in every region of the continental United States.[35] Subject imports from China were sold only in the Northeast region. Thus, there was overlap between subject imports from China, India, Japan, Thailand, and the domestic like product in the Northeast region.

Simultaneous Presence in Market. Subject imports from Japan were present in the U.S. market in all 45 months between January 2015 and September 2018, while subject imports from India were present in the U.S. market in 44 of 45 months, and subject imports from Thailand were present in the U.S. market in 41 of 45 months. Subject imports from China were present in the U.S. market in each year during 2015-2018 and in 27 of 45 months during January 2015-September 2018, although they were not present in the last seven months of this period. Subject imports from China, India, Japan, were all present in every month of 2017. Subject imports from Thailand were present in every month of 2018.[36] The domestic like product was present in the U.S. market throughout the entire POI.[37]

Conclusion. There is substantial overlap between the domestic like product and subject imports from China, India, Japan, and Thailand with respect to shipments of USP grade glycine, which accounted for the *** of U.S. shipments from all four sources. Responding U.S. producers and importers generally reported that the domestic like product and subject imports

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reliability of supply. Purchasers were divided as to four additional factors: antidumping duty orders, delivery time, injectability, and qualification(s) beyond USP grade. *Id.*

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

[33] We note, however, that some purchasers reported that they function both as distributors and end users. CR/PR at II-2 n.10.

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

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

[36] CR/PR at Table IV-9.

[37] *See* CR/PR at Tables V-3 to V-5.

from China, India, Japan, and Thailand are always or frequently interchangeable, although responding purchasers reported somewhat more limited interchangeability between subject imports from China and the other four sources of product. There is an overlap in channels of distribution in sales to end users between subject imports from India, Japan, and Thailand, and the domestic like product. There was limited overlap in sales to end users between subject imports from Japan (which were sold *** to end users) and subject imports from China as one end user purchased product from both Japan and China during the POI (subject imports from China were sold *** to distributors after 2015). The domestic like product and subject imports from India, Japan, and Thailand were sold in all regions of the United States and subject imports from China were sold in the Northeast region of the United States. Subject imports from China, India, Japan, and Thailand were all present in the U.S. market in a majority of the months in the POI. Thus, the record indicates that there is a reasonable overlap of competition between and among subject imports from China, India, Japan, and Thailand and the domestic like product. Accordingly, we consider subject imports from China, India, Japan, and Thailand on a cumulated basis.

III. Material Injury by Reason of Subject Imports

A. Legal Standards

In the final phase of antidumping and countervailing duty investigations, the Commission determines whether an industry in the United States is materially injured or threatened with material injury by reason of the imports under investigation.[38] In making this determination, the Commission must consider the volume of subject imports, their effect on prices for the domestic like product, and their impact on domestic producers of the domestic like product, but only in the context of U.S. production operations.[39] The statute defines "material injury" as "harm which is not inconsequential, immaterial, or unimportant."[40] In assessing whether the domestic industry is materially injured by reason of subject imports, we consider all relevant economic factors that bear on the state of the industry in the United States.[41] No single factor is dispositive, and all relevant factors are considered "within the context of the business cycle and conditions of competition that are distinctive to the affected industry."[42]

Although the statute requires the Commission to determine whether the domestic industry is "materially injured or threatened with material injury by reason of" unfairly traded

[38] 19 U.S.C. §§ 1671d(b), 1673d(b).

[39] 19 U.S.C. § 1677(7)(B). The Commission "may consider such other economic factors as are relevant to the determination" but shall "identify each {such} factor ... and explain in full its relevance to the determination." 19 U.S.C. § 1677(7)(B).

[40] 19 U.S.C. § 1677(7)(A).

[41] 19 U.S.C. § 1677(7)(C)(iii).

[42] 19 U.S.C. § 1677(7)(C)(iii).

imports,[43] it does not define the phrase "by reason of," indicating that this aspect of the injury analysis is left to the Commission's reasonable exercise of its discretion.[44] In identifying a causal link, if any, between subject imports and material injury to the domestic industry, the Commission examines the facts of record that relate to the significance of the volume and price effects of the subject imports and any impact of those imports on the condition of the domestic industry. This evaluation under the "by reason of" standard must ensure that subject imports are more than a minimal or tangential cause of injury and that there is a sufficient causal, not merely a temporal, nexus between subject imports and material injury.[45]

In many investigations, there are other economic factors at work, some or all of which may also be having adverse effects on the domestic industry. Such economic factors might include nonsubject imports; changes in technology, demand, or consumer tastes; competition among domestic producers; or management decisions by domestic producers. The legislative history explains that the Commission must examine factors other than subject imports to ensure that it is not attributing injury from other factors to the subject imports, thereby inflating an otherwise tangential cause of injury into one that satisfies the statutory material injury threshold.[46] In performing its examination, however, the Commission need not isolate the injury caused by other factors from injury caused by unfairly traded imports.[47] Nor does the

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[43] 19 U.S.C. §§ 1671d(a), 1673d(a).

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

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

[46] SAA at 851-52 ("{T}he Commission must examine other factors to ensure that it is not attributing injury from other sources to the subject imports."); S. Rep. 96-249 at 75 (1979) (the Commission "will consider information which indicates that harm is caused by factors other than less-than-fair-value imports."); H.R. Rep. 96-317 at 47 (1979) ("in examining the overall injury being experienced by a domestic industry, the ITC will take into account evidence presented to it which demonstrates that the harm attributed by the petitioner to the subsidized or dumped imports is attributable to such other factors;" those factors include "the volume and prices of nonsubsidized imports or imports sold at fair value, contraction in demand or changes in patterns of consumption, trade restrictive practices of and competition between the foreign and domestic producers, developments in technology and the export performance and productivity of the domestic industry"); *accord Mittal Steel*, 542 F.3d at 877.

[47] SAA at 851-52 ("{T}he Commission need not isolate the injury caused by other factors from injury caused by unfair imports."); *Taiwan Semiconductor Industry Ass'n,* 266 F.3d at 1345 ("{T}he Commission need not isolate the injury caused by other factors from injury caused by unfair imports ... .

"by reason of" standard require that unfairly traded imports be the "principal" cause of injury or contemplate that injury from unfairly traded imports be weighed against other factors, such as nonsubject imports, which may be contributing to overall injury to an industry.[48] It is clear that the existence of injury caused by other factors does not compel a negative determination.[49]

Assessment of whether material injury to the domestic industry is "by reason of" subject imports "does not require the Commission to address the causation issue in any particular way" as long as "the injury to the domestic industry can reasonably be attributed to the subject imports."[50] The Commission ensures that it has "evidence in the record" to "show that the harm occurred 'by reason of' the LTFV imports," and that it is "not attributing injury from other sources to the subject imports." [51] The Federal Circuit has examined and affirmed various Commission methodologies and has disavowed "rigid adherence to a specific formula."[52]

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

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

[49] *See Nippon Steel Corp*., 345 F.3d at 1381 ("an affirmative material-injury determination under the statute requires no more than a substantial-factor showing. That is, the 'dumping' need not be the sole or principal cause of injury.").

[50] *Mittal Steel*, 542 F.3d at 876 &78; *see also id.* at 873 ("While the Commission may not enter an affirmative determination unless it finds that a domestic industry is materially injured 'by reason of' subject imports, the Commission is not required to follow a single methodology for making that determination ... {and has} broad discretion with respect to its choice of methodology.") *citing United States Steel Group v. United States*, 96 F.3d 1352, 1362 (Fed. Cir. 1996) and S. Rep. 96-249 at 75. In its decision in *Swiff-Train v. United States*, 793 F.3d 1355 (Fed. Cir. 2015), the Federal Circuit affirmed the Commission's causation analysis as comporting with the Court's guidance in *Mittal*.

[51] *Mittal Steel*, 542 F.3d at 873 (quoting from *Gerald Metals*, 132 F.3d at 722), 877-79. We note that one relevant "other factor" may involve the presence of significant volumes of price-competitive nonsubject imports in the U.S. market, particularly when a commodity product is at issue. In appropriate cases, the Commission collects information regarding nonsubject imports and producers in nonsubject countries in order to conduct its analysis.

[52] *Nucor Corp. v. United States*, 414 F.3d 1331, 1336, 1341 (Fed. Cir. 2005); *see also Mittal Steel*, 542 F.3d at 879 ("*Bratsk* did not read into the antidumping statute a Procrustean formula for determining whether a domestic injury was 'by reason' of subject imports.").

The question of whether the material injury threshold for subject imports is satisfied notwithstanding any injury from other factors is factual, subject to review under the substantial evidence standard.[53] Congress has delegated this factual finding to the Commission because of the agency's institutional expertise in resolving injury issues.[54]

B. Conditions of Competition and the Business Cycle

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

1. Demand Considerations

U.S. demand for glycine depends on the demand for U.S.-produced downstream products in which it is used. Reported end uses for glycine include electronic/metal cleaners, industrial mixtures and slurries, nutritional supplements, personal care products, pet food/livestock feed, and pharmaceutical products (*e.g.,* intravenous solutions). USP-grade glycine is required for products made for human or animal consumption, while technical grade-glycine is used in industrial applications.[55] Glycine accounts for a small share of the cost of most of the end-use products in which it is used.[56] A small number of purchasers account for a large share of apparent U.S. consumption of glycine.[57]

Most responding market participants reported no change in U.S. demand for glycine since 2015, but eight of 27 responding purchasers reported an increase in U.S. demand.[58] Apparent U.S. consumption of glycine declined by *** percent between 2015 and 2017, falling from *** pounds in 2015 to *** pounds in 2016, and then increasing to *** pounds in 2017; it was *** pounds in interim 2017 and lower, at *** pounds, in interim 2018.[59]

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

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

[55] Glycine is sold in various other grades, including higher-purity grade and pharmaceutical-grade glycine, but there is not an industry-wide consensus on the names of all the grades. CR at I-18 n.44, PR at 14 n.44.

[56] CR at II-8 to II-9, PR at II-6.

[57] *** U.S. purchasers accounted for approximately *** percent of apparent U.S. consumption in 2017. CR/PR at II-2 n.9.

[58] CR/PR at Table II-4; CR at II-9 to II-10, PR at II-6.

[59] CR/PR at Tables IV-11 and C-1. When calculated on the basis of net U.S. shipments of imports, which adjusts for importers' inventory changes and re-exports, adjusted apparent U.S. consumption declined from *** pounds in 2015 to *** pounds in 2016, and then increased to *** pounds in 2017; it was *** pounds in interim 2017 and lower, at *** pounds, in interim 2018. CR/PR at Table IV-14.

2. Supply Considerations

Between January 2015 and September 2018, three sources supplied the U.S. glycine market: the domestic industry, cumulated subject imports from China, India, Japan, and Thailand, and nonsubject imports.

The domestic industry consists of two U.S. producers, GEO and Chattem.[60] GEO is the larger producer.[61] The domestic industry's capacity to produce glycine was less than apparent U.S. consumption throughout the POI.[62] The domestic industry's capacity utilization rate declined by *** percentage points between 2015 and 2017, and was higher in interim 2018 than in interim 2017.[63]

While *** reported no supply constraints since 2015, two importers reported that domestic producers were unable to meet demand, and six purchasers reported that U.S. producer *** faced supply constraints.[64] The domestic industry's market share increased from *** percent in 2015 to *** percent in 2016, and then declined to *** percent in 2017; it was *** percent in interim 2017, and higher, at *** percent, in interim 2018.[65]

The market share of cumulated subject imports from China, India, Japan and Thailand decreased from *** percent in 2015 to *** percent in 2016, and then increased to *** percent in 2017; it was *** percent in interim 2017, and lower, at *** percent, in interim 2018.[66]

The market share of nonsubject imports declined from *** percent in 2015 to *** percent in 2016, and then to *** percent in 2017; it was *** percent in interim 2017, and lower, at *** percent, in interim 2018.[67]

3. Substitutability and Other Conditions

Based on the record, we find that there is a high degree of substitutability between domestically produced glycine and cumulated subject imports from China, India, Japan, and

[60] CR at I-5, III-1, PR at I-4, III-1.

[61] CR at I-5; PR at 4. In 2017, GEO accounted for *** percent of U.S. production and Chattem accounted for *** percent. CR/PR at Table III-1.

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

[63] Capacity utilization declined from *** percent in 2015 to *** percent in 2016 and *** percent in 2017; it was *** percent in interim 2017 and higher, at *** percent, in interim 2018. CR/PR at Tables III-5, C-1.

[64] CR at II-7 to II-8, PR at II-4 to II-5. Most responding purchasers reported that the domestic like product was "comparable" to subject imports from India and Japan with respect to availability and reliability of supply, although most responding purchasers reported that the domestic like product was "inferior" to subject imports from China and Thailand with respect to availability and reliability of supply. CR/PR at Table II-9.

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

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

[67] CR/PR at Table IV-11. Nonsubject imports accounted for 1.4 percent of total U.S. imports in 2017; the largest source of nonsubject imports was Germany. CR at II-7, PR at II-4.

Thailand.[68] A *** of U.S. shipments of both the domestic like product and cumulated subject imports were of USP-grade glycine.[69] Moreover, a substantial percentage of U.S. shipments of both the domestic like product and cumulated subject imports were of FDA-certified glycine.[70] Responding U.S. producers and importers generally reported that the domestic like product and subject imports from China, India, Japan, and Thailand are always or frequently interchangeable, although U.S. purchasers reported some limitation on the interchangeability of subject imports from China with the domestic like product.[71]

We find that price is an important factor in purchasing decisions for glycine, while recognizing that other factors are also important, including quality, availability, and reliability of supply. In identifying the three most important factors in their purchasing decisions for glycine, 34 responding purchasers listed price/cost, 33 firms listed quality, and 28 firms listed availability/supply.[72] When purchasers were asked to describe the importance of purchasing factors for glycine, 27 firms reported that price was very important, while 10 reported that price was somewhat important.[73]

Both the domestic like product and cumulated subject imports were sold *** through annual contracts.[74] GEO generally negotiates annual contracts in the fourth quarter of the year to apply in the following calendar year.[75]

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[68] CR at II-10, PR at II-7.

[69] In 2017, *** percent of U.S. producers' U.S. shipments were of USP-grade glycine, while *** percent of U.S. shipments of cumulated subject imports were of USP-grade glycine. CR/PR at Table IV-6.

[70] In 2017, *** percent of U.S. producers' U.S. shipments of glycine were FDA-certified, while *** percent of U.S. shipments of cumulated subject imports of glycine were FDA-certified. CR/PR at Table IV-7. We acknowledge that there is some difference in product range between the domestic like product and individual subject sources, such as the glycine slurry for CMP applications produced by subject producers in Japan. Notwithstanding this, the overall overlap in product types between the domestic like product and cumulated subject imports indicates a high degree of substitutability.

[71] Both U.S. producers reported that the domestic like product and subject imports from China, India, Japan, and Thailand are "frequently" interchangeable, and a majority of responding U.S. importers reported that the domestic like product and subject imports from China, India, Japan, and Thailand are "always" or "frequently" interchangeable. While a majority of responding U.S. purchasers reported that subject imports from India, Japan, and Thailand are "always" or "frequently" interchangeable with the domestic like product, six of 11 responding purchasers reported that subject imports from China are only "sometimes" or "never" interchangeable with the domestic like product. CR/PR at Table II-10.

[72] CR/PR at Table II-6. Quality was the factor most frequently listed by purchasers as the most important, while availability/supply was the factor most frequently listed as second most important, and price/cost was the factor most frequently listed as third most important. *Id.*

[73] CR/PR at Table II-7. Availability was the factor most frequently listed by purchasers as very important, followed by product consistency, reliability of supply, purity, price, delivery time, qualification as USP grade, and FDA certification. *Id.*

[74] In 2017, *** percent of U.S. producers' U.S. commercial shipments were sold through annual contracts, while *** percent were sold through spot sales. *** percent of U.S. commercial shipments of cumulated subject imports were sold through annual contracts, while *** percent were sold through spot sales, *** percent through short-term contracts, and *** percent through long-term contracts. CR/PR at Table V-2.

Glycine can be produced using two different production methods. U.S. producer GEO uses the hydrogen cyanide ("HCN") process, with the hazardous chemical HCN as its primary feedstock, while U.S. producer Chattem uses the monochloroacetic acid process, with monochloroacetic acid and liquid ammonia as the key feedstocks.[76] Taken together, U.S. producers reported that raw materials accounted for *** percent of the total cost of goods sold ("COGS") in 2017, down from *** percent in 2015. However, the different production methods employ different raw material inputs, and the two U.S. producers ***.[77]

C. Volume of Subject Imports

Section 771(7)(C)(i) of the Tariff Act provides that the "Commission shall consider whether the volume of imports of the merchandise, or any increase in that volume, either in absolute terms or relative to production or consumption in the United States, is significant."[78]

The volume of cumulated subject imports was 12.9 million pounds in 2015, 10.8 million pounds in 2016, and 12.7 million pounds in 2017; it was 9.6 million pounds in interim 2017 and 8.9 million pounds in interim 2018.[79]

The market share of cumulated subject imports decreased from *** percent in 2015 to *** percent in 2016, and increased to *** percent in 2017; it was *** percent in interim 2017, and lower, at *** percent, in interim 2018.[80]

The ratio of the volume of cumulated subject imports to U.S. production decreased from *** percent in 2015 to *** percent in 2016, and then increased to *** percent in 2017; it was *** percent in interim 2017 and lower, at *** percent, in interim 2018.[81]

We find that the volume of cumulated subject imports is significant in absolute terms, as well as relative to production and consumption in the United States.

