

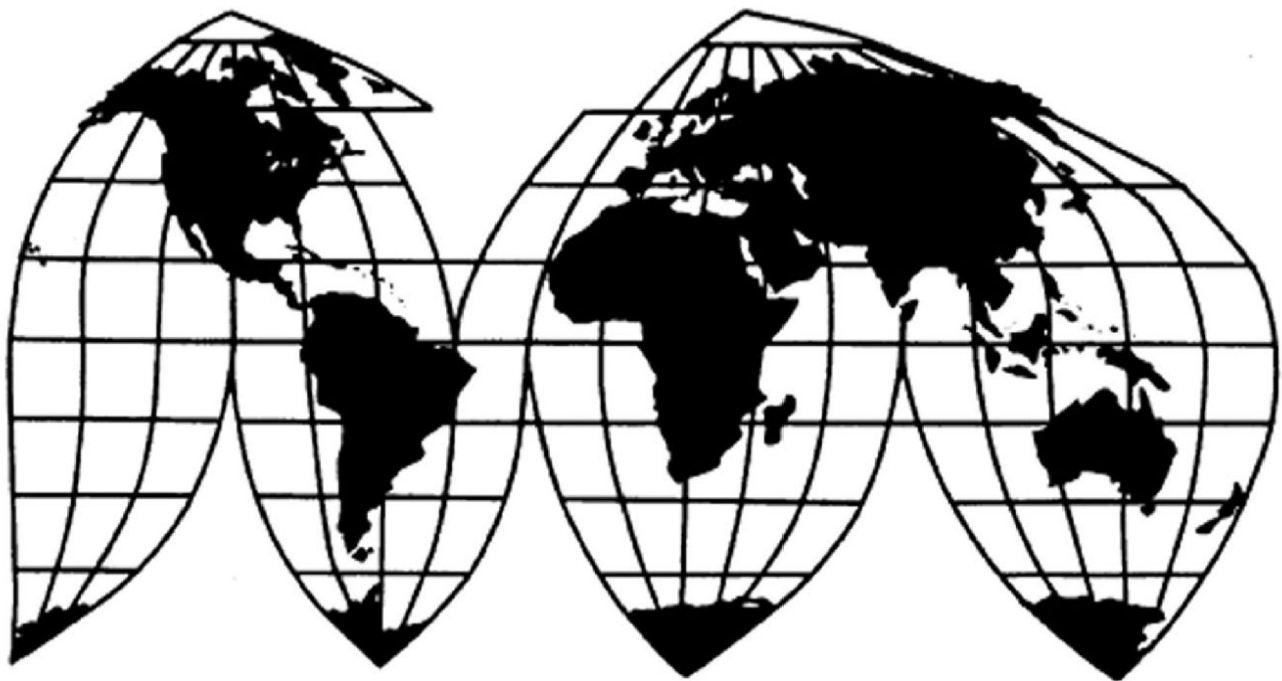
Erythritol from China

Investigation Nos. 701-TA-751 and 731-TA-1729 (Preliminary)

Publication 5583

February 2025

U.S. International Trade Commission



Washington, DC 20436

U.S. International Trade Commission

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Note.—Information that would reveal confidential operations of individual firms may not be published. Such information is identified by brackets ([]) in confidential reports and is deleted and replaced with asterisks (***) in public reports. Zeroes, null values, and undefined calculations are suppressed and shown as em dashes (—) in tables. If using a screen reader, we recommend increasing the verbosity setting.

UNITED STATES INTERNATIONAL TRADE COMMISSION

Investigation Nos. 701-TA-751 and 731-TA-1729 (Preliminary)

Erythritol from China

DETERMINATIONS

On the basis of the record¹ developed in the subject investigations, the United States International Trade Commission (“Commission”) determines, pursuant to the Tariff Act of 1930 (“the Act”), that there is a reasonable indication that an industry in the United States is materially injured by reason of imports of erythritol from China, provided for in subheading 2905.49.40 of the Harmonized Tariff Schedule of the United States, that are alleged to be sold in the United States at less than fair value (“LTFV”) and alleged to be subsidized by the government of China.^{2 3}

COMMENCEMENT OF FINAL PHASE INVESTIGATIONS

Pursuant to section 207.18 of the Commission’s rules, the Commission also gives notice of the commencement of the final phase of its investigations. The Commission will issue a final phase notice of scheduling, which will be published in the *Federal Register* as provided in § 207.21 of the Commission’s rules, upon notice from the U.S. Department of Commerce (“Commerce”) of affirmative preliminary determinations in the investigations under §§ 703(b) or 733(b) of the Act, or, if the preliminary determinations are negative, upon notice of affirmative final determinations in those investigations under §§ 705(a) or 735(a) of the Act. Parties that filed entries of appearance in the preliminary phase of the investigations need not enter a separate appearance for the final phase of the investigations. Any other party may file an entry of appearance for the final phase of the investigations after publication of the final phase notice of scheduling. Industrial users, and, if the merchandise under investigation is sold at the retail level, representative consumer organizations have the right to appear as parties in

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

² 90 FR 1957 and 90 FR 1962 (January 10, 2025).

³ Commissioner Rhonda Schmidlein not participating.

Commission antidumping and countervailing duty investigations. The Secretary will prepare a public service list containing the names and addresses of all persons, or their representatives, who are parties to the investigations. As provided in section 207.20 of the Commission's rules, the Director of the Office of Investigations will circulate draft questionnaires for the final phase of the investigations to parties to the investigations, placing copies on the Commission's Electronic Document Information System (EDIS, <https://edis.usitc.gov>), for comment.

BACKGROUND

On December 13, 2024, Cargill, Incorporated, Wayzata, Minnesota filed petitions with the Commission and Commerce, alleging that an industry in the United States is materially injured or threatened with material injury by reason of subsidized and LTFV imports of erythritol from China. Accordingly, effective December 13, 2024, the Commission instituted countervailing duty investigation No. 701-TA-751 and antidumping duty investigation No. 731-TA-1729 (Preliminary).

Notice of the institution of the Commission's investigations and of a public conference to be held in connection therewith was given by posting copies of the notice in the Office of the Secretary, U.S. International Trade Commission, Washington, DC, and by publishing the notice in the *Federal Register* of December 19, 2024 (89 FR 103876). The Commission conducted its conference on January 3, 2025. All persons who requested the opportunity were permitted to participate.

Views of the Commission

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

I. The Legal Standard for Preliminary Determinations

The legal standard for preliminary antidumping and countervailing duty determinations requires the Commission to determine, based upon the information available at the time of the preliminary determinations, whether there is a reasonable indication that a domestic industry is materially injured or threatened with material injury, or that the establishment of an industry is materially retarded, by reason of the allegedly unfairly traded imports.¹ In applying this standard, the Commission weighs the evidence before it and determines whether “(1) the record as a whole contains clear and convincing evidence that there is no material injury or threat of such injury; and (2) no likelihood exists that contrary evidence will arise in a final investigation.”²

II. Background

Cargill, Incorporated (“Cargill” or “Petitioner”), a domestic producer of erythritol, filed the petitions in these investigations on December 13, 2024.³ Petitioner appeared at the staff conference accompanied by counsel and submitted a postconference brief. No respondents participated in the preliminary phase of these investigations.

U.S. industry data are based on the questionnaire response of Petitioner, which accounted for all U.S. production of erythritol in 2023.⁴ U.S. import data are based on the questionnaire responses of 28 importers, which accounted for the vast majority of U.S. imports

¹ 19 U.S.C. §§ 1671b(a), 1673b(a) (2000); *see also American Lamb Co. v. United States*, 785 F.2d 994, 1001-04 (Fed. Cir. 1986); *Aristech Chem. Corp. v. United States*, 20 CIT 353, 354-55 (1996). No party argues that the establishment of an industry in the United States is materially retarded by the allegedly unfairly traded imports.

² *American Lamb Co.*, 785 F.2d at 1001; *see also Texas Crushed Stone Co. v. United States*, 35 F.3d 1535, 1543 (Fed. Cir. 1994).

³ *See Confidential Staff Report, INV-XX-005 (Jan. 17, 2025) (“CR”)* at 1.1, 1.1 n.1; *Erythritol from China*, Inv. Nos. 701-TA-751 and 731-TA-1729 (Preliminary), USITC Pub. 5583 (Feb. 2025) (“PR”) at 1.1.

⁴ *See CR/PR* at 3.1.

from China in 2023 based on official import statistics.⁵ The Commission received responses to its questionnaire from three resellers/exporters of merchandise from China in 2023, but did not receive responses from any subject producer in China.⁶

III. Domestic Like Product

In determining whether there is a reasonable indication that an industry in the United States is materially injured or threatened with material injury by reason of imports of the subject merchandise, the Commission first defines the “domestic like product” and the “industry.”⁷ Section 771(4)(A) of the Tariff Act of 1930, as amended (“the Tariff Act”), defines the relevant domestic industry as the “producers as a whole of a domestic like product, or those producers whose collective output of a domestic like product constitutes a major proportion of the total domestic production of the product.”⁸ In turn, the Tariff Act defines “domestic like product” as “a product which is like, or in the absence of like, most similar in characteristics and uses with, the article subject to an investigation.”⁹

By statute, the Commission’s “domestic like product” analysis begins with the “article subject to an investigation,” *i.e.*, the subject merchandise as determined by the U.S. Department of Commerce (“Commerce”).¹⁰ Therefore, Commerce’s determination as to the scope of the imported merchandise that is subsidized and/or sold at LTFV is “necessarily the starting point of the Commission’s like product analysis.”¹¹ The Commission then defines the

⁵ CR/PR at 4.1. Questionnaire coverage was determined based on U.S. importers’ reported imports under HTS subheading 2905.49.40 and official import statistics using HTS subheading 2905.49.40. *Id.* at 4.1. Responding firms also reported importing a small quantity of erythritol under other HTS statistical reporting numbers and a small quantity of out-of-scope products under HTS subheading 2905.49.40. *Id.* at 4.1 n.5. Petitioner asserts that the vast majority of imports of erythritol should be classified under HTS subheading 2905.49.40. *Id.* at 4.1 n.4.

⁶ CR/PR at 7.3.

⁷ 19 U.S.C. § 1677(4)(A).

⁸ 19 U.S.C. § 1677(4)(A).

⁹ 19 U.S.C. § 1677(10).

¹⁰ 19 U.S.C. § 1677(10). The Commission must accept Commerce’s determination as to the scope of the imported merchandise that is subsidized and/or sold at less than fair value. *See, e.g., USEC, Inc. v. United States*, 34 Fed. App’x 725, 730 (Fed. Cir. 2002) (“The ITC may not modify the class or kind of imported merchandise examined by Commerce.”); *Algoma Steel Corp. v. United States*, 688 F. Supp. 639, 644 (Ct. Int’l Trade 1988), *aff’d*, 865 F.3d 240 (Fed. Cir.), *cert. denied*, 492 U.S. 919 (1989).

¹¹ *Cleo Inc. v. United States*, 501 F.3d 1291, 1298 (Fed. Cir. 2007); *see also Hitachi Metals, Ltd. v. United States*, Case No. 19-1289, slip op. at 8-9 (Fed. Cir. Feb. 7, 2020) (the statute requires the Commission to start with Commerce’s subject merchandise in reaching its own like product determination).

domestic like product in light of the imported articles Commerce has identified.¹² The decision regarding the appropriate domestic like product(s) in an investigation is a factual determination, and the Commission has applied the statutory standard of “like” or “most similar in characteristics and uses” on a case-by-case basis.¹³ No single factor is dispositive, and the Commission may consider other factors it deems relevant based on the facts of a particular investigation.¹⁴ The Commission looks for clear dividing lines among possible like products and disregards minor variations.¹⁵ It may, where appropriate, include domestic articles in the domestic like product in addition to those described in the scope.¹⁶

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

{E}rythritol, which is a sugar alcohol, commonly referred to as a polyol, typically produced by the fermentation of glucose using enzymes and yeast or yeast-like fungi (though the scope includes erythritol produced using any other feedstock or organism). Erythritol is an organic compound with the molecular formula C₄H₁₀O₄ and a Chemical Abstract Service (“CAS”) registry number of 149-32-6. Other names for erythritol include meso-erythritol, (2R, 3S)-butane-1,2,3,4-tetrol, butane- 1,2,3,4-tetrol, or meso-1,2,3,4-Tetrahydroxybutane.

¹² *Cleo*, 501 F.3d at 1298 n.1 (“Commerce’s {scope} finding does not control the Commission’s {like product} determination.”); *Hosiden Corp. v. Advanced Display Mfrs.*, 85 F.3d 1561, 1568 (Fed. Cir. 1996) (the Commission may find a single like product corresponding to several different classes or kinds defined by Commerce); *Torrington*, 747 F. Supp. at 748–52 (affirming the Commission’s determination defining six like products in investigations where Commerce found five classes or kinds).

¹³ See, e.g., *Cleo*, 501 F.3d at 1299; *NEC Corp. v. Dep’t of Commerce*, 36 F. Supp. 2d 380, 383 (Ct. Int’l Trade 1998); *Nippon Steel Corp. v. United States*, 19 CIT 450, 455 (1995); *Torrington Co. v. United States*, 747 F. Supp. 744, 749 n.3 (Ct. Int’l Trade 1990), *aff’d*, 938 F.2d 1278 (Fed. Cir. 1991) (“every like product determination ‘must be made on the particular record at issue’ and the ‘unique facts of each case’”). The Commission generally considers a number of factors including the following: (1) physical characteristics and uses; (2) interchangeability; (3) channels of distribution; (4) customer and producer perceptions of the products; (5) common manufacturing facilities, production processes, and production employees; and, where appropriate, (6) price. See *Nippon*, 19 CIT at 455 n.4; *Timken Co. v. United States*, 913 F. Supp. 580, 584 (Ct. Int’l Trade 1996).

¹⁴ See, e.g., S. Rep. No. 96-249 at 90–91 (1979).

¹⁵ See, e.g., *Nippon*, 19 CIT at 455; *Torrington*, 747 F. Supp. at 748–49; see also S. Rep. No. 96-249 at 90–91 (Congress has indicated that the like product standard should not be interpreted in “such a narrow fashion as to permit minor differences in physical characteristics or uses to lead to the conclusion that the product and article are not ‘like’ each other, nor should the definition of ‘like product’ be interpreted in such a fashion as to prevent consideration of an industry adversely affected by the imports under consideration.”).

¹⁶ See, e.g., *Pure Magnesium from China and Israel*, Inv. Nos. 701-TA-403 and 731-TA-895-96 (Final), USITC Pub. 3467 at 8 n.34 (Nov. 2001); *Torrington*, 747 F. Supp. at 748-49 (holding that the Commission is not legally required to limit the domestic like product to the product advocated by the petitioner, coextensive with the scope).

Erythritol typically appears as a white crystalline, odorless product that rapidly dissolves in water. While erythritol is typically produced in the crystalline form or as a fine powder or in directly compressible form, the scope of these investigations covers all physical forms and grades of erythritol.¹⁷

Erythritol is a white, odorless, water-soluble solid classified as a polyol (*i.e.*, sugar alcohol).¹⁸ Erythritol is the only polyol that is manufactured industrially via the fermentation of glucose.¹⁹ Erythritol is 70 to 80 percent as sweet as sucrose (*i.e.*, table sugar), and as a result, is commonly used as an alternative to table sugar as an ingredient in food.²⁰ Erythritol is used in various applications including as a pharmaceutical excipient, flavor modifier, formulation aid, texturizer, sequestrant, humectant, thickener, and stabilizer.²¹ Specifically, erythritol can be found in chocolate products, snacks, chewing gums, ice cream, brownies, cookies, and personal care products.²²

Erythritol has several unique characteristics as a polyol and sucrose alternative including having a zero glycemic index.²³ A zero glycemic index makes it beneficial to diabetics as it does not affect insulin or glucose levels.²⁴ Erythritol is also promoted as a possible prevention method for dental caries (*i.e.*, tooth decay).²⁵ Additional unique characteristics include erythritol's lower freezing point, which prevents crystal formation in ice cream, and its ability to act as a bulking agent to provide texture and mouthfeel for certain foods.²⁶ Erythritol can also be blended with other sweeteners to achieve different flavor profiles and sweetness levels.²⁷

Erythritol is manufactured in two stages, the culture stage and downstream stage.²⁸ In the culture stage, carbon ("dextrose"), nitrogen (*e.g.*, nitrogen-containing salts), minerals, and

¹⁷ *Erythritol From the People's Republic of China: Initiation of Less-Than-Fair-Value Investigation*, 90 Fed. Reg. 1957, 1961 (Dep't Commerce January 10, 2025); *Erythritol From the People's Republic of China: Initiation of Countervailing Duty Investigation*, 90 Fed. Reg. 1962, 1965 (Dep't of Commerce January 10, 2025).

¹⁸ CR/PR at 1.6.

¹⁹ CR/PR at 1.6.

²⁰ CR/PR at 1.7.

²¹ CR/PR at 1.7. A sequestrant is used in food to improve the stability and quality. A humectant is used in food to help retain moisture. Petition, vol. 1, p. 5.

²² CR/PR at 1.7.

²³ CR/PR at 1.8.

²⁴ CR/PR at 1.8.

²⁵ CR/PR at 1.11.

²⁶ CR/PR at 1.11.

²⁷ CR/PR at 1.10.

²⁸ CR/PR at 1.11.

other nutrients are fermented using a specific microorganism to create the “broth.”²⁹ In the downstream stage, the broth goes through four steps: cell removal, recovery, purification, and concentration.³⁰ In the cell removal step, the broth is filtered to remove any solid materials.³¹ In the recovery step, the filtrate is softened by removing hard minerals such as calcium and magnesium and then water is removed by evaporation.³² In the purification step, the resulting liquid product goes through chromatography to help separate erythritol from the unwanted byproducts (*i.e.*, unwanted polyols, glycerol), before color, minerals, and water are removed using activated carbon, demineralization, and evaporation.³³ In the concentration step, the liquid erythritol undergoes a “proprietary cooling process” and subsequent crystallization, which results in crystals of a certain shape and size, before centrifugation is performed to separate the crystals from the remaining liquid.³⁴ Approximately 30 percent of crystals do not meet the size criteria and are sent back to undergo the crystallization process a second time.³⁵ Any erythritol that does not meet the size criteria the second time and any unwanted byproducts throughout the process are used in animal feed.³⁶ Erythritol is then packaged in either 20 kilogram bags and supersacks (500 to 1000 kilograms), or is milled into a fine powder and packaged into 25 pound boxes.³⁷

A. Petitioner’s Arguments

Petitioner argues that the Commission should define a single domestic like product, coextensive with the scope.³⁸ Petitioner contends that all forms of erythritol share the same physical characteristics and uses; are manufactured using similar production processes, facilities, and employees; are perceived as a single product category by producers and consumers; are sold through the same channels of distribution; and are priced along a continuum.³⁹ Petitioner argues that other types of polyols and rare sugars from outside the scope differ from erythritol in terms of physical characteristics and end uses; customer

²⁹ CR/PR at 1.11-1.12.

³⁰ CR/PR at 1.11-1.12, Figure 1.3.

³¹ CR/PR at 1.12.

³² CR/PR at 1.12.

³³ CR/PR at 1.12.

³⁴ CR/PR at 1.13.

³⁵ CR/PR at 1.14.

³⁶ CR/PR at 1.12-1.13.

³⁷ CR/PR at 1.14.

³⁸ Pet. Postconf. Br. at 2.

³⁹ Pet. Postconf. Br at 3-5.

perceptions; production facilities, processes and employees; and price.⁴⁰

B. Analysis and Conclusion

Based on the record, we define a single domestic like product consisting of erythritol, coextensive with the scope of these investigations.

Physical Characteristics and Uses. The record indicates that all forms of erythritol share the same physical characteristics and uses.⁴¹ Erythritol is a white, odorless, water-soluble polyol (*i.e.*, sugar alcohol) with a chemical formulation of $C_4H_{10}O_4$.⁴² Erythritol is primarily used as a clean-tasting non-artificial alternative to sucrose and ingredient in consumer packaged goods.⁴³ Erythritol can be used in a variety of applications such as a flavor modifier, formulation aid, humectant, and stabilizer, and is generally used in beverages, sweet biscuits, cookies, dairy, and dessert products.⁴⁴ According to Petitioner, erythritol is used for its sweetness level, freezing point depression, texture, zero-calorie content, high digestibility, and other unique attributes.⁴⁵ The record shows that erythritol has a lower glycemic index than sucrose and other polyols, such as maltitol and xylitol, while having a higher sweetness level than other polyols.⁴⁶ Petitioner and the majority of responding U.S. importers reported that the physical characteristics of erythritol and out-of-scope polyol sweeteners are somewhat comparable.⁴⁷

Manufacturing Facilities, Production Processes and Employees. The record indicates that all erythritol is produced in the same facilities using similar manufacturing methods, on the

⁴⁰ Pet. Postconf. Br. at 5-7. In addition to arguing that the Commission should define a single domestic like product coextensive with the scope, Petitioner contends that downstream products such as Truvia, which are not included in the scope, should be defined as a separate domestic like product. *Id.* at 7-8. The Commission generally does not expand or broaden the definition of the domestic like product to include downstream articles when the scope does not encompass a corresponding subject product. *Thermal Paper from Germany, Japan, Korea, and Spain*, Inv. Nos. 731-TA-1546-1549 (Final), USITC Pub. 5237 at 15 n. 68 (Nov. 2021); *Small Vertical Shaft Engines from China*, Inv. Nos. 701-TA-643 and 731-TA-1493 (Preliminary), USITC Pub. 5185 at 8, n.79 (Apr. 2021); *Sodium Hexametaphosphate from China*, Inv. No. 731-TA-1110 (Preliminary), USITC Pub. 3912 at 7 n.36 (Apr. 2007); *Certain Frozen or Canned Warmwater Shrimp from Brazil, China, Ecuador, India, Thailand, and Vietnam*, Inv. Nos. 731-TA-1063-1068 (Preliminary), USITC Pub. 3672 at 14-15 (Feb. 2004).