D. Price Effects of the Subject Imports

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

> (I) there has been significant price underselling by the imported merchandise as compared with the price of domestic like products of the United States, and

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[75] Conference Tr. at 54-55 (Allen); Hearing Tr. at 89-90 (Hughes). GEO sells *** through annual contracts, while Chattem sells *** though ***. CR at V-3, PR at V-2.

[76] CR at I-21 to I-22, V-1; PR at I-16, V-1.

[77] CR/PR at V-1.

[78] 19 U.S.C. § 1677(7)(C)(i).

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

[80] CR/PR at Table IV-11. When calculated on the basis of net U.S. shipments of imports, the adjusted market share of cumulated subject imports decreased from *** percent in 2015 to *** percent in 2016, and then increased to *** percent in 2017; it was *** percent in interim 2017 and lower, at *** percent, in interim 2018. CR/PR at Table IV-14.

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

(II) the effect of imports of such merchandise otherwise depresses prices to a significant degree or prevents price increases, which otherwise would have occurred, to a significant degree.[82]

As previously discussed, we find that there is a high degree of substitutability between cumulated subject imports and the domestic like product, and that price in an important factor in purchasing decisions for glycine.

The Commission collected quarterly quantity and f.o.b. pricing data on sales of three glycine products shipped to unrelated U.S. customers during the POI.[83] Both U.S. producers and 17 importers provided usable pricing data for sales of the requested products, although not all firms reported pricing data for all products for all quarters.[84] The pricing data reported by these firms accounted for approximately *** percent of the domestic industry's U.S. commercial shipments of glycine in 2017, *** percent of U.S. commercial shipments of subject imports from India, *** percent of U.S. commercial shipments of subject imports from Japan, and *** percent of U.S. commercial shipments of subject imports from Thailand.[85] The Commission received pricing data accounting for *** percent of U.S. commercial shipments of imports from China during 2015, but no pricing data reported for subject imports from China for 2016, 2017, or 2018.[86]

The pricing data indicate that cumulated subject imports undersold the domestic like product in 61 out of 84 quarterly comparisons, at margins ranging between *** percent and *** percent, and an average underselling margin of *** percent.[87] The data also reflect predominant underselling by volume, with *** pounds of cumulated subject imports associated with instances of underselling, as compared to *** pounds of cumulated subject imports associated with instances of overselling. Thus, *** percent of the quantity of cumulated

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[82] 19 U.S.C. § 1677(7)(C)(ii).

[83] CR/PR at Tables V-3 to V-5. The three pricing products are:

***Product 1*.--Pharmaceutical-grade glycine** -- a white, odorless, crystalline powder with a sweet taste, having an assay (glycine content) of 98.5 percent to 101.5 percent (dry basis), and ≤ 7ppm chloride, ≤ 65 ppm sulfate, and ≤1 ppm heavy metals.

***Product 2*.--USP-grade glycine** -- a white, odorless, crystalline powder with a sweet taste, having an assay (glycine content) of 98.5 percent to 101.5 percent (dry basis) and ≤ 70 ppm chloride, ≤ 65 ppm sulfate, ≤ 20 ppm heavy metals, and not otherwise qualifying as pharmaceutical-grade glycine.

***Product 3*.--Technical-grade glycine** -- a white, off-white, or slightly yellow crystalline powder, having an assay (glycine content) of 98.5 percent to 101.5 percent (dry basis), with maximum chlorides of 0.4 percent, and not otherwise qualifying as USP-grade glycine.

CR/PR at Tables V-3 n.1, V-4 n.1, and V-5 n.1.

[84] CR at V-6, PR at V-4.

[85] CR at V-6, PR at V-4. All pricing data provided for U.S. commercial shipments of subject imports from Thailand were for pricing product 2. CR/PR at Table V-6.

[86] CR at V-6, PR at V-4.

[87] CR/PR at Table V-7b.

subject imports covered by the Commission's pricing data was sold during quarters in which the average price of these imports was less than that of the comparable domestic product.[88]

The Commission's pricing Product 2 (USP-grade glycine) accounted for the *** of the U.S. shipments of both cumulated subject imports and the domestic like product for which there are pricing data, and USP-grade glycine accounted for a *** of overall U.S. shipments of both cumulated subject imports and the domestic like product.[89] Accordingly, our underselling analysis of cumulated subject imports gives particular focus to the data regarding Product 2.[90] Cumulated subject imports of Product 2 undersold the domestic like product in *** out of *** quarterly comparisons.[91] The data also reflect predominant underselling of Product 2 by volume, with *** pounds of cumulated subject imports of Product 2 associated with instances of underselling, as compared to *** pounds of cumulated subject imports of Product 2 associated with instances of overselling. Thus, *** percent of the quantity of cumulated subject imports of Product 2 covered by the Commission's pricing data was sold during quarters in which the average price of these imports was less than that of the comparable domestic product.[92]

The record therefore indicates pervasive underselling of the domestic like product by cumulated subject imports during the POI. Given the high degree of substitutability between the domestic like product and cumulated subject imports, as well as the importance of price in purchasing decisions for glycine, we find this underselling to be significant. We note that 18 purchasers reported that they had purchased lower-priced subject imports from China, India, Japan, or Thailand rather than the domestic like product, and that price was a primary reason

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[88] Calculated from CR/PR at Table V-7b.

[89] The quantity of cumulated subject imports of Product 2 involved in pricing comparisons with the domestic like product during the POI was *** pounds, which was *** percent of the total quantity of cumulated subject imports of all three pricing products (*** pounds) involved in pricing comparisons with the domestic like product. Derived from CR/PR at Table V-7b. U.S. producers' shipments of Product 2 *** pounds accounted for *** percent of U.S. producers' shipments of Products 1-3 combined *** pounds. Derived from Tables V-3 to V-5. As discussed above, in 2017, *** percent of U.S. producers' overall U.S. shipments were of USP-grade glycine, while *** percent of overall U.S. shipments of cumulated subject imports were of USP-grade glycine. CR/PR at Table IV-6.

[90] Cumulated subject imports of Product 3 (technical-grade glycine) undersold the domestic like product in *** out of *** quarterly comparisons. The data reflect predominant underselling of Product 3 by volume, with *** pounds of cumulated subject imports of Product 3 associated with instances of underselling, as compared to *** pounds of cumulated subject imports of Product 3 associated with instances of overselling. Thus, *** percent of the quantity of cumulated subject imports of Product 3 covered by the Commission's pricing data was sold during quarters in which the average price of these imports was less than that of the comparable domestic product. Calculated from CR/PR at Table V-7b. Cumulated subject imports of Product 1 (pharmaceutical-grade glycine) oversold the domestic like product in *** of *** quarterly comparisons, but the volume of cumulated subject imports involved in the overselling pricing comparisons was *** pounds. CR/PR at Table V-7b.

[91] CR/PR at Table V-7b.

[92] Derived from CR/PR at Table V-7b.

for purchasing subject imports rather than the domestic like product. Collectively, this affected the sales of 12.9 million pounds of glycine.[93]

U.S. producers' prices for Product 2 declined by *** percent from the first quarter of 2015 to the third quarter of 2018, with most of the decline occurring from the fourth quarter of 2016 through the first quarter of 2018.[94] The price of subject imports of Product 2 also declined over the same period, by greater percentages than the domestic like product, with the price of subject imports of Product 2 from India declining by *** percent, the price of subject imports of Product 2 from Japan declining by *** percent, the price of subject imports of Product 2 from Thailand declining by *** percent, and the price of overall cumulated subject imports of Product 2 declining by *** percent.[95] U.S. producers' prices for Product 1 and Product 3 fluctuated over the POI, increasing from the first quarter of 2015 to the third quarter of 2018 by *** percent for Product 1, and by *** percent for Product 3.[96]

As previously discussed, Product 2 (USP-grade glycine) accounted for more than *** percent of U.S. shipments of both cumulated subject imports and the domestic like product, and we therefore find the data for Product 2 particularly illustrative in our analysis of pricing trends. Moreover, four purchasers reported that domestic producers reduced their prices in response to lower-priced cumulated subject imports, with the average price reduction estimated at 16.3 percent.[97] As discussed above, the domestic industry makes most of its sales through annual contracts, in which, according to GEO, contract prices negotiated in the fourth quarter of one year generally apply for the following calendar year, and thus the reduction in the domestic industry's prices for Product 2 in 2017 continued to affect the industry's prices for Product 2 in interim 2018.[98]

We find that the decline in the domestic industry's prices during the POI was attributable to the significant volume of cumulated subject imports that significantly undersold the domestic like product. By contrast, the trends in U.S. demand for glycine and the domestic industry's COGS during the POI do not explain the decline in the domestic industry's prices during the POI, particularly the price decline in 2017.[99] While apparent U.S. consumption declined by *** percent between 2015 and 2017, it increased by *** percent between 2016

[93] CR/PR at Table V-10.

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

[95] CR/PR at Table V-6. Pricing data for Product 2 from China were available for only the first two quarters of 2015. CR/PR at Table V-4.

[96] CR/PR at Table V-6. U.S. producers' prices for Product 3 declined in 2016 and 2017, but increased in interim 2018, particularly in the third quarter of 2018. CR/PR at Table V-5.

[97] CR/PR at Table V-12.

[98] CR/PR at Tables V-2 and V-4; Conference Tr. at 54-55 (Allen); Hearing Tr. at 89-90 (Hughes).

[99] The domestic industry's average quarterly prices for Product 2 in 2016 ranged between $*** and $*** per pound, while its average quarterly prices for Product 2 in 2017 ranged between $*** and $*** per pound. CR/PR at Table V-4. Additionally, the domestic industry's prices for Product 3 in 2017 were below those of the comparable quarter in 2016 for three of the four quarters. CR/PR at Table IV-5.

and 2017.[100] The domestic industry's unit COGS was unchanged between 2015 and 2017, and was higher in 2017 than in 2016.[101] Thus, the *** decline in the domestic industry's prices for Product 2 in 2017 occurred during a year when U.S. demand for glycine was increasing and the industry's unit costs were increasing, factors which cannot explain a decline in glycine prices.

Based on the record, we find that there was significant underselling by cumulated subject imports and that cumulated subject imports depressed prices of the domestic like product to a significant degree. We consequently conclude that the cumulated subject imports had significant price effects.

E. Impact of the Subject Imports[102]

Section 771(7)(C)(iii) of the Tariff Act provides that examining the impact of subject imports, the Commission "shall evaluate all relevant economic factors which have a bearing on the state of the industry."[103] These factors include output, sales, inventories, capacity utilization, market share, employment, wages, productivity, gross profits, net profits, operating profits, cash flow, return on investment, return on capital, ability to raise capital, ability to service debts, research and development, and factors affecting domestic prices. No single factor is dispositive and all relevant factors are considered "within the context of the business cycle and conditions of competition that are distinctive to the affected industry."[104]

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[100] CR/PR at Table C-1. When calculated on the basis of net U.S. shipments of imports, adjusted apparent U.S. consumption increased by *** percent from 2015 to 2017, and increased by *** percent from 2016 to 2017. Derived from CR/PR at Table IV-14.

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

[102] The statute instructs the Commission to consider the "magnitude of the dumping margin" in an antidumping proceeding as part of its consideration of the impact of imports. 19 U.S.C. § 1677(7)(C)(iii)(V). In its final antidumping duty determination regarding Thailand, Commerce calculated an antidumping duty margin of 227.17 percent for Newtrend Food Ingredient (Thailand) Co., Ltd., and a 201.59 percent margin for all other Thai producers and exporters. *Glycine from Thailand: Final Determination of Sales at Less Than Fair Value and Final Affirmative Determination of Critical Circumstances in Part,* 84 Fed. Reg. 37998, 38000 (August 5, 2019). We have taken the magnitude of these dumping margins into account, as well as other factors affecting domestic prices, and they do not require a modification of the analysis in our prior determinations. *See* Glycine from China, India, and Japan, USITC Pub. 4900 at 30 n.150. Specifically, our analysis of the significant price effects of cumulated subject imports, particularly the significant underselling as set out in both the price effects discussion and below, as well as in the related determinations regarding imports of glycine from China, India, and Japan, is particularly probative to an assessment of the impact of the cumulated subject imports.

[103] 19 U.S.C. § 1677(7)(C)(iii); *see also* SAA at 851 and 885 ("In material injury determinations, 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 also may demonstrate that an industry is facing difficulties from a variety of sources and is vulnerable to dumped or subsidized imports.").

[104] 19 U.S.C. § 1677(7)(C)(iii). This provision was amended by the Trade Preferences Extension Act of 2015, Pub. L. 114-27.

While a number of the domestic industry's performance indicators improved between 2015 and 2016, most of its indicators declined sharply in 2017 to well below 2015 levels. Thus, the industry experienced substantial declines between 2015 and 2017 in production, capacity utilization, net sales quantity, U.S. shipments, productivity, revenues, gross profits, operating income, and net income, while its ratio of COGS to net sales increased.[105] While the domestic industry's production and sales quantity indicators (production, capacity utilization, net sales quantity, U.S. shipments, and market share) were higher in interim 2018 than in interim 2017, its revenues were lower and its ratio of COGS to net sales was higher, and its financial performance in interim 2018 was accordingly worse than in interim 2017.[106]

The domestic industry's capacity rose by *** percent between 2015 and 2017, increasing from *** pounds in 2015 to *** pounds in 2016 and 2017; it was *** pounds in interim 2017 and interim 2018.[107] Production declined by *** percent from 2015 to 2017, increasing from *** pounds in 2015 to *** pounds in 2016, and then declining to *** pounds in 2017; it was *** pounds in interim 2017 and higher, at *** pounds, in interim 2018.[108] Capacity utilization declined from *** percent in 2015 to *** percent in 2016 and *** percent in 2017; it was *** percent in interim 2017 and higher, at *** percent, in interim 2018.[109]

Net sales quantity declined by *** percent from 2015 to 2017, increasing from *** pounds in 2015 to *** pounds in 2016, and then fell to *** pounds in 2017; it was *** pounds in interim 2017 and higher, at *** pounds, in interim 2018.[110] U.S. shipments declined by *** percent from 2015 to 2017, falling from *** pounds in 2015 and 2016 to *** pounds in 2017; they were *** pounds in interim 2017 and higher, at *** pounds, in interim 2018.[111] The domestic industry's share of apparent U.S. consumption increased from *** percent in 2015 to *** percent in 2016, and then fell to *** percent in 2017; it was *** percent in interim 2017 and higher, at *** percent, in interim 2018.[112] Ending inventories declined by *** percent from 2015 to 2017, increasing from *** pounds in 2015 to *** pounds in 2016, and then falling to *** pounds in 2017; they were *** pounds in interim 2017 and lower, at *** pounds, in interim 2018.[113]

Trends in employment indicators varied. The number of production-related workers (PRWs) increased from *** in 2015 to *** PRWs in 2016, and then fell back to *** PRWs in 2017; there were *** PRWs in interim 2017 and interim 2018.[114] Hours worked fell by ***

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

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

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

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

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

[110] CR/PR at Tables VI-1 and C-1.

[111] CR/PR at Tables III-6 and C-1.

[112] CR/PR at Tables IV-11 and C-1. When calculated on the basis of net U.S. shipments of imports, the domestic industry's adjusted market share increased from *** percent in 2015 to *** percent in 2016, and then fell to *** percent in 2017; it was *** percent in interim 2017 and higher, at *** percent, in interim 2018. CR/PR at Table IV-14.

[113] CR/PR at Tables III-7 and C-1.