⁴¹ CR/PR at 1.6.

⁴² CR/PR at 1.6

⁴³ CR/PR at 1.11, 2.1.

⁴⁴ CR/PR at 1.3. Petitioner claims that, regardless of the grades and forms, erythritol is generally used in the same applications. Pet. Postconf. Br. at 4.

⁴⁵ Pet. Postconf. Br. at 5.

⁴⁶ CR/PR at Figure 1.2 and Table 1.2; Pet. Postconf. Br. at 5.

⁴⁷ CR/PR at Table 1.3.

same equipment, and by the same employees.⁴⁸ All erythritol is produced by first fermenting glucose to create a broth that then goes through cell removal, recovery, purification, and concentration steps to produce the erythritol crystals.⁴⁹ No other polyols or rare sugars are produced using this production process.⁵⁰ Most other polyols are produced by hydrogenating various sugars.⁵¹ As a result, other sugar alcohols use different production methods, equipment, and employees than erythritol.⁵² Petitioner and the majority of responding U.S. importers reported that erythritol and out-of-scope polyol sweeteners are somewhat comparable with respect to manufacturing facilities, production processes, and employees.⁵³

Channels of Distribution. Domestically produced erythritol is sold primarily to food processors, with a small portion sold to distributors.⁵⁴ Petitioner and the majority of responding U.S. importers reported that the channels of distribution for erythritol and out-of-scope polyols are fully or mostly comparable.⁵⁵

Interchangeability. All erythritol has the same chemical composition but may be produced in different forms (*e.g.*, granular and powder) and grades (*e.g.*, non-GMO and organic).⁵⁶ Petitioner contends that all forms of erythritol are generally interchangeable,⁵⁷ while acknowledging that a limited part of the market prefers Non-GMO Project Verified erythritol to produce Non-GMO Project Verified products.⁵⁸

Petitioner and the majority of responding U.S. importers reported that erythritol and out-of-scope polyol sweeteners are somewhat interchangeable.⁵⁹ Nevertheless, the majority of importers reported that there were no acceptable substitutes for erythritol.⁶⁰ Of those importers that indicated there were substitutes, they identified two polyols, maltitol and xylitol, and three other sweeteners, allulose, monk fruit, and sucrose, as well as dextrose (a primary input for erythritol) and stevia (a blend of erythritol or other ingredients).⁶¹ The record indicates these other sweeteners have different glycemic indexes and also different sweetness

⁴⁸ CR/PR at 1.10; Pet. Postconf. Br. at 3-4.

⁴⁹ CR/PR at 1.12 and Figure 1.3.

⁵⁰ CR/PR at 1.6-1.7; Pet. Postconf. Br. at 6.

⁵¹ CR/PR at 1.6.

⁵² Pet. Postconf. Br. at 8.

⁵³ CR/PR at Table 1.3.

⁵⁴ CR/PR at Table 2.1; Pet. Postconf. Br. at 4-5.

⁵⁵ CR/PR at Table 1.3.

⁵⁶ CR/PR at 1.6.

⁵⁷ Pet. Postconf. Br. at 4.

⁵⁸ CR/PR at 1.14 n.78; Pet. Postconf. Br. at 3-4; Conf. Tr. at 50-51 (Shultz).

⁵⁹ CR/PR at Table 1.3.

⁶⁰ CR/PR at 2.9.

⁶¹ CR/PR at 2.9.

levels.⁶² Petitioner claims that switching from erythritol to a different polyol or rare sugar (*e.g.*, allulose) would require customers to undertake an expensive year-long product reformulation.⁶³

Producer and Customer Perceptions. Petitioner asserts that while there is a small subset of customers that seek non-GMO erythritol to produce Non-GMO Project Verified products, producers and customers generally perceive all erythritol, regardless of grade or form, to be the same product with the same end use applications.⁶⁴

Petitioner and the majority of responding U.S. importers reported that producers and customers perceive erythritol and out-of-scope polyol sweeteners to be somewhat or never comparable.⁶⁵ Specifically, Petitioner contends that producers and customers perceive erythritol to have different characteristics and flavors than other polyols and rare sugars, which would require a product reformulation to replace erythritol.⁶⁶

Price. Petitioner contends that the price of erythritol falls on a continuum, with small differences in price based on the form and grade, due to slightly different inputs or final processing.⁶⁷ Petitioner and the majority of responding U.S. importers reported that the prices of erythritol and out-of-scope polyol sweeteners are somewhat comparable.⁶⁸ Petitioner contends that other polyols like xylitol are more expensive than erythritol, while sorbitol is less expensive than erythritol.⁶⁹

Conclusion. The record in the preliminary phase of these investigations indicates that all erythritol is a white, odorless, water-soluble polyol (sugar alcohol) with a chemical formulation $C_4H_{10}O_4$ and is generally used as a non-artificial bulk sweetener ingredient in consumer packaged goods. In addition, all domestically produced erythritol is produced using the same manufacturing facilities, processes, and employees; sold primarily to food processors; perceived by producers and customers as within a single product category; and priced on a continuum. Although non-GMO erythritol may be used exclusively in Non-GMO Verified products, this makes up a limited part of the market, and erythritol is otherwise generally interchangeable. The record also indicates that a clear dividing line exists between erythritol and other polyols and sweeteners that are outside the scope in terms of physical characteristics, end uses,

⁶² CR/PR at Figures 1.2 and 1.3.

⁶³ Pet. Postconf. Br. at 5-6.

⁶⁴ Petition Vol. I at 13; Pet. Postconf. Br. at 3-4.

⁶⁵ CR at Table 1.3.

⁶⁶ Pet. Postconf. Br. at 6.

⁶⁷ Pet. Postconf. Br. at 5.

⁶⁸ CR at Table 1.3.

⁶⁹ Pet. Postconf. Br. at 6-7.

manufacturing processes, facilities, and employees, and prices, which generally precludes erythritol and other types of sweeteners from being used interchangeably. Given this, and in the absence of any contrary argument, we define a single domestic like product consisting of all erythritol, coextensive with the scope.

IV. Domestic Industry

The domestic industry is defined as the domestic “producers as a whole of a domestic like product, or those producers whose collective output of a domestic like product constitutes a major proportion of the total domestic production of the product.”⁷⁰ In defining the domestic industry, the Commission’s general practice has been to include in the industry producers of all domestic production of the like product, whether toll-produced, captively consumed, or sold in the domestic merchant market.

We consider whether any producer of the domestic like product should be excluded from the domestic industry pursuant to Section 771(4)(B) of the Tariff Act. This provision allows the Commission, if appropriate circumstances exist, to exclude from the domestic industry producers that are related to an exporter or importer of subject merchandise or which are themselves importers.⁷¹ Exclusion of such a producer is within the Commission’s discretion based upon the facts presented in each investigation.⁷²

The record indicates that U.S. producer Cargill qualifies for possible exclusion under the related parties provision because it *** during the period of investigation (“POI”).⁷³ Petitioner

⁷⁰ 19 U.S.C. § 1677(4)(A).

⁷¹ See *Torrington Co. v. United States*, 790 F. Supp. 1161, 1168 (Ct. Int’l Trade 1992), *aff’d mem.*, 991 F.2d 809 (Fed. Cir. 1993); *Sandvik AB v. United States*, 721 F. Supp. 1322, 1331-32 (Ct. Int’l Trade 1989), *aff’d mem.*, 904 F.2d 46 (Fed. Cir. 1990); *Empire Plow Co. v. United States*, 675 F. Supp. 1348, 1352 (Ct. Int’l Trade 1987).

⁷² 19 U.S.C. § 1677(4)(B). The primary factors the Commission has examined in deciding whether appropriate circumstances exist to exclude a related party include the following:

- (1) the percentage of domestic production attributable to the importing producer;
- (2) the reason the U.S. producer has decided to import the product subject to investigation (whether the firm benefits from the LTFV sales or subsidies or whether the firm must import in order to enable it to continue production and compete in the U.S. market);
- (3) whether inclusion or exclusion of the related party will skew the data for the rest of the industry;
- (4) the ratio of import shipments to U.S. production for the imported product; and
- (5) whether the primary interest of the importing producer lies in domestic production or importation. *Changzhou Trina Solar Energy Co. v. USITC*, 100 F. Supp.3d 1314, 1326-31 (Ct. Int’l. Trade 2015), *aff’d*, 839 F.3d 1377 (Fed. Cir. 2018); see also *Torrington Co.*, 790 F. Supp. at 1168.

⁷³ CR/PR at 3.1, Tables 3.12-3.13.

argues that appropriate circumstances do not exist for the Commission to exclude it from the domestic industry, because excluding the only domestic producer would skew domestic industry data.⁷⁴ Additionally, Petitioner indicates that it ***.⁷⁵ We discuss below whether appropriate circumstances exist to exclude Cargill from the domestic industry.

Cargill is the petitioner and the only known domestic producer of erythritol, having accounted for 100 percent of domestic industry production in 2023.⁷⁶ Cargill ***.⁷⁷ Cargill indicated that ***.⁷⁸

Given that Cargill is the petitioner and sole domestic producer of erythritol, and its *** and ***, we find that appropriate circumstances do not exist to exclude Cargill from the domestic industry pursuant to the related parties provision.

Accordingly, consistent with our definition of the domestic like product, we define the domestic industry as the only U.S. producer of erythritol, Cargill.

V. Negligible Imports

Pursuant to Section 771(24) of the Tariff Act, imports from a subject country of merchandise corresponding to a domestic like product that account for less than 3 percent of all such merchandise imported into the United States during the most recent 12 months for which data are available preceding the filing of the petitions shall be deemed negligible.⁷⁹

During the 12-month period preceding the filing of the petitions (December 2023 through November 2024), imports of erythritol from China accounted for *** percent of total imports.⁸⁰ As subject imports are clearly above negligible levels, we find that imports of erythritol from China subject to the antidumping and countervailing duty investigations are not negligible.

⁷⁴ Pet. Postconf. Br. at 9-10.

⁷⁵ Pet. Postconf. Br. at 9-10.

⁷⁶ CR/PR at Table 3.1.

⁷⁷ CR/PR at Table 3.11.

⁷⁸ CR/PR at Table 3.12.

⁷⁹ 19 U.S.C. § 1677(24)(A)(i). In the case of countervailing duty investigations involving developing countries (as designated by the United States Trade Representative (“USTR”)), the statute indicates that the negligibility limits are 4 percent and 9 percent, rather than 3 percent and 7 percent. 19 U.S.C. § 1677(24)(B). USTR has not designated China, the source of imports subject to the countervailing duty investigation, as developing country. *See Designations of Developing Countries and Least Developed Countries Under the Countervailing Duty Law*, 85 Fed. Reg. 7613 (USTR Feb. 10, 2020).

⁸⁰ CR/PR at 4.6 and Table 4.4. Although imports from China are subject to both antidumping and countervailing duty investigations, the volume of subject imports from China is the same with respect to both investigations. *Id.*

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

A. Legal Standard

In the preliminary phase of antidumping and countervailing duty investigations, the Commission determines whether there is a reasonable indication that an industry in the United States is materially injured or threatened with material injury by reason of the imports under investigation.⁸¹ 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.⁸² The statute defines “material injury” as “harm which is not inconsequential, immaterial, or unimportant.”⁸³ In assessing whether there is a reasonable indication that the domestic industry is materially injured by reason of subject imports, we consider all relevant economic factors that bear on the state of the industry in the United States.⁸⁴ 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.”⁸⁵

Although the statute requires the Commission to determine whether there is a reasonable indication that the domestic industry is “materially injured or threatened with material injury by reason of” unfairly traded imports,⁸⁶ 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.⁸⁷ 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

⁸¹ 19 U.S.C. §§ 1671b(a), 1673b(a).

⁸² 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).

⁸³ 19 U.S.C. § 1677(7)(A).

⁸⁴ 19 U.S.C. § 1677(7)(C)(iii).

⁸⁵ 19 U.S.C. § 1677(7)(C)(iii).

⁸⁶ 19 U.S.C. §§ 1671b(a), 1673b(a).

⁸⁷ *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’d*, 944 F. Supp. 943, 951 (Ct. Int’l Trade 1996).

subject imports and material injury.⁸⁸

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.⁸⁹ In performing its examination, however, the Commission need not isolate the injury caused by other factors from injury caused by unfairly traded imports.⁹⁰ Nor does

⁸⁸ 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).

⁸⁹ Uruguay Round Agreements Act Statement of Administrative Action (“SAA”), H.R. Rep. 103-316, vol. I. 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.

⁹⁰ SAA at 851-52 (“[T]he Commission need not isolate the injury caused by other factors from injury caused by unfair imports.”); *Taiwan Semiconductor Industry Ass’n*, 266 F.3d at 1345 (“[T]he Commission need not isolate the injury caused by other factors from injury caused by unfair imports ... Rather, the Commission must examine other factors to ensure that it is not attributing injury from other sources to the subject imports.” (emphasis in original)); *Asociacion de Productores de Salmon y Trucha de Chile AG v. United States*, 180 F. Supp. 2d 1360, 1375 (Ct. Int’l Trade 2002) (“[t]he Commission is not required to isolate the effects of subject imports from other factors contributing to injury” or make “bright-line distinctions” between the effects of subject imports and other causes.); see also *Softwood Lumber from Canada*, Inv. Nos. 701-TA-414 and 731-TA-928 (Remand), USITC Pub. 3658 at 100-01 (Dec. 2003) (Commission recognized that “[i]f an alleged other factor is found not to have or threaten to have injurious effects to the domestic industry, i.e., it is not an ‘other causal factor,’ then there is nothing to further examine regarding attribution to injury”), citing *Gerald Metals*, 132 F.3d at 722 (the statute

the “by reason of” standard require that unfairly traded imports be the “principal” cause of injury or contemplate that injury from unfairly traded imports be weighed against other factors, such as nonsubject imports, which may be contributing to overall injury to an industry.⁹¹ It is clear that the existence of injury caused by other factors does not compel a negative determination.⁹²

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.”⁹³ 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.”⁹⁴ The Federal Circuit has examined and affirmed various Commission methodologies and has disavowed “rigid adherence to a specific formula.”⁹⁵

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.⁹⁶ Congress has delegated this factual finding to the Commission because of

“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.”).

⁹¹ S. Rep. 96-249 at 74-75; H.R. Rep. 96-317 at 47.

⁹² 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.”).

⁹³ *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*.

⁹⁴ *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.

⁹⁵ *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.”).

⁹⁶ We provide in our discussion below a full analysis of other factors alleged to have caused any material injury experienced by the domestic industry.

the agency's institutional expertise in resolving injury issues.⁹⁷

B. Conditions of Competition and the Business Cycle

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

1. Captive Production Provision

The domestic industry captively consumes a portion of its production of erythritol in the manufacture of a downstream article, the table sweetener Truvia.⁹⁸ We therefore consider the applicability of the statutory captive production provision.⁹⁹

Petitioner states that it internally consumes erythritol for the production of Truvia.¹⁰⁰ Petitioner contends that the captive production provision applies to the erythritol industry because it meets the threshold requirement and both prongs of the captive production provision are satisfied.¹⁰¹ As a result, Petitioner asserts that the Commissions should focus its analysis primarily on the merchant market.¹⁰²

Threshold Criterion. The captive production provision can be applied only if, as a

⁹⁷ *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.”).

⁹⁸ CR/PR at 2.7 n.11.

⁹⁹ The captive production provision, 19 U.S.C. § 1677(7)(C)(iv), as amended by the Trade Preferences Extension Act of 2015 (“TPEA”), provides:

(iv) CAPTIVE PRODUCTION – If domestic producers internally transfer significant production of the domestic like product for the production of a downstream article and sell significant production of the domestic like product in the merchant market, and the Commission finds that-

(I) the domestic like product produced that is internally transferred for processing into that downstream article does not enter the merchant market for the domestic like product, and

(II) the domestic like product is the predominant material input in the production of that downstream article;

then the Commission, in determining market share and the factors affecting financial performance set forth in clause (iii), shall focus primarily on the merchant market for the domestic like product.

The SAA indicates that where a domestic like product is transferred internally for the production of another article coming within the definition of the domestic like product, such transfers do not constitute internal transfers for the production of a “downstream article” for purposes of the captive production provision. SAA at 853.

¹⁰⁰ Pet. Postconf. Br. at 15.

¹⁰¹ Pet. Postconf. Br. at 15, Exh. 1 at 7-8.

¹⁰² Pet. Postconf. Br. at 15, Exh. 1 at 9.

threshold matter, significant production of the domestic like product is internally transferred and significant production is sold in the merchant market. In these investigations, internal consumption accounted for between *** and *** percent of Cargill's total U.S. shipments of erythritol over the POI.¹⁰³ The balance of Cargill's total U.S. shipments during the POI, between *** and *** percent, were made to the merchant market.¹⁰⁴ Because both internal consumption and merchant market sales constitute significant portions of the domestic industry's production, the threshold criterion for applying the captive production provision is met.

First Statutory Criterion. The first criterion tests whether the domestic like product produced that is internally transferred for processing into downstream articles does not enter the merchant market.¹⁰⁵ In these investigations, Petitioner reported internal consumption of erythritol for the production of Truvia. It maintains that once erythritol is internally transferred for production of Truvia, it does not enter the merchant market for the domestic like product.¹⁰⁶ Therefore, this criterion is satisfied.

Second Statutory Criterion. In applying the second statutory criterion, the Commission generally considers whether the domestic like product is the predominant material input into a downstream product by referring to its share of the raw material cost of the downstream product, but has also construed "predominant" material input to mean the main or strongest element, and not necessarily a majority, of the inputs by value.¹⁰⁷ In these investigations, the record indicates that erythritol reportedly accounts for *** percent of the finished cost of Truvia.¹⁰⁸ Therefore, we find that this criterion is satisfied.¹⁰⁹

¹⁰³ CR/PR at 3.7.

¹⁰⁴ CR/PR at 3.7.

¹⁰⁵ See, e.g., *Hot-Rolled Steel Products from Argentina and South Africa*, Inv. Nos. 701-TA-404, 731-TA-898, 905 (Final), USITC Pub. 3446 at 15-16 (Aug. 2001); *Certain Cold-Rolled Steel Products from Argentina, Brazil, China, Indonesia, Japan, Russia, Slovakia, South Africa, Taiwan, Turkey and Venezuela*, Inv. Nos. 701-TA-393 and 731-TA-829-40 (Final) (Remand), USITC Pub. 3691 at 2 & n.19 (May 2004).

¹⁰⁶ CR/PR at 3.8; Pet. Postconf. Br. at 15.

¹⁰⁷ See generally, e.g., *Polyethylene Terephthalate Film, Sheet and Strip from Brazil, China, Thailand, and the United Arab Emirates*, Inv. Nos. 731-TA-1131-1134 (Final), USITC Pub. 4040 at 17 n.103 (Oct. 2008); *Polyethylene Terephthalate Film, Sheet, and Strip from India and Taiwan*, Inv. Nos. 701-TA-415 and 731-TA-933-934 (Final), USITC Pub. 3518 at 11 & n.51 (June 2002); *Polyvinyl Alcohol from Germany and Japan*, Inv. Nos. 731-TA-1015-16 (Final), USITC Pub. 3604 at 15 n.69 (June 2003).

¹⁰⁸ CR/PR at 3.9 & Table 3.9; Pet. Postconf. Br. Exh. 1 at 8.

¹⁰⁹ See *Carbon and Certain Alloy Steel Wire Rod from Belarus, Russia, and the United Arab Emirates*, Inv. Nos. 731-TA-1349, 1352, and 1357 (Final), USITC Pub. 4752 at 26-27 (Jan. 2018) (finding second statutory criterion satisfied when reporting domestic producers indicated that wire rod accounted for the majority of the finished cost of a number of downstream products).

Conclusion. We conclude that all criteria for application of the captive production provision are satisfied in these investigations. Accordingly, we focus primarily on the merchant market in analyzing the market share and financial performance of the domestic industry.¹¹⁰

2. Demand Conditions

U.S. demand for erythritol is driven by demand for the downstream products in which it is used, primarily food products.¹¹¹ Erythritol is primarily used as an ingredient in baking/baking mixes, beverages, chocolate bars, confectionary, granola, liquid syrups, powders, snack foods, and tabletop sweeteners like Truvia.¹¹²

Petitioner reported that ***, and a majority of importers also reported that demand fluctuated down or steadily decreased during the period.¹¹³ Several responding firms reported that there was a significant increase in demand for erythritol in 2020 and 2021, followed by a decline in demand in 2022 and 2023 before demand normalized in interim 2024.¹¹⁴ Petitioner contends that demand increased from 2021 through the first half of 2022 due to an increase in erythritol use associated with COVID-19-pandemic-related consumption patterns, purchasers concerned with supply chain issues overordering erythritol to build inventories, and nutritional trends for zero-calorie sweeteners.¹¹⁵ Petitioner claims that from the second half of 2022 through 2023, demand decreased as supply chain issues were resolved and customers drew down their inventories, but that demand conditions subsequently returned to normal in interim 2024.¹¹⁶

Five importers reported that a study on the health effects of erythritol, allegedly finding a potentially increased risk of cardiovascular events associated with erythritol consumption, caused a decline in demand for erythritol.¹¹⁷ Petitioner believes that the importers were referring to the Cleveland Clinic study on cardiovascular event risks and erythritol, which was published in 2023, and a “follow-on update,” which was made in September 2024.¹¹⁸ Petitioner maintains that the study resulted in a minimal decline in erythritol demand, stressing that it can

¹¹⁰ In addition to the merchant market, we also have considered the market as a whole. We observe that the data trends are substantially similar for both the merchant and total markets. See CR/PR at Tables C.2 (“merchant market”) and Table C.1 (“total market”).

¹¹¹ CR/PR at 2.7.

¹¹² CR/PR at 2.7.