[114] CR/PR at Tables III-8 and C-1.

percent from 2015 to 2017, declining from *** hours in 2015 to *** hours in 2016 and 2017; there were *** hours worked in interim 2017 and more, at *** hours, in interim 2018.[115] Wages paid rose by *** percent from 2015 to 2017, increasing from $*** in 2015 and 2016 to $*** in 2017; they were $*** in interim 2017 and interim 2018.[116] Productivity declined by *** percent from 2015 to 2017, increasing (in pounds per hour) from *** in 2015 to *** in 2016, and then falling to *** in 2017; it was *** pounds per hour in interim 2017 and higher, at *** pounds per hour, in interim 2018.[117]

Revenues declined by *** percent from 2015 to 2017, increasing from $*** in 2015 to $*** in 2016, and then falling to $*** in 2017; they were $*** in interim 2017 and lower, at $***, in interim 2018.[118] Total COGS declined by *** percent from 2015 to 2017, declining from $*** in 2015 to $*** in 2016 and $*** in 2017; it was $*** in interim 2017 and higher, at $***, in interim 2018.[119] The industry's ratio of COGS to net sales fell from *** percent in 2015 to *** percent in 2016, and then increased to *** percent in 2017; it was *** percent in interim 2017 and higher, at *** percent, in interim 2018.[120] Gross profit declined by *** percent from 2015 to 2017, increasing from $*** in 2015 to $*** in 2016, and then falling to $*** in 2017; it was $*** in interim 2017 and lower, at $***, in interim 2018.[121]

Operating income declined by *** percent from 2015 to 2017, increasing from $*** in 2015 to $*** in 2016, and then falling to $*** in 2017; it was $*** in interim 2017 and a $*** in interim 2018.[122] The industry's operating income margin increased from *** percent in 2015 to *** percent in 2016, and then fell to *** percent in 2017; it was *** percent in interim 2017 and *** percent in interim 2018.[123] Net income fell from $*** in 2015 and 2016 to a $*** in 2017; it was a $*** in interim 2017 and a $*** in interim 2018.[124] Capital expenditures rose by *** percent between 2015 and 2017, increasing from $*** in 2015 to $*** in 2016 and $*** in 2017; they were $*** in interim 2017 and higher, at $***, in interim 2018.[125]

As described above, the volume of cumulated subject imports was significant in absolute terms, and relative to production and consumption in the United States. The cumulated subject imports significantly undersold the domestic like product, causing the domestic industry to lose market share in 2017 and depressing prices for the domestic like product to a significant degree. This resulted in the domestic industry achieving lower revenues than it would have otherwise earned, particularly in 2017, when it lost market share and its revenues declined in light of falling prices for USP-grade glycine, the predominant grade of

[115] CR/PR at Tables III-8 and C-1.
[116] CR/PR at Tables III-8 and C-1.
[117] CR/PR at Tables III-8 and C-1.
[118] CR/PR at Tables VI-1 and C-1.
[119] CR/PR at Tables VI-1 and C-1.
[120] CR/PR at Tables VI-1 and C-1.
[121] CR/PR at Tables VI-1 and C-1.
[122] CR/PR at Tables VI-1 and C-1.
[123] CR/PR at Tables VI-1 and C-1.
[124] CR/PR at Tables VI-1 and C-1.
[125] CR/PR at Tables VI-5 and, C-1. The domestic industry incurred research and development ("R&D") expenses of *** throughout the POI. CR/PR at Table VI-5.

domestically produced glycine.[126] The domestic industry's revenues declined by more than its COGS between 2015 and 2017, leading to a decline in its financial performance in 2017, and its lower revenues in conjunction with higher COGs in interim 2018 as compared to interim 2017 led to a further deterioration in the industry's financial performance in interim 2018.[127] This deterioration in market share and financial performance occurred at a time when the U.S. industry was subject to price depression even while apparent consumption was increasing. Consequently, we find that cumulated subject imports had a significant impact on the domestic industry.

We have also considered whether there are other factors that may have had an adverse impact on the domestic industry during the period of investigation to ensure that we are not attributing injury from such other factors to the subject imports. Nonsubject imports were present in the market throughout the POI. They had a small and declining presence in the U.S. market during the period [128] and so cannot explain the decline in the domestic industry's prices and revenues.

Accordingly, we conclude that cumulated subject imports had a significant impact on the domestic industry.

IV. Critical Circumstances

A. Legal Standards

The statute provides that where Commerce has made an affirmative finding of critical circumstances, the Commission "shall include a finding as to whether the imports subject to {Commerce's finding} are likely to seriously undermine the remedial effect of the antidumping duty order."[129] If Commerce makes an affirmative finding of critical circumstances, the statute appears unequivocal in requiring that the Commission make a finding on critical circumstances should it determine that the domestic industry has been materially retarded.

In its final antidumping duty determination concerning subject imports from Thailand, Commerce found that critical circumstances exist with respect to one producer/exporter in Thailand.[130] Because we have determined that the domestic industry is materially injured by reason of subject imports from Thailand, we must further determine "whether the imports subject to the affirmative {Commerce critical circumstances} determination{s} . . . are likely to

[126] CR/PR at Tables V-4, VI-1, and C-1.

[127] CR/PR at Tables VI-1 and C-1.

[128] The market share of nonsubject imports declined from *** percent in 2015 to *** percent in 2016 and *** percent in 2017; it was *** percent in interim 2017 and lower, at *** percent, in interim 2018. CR/PR at Tables IV-11 and C-1. When calculated on the basis of net U.S. shipments of imports, the adjusted market share of nonsubject imports declined from *** percent in 2015 to *** percent in 2016 and *** percent in 2017; it was *** percent in interim 2017 and lower, at *** percent, in interim 2018. CR/PR at Table IV-14.

[129] 19 U.S.C. § 1673d(b)(4)(A)(i).

[130] *Glycine from Thailand: Final Determination of Sales at Less Than Fair Value and Final Affirmative Determination of Critical Circumstances in Part,* 84 Fed. Reg. 37998, 38000 (Aug. 5, 2019).

undermine seriously the remedial effect of the antidumping {and/or countervailing duty} order{s} to be issued."[131]

The SAA indicates that the Commission is to determine "whether, by massively increasing imports prior to the effective date of relief, the importers have seriously undermined the remedial effect of the order" and specifically "whether the surge in imports prior to the suspension of liquidation, rather than the failure to provide retroactive relief, is likely to seriously undermine the remedial effect of the order."[132] The legislative history for the critical circumstances provision indicates that the provision was designed "to deter exporters whose merchandise is subject to an investigation from circumventing the intent of the law by increasing their exports to the United States during the period between initiation of an investigation and a preliminary determination by {Commerce}."[133] An affirmative critical circumstances determination by the Commission, in conjunction with an affirmative determination of material injury by reason of subject imports, would normally result in the retroactive imposition of duties for those imports subject to Commerce's affirmative critical circumstances determination for a period 90 days prior to the suspension of liquidation.[134]

The statute provides that, in making this determination, the Commission shall consider, among other factors it considers relevant –

(I) the timing and the volume of the imports,

(II) a rapid increase in inventories of the imports, and

(III) any other circumstances indicating that the remedial effect of the {order} will be seriously undermined.[135]

In considering the timing and volume of subject imports, the Commission's practice is to consider import quantities prior to the filing of the petition with those subsequent to the filing of the petition using monthly statistics on the record regarding those firms for which Commerce has made an affirmative critical circumstance determination.[136]

B. Arguments of the Parties

Petitioners' Argument. Petitioners argue that the record shows subject imports from Thailand surged in the post-petition period, doubling in May 2018, the month following the

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[131] 19 U.S.C. §§ 1671d(b)(4)(A)(i), 1673d(b)(4)(A)(i); 19 U.S.C. §§ 1671d(b)(4)(A)(ii), 1673d(b)(4)(A)(ii); 19 U.S.C. §§ 1671d(e)(2), 1673d(e)(2).

[132] SAA at 877.

[133] *ICC Industries, Inc. v. United States*, 812 F.2d 694, 700 (Fed. Cir. 1987), quoting H.R. Rep. No. 317, 96th Cong., 1st Sess. 63 (1979), *aff'g* 632 F. Supp. 36 (Ct. Int'l Trade 1986).

[134] *See* 19 U.S.C. §§ 1671b(e)(2), 1673b(e)(2).

[135] 19 U.S.C. §§ 1671d(b)(4)(A)(ii), 1673d(b)(4)(A)(ii).

[136] *See Lined Paper School Supplies from China, India, and Indonesia*, Inv. Nos. 701-TA-442 to 443, 731-TA-1095 to 1097 (Final), USITC Pub. 3884 at 46-48 (Sept. 2006); *Carbazole Violet Pigment from China and India*, Inv. Nos. 701-TA-437 & 731-TA-1060 to 1061 (Final), USITC Pub. 3744 at 26 (Dec. 2004); *Certain Frozen Fish Fillets from Vietnam*, Inv. No. 731-TA-1012 (Final), USITC Pub. 3617 at 20-22 (Aug. 2003).

initiation of the investigations and the month the Commission issued affirmative preliminary determinations, almost tripled in June 2018, remained at a record high in July 2018, and only started to decline in August, within the 90-day period before Commerce's scheduled preliminary determinations.[137] Petitioners argue that the monthly data for subject import volumes for the five month period before and after the filing of the petition, from April to August 2018 versus November 2017 to March 2018, depict a massive import surge.[138]

Petitioners argue that even if the Commission considers the six-month pre-petition and post-petition periods, import volumes from Thailand still increased by 140.8 percent. Petitioners claim that the size of these increases far exceeds the massive surges observed in those cases where the Commission has issued affirmative critical circumstances determinations.[139] Petitioners also argue that although the increase in imports from Thailand slowed in September 2018 before Commerce's scheduled preliminary determinations, the imports quickly rebounded after Commerce issued their negative preliminary determinations in the antidumping and countervailing duties investigations, almost doubling in October 2018 and remaining at that level for the next two months. They argue that in the fourth quarter of 2018, the total import volume from Thailand was 490 percent of imports from India, 317 percent of imports from Japan, and almost two times the total volume of imports from China, India, and Japan combined.

Petitioners argue that the Commission should rely on 2018 end of period inventories instead of those for interim 2018 because shipments from Thailand continued to increase after Commerce's negative preliminary determinations. They argue that end of period inventories in interim 2018 increased by *** percent from the end of period inventories in interim 2017.[140] They further assert that, while imports may be held in inventory and their presence will continue to depress prices, stockpiling may not be the only circumstance that would postpone the effect of relief provided by an antidumping order, as revenues from the sale of the unfair imports may be used to ameliorate the impact of dumping duties on the prices of products subsequent to imposition of duties.[141]

Respondent's Arguments. Innospec argues that Commerce's affirmative critical circumstances determination for Newtrend was made on the basis of "adverse facts available" ("AFA") and not positive evidence that there was a "massive increase" in imports of glycine from Thailand following the Petition.[142] Innospec argues that the SAA sets a rigorous standard for the Commission in finding whether critical circumstances exist, hinging on "whether, by

[137] Petitioners' Supplemental Brief at 11-12.

[138] Petitioners' Supplemental Brief at 12.

[139] Petitioners' Supplemental Brief at 12 citing *Honey from Argentina and China*, Inv. Nos. 701-TA-402 and 731-TA-892-893 (Final), USITC Pub. 3470 (Nov. 2001) at 24.

[140] Petitioners' Supplemental Brief at 12; *see also* Petitioners' Final Comments at 5.

[141] Petitioners' Supplemental Brief at 13-14 and citing *Oil Country Tubular Goods from Argentina and Spain*, Inv. Nos. 731-TA-191 and 195 (Final), USITC Pub. 1694 (May 1985).

[142] Innospec Supplemental Brief at 3-4.

massively increasing imports prior to the effective date of relief, the importers have seriously undermined the remedial effect of the order."[143]

According to Innospec, the post-petition period comprises April 2018 until the first suspension of liquidation on August 5, 2019, a period of 16 months.[144] It argues that a comparison of import data for Thailand for 15-month periods (*i.e.* a pre-petition period of January 2017 to March 2018, and a post-petition period of April 2018 to June 2019) shows an increase of approximately 43.7 percent.[145] Alternatively, Innospec argues that if the Commission chooses to compare post-petition import volumes up to the point where EAPA interim measures were imposed on imports of glycine from Newtrend, *i.e.* comparison of 11-month periods of May 2017 to March 2018 (pre-petition) and April 2018 to February 2019 (post-petition), there was an increase of 73.1 percent.[146] Innospec argues that these increases in post-petition import volumes are moderate compared to the cases where the Commission has issued affirmative critical circumstances determinations.[147] It maintains that after temporarily increasing through June 2018, subject imports have followed a fairly steady downward trend over the ensuing months and that, by the beginning of 2019, had declined significantly before interim measures were announced at the end of February 2019.[148]

Innospec argues that although data for U.S. inventories for the entire 16-month (or 11-month) period are not available, inventories of U.S. imports of glycine from Thailand decreased markedly between 2015 and 2016, and continued to decline in 2017, resulting in a net inventory drawdown.[149] It emphasizes that inventories of U.S. imports of glycine from Thailand for January to September 2018 were lower than for January to September 2017. Thus, Innospec concludes that U.S. inventory data does not support a critical circumstances finding for Thailand and urges the Commission to make a negative determination of critical circumstances with respect to Thailand.[150]

C. Analysis

We first consider the appropriate period for comparison of pre-petition and post-petition levels of subject imports from Thailand. While the Commission typically considers six-month periods, it has relied on a shorter comparison period when Commerce's preliminary

[143] Innospec Supplemental Brief at 5; SAA at 877.

[144] Innospec claims that this period is unusually long because Commerce issued a negative preliminary determination in October 2018, then tolled its deadlines because of the partial federal government shutdown, and further postponed its final determination while it considered claims of transshipment and duty evasion.

[145] Innospec Supplemental Brief at 6, Ex. 2.

[146] Innospec Supplemental Brief at 7, Ex. 2.

[147] Innospec Supplemental Brief at 7-8, and citing *Potassium Permanganate from the People's Republic of China*, Inv. No. 731-TA-125 (Final), USITC Pub. 1480 at 13 (Jan. 1984) and *Coumarin from the People's Republic of China*, Inv. No. 731-TA-677 (Final), USITC Pub. 2852 at I-16 (Feb. 1995).

[148] Innospec Supplemental Brief at 8.

[149] Innospec Supplemental Brief at 8.

[150] Innospec Supplemental Brief at 8.

determination falls within the six-month post-petition period, and a longer comparison period if the facts warrant it.[151] The timing of Commerce determinations regarding subject imports from Thailand present unique circumstances, which we take into account in determining the appropriate comparison periods for purposes of our critical circumstances analysis in the antidumping duty investigations. The petitions were filed on March 8, 2018, Commerce's preliminary negative countervailing duty determination was made on September 4, 2018, and its preliminary negative antidumping duty determination was made on October 31, 2018. On February 28, 2019, Customs and Border Patrol instituted Enforce and Protect Act ("EAPA") interim measures on imports of glycine by Thai producer/exporter Newtrend.[152] On August 5, 2019, Commerce issued its final determination in the antidumping duty investigation and found that critical circumstances exist with respect to subject imports from one source in Thailand (Newtrend).[153]

While we recognize when comparing typical five-month or six-month periods that imports of glycine from Thailand were substantially higher in the post-petition periods, we do not consider the typical periods to be appropriate for the unique circumstances in this case. Since Commerce's preliminary determinations regarding subject imports from Thailand were negative, such imports were not subject to imposition of interim measures in September or October 2018. Instead the effective date of relief would more likely have been when subject imports from Thailand were subject to imposition of interim EAPA measures on February 28, 2019, or Commerce final affirmative antidumping duty measures on August 5, 2019. Thus, we have determined it is appropriate to consider longer periods for purposes of our critical circumstances analysis in the antidumping duty investigations.

First, we compare the volume of glycine imports from Thailand during the 11 months prior to the filing of petitions (May 2017 to March 2018), at 3.1 million pounds, with the volume of such imports in the 11 months after the petitions were filed and before the imposition of interim EAPA measures (April 2018 to February 2019), at 5.3 million pounds, an increase of 73.1

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[151] In particular, the Commission has used five-month periods in recent investigations where the timing of the first preliminary Commerce determination authorizing the imposition of provisional duties would have served to reduce subject import volume in the sixth month of the post-petition period. *See, e.g., Cold-Rolled Steel Flat Products from China and Japan,* Inv. Nos. 701-TA-541 and 731-TA-1284 and 1286 (Final), USITC Pub. 4619 (July 2016); *Polyethylene Terephthalate (PET) Resin from Canada, China, India, and Oman,* Inv. Nos. 701-TA-531-532 and 731-TA-1270-1273 (Final), USITC Pub. 4604 at 31-32 (Apr. 2016); *Carbon and Certain Steel Wire Rod from China*, Inv. Nos. 701-TA-512, 731-TA-1248 (Final), USITC Pub. 4509 at 25-26 (Jan. 2015) (using five-month periods because preliminary Commerce countervailing duty determination caused a reduction of subject import volume in the sixth month). *Compare Certain Off-the-Road Tires from China*, Inv. Nos. 701-TA-448 and 731-TA-1117 (Final), USITC Pub. 4448.

[152] Notice of Interim Measures, EAPA Investigation 7270: Newtrend USA Co., Ltd., February 28, 2019. The CBP imposed interim EAPA measures against Newtrend upon suspicion that Newtrend had evaded antidumping duties on subject imports from China by transshipping subject product through Thailand. Id.