¹¹³ CR/PR at Table 2.4.

¹¹⁴ CR/PR at 2.8.

¹¹⁵ Pet. Postconf. Br. at 11; Conf. Tr. at 24 (Szamoszegi).

¹¹⁶ Pet. Postconf. Br. at 11; Conf. Tr. at 24 (Szamoszegi).

¹¹⁷ CR/PR at 2.8.

¹¹⁸ Conf. Tr. at 66 (von Kessler, Shultz).

take upwards of one to two years for customers to reformulate their products to use sweeteners other than erythritol.¹¹⁹

Apparent U.S. consumption of erythritol in the merchant market decreased irregularly from 2021 to 2023, increasing from *** pounds in 2021 to *** pounds in 2022, before declining to *** pounds in 2023, a level *** percent lower than in 2021. Apparent U.S. consumption of erythritol in the merchant market was *** percent higher in interim 2024, at *** pounds, compared to January through September 2023 (“interim 2023”), at *** pounds.¹²⁰

3. Supply Conditions

The domestic industry was the second largest source of erythritol in the U.S. merchant market throughout the POI. Its share of apparent U.S. consumption in the merchant market decreased from *** percent in 2021 to *** percent in 2022, and *** percent in 2023, a level *** percentage points lower than in 2021. The domestic industry’s share of the merchant market was *** percentage points higher in interim 2024, at *** percent, than in interim 2023, at *** percent.¹²¹ During the POI, Cargill reported longer than usual shut downs as a result of reduced sales volumes, and also experienced short-term production curtailments due to electrical curtailments and weather related events, while maintaining that these events did not impact its total production.¹²²

Subject imports were the largest source of erythritol in the U.S. merchant market throughout the POI. Their share of apparent U.S. consumption in the merchant market increased from *** percent in 2021 to *** percent in 2022, and *** percent in 2023, for an overall increase of *** percentage points; it was *** percentage points lower in interim 2024, at *** percent, than in interim 2023, at *** percent.¹²³

Nonsubject imports were the smallest source of erythritol in the U.S. merchant market

¹¹⁹ Conf. Tr. at 66 (Shultz).

¹²⁰ CR/PR at Tables 4.7, C.2. In the total market, apparent U.S. consumption increased from *** pounds in 2021 to *** pounds in 2022, before declining to *** pounds in 2023, a level *** percent lower than in 2021; it was *** percent lower in interim 2024, at *** pounds, compared to interim 2023, at *** pounds. *Id.* at Tables 4.5, C.1.

¹²¹ CR/PR at Tables 4.7, C.2. In the total market, the domestic industry’s market share decreased irregularly by *** percentage points during the POI, declining from *** percent in 2021, to *** percent in 2022, before increasing to *** percent in 2023; it was *** percentage points higher in interim 2024, at *** percent, than in interim 2023, at *** percent. *Id.* at Tables 4.5, C.1.

¹²² CR/PR at Table 3.3.

¹²³ CR/PR at Tables 4.7, C.2. In the total market, the subject imports’ market share increased by *** percentage points during the POI, increasing from *** percent in 2021 to *** percent in 2022, and *** percent in 2023; it was *** percentage points lower in interim 2024, at *** percent, than in interim 2023, at *** percent. *Id.* at Tables 4.5, C.1.

during the POI. Their share of apparent U.S. consumption in the merchant market decreased by *** percentage points over the POI, from *** percent in 2021 to *** percent in 2022, and *** percent in 2023; it was *** percentage points higher in interim 2024, at *** percent, than in interim 2023, at *** percent.¹²⁴ France was the largest country source of nonsubject imports, by quantity, during the POI.¹²⁵

Petitioner and a majority of responding importers reported experiencing supply constraints in 2021 due to an unanticipated spike in demand during the COVID-19 pandemic and supply chain disruptions.¹²⁶ Cargill stated that it did not shut down erythritol production during the COVID-19 pandemic and honored and fulfilled all customer commitments during that time, but that increased demand from customers over-booking, as well as the rise in the popularity in the keto diet, constrained the availability of erythritol in the U.S. market during this time.¹²⁷ Eight responding importers reported supply constraints in 2022, citing supply disruptions, and one reported supply constraints in 2023 and interim 2024.¹²⁸

4. Substitutability and Other Conditions

Based on the record in the preliminary phase of these investigations, we find that there is a high degree of substitutability between domestically produced erythritol and subject imports. *** a majority of responding U.S. importers reported that U.S.-produced erythritol and subject imports can always or frequently be used interchangeably.¹²⁹ ¹³⁰ Further, Cargill reported that *** of its commercial shipments were from inventory, with lead times averaging *** days. Subject importers reported that 84.1 percent of their commercial shipments were from U.S. inventory, with similar lead times

¹²⁴ CR/PR at Tables 4.7, C.2. In the total market, nonsubject imports' market share decreased by *** percentage points during the POI, decreasing from *** percent in 2021 to *** percent in 2022 and *** percent in 2023; it was *** percentage points higher in interim 2024, at *** percent, than in interim 2023, at *** percent. *Id.* at Tables 4.5, C.1.

¹²⁵ CR/PR at 2.6.

¹²⁶ CR/PR at 2.6.

¹²⁷ CR/PR at 2.6.

¹²⁸ CR/PR at 2.6.

¹²⁹ CR/PR at 2.11, Table 2.6. Specifically, seven importers reported that U.S.-produced erythritol and subject imports were always interchangeable, six reported that they were frequently interchangeable, and six reported that they are sometimes interchangeable, and one reported they were never interchangeable. *Id.* at Table 2.6.

¹³⁰ Factors contributing to this level of substitutability included similar lead times for erythritol from inventory, while factors that may reduce substitutability include availability at times early in the POI and certain types of erythritol only being available from subject sources. *Id.* at 2.9.

(averaging 12 days).¹³¹

We also find that price is an important purchasing factor. Responding purchasers identified customer service, supply assurance, price/cost, availability, quality, strong partnership with a U.S. based seller, and ease of doing business as the most important purchasing factors for erythritol, with a plurality of responding purchasers identifying price as among their three most important purchasing factors.¹³² *** and a majority of responding U.S. importers reported that differences other than price between U.S.-produced erythritol and subject imports are only sometimes or never significant.¹³³

Erythritol can be produced and sold as standard/conventional, organic, non-genetically modified (“non-GMO”), and non-GMO project verified erythritol.¹³⁴ Cargill claims that the non-GMO erythritol market is less than 25 percent of the total market, and that standard erythritol can be used in certain non-GMO applications in which erythritol does not need to be declared as genetically modified.¹³⁵ Cargill reported that ***.¹³⁶ Of the 26 responding importers, 15 reported selling certified organic erythritol, 14 importers reported selling non-GMO project verified erythritol, and four reported selling other non-GMO erythritol since January 1, 2021.¹³⁷

U.S. producers reported selling the vast majority of their commercial U.S. shipments of erythritol under annual contracts, *** percent, with the remainder sold under short-term contracts (*** percent) or on the spot market (*** percent).¹³⁸ U.S. importers reported selling around half of their U.S. shipments of erythritol under annual contracts, *** percent, and the other half on the spot market (*** percent) or under short-term contracts (*** percent).¹³⁹ Cargill reported that its short-term and annual contracts ***.¹⁴⁰ Most importers reported that their contracts permit no price renegotiation, fix both prices and quantities, and do not index prices to raw material costs.¹⁴¹

¹³¹ CR/PR at 2.10.

¹³² CR/PR at 2.10.

¹³³ CR/PR at 2.12, Table 2.7. Specifically, three reported that differences other than price between U.S.-produced erythritol and subject imports were never significant, eight reported that such differences were sometimes significant, six reported that such differences were frequently significant, and 3 reported such differences were always significant. *Id.* at Table II-8.

¹³⁴ CR/PR at 2.1.

¹³⁵ CR/PR at 2.1 n.3.

¹³⁶ CR/PR at 2.10 and Table 2.5.

¹³⁷ CR/PR at 2.10.

¹³⁸ CR/PR at 5.3, Table 5.3.

¹³⁹ CR/PR at 5.3, Table 5.3.

¹⁴⁰ CR/PR at 5.3

¹⁴¹ CR/PR at 5.3

Erythritol is made from dextrose, which is derived from corn.¹⁴² Corn prices decreased overall by 4.0 percent from January 2021 to November 2024, increasing irregularly by 74.1 percent from January 2021 to June 2022, then declined by 44.0 percent in November 2024.¹⁴³ The domestic industry's raw material cost per unit increased from \$*** per pound in 2021 to \$*** per pound in 2022 and 2023, but was lower in interim 2024, at \$*** per pound, than in interim 2023, at \$*** per pound.¹⁴⁴ The domestic industry's raw material cost as a share of its cost of goods sold ("COGS") increased from *** percent in 2021 to *** percent in 2022, but decreased to *** percent in 2023; it was lower in interim 2024, at *** percent, than in interim 2023, at *** percent.¹⁴⁵

On September 24, 2018, erythritol from China imported under HTS statistical reporting number 2905.49.4000 became subject to an additional 10 percent *ad valorem* duty under section 301, and the duty was increased to 25 percent effective May 10, 2019.¹⁴⁶ Additionally, on September 1, 2019, erythritol from China imported under HTS statistical reporting number 2106.90.9998 became subject to a 15.0 percent *ad valorem* duty under Section 301, but the duty was reduced to 7.5 percent effective February 14, 2020.¹⁴⁷

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."¹⁴⁸

The volume of subject imports decreased irregularly over the POI, increasing from *** pounds in 2021 to *** pounds in 2022, before declining to *** pounds in 2023, for an overall decrease of *** percent from 2021 to 2023.¹⁴⁹ The volume of subject imports was *** percent lower in interim 2024, at *** pounds, than in interim 2023, at *** pounds.¹⁵⁰

Subject imports as a share of apparent U.S. consumption in the merchant market increased from *** percent in 2021 to *** percent in 2022, and *** percent in 2023, a level

¹⁴² CR/PR at 5.1.

¹⁴³ CR/PR at 5.1.

¹⁴⁴ CR/PR at Table 6.3.

¹⁴⁵ CR/PR at Table 6.3.

¹⁴⁶ CR/PR at 1.5.

¹⁴⁷ CR/PR at 1.6.

¹⁴⁸ 19 U.S.C. § 1677(7)(C)(i).

¹⁴⁹ CR/PR at Tables 4.7, C.2.

¹⁵⁰ CR/PR at Tables 4.7, C.2.

*** percentage points higher than in 2021.¹⁵¹ Subject imports' share of apparent U.S. consumption in the merchant market was *** percentage points lower in interim 2024, at *** percent, than in interim 2023, at *** percent, but remained higher than at the beginning of the POI.¹⁵²

Based on the record of the preliminary phase of the investigations, we conclude that the volume of subject imports is significant in absolute terms and relevant to U.S. consumption, and that the increase in that volume is significant relative to U.S. consumption.

D. Price Effects of the Subject Imports

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

- (I) there has been significant price underselling by the imported merchandise as compared with the price of domestic like products of the United States, and
- (II) the effect of imports of such merchandise otherwise depresses prices to a significant degree or prevents price increases, which otherwise would have occurred, to a significant degree.¹⁵³

As addressed in section VI.B.4. above, we have found a high degree of substitutability between the domestic like product and subject imports and that price is an important factor in purchasing decisions.

The Commission collected quarterly quantity and f.o.b. pricing data on sales of three products shipped by U.S. producers and importers to unrelated U.S. customers during the POI.¹⁵⁴ One U.S. producer and 22 importers provided usable pricing data for sales of the requested products, although not all firms reported pricing for all products for all quarters.¹⁵⁵ Pricing data reported by these firms accounted for approximately *** percent of U.S.

¹⁵¹ CR/PR at Tables 4.7, C.2. Subject imports as a share of apparent U.S. consumption in the total market increased from *** percent in 2021 to *** percent in 2022, and *** percent in 2023, a level *** percentage points higher than in 2021. *Id.* at Tables 4.5, C.1.

¹⁵² CR/PR at Tables 4.7, C.2. Subject imports' share of apparent U.S. consumption in the total market was *** percentage points lower in interim 2024, at *** percent, than in interim 2023, at *** percent. *Id.* at Tables 4.5, C.1.

¹⁵³ 19 U.S.C. § 1677(7)(C)(ii).

¹⁵⁴ CR/PR at 5.4. The three pricing products were defined as follows: Product 1.-- Erythritol, standard granules, sold in 20 kg (44.1 lb.) bags; Product 2.-- Erythritol, standard granules, sold in 500-1000 kg (1,102 lb. – 2,205 lb.) supersacks; and Product 3.-- Erythritol, fine powdered, sold in 25 lb. boxes. *Id.*

¹⁵⁵ CR/PR at 5.4.

producers' U.S. shipments of erythritol and 79.8 percent of U.S. shipments of subject imports in 2023.¹⁵⁶

These pricing data indicate that subject imports undersold domestically produced erythritol in 29 of 44 quarterly comparisons, involving 73.7 million pounds of reported subject import sales, at margins ranging from 0.3 to 65.8 percent and averaging 27.2 percent.¹⁵⁷ Subject imports oversold domestically produced erythritol in 15 of 44 quarterly comparisons, involving 59 million pounds of reported subject import sales, at margins ranging from 0.3 and 109.1 percent and averaging 48.6 percent.¹⁵⁸ Thus, over the POI, subject imports undersold the domestic like product in 65.9 percent of quarterly comparisons, corresponding to 55.5 percent of reported subject import sales volume.¹⁵⁹

We have also considered purchasers' responses to the lost sales/lost revenue survey.¹⁶⁰ Of the four responding purchasers, three reported that they had purchased imported erythritol from China instead of U.S.-produced erythritol during the POI.¹⁶¹ Two of these purchasers reported that subject import prices were lower than those of U.S.-produced erythritol, but none of these purchasers reported that price was a primary reason for the decision to purchase subject imports rather than U.S.-produced erythritol.¹⁶² Petitioner provided contemporaneous sales documentation, specifically ***, showing that lower-priced subject imports were frequently mentioned by purchasers during sales negotiations during the POI.¹⁶³

Based on the foregoing, including the high degree of substitutability between domestically produced erythritol and subject imports from China, the importance of price in purchasing decisions, the pricing data showing underselling with respect to nearly two-thirds of quarterly comparisons and over a majority of reported subject import sales volume, and purchaser information and petitioner's contemporaneous business documents, we find that subject import underselling was significant during the POI. The underselling by subject imports contributed to the *** percentage point shift in market share from the domestic industry to

¹⁵⁶ CR/PR at 5.4.

¹⁵⁷ CR/PR at 5.13 and Table 5.10.

¹⁵⁸ CR/PR at 5.13 and Table 5.10.

¹⁵⁹ Calculated from CR/PR at Table 5.10.

¹⁶⁰ CR/PR at 5.15.

¹⁶¹ CR/PR at 5.16, Table 5.13.

¹⁶² CR/PR at 5.16, Table 5.13. Responding purchasers did not report the quantity of subject imports from China that were purchased instead of the U.S.-produced erythritol. *Id.*

¹⁶³ Petition Exh. I-9.

subject imports in the merchant market from 2021 to 2023, which subject imports largely retained in interim 2024.¹⁶⁴

We have also considered price trends. During the POI, prices for the domestic like product decreased overall for all three pricing products.¹⁶⁵ Between the first and last quarters for which data are available, domestic prices decreased by *** percent for pricing product 1, *** percent for pricing product 2, and *** percent for pricing product 3.¹⁶⁶ At the same time, prices for subject imports from China decreased by *** percent for pricing product 1, *** percent for pricing product 2, and *** for pricing product 3 over the same time period.¹⁶⁷ We find it instructive that declines in subject import prices, which began in the first and second quarters of 2022 and continued after the first quarter of 2023, preceded those of domestic prices, which declined from the third or fourth quarters 2023 through the second or third quarters of 2024, depending on the product.¹⁶⁸ Despite apparent U.S. consumption of erythritol in the merchant market being *** percent higher in interim 2024 compared to interim 2023, the domestic industry's prices declined for all three pricing products to period lows during interim 2024.¹⁶⁹ Additionally, the domestic industry's unit COGS increased steadily over the POI and were higher in interim 2024 than in interim 2023, and thus cannot explain the industry's declining sales prices towards the end of the POI.¹⁷⁰ Based on the foregoing, as well as the significant subject import underselling, the high degree of substitutability between subject imports and the domestic like product, and the importance of price in purchasing decisions, we find for preliminary phase purposes that subject imports depressed prices for the domestic like product to a significant degree.

¹⁶⁴ CR/PR at Tables 4.7, C.2. In the total market, there was a *** percentage point shift from the domestic industry to subject imports from 2021 to 2023, which subject imports largely retained it in interim 2024. *Id.* at Tables 4.5, C.1.

¹⁶⁵ CR/PR at 5.11, Table 5.7.

¹⁶⁶ CR/PR at Tables 5.7 and 5.8, Figure 5.5.

¹⁶⁷ CR/PR at Tables 5.7 and 5.9, Figures 5.6.

¹⁶⁸ CR/PR at Tables 5.4-5.6, 5.8-5.9.

¹⁶⁹ Cargill's commercial sales AUVs followed similar trends as its prices for the three pricing products during the POI. Cargill's merchant market commercial sales AUVs increased irregularly from 2021 to 2023, increasing from \$*** in 2021 to \$*** in 2022, and decreasing to \$*** in 2023; they were at \$*** in interim 2023, but reached period lows in interim 2024, at \$***. CR/PR at Tables 6.3, C.2. In the total market, the domestic industry's net sales AUVs increased from \$*** in 2021 to \$*** in 2022, and decreasing to \$*** in 2023; they were \$*** in interim 2023 and reached period lows of \$*** in interim 2024. *Id.* at Tables 6.3, C.2.

¹⁷⁰ CR/PR at Tables 6.3, C.2. Cargill's unit COGS increased over the POI from \$*** per pound in 2021 to \$*** per pound in 2022, and \$*** per pound in 2023, for an overall increase of \$***; it was higher in interim 2024, at \$*** per pound, than in interim 2023, at \$*** per pound. CR/PR at Tables 6.1, C.1.

We have also considered whether subject imports prevented price increases which otherwise would have occurred. The domestic industry's ratio of COGS to net sales decreased from *** percent in 2021 to *** percent in 2022, before increasing to *** percent in 2023, for an overall increase of *** percentage points; the ratio was higher in interim 2024, at *** percent than in interim 2023, at *** percent.¹⁷¹ The domestic industry's unit raw material costs increased from \$*** per pound in 2021 to \$*** per pound in 2022 and 2023, for an overall increase of \$*** per pound; they were lower in interim 2024, at \$***, than in interim 2023, at \$***.¹⁷² The domestic industry's unit COGS increased over the POI from \$*** per pound in 2021 to \$*** per pound in 2022, and \$*** per pound in 2023, for an overall increase of \$***; it was higher in interim 2024, at \$*** per pound, than in interim 2023, at \$*** per pound.¹⁷³ At the same time, the average unit value ("AUV") of the domestic industry's net sales increased from \$*** in 2021 to \$*** in 2022, and then decreased to \$*** in 2023, for an overall increase of \$***; it was lower in interim 2024, at \$***, than in interim 2023, at \$***.¹⁷⁴ Apparent U.S. consumption in the merchant market declined overall by *** percent from 2021 to 2023, but was *** percent higher in interim 2024 than in interim 2023.¹⁷⁵ Although the domestic industry's ratio of COGS to net sales increased irregularly during the POI, the increase in the industry's unit COGS was primarily driven by an increase in other factory costs and a decrease in commercial sales, rather than by raw material costs, and the decline in apparent U.S. consumption from 2022 to 2023 would have constrained the domestic industry's ability to raise prices during that time.¹⁷⁶

In sum, we find that subject imports significantly undersold the domestic like product, which enabled subject imports to gain market share at the expense of the domestic industry

¹⁷¹ CR/PR at Tables 6.3, C.2. In the total market, Cargill's ratio of COGS to net sales decreased from *** percent in 2021 to *** percent in 2022, and increased to *** percent in 2023, for an overall increase of *** percentage points; the ratio was higher in interim 2024, at *** percent than in interim 2023, at *** percent. *Id.* at Tables 6.1, C.1.

¹⁷² CR/PR at Tables 6.3, C.2. Cargill's unit raw material costs in the total market were the same as in the merchant market. *Id.* at Tables 6.1, C.1.

¹⁷³ CR/PR at Tables 6.3, C.2. The unit COGS of goods sold in the total market was the same as in the merchant market. *Id.* at Tables 6.1, C.1.

¹⁷⁴ CR/PR at Tables 6.3, C.2. In the total market, the domestic industry's average unit value ("AUV") net sales increased from \$*** in 2021 to \$*** in 2022, and then decreased to \$*** in 2023, for an overall increase of \$***; it was lower in interim 2024, at \$***, than in interim 2023, at \$***. *Id.* at Tables 6.1, C.1.

¹⁷⁵ CR/PR at Tables 4.7, C.2. In the total market, apparent U.S. consumption declined by *** percent from 2021 to 2023, and was *** percent lower in interim 2024 than in interim 2023. *Id.* at Tables 4.5, C.1.

¹⁷⁶ CR/PR at Tables 6.3, C.2.

and depressed prices for the domestic like product to a significant degree. Consequently, we find that subject imports had significant price effects.

E. Impact of the Subject Imports¹⁷⁷

Section 771(7)(C)(iii) of the Tariff Act provides that the Commission, in examining the impact of the subject imports on the domestic industry, “shall evaluate all relevant economic factors which have a bearing on the state of the industry.” These factors include output, sales, inventories, capacity utilization, market share, employment, wages, productivity, gross profits, net profits, operating profits, cash flow, return on investment, return on capital, ability to raise capital, ability to service debt, research and development (“R&D”), 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.”¹⁷⁸

The domestic industry’s performance declined by most measures as it lost *** percentage points of market share to cumulated subject imports and apparent U.S. consumption in the merchant market declined irregularly by *** percent from 2021 to 2023.¹⁷⁹ Although apparent U.S. consumption in the merchant market was *** percent higher in interim 2024 than in interim 2023, the domestic industry’s financial performance continued to worsen as subject imports retained much of the market share they had captured and depressed domestic prices to a significant degree.