[153] *Glycine from Thailand: Final Determination of Sales at Less Than Fair Value and Final Affirmative Determination of Critical Circumstances in Part,* 84 Fed. Reg. 37998, 38000 (Aug. 5, 2019).

percent.[154] Moreover, when comparing the available import data for pre- and post-petition periods corresponding to the imposition of final antidumping duty measures, the increase is 43.7 percent.[155]

The record indicates that U.S. importers' inventories of subject merchandise from Thailand were lower in September 2018, at *** pounds, than in September 2017, at *** pounds.[156] The ratio of the inventories to U.S. shipments of imports from Thailand was *** percent in September 2018, which is lower than the *** percent ratio in September 2017.[157] Moreover, inventories as share of apparent U.S. consumption was only about *** percent in September 2017 and *** percent in September 2018.[158] We do not find any rapid increase in inventories of imports.

The record evidence also shows that the increase in glycine imports from Thailand for the period of January to September 2018 are due primarily to one larger purchaser, *** switching from suppliers in India and Japan to Thailand. *** purchased *** pounds of glycine from Thailand during January to September 2018, an increase of *** pounds from *** in January to September 2017. At the same time, *** combined purchases from India and Japan decreased from *** pounds to ***. Both petitioners and respondents described *** purchasing arrangements as requesting bids for its annual glycine needs, typically during the last quarter of the preceding year.[159]

Thus, given that *** makes purchases based on an annual contract with scheduled monthly deliveries that is negotiated in the last quarter of the previous year, virtually all of the increase in imports from Thailand during these periods were likely contracted for and the price agreed upon before the petition was filed in March of 2018.[160]

Therefore, while recognizing the increase in imports, given the other factors present in this market and the unique circumstances regarding the relevant time period, we conclude that subject imports covered by Commerce's affirmative critical circumstances determination would not undermine seriously the remedial effect of the antidumping duty orders. Consequently, we determine that critical circumstances do not exist with respect to subject imports from Thailand that are covered by Commerce's affirmative critical circumstances finding in the antidumping duty investigation.

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[154] Innospec Supplemental Brief at Exhibit 2.

[155] Innospec Supplemental Brief at Exhibit 2. We compare the volume of glycine imports from Thailand during the 15 months prior to the filing of petitions (January 2017 to March 2018), at 3.8 million pounds, with the volume of such imports in the 15 months after the petitions were filed and before the imposition of Commerce final measures (April 2018 to June 2019), at 5.4 million pounds, an increase of 43.7 percent. *Id*.

[156] CR at Table VII-18.

[157] CR at Table VII-18.

[158] CR at Tables VII-18 and C-1.

[159] *** Purchaser's Questionnaire, EDIS Doc. 666479 at Question II-1(a).

[160] *** Prehearing Brief at 7; *** Post-Hearing Brief at 2; GEO Post-Hearing at 12-13.

V. Conclusion

For the reasons stated above, we determine that an industry producing glycine in the United States is materially injured by reason of imports of glycine from Thailand sold in the United States at less than fair value.

SEPARATE VIEWS OF COMMISSIONER JASON E. KEARNS

CONCERNING CRITICAL CIRCUMSTANCES

These views explain my finding that critical circumstances exist in this investigation. Given that Commerce's preliminary CVD determination was issued early in the sixth month after filing of the petition, I base my finding on a comparison of the five months pre- and post-filing of the petition, or November 2017 to March 2018 and April 2018 to August 2018. Although Commerce's preliminary CVD determination for Thailand was negative, the anticipation of the scheduled determination created the same incentives regarding importer behavior in the months beforehand whether the determination was ultimately affirmative or negative.[1]

Imports of glycine from Thailand subject to Commerce's affirmative critical circumstances finding increased from 1.3 million pounds to 3.4 million pounds between the two five-month periods, an increase of 167.0 percent.[2] The post-petition imports of glycine from Thailand during the five-month period accounted for a significant share (*** percent) of total apparent U.S. consumption of glycine in interim 2018.[3] Imports from Thailand had a market share in interim 2018 that was *** percentage points higher than in interim 2017. This increase in market share accounted for nearly all of the *** percentage points by which the combined share of imports from the other three subject countries was lower in interim 2018 than in interim 2017.[4] Even so, it was not a one-for-one exchange as the combined imports of Thailand and the other three subject countries increased 30.6 percent during the five months after the petition was filed.[5] Data on the trend in importer inventories of Thai product varied depending on which data are used for the pre-petition period.[6]

Not only were highly substitutable imports from Thailand very large in quantity, they undersold the domestic industry after the petition was filed (in Q2 and Q3 of 2018) by the

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[1] I do not believe that comparing the longer 11- month or 16-month periods proposed by Innospec is appropriate. Unlike the five months I have examined, the record is incomplete for the longer periods that extend beyond the end of our period of investigation in September 2018. With regard to the longer periods, the record is mostly lacking with respect to key indicators such as apparent consumption, market shares, inventories, and prices of domestic and imported glycine. The absence of this information greatly complicates an assessment of the effects of the subject imports on the remedial effect of the order. Even so, I find that the 73.1 percent increase in imports from Thailand over the 11-month period is significant and not inconsistent with my affirmative finding. Innospec Supplemental Brief at Exhibit 2.

[2] CR/PR at Table IV-5.

[3] On an "annualized" or pro rata basis the share is an even larger *** percent of consumption. CR/PR at Table IV-5 and Table C-1 (*** x 9/5).

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

[5] CR/PR at Table IV-9 (4,445,000 pounds to 5,805,000 pounds).

[6] CR/PR at Table VII-18. Inventories were *** percent lower at the end of interim 2018 than interim 2017, and were *** percent higher at the end of interim 2018 than at the end of calendar 2017. Neither the end of interim 2017 nor calendar 2017 corresponds to the November 2017 start of the pre-petition comparison period.

highest margins of all subject imports.[7] These Thai post-petition imports were priced *** to *** percent below the lowest price reported for the other subject imports in any quarter prior to Q2 2018.[8]

Imports from Thailand significantly limited the ability of the domestic industry to benefit from the order in several ways:

- By taking market share previously held by other subject imports, thus limiting the gains of the domestic industry. The domestic industry declined to supply a significant portion of the share that was ultimately supplied by Thai product in 2018 in part because the requested price was too low.[9]
- By selling at very low prices, thus contributing to the continued depressed domestic prices. U.S. sales AUVs were much lower in interim 2018 than in interim 2017, and interim 2018 was the only period in which the industry reported operating and net losses.[10] While 2018 prices were largely a function of agreements entered into prior to the filing of the petition, the very large quantity of Thai product that entered at rock-bottom prices after the petition was filed precluded any recovery that might have occurred.

I find that the harm to the domestic industry from reduced sales and financial losses in interim 2018 is severe and likely to continue to negatively impact the industry after issuance of the order. I conclude that the post-petition imports from Thailand are likely to seriously undermine the remedial effect of the antidumping order with respect to Thailand.[11]

[7] CR/PR at Table V-4 (Margins for Thai product 2 (USP-grade) of *** percent and *** percent; margins for Indian and Japan product ranging from *** percent to *** percent).

[8] CR/PR at Table V-2 ($*** and $*** versus $***).

[9] Petitioners' Posthearing Brief, Exhibit 5 (Declaration of ***: ***)

[10] CR/PR at Table VI-1 (operating loss of $***, net loss of $***, negative cash flow).

[11] In assessing the timing of injury, I bear in mind the extraordinary delays following commencement of the final phase of this investigation. The time gap between the end of the critical circumstances period and issuance of the order was increased by over four months here due to the government shutdown and Commerce's extension of the time for its final determination on Thailand. A Commission determination in May 2019 under a normal timetable would have been nine months after the end of the critical circumstances period, when a continuing impact of the post-petition imports would be greater.

PART I: INTRODUCTION

BACKGROUND

This investigation results from petitions filed with the U.S. Department of Commerce ("Commerce") and the U.S. International Trade Commission ("USITC" or "Commission") by GEO Specialty Chemicals, Inc., ("GEO"), Lafayette, Indiana, and Chattem Chemicals Inc. ("Chattem"), Chattanooga, Tennessee on March 28, 2018, alleging that an industry in the United States is materially injured and threatened with material injury by reason of subsidized imports of glycine from China, India, and Thailand, and imports of glycine at less-than-fair-value ("LTFV") from India, Japan, and Thailand. The following tabulation provides information relating to the background of these investigations.[1] [2]

Effective date	Action
March 28, 2018	Petition filed with Commerce and the Commission; institution of Commission investigations (83 FR 14291, April 3, 2018)
April 17, 2018	Commerce's notice of initiation (CVD investigations, China, India, and Thailand, 83 FR 18002, April 25, 2018; and AD investigations, India, Japan, and Thailand, 83 FR 17995, April 25, 2018)
May 14, 2018	Commission's preliminary determinations (83 FR 23300, May 18, 2018)
September 4, 2018	Commerce's preliminary CVD determinations for China (83 FR 44863, September 4, 2018), India (83 FR 44859, September 4, 2018), and Thailand (83 FR 44861, September 4, 2018) and alignment of final determinations with final antidumping duty determinations
October 31, 2018	Commerce's preliminary AD determinations for India (83 FR 54713, October 31, 2018), Japan (83 FR 54718, October 31, 2018), and Thailand (83 FR 54717, October 31, 2018)
October 31, 2018	Scheduling of final phase of Commission investigations (83 FR 62345, December 3, 2018)
February 6, 2019	Revised schedule of final phase of Commission investigations (84 FR 3486, February 12, 2019)

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

[2] Commerce was scheduled to issue its final determinations in its antidumping and countervailing duty investigations of glycine from Thailand on April 24, 2019, but postponed its determinations until further notice. *See Memorandum for the Postponement of the Final Determinations in the Less-Than-Fair Value and Countervailing Duty Investigations of Glycine from Thailand*, Case A-549-837 and C-549-838, April 24, 2019.

Effective date	Action
April 24, 2019	Commerce's postponement of final AD and CVD determinations for Thailand. (*Memorandum for the Postponement of the Final Determinations in the Less-Than-Fair Value and Countervailing Duty Investigations of Glycine from Thailand,* Case A-549-837 and C-549-838, April 24, 2019).
April 30, 2019	Commission's hearing
May 1, 2019	Commerce's final affirmative CVD determinations for India (84 FR 18482, May 1, 2019) and China (84 FR 18489, May 1, 2019).
May 1, 2019	Commerce's final affirmative AD determinations for India (84 FR 18487, May 1, 2019) and Japan (84 FR 18484, May 1, 2019).
May 29, 2019	Commission's vote (China, India, and Japan)
June 14, 2019	Commission's determinations for China, India, and Japan, (84 FR 29238, June 21, 2019)
June 21, 2019	Commerce's AD amended order for India and Japan (84 FR 29170, June 21, 2019)
June 21, 2019	Commerce's CVD orders for China and India (84 FR 29173, June 21, 2019)
July 17, 2019	Commerce's correction to final affirmative CVD determination and CVD order for China (84 FR 35854, July 25, 2019)
August 5, 2019	Commerce's final affirmative critical circumstances and AD determination for Thailand (84 FR 37998, August 5, 2019)
August 5, 2019	Commerce's final negative CVD determination for Thailand (84 FR 38007, August 5, 2019)
August 5, 2019	Commission's notice of termination for Thailand CVD investigation (84 FR 43618, August 21, 2019)
August 16, 2019	Scheduling of final phase of Commission's AD investigation (84 FR 44334, August 23, 2019)
September 18, 2019	Commission's vote (Thailand)
October 8, 2019	Commission's determination and views (Thailand)

The information contained in this report is intended to be used in conjunction with data presented in the following Commission reports:

- *Glycine from China, India, and Japan: Investigation Nos. 701-TA-603-604 and 731-TA-1413-1414 (Final)*, USITC Publication 4900, June 2019 and the corresponding confidential versions contained in memorandum Nos. INV-RR-044, *Glycine from China, India, Japan, and Thailand*: *Investigation Nos. 701-TA-603-605 and 731-TA-1413-1415 (Final)* and revision memorandum INV-RR-046.

The staff report in this proceeding contains information regarding glycine from Thailand as well as the disposition of the investigations concerning glycine from China, India, and Japan.[3] All tables in the original report are reproduced in Appendix B. The following tables have been updated: I-3, I-5, and VII-17.

NATURE AND EXTENT OF SUBSIDIES AND SALES AT LTFV

Subsidies

On September 4, 2018, Commerce preliminarily determined that producers and exporters in Thailand did not apply for or receive countervailable subsidies.[4] On April 24, 2019, Commerce postponed its final determinations on imports of glycine from Thailand.[5] On August 5, 2019, Commerce issued a final negative determination indicating that subsidies are not being provided to producers and exporters of glycine from Thailand.[6] Consequently, on August 21, 2019, the Commission published its notice of termination of the countervailing duty investigation for Thailand.[7]

Sales at LTFV

Commerce published its preliminary determination *Federal Register* notice of sales at LTFV with respect to imports of glycine from India and Japan on October 31, 2018. On the same date, Commerce also preliminarily determined that imports of glycine from Thailand are not being or are not likely to be sold in the United States at LTFV. On April 24, 2019, Commerce postponed its final determination on sales at less-than-fair-value (LTFV) on imports of glycine from Thailand.[8] On May 1, 2019, Commerce published its notices in the *Federal Register* regarding its final affirmative determinations of sales at LTFV with respect to imports from

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[3] On August 30, 2019, petitioners Chattem Chemicals, Inc. and GEO Specialty Chemicals, Inc. and Innospec Active Chemicals LLC, a non-party to the proceeding, filed briefs concerning glycine from Thailand.

[4] *Glycine From Thailand: Preliminary Negative Countervailing Duty Determination, Preliminary Negative Critical Circumstances Determination, and Alignment of Final Determination With Final Antidumping Duty Determination*, 83 FR 44861, September 4, 2018. See also *Decision Memorandum for the Preliminary Negative Determination: Countervailing Duty Investigation of Glycine from Thailand*, Case C-549-838, August 27, 2018.

[5] See *Memorandum of Postponement of the Final Determinations in the Less-Than-Fair-Value and Countervailing Duty Investigations of Glycine from Thailand*, Cases A-549-837 and C-549-838, April 24, 2019.

[6] *Glycine From Thailand: Final Negative Countervailing Duty Determination and Final Negative Critical Circumstances Determination,* 84 FR 38007, August 5, 2019.

[7] *Glycine From Thailand: Termination of Investigation, 84 FR 43618,* August 21, 2019.

[8] See *Memorandum of Postponement of the Final Determinations in the Less-Than-Fair-Value and Countervailing Duty Investigations of Glycine from Thailand*, Cases A-549-837 and C-549-838, April 24, 2019.

India[9] and Japan.[10] On June 21, 2019, Commerce published an amendment to its final affirmative antidumping duty determination regarding the final estimated weighted-average dumping margin calculated for Kumar Industries, India (Kumar) and also revised the "all-others" rate for India. On August 5, 2019, Commerce issued its final determination that glycine from Thailand is being, or is likely to be, sold in the United States at LTFV.[11]

NEGLIGIBILITY

The statute requires that an investigation be terminated without an injury determination if imports of the subject merchandise are found to be negligible.[12] Negligible imports are generally defined in the Act, as amended, as imports from a country of merchandise corresponding to a domestic like product where such imports account for less than 3 percent of the volume of all such merchandise imported into the United States in the most recent 12-month period for which data are available that precedes the filing of the petition or the initiation of the investigation. However, if there are imports of such merchandise from a number of countries subject to investigations initiated on the same day that individually account for less than 3 percent of the total volume of the subject merchandise, and if the imports from those countries collectively account for more than 7 percent of the volume of all such merchandise imported into the United States during the applicable 12-month period, then imports from such countries are deemed not to be negligible.[13] In the case of countervailing duty investigations involving developing countries, the negligibility limits are 4 percent and 9 percent rather than 3 percent and 7 percent.[14] Although the petitions in these investigations include countervailing duty allegations on imports from three countries (China, India, and Thailand), only India and Thailand have been designated as developing countries by the U.S. Trade Representative.[15]

The quantity of U.S. imports in the twelve-month period preceding the filing of the petitions (March 2017 through February 2018) and the share of quantity of total U.S. imports for which each country accounted are presented in tables IV-3 and IV-4, with additional monthly data in table IV-9, in Appendix B. Based on official import statistics, U.S. imports from Thailand exceeded 3 percent of the total, during this period.

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[9] *Glycine From India: Final Determination of Sales at Less Than Fair Value,* 84 FR 18487, May 1, 2019.

[10] *Glycine From Japan: Final Determination of Sales at Less Than Fair Value*, 84 FR 18484, May 1, 2019.

[11] *Glycine From Thailand: Final Determination of Sales at Less Than Fair Value and Final Affirmative Determination of Critical Circumstances in Part*, 84 FR 37998, August 5, 2019. See table I-5, reproduced in Appendix B.

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

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

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

[15] See 15 C.F.R. § 2013.