The domestic industry’s practical erythritol capacity increased by *** percent from 2021 to 2023, increasing from *** pounds in 2021 to *** pounds in 2022 and 2023; capacity remained steady in interim 2023 and 2024 at *** pounds.¹⁸⁰ Its production decreased overall by *** percent from 2021 to 2023, decreasing from *** pounds in 2021 to *** pounds 2022, and *** pounds in 2023; its production was *** percent lower in interim 2024, at *** pounds, than in interim 2023, at *** pounds.¹⁸¹ The industry’s capacity utilization decreased by *** percentage points from 2021 to 2023, decreasing from *** percent in 2021 to *** percent in

¹⁷⁷ Commerce initiated the antidumping duty investigation based on estimated dumping margins ranging from 270.0 to 450.64 percent *ad valorem* for subject imports from China. *Erythritol From the People’s Republic of China: Initiation of Less-Than-Fair-Value Investigation*, 90 Fed. Reg. 1957, 1960 (Jan. 10, 2025).

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

¹⁷⁹ CR/PR at Tables C.1, C.3.

¹⁸⁰ CR/PR at Tables 3.4, C.1.

¹⁸¹ CR/PR at Tables 3.4, C.1.

2022, and *** percent in 2023; it was *** percentage points lower in interim 2024, at *** percent, than in interim 2023, at *** percent.¹⁸²

The domestic industry's employment-related indicators were mixed. The number of production and related workers ("PRWs") decreased *** percent during the 2021-2023 period, decreasing from *** PRWs in 2021 to *** PRWs in 2022, 2023; and remained steady at *** PRWs in interim 2023 and 2024.¹⁸³ The industry's total hours worked decreased irregularly by *** percent during the 2021-2023 period, decreasing from *** hours in 2021 to *** hours in 2022, before increasing to *** hours in 2023; they were *** percent higher in interim 2024, at *** hours, than in interim 2023, at *** hours.¹⁸⁴ Wages paid increased *** percent during the 2021-2023 period, increasing from \$*** in 2021 and 2022 to \$*** in 2023; they were *** percent higher in interim 2024, at \$***, than in interim 2023, at \$***.¹⁸⁵ Productivity decreased throughout the POI by *** percent, decreasing from *** pounds per hour in 2021 to *** pounds per hour in 2022, and *** pounds per hour in 2023; it was *** percent lower in interim 2024, at *** pounds per hour, than in interim 2023, at *** pounds per hour.¹⁸⁶

The domestic industry's commercial U.S. shipments in the merchant market decreased by *** percent from 2021 to 2023, decreasing from *** pounds in 2021 to *** pounds 2022, and *** pounds in 2023; its U.S. shipments were *** percent higher in interim 2024, at *** pounds, than in interim 2023, at *** pounds.¹⁸⁷ The industry's share of apparent U.S. consumption in the merchant market decreased from *** percent in 2021 to *** percent in 2022, and *** percent in 2023, a level *** percentage points lower than in 2021.¹⁸⁸ Its share of apparent U.S. consumption in the merchant market was *** percentage points higher in interim 2024, at *** percent, than in interim 2023, at *** percent.¹⁸⁹

The domestic industry's end-of-period inventories increased by *** percent from 2021 to 2023, increasing from *** pounds in 2021 to *** pounds in 2022, and *** pounds in 2023;

¹⁸² CR/PR at Tables 3.4, C.1.

¹⁸³ CR/PR at Tables 3.13, C.1.

¹⁸⁴ CR/PR at Tables 3.13, C.1.

¹⁸⁵ CR/PR at Tables 3.13, C.1.

¹⁸⁶ CR/PR at Tables 3.13, C.1.

¹⁸⁷ CR/PR at Tables 3.7, C.2. In the total market, the domestic industry's U.S. shipments decreased *** percent from 2021 to 2023, decreasing from *** pounds in 2021 to *** pounds 2022 and *** pounds in 2023; its U.S. shipments were *** percent higher in interim 2024, at *** pounds, than in interim 2023, at *** pounds. *Id.* at Tables 3.6, C.1.

¹⁸⁸ CR/PR at Tables 4.7, C.1. In the total market, apparent U.S. consumption increased from *** pounds in 2021 to *** pounds in 2022, before declining to *** pounds in 2023, a level *** percent lower than in 2021; it was *** percent lower in interim 2024, at *** pounds, compared to interim 2023, at *** pounds. *Id.* at Tables 4.5, C.1.

¹⁸⁹ CR/PR at Tables 4.7, C.1.

they were *** percent lower in interim 2024, at *** pounds, than in interim 2023, at *** pounds.¹⁹⁰ As a share of total shipments, the domestic industry's end-of-period inventories increased by *** percentage points from 2021 to 2023, increasing from *** percent in 2021 to *** percent in 2022, before decreasing to *** percent in 2023; they were *** percentage points lower in interim 2024, at *** percent, than in interim 2023, at *** percent.¹⁹¹

The industry's financial performance in the merchant market generally improved from 2021 to 2022 before worsening in 2023, to levels that were weaker than in 2021, and in interim 2024 compared to interim 2023. In the merchant market, the industry's commercial sales revenues decreased irregularly by *** percent from 2021 to 2023, rising slightly from \$*** in 2021 to \$*** in 2022, before falling to \$*** in 2023; its net sales revenues were *** percent lower in interim 2024, at \$***, than in interim 2023, at \$***.¹⁹² Its gross profit decreased irregularly by *** percent between 2021 to 2023, rising from \$*** in 2021 to \$*** in 2022, before falling to \$*** in 2023; the industry's gross profit was *** percent lower in interim 2024, at \$***, than in interim 2023, at \$***.¹⁹³ The industry's operating and net income decreased by *** percent between 2021 to 2023, rising from \$*** in 2021 to \$*** in 2022, before falling to \$*** in 2023; the industry's operating and net income was weaker in interim 2024, at ***, than in interim 2023, at \$***.¹⁹⁴ The industry's operating and net income as a ratio to net sales decreased by *** percentage points from 2021 to 2023, increasing from *** percent in 2021 to *** percent in 2022, before declining to *** percent in 2023; it was weaker in interim 2024, at *** percent, compared to interim 2023, at *** percent.¹⁹⁵

The domestic industry's capital expenditures decreased irregularly by *** percent from 2021 to 2023, decreasing from \$*** in 2021 to \$*** in 2022, before increasing to \$*** in 2023;

¹⁹⁰ CR/PR at Tables 3.10, C.1.

¹⁹¹ CR/PR at Tables 3.10, C.1.

¹⁹² CR/PR at Tables 6.3, C.2. In the total market, the industry's net sales revenue increased from \$*** in 2021 to \$*** in 2022, and decreased to \$*** in 2023; its net sales revenues were lower in interim 2024, at \$***, than in interim 2023, at \$***. *Id.* at Tables 6.1, C.1.

¹⁹³ CR/PR at Tables 6.3, C.2. In the total market, the industry's gross profit increased from \$*** in 2021 to \$*** in 2022, and decreased to \$*** in 2023; its net sales revenues were lower in interim 2024, at \$***, than in interim 2023, at \$***. *Id.* at Tables 6.1, C.1.

¹⁹⁴ CR/PR at Tables 6.3, C.2. In the total market, the industry's operating income and net income increased from \$*** in 2021 to \$*** in 2022, and decreased to \$*** in 2023; its net sales revenues were lower in interim 2024, at ***, than in interim 2023, at \$***. *Id.* at Tables 6.1, C.1.

¹⁹⁵ CR/PR at Tables 6.3, C.2. In the total market, the industry's operating income to net sales ratio and net income to net sales ratio increased from *** percent in 2021 to *** percent in 2022, and decreased to *** percent in 2023; its net sales revenues were lower in interim 2024, at *** percent, than in interim 2023, at *** percent. *Id.* at Tables 6.1, C.1.

they were *** percent lower in interim 2024, at \$***, than in interim 2023, at \$***.¹⁹⁶ The industry's R&D expenses decreased *** percent from 2021 to 2023, decreasing from \$*** in 2021 to \$*** in 2022, and \$*** in 2023; they were *** percent lower in interim 2024, at \$***, than in interim 2023, at \$***.¹⁹⁷ The domestic industry's return on assets increased from *** percent in 2021 to *** percent in 2022, but then declined *** percent in 2023.¹⁹⁸

Although subject import volume declined irregularly over the POI, subject import volume remained significant throughout the period and undersold the domestic like product, causing subject imports to gain market share at the expense of the domestic industry. Subject imports gained *** percentage points of market share at the domestic industry's expense from 2021 to 2023 and subject import market share remained higher in interim 2024 than at the beginning of the POI, though lower than in interim 2023. At the same time, the significant volume of low-priced subject imports depressed prices for the domestic like product to a significant degree, with domestic prices declining to period lows during interim 2024 despite apparent U.S. consumption in the merchant market being *** percent higher in interim 2024 compared to interim 2023. Consequently, the domestic industry's production, capacity utilization, and U.S. shipments were lower and its financial performance weaker than would have been the case otherwise.

We have considered whether there are other factors that may have had an impact on the domestic industry, to ensure that we are not attributing injury from such other factors to subject imports. Nonsubject imports were the smallest source of supply to the U.S. market throughout the POI. As discussed in section VI.B.3 above, nonsubject imports' share of apparent U.S. consumption in the merchant market declined from *** percent in 2021, to *** percent in 2022, and *** percent in 2023; it was *** percentage points higher in interim 2024, at *** percent, than in interim 2023, at *** percent, but still lower than at the beginning of the POI.¹⁹⁹ Although nonsubject imports gained some market share in interim 2024 compared to interim 2023, they cannot explain the injury we have attributed to subject imports as a result of subject imports capturing market share from the domestic industry and depressing prices for the domestic like product during the POI.²⁰⁰

¹⁹⁶ CR/PR at Tables 6.8, C.1.

¹⁹⁷ CR/PR at Table 6.8, Table C.1.

¹⁹⁸ CR/PR at Table 6.8.

¹⁹⁹ CR/PR at Tables 4.7, C.2. In the total market, nonsubject imports' market share was *** percent in 2021, *** percent in 2022, and *** percent in 2023; it was *** percent in interim 2024 compared to *** percent in interim 2023. *Id.* at Tables 4.5, C.1.

²⁰⁰ Nonsubject imports held a much smaller share than subject imports over this period. CR/PR at Tables 4.5, 4.7, C.1, C.2.