CRITICAL CIRCUMSTANCES

On September 4, 2018 and October 31, 2018, Commerce issued its preliminary antidumping and countervailing duty determinations that alleged "critical circumstances" do not exist with regard to imports of glycine from Thailand.[16] [17]

On August 5, 2019, Commerce issued its final determination that critical circumstances exist with respect to LTFV imports of glycine produced or exported by Newtrend Thailand, but do not exist with respect to all other producers or exporters.[18] Also on August 5, 2019, Commerce issued its final determination that countervailable subsidies are not being provided to producers and exporters of glycine from Thailand and that critical circumstances do not exist with respect to imports of the subject merchandise.[19] For the final determination, Commerce found that Newtrend Thailand received a *de minimis* net subsidy rate and issued a negative final determination. Accordingly, Commerce maintained its finding that critical circumstances did not exist with respect to Newtrend Thailand.[20] [21]

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[16] *Glycine From Thailand: Preliminary Determination of Sales at Not Less Than Fair Value, Preliminary Negative Determination of Critical Circumstances, Postponement of Final Determination*, 83 FR 54717, October 31, 2018, referenced in app. A. When petitioners file timely allegations of critical circumstances, Commerce examines whether there is a reasonable basis to believe or suspect that (1) either there is a history of dumping and material injury by reason of dumped imports in the United States or elsewhere of the subject merchandise, or the person by whom, or for whose account, the merchandise was imported knew or should have known that the exporter was selling the subject merchandise at LTFV and that there was likely to be material injury by reason of such sales; and (2) there have been massive imports of the subject merchandise over a relatively short period.

[17] *Glycine From Thailand: Preliminary Negative Countervailing Duty Determination, Preliminary Negative Critical Circumstances Determination, and Alignment of Final Determination With Final Antidumping Duty Determination,* 83 FR 44861, September 4, 2018.

[18] *Glycine From Thailand: Final Determination of Sales at Less Than Fair Value and Final Affirmative Determination of Critical Circumstances in Part,* 84 FR 37998, August 5, 2019.

[19] *Glycine From Thailand: Final Negative Countervailing Duty Determination and Final Negative Critical Circumstances Determination, 84 FR 38007*, August 5, 2019.

[20] Ibid.

[21] When petitioners file timely allegations of critical circumstances, Commerce examines whether there is a reasonable basis to believe or suspect that (1) either there is a history of dumping and material injury by reason of dumped imports in the United States or elsewhere of the subject merchandise, or the person by whom, or for whose account, the merchandise was imported knew or should have known that the exporter was selling the subject merchandise at LTFV and that there was likely to be material injury by reason of such sales; and (2) there have been massive imports of the subject merchandise over a relatively short period.

CUMULATION CONSIDERATIONS

In assessing whether imports should be cumulated, the Commission determines whether U.S. imports from the subject countries compete with each other and with the domestic like product and has generally considered four factors: (1) fungibility, (2) presence of sales or offers to sell in the same geographical markets, (3) common or similar channels of distribution, and (4) simultaneous presence in the market. Information regarding channels of distribution, market areas, and interchangeability appear in Appendix B with additional information concerning fungibility, geographical markets, and simultaneous presence in the market. See tables II-1, II-2, and IV-6 through IV-9.

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
83 FR 14291 April 3, 2018	*Glycine From China, India, Japan, and Thailand; Institution of Antidumping and Countervailing Duty Investigations and Scheduling of Preliminary Phase Investigations*	https://www.gpo.gov/fdsys/pkg/FR-2018-04-03/pdf/2018-06716.pdf
83 FR 18002 April 25, 2018	*Glycine From India, the People's Republic of China, and Thailand: Initiation of Countervailing Duty Investigations*	https://www.gpo.gov/fdsys/pkg/FR-2018-04-25/pdf/2018-08665.pdf
83 FR 17995 April 25, 2018	*Glycine From India, Japan, and Thailand: Initiation of Less-Than-Fair-Value Investigations*	https://www.gpo.gov/fdsys/pkg/FR-2018-04-25/pdf/2018-08664.pdf
83 FR 23300 May 18, 2018	*Glycine From China, India, Japan, and Thailand*	https://www.govinfo.gov/content/pkg/FR-2018-05-18/pdf/2018-10598.pdf
83 FR 44859 September 4, 2018	*Glycine From India: Preliminary Affirmative Countervailing Duty Determination and Alignment of Final Determination With Final Antidumping Duty Determination*	https://www.govinfo.gov/content/pkg/FR-2018-09-04/pdf/2018-19096.pdf

Citation	Title	Link
83 FR 44861 September 4, 2018	*Glycine From Thailand: Preliminary Negative Countervailing Duty Determination, Preliminary Negative Critical Circumstances Determination, and Alignment of Final Determination With Final Antidumping Duty Determination*	https://www.govinfo.gov/content/pkg/FR-2018-09-04/pdf/2018-19098.pdf
83 FR 44863 September 4, 2018	*Glycine From the People's Republic of China: Preliminary Affirmative Countervailing Duty Determination*	https://www.govinfo.gov/content/pkg/FR-2018-09-04/pdf/2018-19097.pdf
83 FR 53448 October 23, 2018	*Glycine From the People's Republic of China: Alignment of Final Countervailing Duty Determination With Final Antidumping Duty Determinations of Glycine From India, Japan, and Thailand*	https://www.govinfo.gov/content/pkg/FR-2018-10-23/pdf/2018-23101.pdf
83 FR 54713 October 31, 2018	*Glycine From India: Preliminary Affirmative Determination of Sales at Less Than Fair Value, Postponement of Final Determination, and Extension of Provisional Measures*	https://www.gpo.gov/fdsys/pkg/FR-2018-10-31/pdf/2018-23718.pdf
83 FR 54717 October 31, 2018	*Glycine From Thailand: Preliminary Determination of Sales at Not Less Than Fair Value, Preliminary Negative Determination of Critical Circumstances, Postponement of Final Determination*	https://www.gpo.gov/fdsys/pkg/FR-2018-10-31/pdf/2018-23719.pdf

Citation	Title	Link
83 FR 54718 October 31, 2018	*Glycine From Japan: Preliminary Determination of Sales at Less Than Fair Value and Postponement of Final Determination*	https://www.gpo.gov/fdsys/pkg/FR-2018-10-31/pdf/2018-23720.pdf
83 FR 62345 December 3, 2018	*Glycine From China, India, Japan, and Thailand; Scheduling of the Final Phase of Countervailing Duty and Anti-Dumping Duty Investigations*	https://www.gpo.gov/fdsys/pkg/FR-2018-12-03/pdf/2018-26181.pdf
84 FR 3486 February 12, 2019	*Glycine From China, India, Japan, and Thailand; Revised Schedule for Final Phase of Investigations*	https://www.govinfo.gov/content/pkg/FR-2019-02-12/pdf/2019-02012.pdf
84 FR 18482 May 1, 2019	*Countervailing Duty Investigation of Glycine From India: Affirmative Final Determination*	https://www.govinfo.gov/content/pkg/FR-2019-05-01/pdf/2019-08830.pdf
84 FR 18484 May 1, 2019	*Glycine From Japan: Final Determination of Sales at Less Than Fair Value*	https://www.govinfo.gov/content/pkg/FR-2019-05-01/pdf/2019-08829.pdf
84 FR 18487 May 1, 2019	*Glycine From India: Final Determination of Sales at Less Than Fair Value*	https://www.govinfo.gov/content/pkg/FR-2019-05-01/pdf/2019-08831.pdf
84 FR 18489 May 1, 2019	*Glycine From the People's Republic of China: Final Affirmative Countervailing Duty Determination*	https://www.govinfo.gov/content/pkg/FR-2019-05-01/pdf/2019-08826.pdf
84 FR 29170 June 21, 2019	*Glycine From India and Japan: Amended Final Affirmative Antidumping Duty Determination and Antidumping Duty Orders*	https://www.govinfo.gov/content/pkg/FR-2019-06-21/pdf/2019-13362.pdf

Citation	Title	Link
84 FR 29173 June 21, 2019	*Glycine From India and the People's Republic of China: Countervailing Duty Orders*	https://www.govinfo.gov/content/pkg/FR-2019-06-21/pdf/2019-13361.pdf
84 FR 29238 June 21, 2019	*Glycine From China, India, and Japan; Determinations*	https://www.govinfo.gov/content/pkg/FR-2019-06-21/pdf/2019-13120.pdf
84 FR 35854 July 25, 2019	*Glycine From the People's Republic of China: Notice of Correction to Final Affirmative Countervailing Duty Determination and Countervailing Duty Order*	https://www.govinfo.gov/content/pkg/FR-2019-07-25/pdf/2019-15822.pdf
84 FR 37998 August 5, 2019	*Glycine From Thailand: Final Determination of Sales at Less Than Fair Value and Final Affirmative Determination of Critical Circumstances in Part*	https://www.govinfo.gov/content/pkg/FR-2019-08-05/pdf/2019-16663.pdf
84 FR 38007 August 5, 2019	*Glycine From Thailand: Final Negative Countervailing Duty Determination and Final Negative Critical Circumstances Determination*	https://www.govinfo.gov/content/pkg/FR-2019-08-05/pdf/2019-16662.pdf
84 FR 43618 August 21, 2019	*Glycine From Thailand; Termination of Investigation*	https://www.govinfo.gov/content/pkg/FR-2019-08-21/pdf/2019-18009.pdf
84 FR 44334 August 23, 2019	*Glycine From Thailand; Scheduling of the Final Phase of Anti-Dumping Duty Investigation*	https://www.govinfo.gov/content/pkg/FR-2019-08-23/pdf/2019-18144.pdf

APPENDIX B

COMPILATION OF DATA TABLES

Table I-1
Glycine: Commerce's subsidy determination with respect to imports from China

Entity	Preliminary countervailable subsidy rate (percent)	Final countervailable subsidy rate (percent)
JC Chemicals Limited	144.01	144.01
Simagchem Corp.	144.01	144.01
All others	144.01	144.01

Source: 83 FR 44863, September 4, 2018 and 84 FR 18489, May 1, 2019.

Table I-2
Glycine: Commerce's subsidy determination with respect to imports from India

Entity	Preliminary countervailable subsidy rate (percent)	Final countervailable subsidy rate (percent)
Kumar Industries, India	26.07	6.99
Paras Intermediates Private Limited	3.03	3.03
All others	14.55	5.01

Source: 83 FR 44859, September 4, 2018 and 84 FR 18482, May 1, 2019.

Table I-3
Glycine: Commerce's weighted-average LTFV margins with respect to imports from India

Entity	Preliminary dumping margin (percent)	Cash deposit rate	Final dumping margin (percent)
Kumar Industries, India	80.49	6.62	13.61
Paras Intermediates Private Limited	10.86	7.83	10.86
All others	10.86	7.23	12.24

Source: 83 FR 54713, October 31, 2018 and 84 FR 18487, May 1, 2019.

Table I-4
Glycine: Commerce's weighted-average LTFV margins with respect to imports from Japan

Entity	Preliminary dumping margin (percent)	Final dumping margin (percent)
Yuki Gosei Kogyo Co., Ltd.	53.66	53.66
Showa Denko K.K.	86.22	86.22
All others	53.66	53.66

Source: 83 FR 54718, October 31, 2018 and 84 FR 18484, May 1, 2019.

Table I-5
Glycine: Commerce's weighted-average LTFV margin with respect to imports from Thailand

Entity	Preliminary dumping margin (percent)	Final dumping margin (percent)
Newtrend Food Ingredient (Thailand) Co. Ltd.	0.00	227.17
All Others	([1])	201.59

[1] Commerce did not calculate a preliminary dumping margin for all other producers because it did not make an affirmative preliminary determination of sales at LTFV for Thailand.

Source: 83 FR 54717, October 31, 2018 and 84 FR 37998, August 5, 2019.

Table II-1
Glycine: U.S. producers' and importers' U.S. shipments, by sources and channels of distribution, 2015-17, January to September 2017, and January to September 2018

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

Region	U.S. producers	U.S. importers			
		China	India	Japan	Thailand
Northeast	***	***	7	4	2
Midwest	***	***	5	8	1
Southeast	***	***	4	4	1
Central Southwest	***	***	3	4	1
Mountains	***	***	3	7	1
Pacific Coast	***	***	4	4	1
Other[1]	***	***	---	2	---
All regions (except Other)	***	***	2	3	1
Reporting firms	2	1	9	9	2

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

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

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

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

Item	Number of firms reporting			
	Increase	No change	Decrease	Fluctuate
Demand in the United States				
U.S. producers	***	***	***	***
Importers	1	9	1	4
Purchasers	8	14	3	2
Demand outside the United States				
U.S. producers	***	***	***	***
Importers	1	4	1	2
Purchasers	6	10	2	2

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

Table II-5
Glycine: Purchasing decisions based on producer and country-of-origin

Decision	Always	Usually	Sometimes	Never
Purchases based on producer:				
Purchaser's decision	14	7	7	11
Purchaser's customer's decision	8	2	3	13
Purchases based on country-of-origin:				
Purchaser's decision	10	7	6	16
Purchaser's customer's decision	6	2	4	13

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

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

Item	1st	2nd	3rd	Total
	Number of firms (number)			
Quality	26	5	2	33
Availability / Supply	2	17	9	28
Price / Cost	8	11	16	34
All other factors[1]	3	4	7	NA

[1] Other factors include reliability, country-of-origin, and delivery time.

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

Table II-7
Glycine: Importance of purchase factors, as reported by U.S. purchasers, by factor

Factor	Number of firms reporting		
	Very important	Somewhat important	Not important
Antidumping duty orders (prior)	19	11	7
Availability	37	1	---
Certification (FDA)	22	3	12
Certification (EDQM)	9	7	16
Delivery terms	16	22	---
Delivery time	23	15	---
Discounts offered	8	18	12
Extension of credit	8	21	9
Injectability	3	2	32
Minimum quantity requirements	7	20	11
Packaging	11	21	6
Price	27	10	---
Product consistency	36	2	---
Product range	4	16	16
Purity	34	4	---
Qualification as USP grade	23	7	7
Qualification(s) beyond USP grade	9	6	21
Reliability of supply	35	2	---
Technical support/service	15	18	4
U.S. transportation costs	12	23	4

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

Table II-8
Glycine: Changes in purchase patterns from U.S., China, India, Japan, Thailand, and all other sources

Source of purchases	Did not purchase	Decreased	Increased	Constant	Fluctuated
United States	9	10	10	4	4
China	24	5	---	1	1
India	13	8	6	---	5
Japan	21	1	4	3	2
Thailand	11	3	10	---	7
All other sources	23	---	---	1	1
Sources unknown	21	---	---	---	1

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

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

	Number of firms reporting								
	United States vs. China			United States vs. India			United States vs. Japan		
Factor	S	C	I	S	C	I	S	C	I
Antidumping duty orders (prior)	2	2	1	---	9	1	---	8	---
Availability	1	1	4	1	9	3	1	9	3
Certification (FDA)	2	3	1	2	7	2	1	10	1
Certification (EDQM)	---	2	1	---	4	1	---	6	1
Delivery terms	1	2	1	2	7	2	1	10	---
Delivery time	2	2	1	2	8	2	3	8	1
Discounts offered	---	1	3	1	5	4	---	5	4
Extension of credit	---	2	1	1	5	2	---	9	---
Injectability	1	1	1	2	---	1	---	3	1
Minimum quantity requirements	1	2	1	2	6	2	1	8	1
Packaging	---	3	1	1	9	1	---	10	1
Price[1]	2	1	3	3	5	5	1	5	7
Product consistency	---	4	1	2	10	2	1	10	2
Product range	---	2	1	2	7	1	---	8	---
Purity	1	3	1	1	11	3	---	10	3
Qualification as USP grade	1	4	2	2	9	2	1	12	---
Qualification(s) beyond USP grade	---	1	1	1	3	1	1	4	1
Reliability of supply	1	2	3	3	7	3	2	10	2
Technical support/service	1	3	1	2	9	1	2	10	---
U.S. transportation costs[1]	2	3	1	3	8	2	2	8	2

Table continued on the next page.

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

Factor	Number of firms reporting					
	United States vs. Thailand			United States vs. All other sources		
	S	C	I	S	C	I
Antidumping duty orders (prior)	2	2	1	---	9	1
Availability	1	1	4	1	9	3
Certification (FDA)	2	3	1	2	7	2
Certification (EDQM)	---	2	1	---	4	1
Delivery terms	1	2	1	2	7	2
Delivery time	2	2	1	2	8	2
Discounts offered	---	1	3	1	5	4
Extension of credit	---	2	1	1	5	2
Injectability	1	1	1	2	---	1
Minimum quantity requirements	1	2	1	2	6	2
Packaging	---	3	1	1	9	1
Price[1]	2	1	3	3	5	5
Product consistency	---	4	1	2	10	2
Product range	---	2	1	2	7	1
Purity	1	3	1	1	11	3
Qualification as USP grade	1	4	2	2	9	2
Qualification(s) beyond USP grade	---	1	1	1	3	1
Reliability of supply	1	2	3	3	7	3
Technical support/service	1	3	1	2	9	1
U.S. transportation costs[1]	2	3	1	3	8	2

[1] A rating of superior means that price/U.S. transportation cost 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.

Table II-10
Glycine: Interchangeability between glycine 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	1	1	---	2	3	2	4
United States vs. India	---	2	---	---	3	3	---	1	9	4	2	3
United States vs. Japan	---	2	---	---	4	3	2	2	7	5	2	3
United States vs. Thailand	---	2	---	---	3	1	---	---	7	7	2	4
China vs. India	---	---	---	---	2	1	---	---	---	3	2	2
China vs. Japan	---	---	---	---	3	1	1	1	---	1	2	1
China vs. Thailand	---	---	---	---	2	1	---	---	---	4	2	1
India vs. Japan	---	---	---	---	3	1	---	1	2	1	---	2
India vs. Thailand	---	---	---	---	2	1	---	---	6	4	1	1
Japan vs. Thailand	---	---	---	---	2	1	---	---	3	1	1	2
United States vs. Other	---	1	---	---	2	3	---	---	---	1	---	1
China vs. Other	---	---	---	---	2	1	---	---	---	2	---	1
India vs. Other	---	---	---	---	2	1	---	---	---	2	---	1
Japan vs. Other	---	---	---	---	2	1	---	---	---	1	---	1
Thailand vs. Other	---	---	---	---	2	1	---	---	---	2	---	1

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

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

Table II-11
Glycine: Ability to meet minimum quality specifications, by source[1]

Source of purchases	Always	Usually	Sometimes	Rarely or never
United States	20	5	2	2
China	4	2	2	---
India	13	1	2	1
Japan	10	5	---	1
Thailand	16	4	2	1
Other sources	---	2	---	---

[1] Purchasers were asked how often domestically produced or imported glycine meets minimum quality specifications for their own or their customers' uses.

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

Table II-12
Glycine: Significance of differences other than price between glycine 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	---	1	5	2	2	1
United States vs. India	---	---	1	1	2	1	4	3	5	2	7	4
United States vs. Japan	---	---	1	1	4	2	2	2	5	2	5	3
United States vs. Thailand	---	---	1	1	---	1	2	1	6	3	7	4
China vs. India	---	---	---	---	---	1	---	1	3	1	---	1
China vs. Japan	---	---	---	---	1	3	---	1	2	---	---	1
China vs. Thailand	---	---	---	---	---	1	1	1	3	---	1	1
India vs. Japan	---	---	---	---	1	2	---	1	2	---	1	1
India vs. Thailand	---	---	---	---	---	1	1	1	3	---	3	3
Japan vs. Thailand	---	---	---	---	---	1	1	1	2	---	1	1
United States vs. Other	---	---	---	1	---	1	---	3	1	---	---	---
China vs. Other	---	---	---	---	---	1	---	1	1	---	---	---
India vs. Other	---	---	---	---	---	1	---	1	1	---	---	---
Japan vs. Other	---	---	---	---	---	1	---	1	1	---	---	---
Thailand vs. Other	---	---	---	---	1	---	---	1	1	---	---	---

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

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

Table III-1
Glycine: U.S. producers, their positions on the petition, production locations, and shares of reported production, 2017

Firm	Position on petition	Production location(s)	Share of production (percent)
Chattem	Petitioner	Chattanooga, TN	***
GEO	Petitioner	Deer Park, TX	***
Total			100.0

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

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

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Table III-3
Glycine: U.S. producers' reported changes in operations, since January 1, 2015

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Table III-4
Glycine: U.S. producers' production, capacity, and capacity utilization, 2015-17, January to September 2017, and January to September 2018

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Table III-5
Glycine: U.S. producers' overall plant capacity and production on the same equipment as subject production, 2015-17, January to September 2017, and January to September 2018

Item	Calendar year			January to September	
	2015	2016	2017	2017	2018
	Quantity (1,000 pounds)				
Nameplate capacity[1]	***	***	***	***	***
Overall capacity[2]	***	***	***	***	***
Production: Glycine	***	***	***	***	***
Out-of-scope production	***	***	***	***	***
Total production on same machinery	***	***	***	***	***
	Ratios and shares (percent)				
Nameplate capacity utilization	***	***	***	***	***
Overall capacity utilization	***	***	***	***	***
Share of production: Glycine	***	***	***	***	***
Out-of-scope production	***	***	***	***	***
Total production on same machinery	***	***	***	***	***

[1] Nameplate capacity assumes the maximum level of production that an establishment could have obtained during the specified periods assuming maximum operating parameters and conditions, operating 24 hours seven days a week, 365 days of the year with no downtime.
[2] Overall production capacity assumes the level of production that an establishment could reasonably have expected to attain during specific periods, assuming normal operating conditions, including downtime. With respect to ***, downtime is ***. ***.

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

Table III-6
Glycine: U.S. producers' U.S. shipments, exports shipments, and total shipments, 2015-17, January to September 2017, and January to September 2018

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Table III-7
Glycine: U.S. producers' inventories, 2015-17, January to September 2017, and January to September 2018

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Table III-8
Glycine: Average number of production and related workers, hours worked, wages paid to such employees, hourly wages, productivity, and unit labor costs, 2015-17, January to September 2017, and January to September 2018

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Table IV-1
Glycine: U.S. importers, their headquarters, and share of total imports by source, 2017

Firm	Headquarters	Share of imports by source (percent)					
		China	India	Japan	Subtotal	Thailand	All import sources
Aceto	Port Washington, NY	***	***	***	***	***	***
Ajinomoto	Itasca, IL	***	***	***	***	***	***
Atotech	Rock Hill, SC	***	***	***	***	***	***
Brio	Miami, FL	***	***	***	***	***	***
Ceka[1]	Chino Hills, CA	***	***	***	***	***	***
Charkit	South Norwalk, CT	***	***	***	***	***	***
Crossroad	Fairfield, NJ	***	***	***	***	***	***
Fujimi	Tualatin, OR	***	***	***	***	***	***
Glanbia	Fitchburg, WI	***	***	***	***	***	***
Innospec	High Point, NC	***	***	***	***	***	***
Kumar	Ahmedabad, GJ	***	***	***	***	***	***
Kyowa Hakko	New York, NY	***	***	***	***	***	***
Marubeni	White Plains, NY	***	***	***	***	***	***
Maypro	Purchase, NY	***	***	***	***	***	***
Mulji Mehta	Mumbai, MH	***	***	***	***	***	***
Nagase	New York, NY	***	***	***	***	***	***
Newtrend	City Of Industry, CA	***	***	***	***	***	***
NutriScience	Trumbull, CT	***	***	***	***	***	***
Prinova	Carol Stream, IL	***	***	***	***	***	***
SAM HPRP	Eden Prairie, MN	***	***	***	***	***	***
Saminchem[1]	Mira Loma, CA	***	***	***	***	***	***
SEM	Quincy, IL	***	***	***	***	***	***
Showa Denko	New York, NY	***	***	***	***	***	***
Soyventis	Fairfield, NJ	***	***	***	***	***	***
TRinternational	Seattle, WA	***	***	***	***	***	***
Total		***	***	***	***	***	***

[1] Staff reclassified imports from Cambodia as imports from China in this report. The vast majority of such imports (*** percent during the period for which data were collected) were by ***, which has provided conflicting information regarding its import sources. The remainder ***, which maintains that its imports are ***. *** identified *** as the foreign producer of glycine in their U.S. importer questionnaire responses. On July 2, 2018, the U.S. Customs and Border Protection issued a final determination that Ceka's 2017 imports were of Chinese origin and that it found no evidence of glycine manufacturing at the Cambodian exporter's facility. See CBP's Notice of Final Determination, EAPA Case No. 7208, July 2, 2018.

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-2
Glycine: U.S. imports by source, 2015-17, January to September 2017, and January to September 2018

Item	Calendar year			January to September	
	2015	2016	2017	2017	2018
	Quantity (1,000 pounds)				
U.S. imports from.--					
China	104	526	734	608	132
India	2,926	4,260	3,903	2,950	897
Japan	6,011	4,629	5,305	3,841	3,170
Subtotal	9,041	9,415	9,941	7,399	4,199
Thailand	3,895	1,356	2,720	2,222	4,740
Subtotal	12,936	10,771	12,661	9,621	8,939
All other sources	859	292	174	131	40
All import sources	13,795	11,063	12,835	9,752	8,979
	Value (1,000 dollars)				
U.S. imports from.--					
China	177	835	1,339	1,201	183
India	6,008	8,146	7,030	5,296	1,443
Japan	12,450	9,807	10,206	7,355	6,267
Subtotal	18,635	18,788	18,575	13,852	7,893
Thailand	8,665	3,014	4,592	3,735	7,415
Subtotal	27,300	21,802	23,168	17,587	15,308
All other sources	1,386	526	480	352	123
All import sources	28,685	22,328	23,647	17,939	15,431
	Unit value (dollars per pound)				
U.S. imports from.--					
China	1.71	1.59	1.83	1.97	1.38
India	2.05	1.91	1.80	1.80	1.61
Japan	2.07	2.12	1.92	1.91	1.98
Subtotal	2.06	2.00	1.87	1.87	1.88
Thailand	2.22	2.22	1.69	1.68	1.56
Subtotal	2.11	2.02	1.83	1.83	1.71
All other sources	1.61	1.80	2.75	2.69	3.04
All import sources	2.08	2.02	1.84	1.84	1.72

Table continued on the next page.

Table IV-2--Continued
Glycine: U.S. imports by source, 2015-17, January to September 2017, and January to September 2018

Item	Calendar year			January to September	
	2015	2016	2017	2017	2018
	Share of quantity (percent)				
U.S. imports from.--					
China	0.8	4.8	5.7	6.2	1.5
India	21.2	38.5	30.4	30.3	10.0
Japan	43.6	41.8	41.3	39.4	35.3
Subtotal	65.5	85.1	77.5	75.9	46.8
Thailand	28.2	12.3	21.2	22.8	52.8
Subtotal	93.8	97.4	98.6	98.7	99.6
All other sources	6.2	2.6	1.4	1.3	0.4
All import sources	100.0	100.0	100.0	100.0	100.0
	Share of value (percent)				
U.S. imports from.--					
China	0.6	3.7	5.7	6.7	1.2
India	20.9	36.5	29.7	29.5	9.4
Japan	43.4	43.9	43.2	41.0	40.6
Subtotal	65.0	84.1	78.6	77.2	51.2
Thailand	30.2	13.5	19.4	20.8	48.1
Subtotal	95.2	97.6	98.0	98.0	99.2
All other sources	4.8	2.4	2.0	2.0	0.8
All import sources	100.0	100.0	100.0	100.0	100.0
	Ratio to U.S. production				
U.S. imports from.--					
China	***	***	***	***	***
India	***	***	***	***	***
Japan	***	***	***	***	***
Subtotal	***	***	***	***	***
Thailand	***	***	***	***	***
Subtotal	***	***	***	***	***
All other sources	***	***	***	***	***
All import sources	***	***	***	***	***

Note.--Data for China is calculated by adding imports from China and Cambodia. Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent.

Source: Compiled from official U.S. import statistics for HTS statistical reporting numbers 2922.49.4020 and 2922.49.4300, accessed March 19, 2019.

Table IV-3
Glycine: U.S. imports in the twelve month period preceding the filing of the petition, March 2017 through February 2018

Item	March 2017 through February 2018	
	Quantity (1,000 pounds)	Share of quantity (percent)
U.S. imports subject to AD duty investigation from.--		
India	3,538	28.9
Japan	5,476	44.8
Thailand	3,054	25.0
All other sources (note)	169	1.4
All import sources (note)	12,236	100.0

Note.-- Volumes from China under an existing antidumping duty order (imports from China assessed AD duties, or imports from other sources reclassified as China-origin glycine as a result of the CBP AD order evasion investigation) are excluded from the denominator in these calculations.

Source: Compiled from official U.S. import statistics for HTS statistical reporting numbers 2922.49.4020 and 2922.49.4300, accessed March 19, 2019.

Table IV-4
Glycine: U.S. imports in the twelve month period preceding the filing of the petition, March 2017 through February 2018

Item	March 2017 through February 2018	
	Quantity (1,000 pounds)	Share of quantity (percent)
U.S. imports subject to CVD duty investigation from.--		
China	771	5.9
India	3,538	27.2
Thailand	3,054	23.5
All other sources	5,644	43.4
All import sources	13,007	100.0

Source: Compiled from official U.S. import statistics for HTS statistical reporting numbers 2922.49.4020 and 2922.49.4300, accessed March 19, 2019.

Table IV-5
Glycine: U.S. imports from Thailand subject to Commerce's final critical circumstance determination, October 2017 through September 2018

Period	Monthly U.S. imports (1,000 pounds)	Outwardly cumulative quantity (1,000 pounds)	Percentage change from comparable period (percent)
2017.--			
October	250	1,537	
November		1,287	
December	248	1,287	
2018.--			
January	249	1,039	
February	334	790	
March	456	456	
Petition file date: March 28, 2018			
April	457	457	0.2
May	701	1,158	46.6
June	1,098	2,256	117.1
July	745	3,001	133.2
August	435	3,436	167.0
September	265	3,701	140.8

Source: Compiled from official U.S. import statistics for HTS statistical reporting numbers 2922.49.4020 and 2922.49.4300, accessed March 19, 2019.

Table IV-6
Glycine: U.S. producers' and U.S. importers' U.S. shipments by product type, 2017

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Table IV-7
Glycine: U.S. producers' and U.S. importers' U.S. shipments by certification, 2017

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Table IV-8
Glycine: U.S. imports by border of entry, 2017

Item	Border of entry				
	East	North	South	West	All borders
	Quantity (1,000 pounds)				
U.S. imports from.--					
China	133	28	2	572	734
India	1,364	2,407	---	132	3,903
Japan	155	2,434	---	2,715	5,305
Subtotal	1,652	4,869	2	3,418	9,941
Thailand	119	---	---	2,601	2,720
Subtotal	1,771	4,869	2	6,019	12,661
All other sources	105	37	33	0	174
All import sources	1,876	4,905	35	6,019	12,835
	Share across (percent)				
U.S. imports from.--					
China	18.1	3.8	0.2	77.9	100.0
India	35.0	61.7	---	3.4	100.0
Japan	2.9	45.9	---	51.2	100.0
Subtotal	16.6	49.0	0.0	34.4	100.0
Thailand	4.4	---	---	95.6	100.0
Subtotal	14.0	38.5	0.0	47.5	100.0
All other sources	60.0	21.0	19.0	0.1	100.0
All import sources	14.6	38.2	0.3	46.9	100.0
	Share down (percent)				
U.S. imports from.--					
China	7.1	0.6	4.9	9.5	5.7
India	72.7	49.1	---	2.2	30.4
Japan	8.3	49.6	---	45.1	41.3
Subtotal	88.1	99.3	4.9	56.8	77.5
Thailand	6.3	---	---	43.2	21.2
Subtotal	94.4	99.3	4.9	100.0	98.6
All other sources	5.6	0.7	95.1	0.0	1.4
All import sources	100.0	100.0	100.0	100.0	100.0

Note.—Data for China are calculated by adding imports from China and Cambodia. Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent.

Source: Compiled from official U.S. import statistics for HTS statistical reporting numbers 2922.49.4020 and 2922.49.4300, accessed March 19, 2019.

Table IV-9
Glycine: U.S. imports by month, January 2015-December 2018

Year / month	U.S. imports							
	China	India	Japan	Subtotal	Thailand	Subtotal	All other sources	All import sources
	Quantity (1,000 pounds)							
2015.--								
January	7	326	393	726	---	726	174	900
February	---	280	351	631	265	895	58	953
March	7	437	448	891	176	1,067	161	1,228
April	---	350	519	869	220	1,089	15	1,104
May	---	214	669	883	220	1,103	146	1,249
June	---	254	500	753	225	978	79	1,058
July	---	93	586	679	181	860	11	871
August	44	130	679	853	88	941	115	1,056
September	---	304	340	645	---	645	---	645
October	44	233	445	721	882	1,603	56	1,659
November	---	198	650	848	667	1,515	---	1,515
December	2	108	432	542	970	1,512	44	1,556
2016.--								
January	26	553	549	1,129	802	1,931	---	1,931
February	88	279	123	490	176	667	46	713
March	2	273	641	917	---	917	44	961
April	---	570	348	918	43	961	90	1,051
May	---	364	301	665	41	706	92	799
June	1	291	293	585	47	632	8	640
July	181	276	374	830	41	871	---	871
August	2	247	481	730	41	772	8	780
September	72	395	397	864	41	905	---	905
October	---	176	261	437	41	478	---	479
November	36	468	447	952	41	993	---	993
December	116	368	414	898	41	939	4	943

Table continued on the next page.

Table IV-9—Continued
Glycine: U.S. imports by month, January 2015-December 2018

Year / month	U.S. imports							
	China	India	Japan	Subtotal	Thailand	Subtotal	All other sources	All import sources
	Quantity (1,000 pounds)							
2017.--								
January	88	298	264	651	124	775	6	781
February	7	313	386	706	124	831	---	831
March	109	269	421	799	251	1,051	9	1,060
April	110	283	503	896	205	1,100	14	1,114
May	129	401	521	1,050	202	1,252	36	1,289
June	0	427	521	948	483	1,431	14	1,445
July	164	359	394	917	290	1,207	11	1,218
August	1	381	567	948	292	1,240	40	1,281
September	0	219	265	484	250	734	---	734
October	42	249	631	922	250	1,172	30	1,203
November	42	333	243	618	---	618	7	625
December	42	371	589	1,002	248	1,250	6	1,255
2018.--								
January	53	163	388	604	249	853	---	853
February	79	84	433	596	334	930	---	930
March	---	84	254	338	456	794	---	794
April	---	72	190	262	457	719	---	719
May	---	130	628	758	701	1,459	---	1,459
June	---	84	209	293	1,098	1,391	40	1,431
July	---	82	252	333	745	1,078	---	1,078
August	---	199	524	723	435	1,158	---	1,158
September	---	---	291	291	265	556	---	556
October	---	119	157	276	428	704	41	745
November	4	139	122	265	441	706	---	706
December	---	---	119	119	394	513	---	513

Note.--Data for China are calculated by adding imports from China and Cambodia. Values shown as "0" represent values greater than zero, but less than "0.5" percent.

Source: Compiled from official U.S. import statistics for HTS statistical reporting numbers 2922.49.4020 and 2922.49.4300, accessed March 19, 2019.

Table IV-10
Glycine: Apparent U.S. consumption, 2015-17, January to September 2017, and January to September 2018

Item	Calendar year			January to September	
	2015	2016	2017	2017	2018
	Quantity (1,000 pounds)				
U.S. producers' U.S. shipments	***	***	***	***	***
U.S. imports from.--					
China	104	526	734	608	132
India	2,926	4,260	3,903	2,950	897
Japan	6,011	4,629	5,305	3,841	3,170
Subtotal	9,041	9,415	9,941	7,399	4,199
Thailand	3,895	1,356	2,720	2,222	4,740
Subtotal	12,936	10,771	12,661	9,621	8,939
All other sources	859	292	174	131	40
All import sources	13,795	11,063	12,835	9,752	8,979
Apparent U.S. consumption	***	***	***	***	***
	Value (1,000 dollars)				
U.S. producers' U.S. shipments	***	***	***	***	***
U.S. imports from.--					
China	177	835	1,339	1,201	183
India	6,008	8,146	7,030	5,296	1,443
Japan	12,450	9,807	10,206	7,355	6,267
Subtotal	18,635	18,788	18,575	13,852	7,893
Thailand	8,665	3,014	4,592	3,735	7,415
Subtotal	27,300	21,802	23,168	17,587	15,308
All other sources	1,386	526	480	352	123
All import sources	28,685	22,328	23,647	17,939	15,431
Apparent U.S. consumption	***	***	***	***	***

Note.--Data for China is calculated by adding imports from China and Cambodia. Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent.

Source: Compiled from data submitted in response to Commission questionnaires and official U.S. import statistics for HTS statistical reporting numbers 2922.49.4020 and 2922.49.4300, accessed March 19, 2019.

Table IV-11
Glycine: Market shares, 2015-17, January to September 2017, and January to September 2018

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Table IV-12
Glycine: U.S. importers' inventory changes, 2015-17, January to September 2017, and January to September 2018

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Table IV-13
Glycine: U.S. importers' re-export shipments, 2015-17, January to September 2017, and January to September 2018

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Table IV-14
Glycine: Net U.S. shipment and import quantities and shares, adjusted for U.S. importers' inventory changes and re-exports, 2015-17, January to September 2017, and January to September 2018

Item	Calendar year			January to September	
	2015	2016	2017	2017	2018
	Quantity (1,000 pounds)				
U.S. producers' U.S. shipments	***	***	***	***	***
Adjusted U.S. imports from.--					
China	***	***	***	***	***
India	***	***	***	***	***
Japan	***	***	***	***	***
Subtotal	***	***	***	***	***
Thailand	***	***	***	***	***
Subtotal	***	***	***	***	***
All other sources	***	***	***	***	***
All import sources	***	***	***	***	***
Apparent U.S. consumption	***	***	***	***	***
	Share of quantity (percent)				
U.S. producers' U.S. shipments	***	***	***	***	***
Adjusted U.S. imports from.--					
China	***	***	***	***	***
India	***	***	***	***	***
Japan	***	***	***	***	***
Subtotal	***	***	***	***	***
Thailand	***	***	***	***	***
Subtotal	***	***	***	***	***
All other sources	***	***	***	***	***
All import sources	***	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires and official U.S. import statistics for HTS statistical reporting numbers 2922.49.4020 and 2922.49.4300, accessed March 19, 2019.

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

Method	U.S. producers	Importers
Transaction-by-transaction	***	14
Contract	***	10
Set price list	***	1
Other	***	4
Responding firms	***	22

[1] The sum of responses down may not add up to the total number of responding firms as each firm was instructed to check all applicable price setting methods employed.

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

Table V-2
Glycine: U.S. producers' and importers' shares of U.S. commercial shipments by type of sale, 2017

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Table V-3
Glycine: Weighted-average f.o.b. prices and quantities of domestic and imported product 1[1] and margins of underselling/(overselling), by quarters, January 2015-September 2018

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Table V-4
Glycine: Weighted-average f.o.b. prices and quantities of domestic and imported product 2[1] and margins of underselling/(overselling), by quarters, January 2015-September 2018

* * * * * * *

Table V-5
Glycine: Weighted-average f.o.b. prices and quantities of domestic and imported product 3[1] and margins of underselling/(overselling), by quarters, January 2015-September 2018

* * * * * * *

Table V-6
Glycine: Number of quarters containing observations low price, high price, and change in price over period, by product and source, January 2015 through September 2018

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Table V-7a
Glycine: Instances of underselling/overselling and the range and average of margins, by product and by country, excluding Thailand, January 2015-September 2018

Source	Underselling				
	Number of quarters	Quantity (1,000 pounds)[1]	Average margin (percent)	Margin Range (percent)	
				Min	Max
Product 1	***	***	***	***	***
Product 2	***	***	***	***	***
Product 3	***	***	***	***	***
Total, underselling, excluding Thailand	46	***	***	***	***
China	***	***	***	***	***
India	***	***	***	***	***
Japan	***	***	***	***	***
Total, underselling, excluding Thailand	46	***	***	***	***
Source	(Overselling)				
	Number of quarters	Quantity (1,000 pounds)[1]	Average margin (percent)	Margin Range (percent)	
				Min	Max
Product 1	***	***	***	***	***
Product 2	***	***	***	***	***
Product 3	***	***	***	***	***
Total, overselling, excluding Thailand	23	***	***	***	***
China	***	***	***	***	***
India	***	***	***	***	***
Japan	***	***	***	***	***
Total, overselling, excluding Thailand	23	***	***	***	***

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

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

Table V-7b
Glycine: Instances of underselling/overselling and the range and average of margins, by product and by country, including Thailand, January 2015 through September 2018

Source	Underselling				
	Number of quarters	Quantity (1,000 pounds)[1]	Average margin (percent)	Margin Range (percent)	
				Min	Max
Product 1	***	***	***	***	***
Product 2	***	***	***	***	***
Product 3	***	***	***	***	***
Total, underselling, including Thailand	61	***	***	***	***
China	***	***	***	***	***
India	***	***	***	***	***
Japan	***	***	***	***	***
Thailand	***	***	***	***	***
Total, underselling, including Thailand	61	***	***	***	***
Source	(Overselling)				
	Number of quarters	Quantity (1,000 pounds)[1]	Average margin (percent)	Margin Range (percent)	
				Min	Max
Product 1	***	***	***	***	***
Product 2	***	***	***	***	***
Product 3	***	***	***	***	***
Total, overselling, including Thailand	23	***	***	***	***
China	***	***	***	***	***
India	***	***	***	***	***
Japan	***	***	***	***	***
Thailand	***	***	***	***	***
Total, overselling, including Thailand	23	***	***	***	***

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

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

Table V-8
Glycine: Purchasers' responses to purchasing patterns

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Table V-9
Glycine: Purchasers' responses to purchasing subject instead of domestic, by firm

Purchaser	Imports from China, India, Japan, and Thailand purchased instead of domestic (Y/N)	Imports from China, India, Japan, and Thailand priced lower (Y/N)	If purchased imports from China, India, Japan, and Thailand instead of domestic, was price a primary reason		
			Y/N	If Yes, quantity (1,000 pounds)	If No, non-price reason
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
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***	***	***	***	***	***
***	***	***	***	***	***
Total	Yes--28; No--9	Yes--22; No--4	Yes--14; No--14	8,532	***

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

Table V-10
Glycine: Purchasers' responses to purchasing subject instead of domestic, by country

Source	Count of purchasers reporting subject instead of domestic	Count of purchasers reported that imports were priced lower	Count of purchasers reporting that price was a primary reason for shift	Quantity subject purchased (1,000 pounds)
China	7	7	5	811
India	18	14	10	6,943
Japan	11	7	2	778
Thailand	21	18	12	4,320
China/India/Japan (any)	28	22	14	8,532
China/India/Japan/Thailand (any)	35	29	18	12,852

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

Table V-11
Glycine: Purchasers' response to U.S. producer price reductions to compete with imports from China, India, Japan, and/or Thailand, by firm

Purchaser	Producers reduced price (Y/N)	If producer reduced prices: Estimated U.S. price reduction (percent)	If producer reduced prices: Additional information, if available
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
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***	***	***	***
***	***	***	***
***	***	***	***

Table continued on the next page.

Table V-11--Continued
Glycine: Purchasers' response to U.S. producer price reductions to compete with imports from China, India, Japan, and/or Thailand, by firm

Purchaser	Producers reduced price (Y/N)	If producer reduced prices:	
		Estimated U.S. price reduction (percent)	Additional information, if available
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
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***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
Total / average	Yes--4; No--7	16.3	---

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

Table V-12
Glycine: Purchasers' responses to U.S. producer price reductions, by country

Source	Count of purchasers reporting U.S. producers reduced prices	Simple average of estimated U.S. price reduction (percent)	Range of estimated U.S. price reductions (percent)
China	1	***	***
India	4	16.3	10.0 - 20.0
Japan	---	15.0	15.0 - 15.0
Thailand	3	15.0	10.0 - 20.0
China/India/Japan (any)	4	16.3	10.0 - 20.0
China/India/Japan/Thailand (any)	5	17.0	10.0 - 20.0

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

Table VI-1
Glycine: Results of operations of U.S. producers, 2015-17, January-September 2017, and January-September 2018

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Table VI-2
Glycine: Changes in AUVs between calendar years and interim year periods

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Table VI-3
Glycine: Results of operations of U.S. producers, by firm, 2015-17, January-September 2017, and January-September 2018

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Table VI-4
Glycine: Raw materials by type, 2015-2017, January-September 2017, and January-September 2018

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Table VI-5
Glycine: Capital expenditures and research and development expenses of U.S. producers, 2015-17, January-September 2017, and January-September 2018

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Table VI-6
Glycine: U.S. producers' total assets and return on assets, 2015-17

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Table VI-7
Glycine: Actual and anticipated negative effects of imports on investment, growth, and development, since January 1, 2015

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Table VI-8
Glycine: Narratives relating to actual and anticipated negative effects of imports on investment, growth, and development, since January 1, 2015

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

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Table VII-2
Amino acids and esters: Exports from China by destination market, 2015-17

Destination market	Calendar year		
	2015	2016	2017
	Quantity (1,000 pounds)		
Exports from China to the United States	67,299	69,967	86,604
Exports from China to other major destination markets.--			
Netherlands	48,545	60,089	75,103
Germany	40,087	45,390	49,351
Japan	35,804	40,357	47,949
India	29,056	36,936	38,055
Spain	11,787	14,987	21,990
Thailand	15,179	16,683	18,228
South Korea	15,315	16,611	18,211
Russia	11,329	12,303	16,808
Poland	8,984	12,835	15,436
All other destination markets	117,538	131,326	149,654
Total exports from China	400,924	457,484	537,390
	Value (1,000 dollars)		
Exports from China to the United States	142,679	116,747	142,863
Exports from China to other major destination markets.--			
Netherlands	52,085	58,925	73,625
Germany	68,325	66,172	68,366
Japan	65,785	73,107	81,768
India	60,128	63,438	79,280
Spain	23,148	21,518	32,679
Thailand	15,685	14,256	19,077
South Korea	32,823	32,343	31,839
Russia	16,733	16,443	23,024
Poland	11,423	13,201	15,860
All other destination markets	231,056	230,386	273,158
Total exports from China	719,870	706,537	841,541

Table continued on the next page.

Table VII-2--Continued
Amino acids and esters: Exports from China by destination market, 2015-17

Destination market	Calendar year		
	2015	2016	2017
	Unit value (dollars per pound)		
Exports from China to the United States	2.12	1.67	1.65
Exports from China to other major destination markets.--			
Netherlands	1.07	0.98	0.98
Germany	1.70	1.46	1.39
Japan	1.84	1.81	1.71
India	2.07	1.72	2.08
Spain	1.96	1.44	1.49
Thailand	1.03	0.85	1.05
South Korea	2.14	1.95	1.75
Russia	1.48	1.34	1.37
Poland	1.27	1.03	1.03
All other destination markets	1.97	1.75	1.83
Total exports from China	1.80	1.54	1.57
	Share of quantity (percent)		
Exports from China to the United States	16.8	15.3	16.1
Exports from China to other major destination markets.--			
Netherlands	12.1	13.1	14.0
Germany	10.0	9.9	9.2
Japan	8.9	8.8	8.9
India	7.2	8.1	7.1
Spain	2.9	3.3	4.1
Thailand	3.8	3.6	3.4
South Korea	3.8	3.6	3.4
Russia	2.8	2.7	3.1
Poland	2.2	2.8	2.9
All other destination markets	29.3	28.7	27.8
Total exports from China	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.

Source: Official exports statistics under HS subheading 2922.49 as reported by the Ministry of Commerce in the Global Trade Atlas database, accessed February 26, 2019.

Table VII-3
Glycine: Summary data for producers in India, 2017

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Table VII-4
Glycine: Summary data on resellers in India exporting to the United States, 2017

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Table VII-5
Glycine: Data on industry in India 2015-17, January to September 2017 and January to September 2018 and projection calendar years 2018 and 2019

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Table VII-6
Glycine: Overall capacity and production on the same equipment as in-scope production by producers in India, 2015-17, January to September 2017, and January to September 2018

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Table VII-7
Amino acids and esters: Exports from India by destination market, 2015-17

Destination market	Calendar year		
	2015	2016	2017
	Quantity (1,000 pounds)		
Exports from India to the United States	5,475	7,124	6,409
Exports from India to other major destination markets.--			
Vietnam	426	583	926
United Kingdom	496	965	861
Germany	1,788	2,552	705
Netherlands	321	648	442
Canada	79	309	431
Japan	99	110	238
China	815	1,374	344
South Korea	106	174	262
Bangladesh	166	261	259
All other destination markets	2,382	3,738	3,339
Total exports from India	12,153	17,836	14,215
	Value (1,000 dollars)		
Exports from India to the United States	39,332	53,440	48,002
Exports from India to other major destination markets.--			
Vietnam	739	870	1,564
United Kingdom	4,023	9,612	7,372
Germany	11,856	15,494	5,768
Netherlands	623	1,186	740
Canada	1,010	5,872	10,133
Japan	2,648	793	1,540
China	1,521	1,753	1,224
South Korea	569	1,316	3,940
Bangladesh	1,412	2,053	2,061
All other destination markets	30,080	41,489	56,590
Total exports from India	93,814	133,878	138,933

Table continued on the next page.

Table VII-7--Continued
Amino acids and esters: Exports from India by destination market, 2015-17

Destination market	Calendar year		
	2015	2016	2017
	Unit value (dollars per pound)		
Exports from India to the United States	7.18	7.50	7.49
Exports from India to other major destination markets.--			
Vietnam	1.74	1.49	1.69
United Kingdom	8.12	9.96	8.56
Germany	6.63	6.07	8.18
Netherlands	1.94	1.83	1.68
Canada	12.77	19.00	23.54
Japan	26.64	7.23	6.48
China	1.87	1.28	3.56
South Korea	5.36	7.57	15.04
Bangladesh	8.53	7.85	7.95
All other destination markets	12.63	11.10	16.95
Total exports from India	7.72	7.51	9.77
	Share of quantity (percent)		
Exports from India to the United States	45.0	39.9	45.1
Exports from India to other major destination markets.--			
Vietnam	3.5	3.3	6.5
United Kingdom	4.1	5.4	6.1
Germany	14.7	14.3	5.0
Netherlands	2.6	3.6	3.1
Canada	0.7	1.7	3.0
Japan	0.8	0.6	1.7
China	6.7	7.7	2.4
South Korea	0.9	1.0	1.8
Bangladesh	1.4	1.5	1.8
All other destination markets	19.6	21.0	23.5
Total exports from India	100.0	100.0	100.0

Source: Official exports statistics under HS subheading 2922.49 as reported by Ministry of Commerce in the Global Trade Atlas database, accessed March 6, 2019.

Table VII-8
Glycine: Summary data for producers in Japan, 2017

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Table VII-9
Glycine: Summary data on resellers in Japan exporting to the United States, 2017

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Table VII-10
Glycine: Data on industry in Japan, 2015-17, January to September 2017, and January to September 2018 and projection calendar years 2018 and 2019

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Table VII-11
Glycine: Overall capacity and production on the same equipment as in-scope production by producers in Japan, 2015-17, January to September 2017 and January to September 2018

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Table VII-12
Amino acids and esters: Exports from Japan by destination market, 2015-17

Destination market	Calendar year		
	2015	2016	2017
	Quantity (1,000 pounds)		
Exports from Japan to the United States	7,719	6,734	6,477
Exports from Japan to other major destination markets.--			
South Korea	4,698	4,344	4,359
United Kingdom	3,083	2,790	2,812
Germany	2,256	2,516	2,322
Taiwan	1,626	1,815	1,890
Thailand	559	714	1,843
Vietnam	1,474	1,490	1,041
China	1,229	947	868
Netherlands	666	664	677
Poland	1,058	212	600
All other destination markets	3,408	3,073	3,105
Total exports from Japan	27,775	25,299	25,996
	Value (1,000 dollars)		
Exports from Japan to the United States	27,948	27,420	23,561
Exports from Japan to other major destination markets.--			
South Korea	11,517	11,568	9,641
United Kingdom	4,788	4,252	4,658
Germany	19,521	20,395	19,392
Taiwan	3,327	3,320	3,653
Thailand	2,205	2,498	3,611
Vietnam	2,714	3,683	2,518
China	7,390	11,098	6,398
Netherlands	4,173	4,417	3,697
Poland	1,113	225	624
All other destination markets	20,212	18,328	19,947
Total exports from Japan	104,908	107,204	97,701

Table continued on the next page.

Table VII-12--Continued
Amino acids and esters: Exports from Japan by destination market, 2015-17

Destination market	Calendar year		
	2015	2016	2017
	Unit value (dollars per pound)		
Exports from Japan to the United States	3.62	4.07	3.64
Exports from Japan to other major destination markets.--			
South Korea	2.45	2.66	2.21
United Kingdom	1.55	1.52	1.66
Germany	8.65	8.11	8.35
Taiwan	2.05	1.83	1.93
Thailand	3.95	3.50	1.96
Vietnam	1.84	2.47	2.42
China	6.01	11.71	7.37
Netherlands	6.27	6.65	5.46
Poland	1.05	1.06	1.04
All other destination markets	5.93	5.96	6.42
Total exports from Japan	3.78	4.24	3.76
	Share of quantity (percent)		
Exports from Japan to the United States	27.8	26.6	24.9
Exports from Japan to other major destination markets.--			
South Korea	16.9	17.2	16.8
United Kingdom	11.1	11.0	10.8
Germany	8.1	9.9	8.9
Taiwan	5.9	7.2	7.3
Thailand	2.0	2.8	7.1
Vietnam	5.3	5.9	4.0
China	4.4	3.7	3.3
Netherlands	2.4	2.6	2.6
Poland	3.8	0.8	2.3
All other destination markets	12.3	12.1	11.9
Total exports from Japan	100.0	100.0	100.0

Source: GTIS/GTA database.

Table VII-13
Glycine: Summary data on firms in Thailand, 2017

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Table VII-14
Glycine: Data on industry in Thailand, 2015-17, January to September 2017, and January to September 2018 and projection calendar years 2018 and 2019

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Table VII-15
Glycine: Overall capacity and production on the same equipment as in-scope production by producers in Thailand, 2015-17, January to September 2017, and January to September 2018

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Table VII-16
Amino acids and esters: Exports from Thailand by destination market, 2015-17

Destination market	Calendar year		
	2015	2016	2017
	Quantity (1,000 pounds)		
Exports from Thailand to the United States	4,859	503	2,765
Exports from Thailand to other major destination markets.--			
Germany	---	2,302	2,011
Netherlands	---	88	247
China	1	54	212
Russia	---	---	176
United Kingdom	---	---	161
Cambodia	0	4	102
Singapore	2	20	62
India	0	2	38
Philippines	0	1	22
All other destination markets	59	56	47
Total exports from Thailand	4,921	3,030	5,842
	Value (1,000 dollars)		
Exports from Thailand to the United States	10,412	968	4,477
Exports from Thailand to other major destination markets.--			
Germany	---	1,600	1,502
Netherlands	---	80	263
China	23	31	1,307
Russia	---	---	233
United Kingdom	---	---	210
Cambodia	1	5	293
Singapore	4	26	181
India	1	43	450
Philippines	0	1	74
All other destination markets	195	159	202
Total exports from Thailand	10,636	2,914	9,192

Table continued on the next page.

Table VII-16--Continued
Amino acids and esters: Exports from Thailand by destination market, 2015-17

Destination market	Calendar year		
	2015	2016	2017
	Unit value (dollars per pound)		
Exports from Thailand to the United States	2.14	1.93	1.62
Exports from Thailand to other major destination markets.--			
Germany	---	0.70	0.75
Netherlands	---	0.91	1.07
China	40.93	0.57	6.17
Russia	---	---	1.32
United Kingdom	---	---	1.30
Cambodia	126.75	1.24	2.87
Singapore	1.88	1.29	2.93
India	7.85	17.74	11.97
Philippines	1.76	1.39	3.33
All other destination markets	3.31	2.85	4.32
Total exports from Thailand	2.16	0.96	1.57
	Share of quantity (percent)		
Exports from Thailand to the United States	98.7	16.6	47.3
Exports from Thailand to other major destination markets.--			
Germany	---	76.0	34.4
Netherlands	---	2.9	4.2
China	0.0	1.8	3.6
Russia	---	---	3.0
United Kingdom	---	---	2.8
Cambodia	0.0	0.1	1.7
Singapore	0.0	0.7	1.1
India	0.0	0.1	0.6
Philippines	0.0	0.0	0.4
All other destination markets	1.2	1.8	0.8
Total exports from Thailand	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.

Source: Official exports statistics under HS subheading 2922.49 as reported by Ministry of Commerce in the Global Trade Atlas database, accessed March 6, 2019.

Table VII-17
Glycine: Data on India, Japan, and Thailand, 2015-17, January to September 2017, and January to September 2018 and projection calendar years 2018 and 2019

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Table VII-18
Glycine: U.S. importers' end-of-period inventories of imports by source, 2015-17, January to September 2017, and January to September 2018

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Table VII-19
Glycine: Arranged imports, October 2018 through September 2019

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Table VII-20
Amino acids and esters: Global exports by exporter, 2015-17

Exporter	Calendar year		
	2015	2016	2017
	Quantity (1,000 pounds)		
United States	138,950	134,548	173,258
China	400,924	457,484	537,390
India	12,153	17,836	14,215
Japan	27,775	25,299	25,996
Thailand	4,921	3,030	5,842
All other major reporting exporters.-- Germany	282,610	313,268	288,246
Netherlands	146,652	189,977	200,394
Belgium	48,621	52,765	66,128
France	48,447	51,437	40,274
Lithuania	2,148	12,571	21,494
South Korea	11,109	14,578	17,518
United Kingdom	14,334	14,584	15,040
Sweden	14,458	10,588	12,249
Spain	5,510	8,214	7,827
Switzerland	1,613	2,976	7,623
All other exporters	65,507	45,956	45,895
Total global exports	1,225,731	1,355,111	1,479,388
	Value (1,000 dollars)		
United States	206,571	233,937	186,795
China	719,870	706,537	841,541
India	93,814	133,878	138,933
Japan	104,908	107,204	97,701
Thailand	10,636	2,914	9,192
All other major reporting exporters.-- Germany	276,979	436,562	278,868
Netherlands	177,856	185,211	197,294
Belgium	2,887,868	2,713,003	2,245,453
France	114,586	117,435	117,729
Lithuania	3,273	9,996	16,372
South Korea	36,392	44,516	63,907
United Kingdom	61,560	59,447	58,497
Sweden	9,278	7,354	7,399
Spain	33,918	38,763	44,353
Switzerland	330,229	322,494	332,429
All other exporters	3,836,573	3,431,717	3,622,269
Total global exports	8,904,310	8,550,968	8,258,730

Table continued on the next page.

Table VII-20--Continued
Amino acids and esters: Global exports by exporter, 2015-17

Exporter	Calendar year		
	2015	2016	2017
	Unit value (dollars per pound)		
United States	1.49	1.74	1.08
China	1.80	1.54	1.57
India	7.72	7.51	9.77
Japan	3.78	4.24	3.76
Thailand	2.16	0.96	1.57
All other major reporting exporters.-- Germany	0.98	1.39	0.97
Netherlands	1.21	0.97	0.98
Belgium	59.40	51.42	33.96
France	2.37	2.28	2.92
Lithuania	1.52	0.80	0.76
South Korea	3.28	3.05	3.65
United Kingdom	4.29	4.08	3.89
Sweden	0.64	0.69	0.60
Spain	6.16	4.72	5.67
Switzerland	204.72	108.38	43.61
All other exporters	58.57	74.67	78.92
Total global exports	7.26	6.31	5.58
	Share of quantity (percent)		
United States	11.3	9.9	11.7
China	32.7	33.8	36.3
India	1.0	1.3	1.0
Japan	2.3	1.9	1.8
Thailand	0.4	0.2	0.4
All other major reporting exporters.-- Germany	23.1	23.1	19.5
Netherlands	12.0	14.0	13.5
Belgium	4.0	3.9	4.5
France	4.0	3.8	2.7
Lithuania	0.2	0.9	1.5
South Korea	0.9	1.1	1.2
United Kingdom	1.2	1.1	1.0
Sweden	1.2	0.8	0.8
Spain	0.4	0.6	0.5
Switzerland	0.1	0.2	0.5
All other exporters	5.3	3.4	3.1
Total global exports	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.

Source: Official exports statistics under HS subheading 2922.49 reported by various national statistical authorities in the Global Trade Atlas database, accessed February 26, 2019.

APPENDIX C

SUMMARY DATA

Table C-1
Glycine: Summary data concerning the U.S. market, 2015-17, January to September 2017, and January to September 2018
(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		Calendar year			Jan-Sep
	2015	2016	2017	2017	2018	2015-17	2015-16	2016-17	2017-18
U.S. consumption quantity:									
Amount	***	***	***	***	***	***	***	***	***
Producers' share (fn1)	***	***	***	***	***	***	***	***	***
Importers' share (fn1):									
China	***	***	***	***	***	***	***	***	***
India	***	***	***	***	***	***	***	***	***
Japan	***	***	***	***	***	***	***	***	***
Subtotal	***	***	***	***	***	***	***	***	***
Thailand	***	***	***	***	***	***	***	***	***
Subtotal	***	***	***	***	***	***	***	***	***
All other sources	***	***	***	***	***	***	***	***	***
All import sources	***	***	***	***	***	***	***	***	***
U.S. consumption value:									
Amount	***	***	***	***	***	***	***	***	***
Producers' share (fn1)	***	***	***	***	***	***	***	***	***
Importers' share (fn1):									
China	***	***	***	***	***	***	***	***	***
India	***	***	***	***	***	***	***	***	***
Japan	***	***	***	***	***	***	***	***	***
Subtotal	***	***	***	***	***	***	***	***	***
Thailand	***	***	***	***	***	***	***	***	***
Subtotal	***	***	***	***	***	***	***	***	***
All other sources	***	***	***	***	***	***	***	***	***
All import sources	***	***	***	***	***	***	***	***	***
U.S. imports from:									
China:									
Quantity	104	526	734	608	132	608.1	407.3	39.6	(78.2)
Value	177	835	1,339	1,201	183	656.9	371.8	60.4	(84.7)
Unit value	$1.71	$1.59	$1.83	$1.97	$1.38	6.9	(7.0)	14.9	(29.9)
Ending inventory quantity	***	***	***	***	***	***	***	***	***
India:									
Quantity	2,926	4,260	3,903	2,950	897	33.4	45.6	(8.4)	(69.6)
Value	6,008	8,146	7,030	5,296	1,443	17.0	35.6	(13.7)	(72.8)
Unit value	$2.05	$1.91	$1.80	$1.80	$1.61	(12.3)	(6.9)	(5.8)	(10.4)
Ending inventory quantity	***	***	***	***	***	***	***	***	***
Japan:									
Quantity	6,011	4,629	5,305	3,841	3,170	(11.7)	(23.0)	14.6	(17.5)
Value	12,450	9,807	10,206	7,355	6,267	(18.0)	(21.2)	4.1	(14.8)
Unit value	$2.07	$2.12	$1.92	$1.91	$1.98	(7.1)	2.3	(9.2)	3.2
Ending inventory quantity	***	***	***	***	***	***	***	***	***
Subtotal:									
Quantity	9,041	9,415	9,941	7,399	4,199	10.0	4.1	5.6	(43.3)
Value	18,635	18,788	18,575	13,852	7,893	(0.3)	0.8	(1.1)	(43.0)
Unit value	$2.06	$2.00	$1.87	$1.87	$1.88	(9.4)	(3.2)	(6.4)	0.4
Ending inventory quantity	***	***	***	***	***	***	***	***	***
Thailand:									
Quantity	3,895	1,356	2,720	2,222	4,740	(30.2)	(65.2)	100.5	113.3
Value	8,665	3,014	4,592	3,735	7,415	(47.0)	(65.2)	52.4	98.5
Unit value	$2.22	$2.22	$1.69	$1.68	$1.56	(24.1)	(0.1)	(24.0)	(6.9)
Ending inventory quantity	***	***	***	***	***	***	***	***	***
Subtotal:									
Quantity	12,936	10,771	12,661	9,621	8,939	(2.1)	(16.7)	17.5	(7.1)
Value	27,300	21,802	23,168	17,587	15,308	(15.1)	(20.1)	6.3	(13.0)
Unit value	$2.11	$2.02	$1.83	$1.83	$1.71	(13.3)	(4.1)	(9.6)	(6.3)
Ending inventory quantity	***	***	***	***	***	***	***	***	***
All other sources:									
Quantity	859	292	174	131	40	(79.7)	(66.0)	(40.3)	(69.1)
Value	1,386	526	480	352	123	(65.4)	(62.0)	(8.9)	(65.1)
Unit value	$1.61	$1.80	$2.75	$2.69	$3.04	70.7	11.8	52.6	13.1
Ending inventory quantity	***	***	***	***	***	***	***	***	***
All import sources:									
Quantity	13,795	11,063	12,835	9,752	8,979	(7.0)	(19.8)	16.0	(7.9)
Value	28,685	22,328	23,647	17,939	15,431	(17.6)	(22.2)	5.9	(14.0)
Unit value	$2.08	$2.02	$1.84	$1.84	$1.72	(11.4)	(2.9)	(8.7)	(6.6)
Ending inventory quantity	***	***	***	***	***	***	***	***	***

Table C-1--Continued
Glycine: Summary data concerning the U.S. market, 2015-17, January to September 2017, and January to September 2018
(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		Calendar year			Jan-Sep
	2015	2016	2017	2017	2018	2015-17	2015-16	2016-17	2017-18
U.S. producers':									
Average capacity quantity	***	***	***	***	***	***	***	***	***
Production quantity	***	***	***	***	***	***	***	***	***
Capacity utilization (fn1)	***	***	***	***	***	***	***	***	***
U.S. shipments:									
Quantity	***	***	***	***	***	***	***	***	***
Value	***	***	***	***	***	***	***	***	***
Unit value	***	***	***	***	***	***	***	***	***
Export shipments:									
Quantity	***	***	***	***	***	***	***	***	***
Value	***	***	***	***	***	***	***	***	***
Unit value	***	***	***	***	***	***	***	***	***
Ending inventory quantity	***	***	***	***	***	***	***	***	***
Inventories/total shipments (fn1)	***	***	***	***	***	***	***	***	***
Production workers	***	***	***	***	***	***	***	***	***
Hours worked (1,000s)	***	***	***	***	***	***	***	***	***
Wages paid ($1,000)	***	***	***	***	***	***	***	***	***
Hourly wages (dollars per hour)	***	***	***	***	***	***	***	***	***
Productivity (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)	***	***	***	***	***	***	***	***	***
Net income or (loss)	***	***	***	***	***	***	***	***	***
Capital expenditures	***	***	***	***	***	***	***	***	***
Unit COGS	***	***	***	***	***	***	***	***	***
Unit SG&A expenses	***	***	***	***	***	***	***	***	***
Unit operating income or (loss)	***	***	***	***	***	***	***	***	***
Unit net income or (loss)	***	***	***	***	***	***	***	***	***
COGS/sales (fn1)	***	***	***	***	***	***	***	***	***
Operating income or (loss)/sales (fn1)	***	***	***	***	***	***	***	***	***
Net income or (loss)/sales (fn1)	***	***	***	***	***	***	***	***	***

Notes:

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

Source: Compiled from data submitted in response to Commission questionnaires and official U.S. import statistics for HTS statistical reporting numbers 2922.49.4020 and 2922.49.4300, accessed March 19, 2019