We recognize that apparent U.S. consumption in the merchant market declined irregularly by *** percent from 2021 to 2023.²⁰¹ Notwithstanding this decline, however, subject imports gained market share throughout the 2021-2023 period, driven by significant underselling. The domestic industry's production and U.S. shipments declined to a greater degree than apparent U.S. consumption in the merchant market during this time, at *** percent and *** percent, respectively, as the industry lost *** percentage points of market share to subject imports.²⁰² The domestic industry's financial performance continued to weaken in interim 2024 compared to interim 2023, despite apparent U.S. consumption that was *** percent higher, as subject imports retained much of the market share they had captured and depressed domestic prices to a significant degree. In any final phase of these investigations, we intend to further investigate demand trends and their effect on the domestic industry's performance.²⁰³

In sum, based on the record of the preliminary phase of these investigations, we conclude that subject imports had a significant adverse impact on the domestic industry.

VII. Conclusion

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

²⁰¹ CR/PR at Tables 4.7, C.2. In the total market, apparent U.S. consumption decreased *** percent over the POI; it was *** percent lower in interim 2024 compared to interim 2023. *Id.* at Tables 4.5, C.1.

²⁰² CR/PR at Tables 3.4, 3.7, C.2. In the total market, the domestic industry's production and U.S. shipments declined to a greater degree than apparent U.S. consumption. The domestic industry's U.S. shipments in the total market declined *** percent from 2021 to 2023, while apparent U.S. consumption in the total market declined *** percent over the same period, as the domestic industry lost *** percentage points. *Id.* at Tables 3.6, C.1.

²⁰³ We recognize that Cargill's exports, which accounted for *** percent of its total shipments in 2023, declined *** percent from 2021 to 2023, though they were *** percent higher in interim 2024 compared to interim 2023. CR/PR at Table 3.6. This decline in exports, however, cannot explain the underselling, loss of market share, or price depression in the U.S. market. We intend to further investigate the domestic industry's decline in exports and its effect on the domestic industry's performance in any final phase of these investigations.

Part 1: Introduction

Background

These investigations result from petitions filed with the U.S. Department of Commerce (“Commerce”) and the U.S. International Trade Commission (“USITC” or “Commission”) by Cargill Incorporated (“Cargill”), Wayzata, Minnesota, on December 13, 2024, alleging that an industry in the United States is materially injured and threatened with material injury by reason of subsidized and less-than-fair-value (“LTFV”) imports of erythritol from China. Table 1.1 presents information relating to the background of these investigations.^{1 2}

Table 1.1 Erythritol: Information relating to the background and schedule of this proceeding

Effective date	Action
December 13, 2024	Petitions filed with Commerce and the Commission; institution of the Commission investigations (89 FR 103876, December 19, 2024)
January 2, 2025	Commerce’s notice of initiation (countervailing duty: 90 FR 1962, January 10, 2025; antidumping duty: 90 FR 1957, January 10, 2025)
January 3, 2025	Commission’s conference
January 24, 2025	Commission’s vote
January 27, 2025	Commission’s determinations
February 3, 2025	Commission’s views

Statutory criteria

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

shall consider (I) the volume of imports of the subject merchandise, (II) the effect of imports of that merchandise on prices in the United States for domestic like products, and (III) the impact of imports of such merchandise on domestic producers of domestic like products, but only in the context of production operations within the United States; and. . . may consider such other economic factors as are relevant to the determination regarding whether there is material injury by reason of imports.

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

² A list of witnesses appearing at the conference is presented in appendix B of this report.

Section 771(7)(C) of the Act (19 U.S.C. § 1677(7)(C)) further provides that--³

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

In addition, Section 771(7)(J) of the Act (19 U.S.C. § 1677(7)(J)) provides that—⁴

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

Organization of report

Part 1 of this report presents information on the subject merchandise, alleged subsidy rates/dumping margins, and domestic like product. Part 2 of this report presents information on conditions of competition and other relevant economic factors. Part 3 presents information

³ Amended by PL 114-27 (as signed, June 29, 2015), Trade Preferences Extension Act of 2015.

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

on the condition of the U.S. industry, including data on capacity, production, shipments, inventories, and employment. Parts 4 and 5 present the volume of subject imports and pricing of domestic and imported products, respectively. Part 6 presents information on the financial experience of U.S. producers. Part 7 presents the statutory requirements and information obtained for use in the Commission’s consideration of the question of threat of material injury as well as information regarding nonsubject countries.

Market summary

Erythritol is generally used as a clean-tasting natural alternative to sugar, but can also be used as a flavor modifier, formulation aid, humectant, and stabilizer, among other uses. It is often used as an ingredient in beverages, sweet biscuits, cookies, dairy, and dessert products.⁵ The only known U.S. producer of erythritol is Cargill,⁶ while leading producers of erythritol outside the United States include Shandong Sanyuan Biotechnology Co., Ltd. (“Sanyuan”), Baoling Bao Co., Ltd. (“Baoling Bao”) and Zucheng Dongxiao Biotechnology Co., Ltd. (“Dongxiao”) of China.⁷ The leading U.S. importers of erythritol from China are ***. Leading importers of erythritol from nonsubject countries (primarily France) include ***. U.S. purchasers that responded to the Lost Sales Lost Revenue Survey were ***.

Apparent U.S. consumption of erythritol totaled approximately *** pounds (\$***) in 2023. Currently, Cargill is the only known firm to produce erythritol in the United States. Cargill’s U.S. shipments of erythritol totaled *** pounds (\$***) in 2023, and accounted for *** percent of apparent U.S. consumption by quantity and *** percent by value. U.S. imports from subject sources totaled *** pounds (\$***) in 2023 and accounted for *** percent of apparent U.S. consumption by quantity and *** percent by value. U.S. imports from nonsubject sources totaled *** pounds (\$***) in 2023 and accounted for *** percent of apparent U.S. consumption by quantity and *** percent by value.

⁵ Petition, Vol. 1, p. 1.5.

⁶ Petition, Vol. 1, pp. 1.2 to 1.3 and exh. 1.1

⁷ Petition, Vol. 1, exh. 1.12.

Summary data and data sources

A summary of data collected in these investigations is presented in appendix C, tables C.1 and C.2. The Commission’s questionnaires collected data for the years 2021 to 2023 and interim periods January to September of 2023 (“interim 2023”) and January to September of 2024 (“interim 2024”). Except as noted, U.S. industry data are based on a questionnaire response of one firm that accounted for all U.S. production of erythritol during 2023. U.S. imports are based on questionnaire responses submitted to the Commission. No foreign producers participated in the preliminary phase of investigations.

Previous and related investigations

Erythritol has not been the subject of prior antidumping and countervailing duty investigations in the United States.

Nature and extent of alleged subsidies and sales at LTFV

Alleged subsidies

On January 10, 2025, Commerce published a notice in the Federal Register of the initiation of its countervailing duty investigation on erythritol from China.⁸

Alleged sales at LTFV

On January 10, 2025, Commerce published a notice in the Federal Register of the initiation of its antidumping duty investigations on erythritol from China.⁹ Commerce has initiated antidumping duty investigations based on estimated dumping margins ranging from 270.00 to 450.64 percent for erythritol from China.

⁸ For further information on the alleged subsidy programs see Commerce’s notice of initiation and related CVD Initiation Checklist. 90 FR 1962, January 10, 2025.

⁹ 90 FR 1957, January 10, 2025.

The subject merchandise

Commerce's scope

In the current proceeding, Commerce has defined the scope as follows:¹⁰

The product within the scope of these investigations is erythritol, which is a sugar alcohol, commonly referred to as a polyol, typically produced by the fermentation of glucose using enzymes and yeast or yeast-like fungi (though the scope includes erythritol produced using any other feedstock or organism). Erythritol is an organic compound with the molecular formula C₄H₁₀O₄ and a Chemical Abstracts Service (CAS) registry number of 149-32-6. Other names for erythritol include meso-erythritol, (2R, 3S)-butan-1,2,3,4-tetrol, butane-1,2,3,4-tetrol, or meso-1,2,3,4-Tetrahydroxybutane.

Erythritol typically appears as a white crystalline, odorless product that rapidly dissolves in water. While erythritol is typically produced in the crystalline form or as a fine powder or in directly compressible form, the scope of this investigation covers all physical forms and grades of erythritol, including organic erythritol.

Tariff treatment

Based upon the scope set forth by Commerce, information available to the Commission indicates that the merchandise subject to these investigations is imported under provisions 2905.49.4000 and 2106.90.9998 of the Harmonized Tariff Schedule of the United States ("HTS").¹¹ The 2024 general rates of duty for HTS subheadings 2905.49.40 and 2106.90.99 are 5.5 percent and 6.4 percent *ad valorem*, respectively. Decisions on the tariff classification and treatment of imported goods are within the authority of U.S. Customs and Border Protection.

Effective September 24, 2018, erythritol originating in China imported under subheading 2905.49.4000 was subject to an additional 10 percent *ad valorem* duty under section 301 of the Trade Act of 1974. Effective May 10, 2019, the section 301 duty for erythritol was increased to 25 percent.¹²

¹⁰ 90 FR 1962, January 10, 2025.

¹¹ USITC, HTS (2024) Basic Revision 10, Publication 5569, November 2024, p. 29.22, p. 21.22.

¹² 83 FR 47974, September 21, 2018; 84 FR 20459, May 9, 2019. See also HTS headings 9903.88.03 and 9903.88.04 and U.S. notes 20(e)–20(g) to subchapter III of chapter 99 and related tariff provisions for this duty treatment. USITC, HTS (2024) Revision 10, USITC Publication 5569, November 2024, pp. 99.III.28 to 99.III.29. Goods exported from China to the United States prior to May 10, 2019, and (continued...)

Effective September 1, 2019, erythritol originating in China imported under subheading 2106.90.9998 was subject to an additional 15 percent ad valorem duty under section 301 of the Trade Act of 1974. Effective February 14, 2020, the section 301 duty for erythritol was reduced to 7.5 percent.¹³

The product

Description and applications

Erythritol (C₄H₁₀O₄)¹⁴ is a white, odorless, water-soluble solid classified as a polyol (i.e., sugar alcohol).¹⁵ Polyols¹⁷ are typically found naturally in fruits and vegetables; specifically, erythritol is a four-carbon polyol that can be found in fungi, fruits (e.g., grapes, raisins), algae, and fermented foods (figure 1.1).¹⁸ Extracting polyols from fruits and vegetables is not economically viable in terms of scale and scope so commercial production methods have been adopted in order to produce polyols.²⁰ While most sugar alcohols are produced by the hydrogenation of various sugars, erythritol is an exception, as it is produced by the

entering the United States prior to June 1, 2019, were not subject to the escalated 25 percent duty (84 FR 21892, May 15, 2019).

¹³ 84 FR 45821, August 30, 2019; 85 FR 3741, January 22, 2020. See also HTS heading 9903.88.15 and U.S. notes 20(r) and 20(s) to subchapter III of chapter 99 and related tariff provisions for this duty treatment. USITC, HTS (2024) Revision 10, USITC Publication 5569, November 2024, pp. 99.III.88 to 99.III.89.

¹⁴ Chemical abstracts service (CAS) number (no.) 149-32-6.

¹⁵ Solid erythritol is typically in the form of crystals or fine powder. Petition, vol. 1, pp. 4 to 5.

¹⁶ All forms (i.e., fine powder, compressible form) and variations (i.e., produced from organic or certified non-genetically modified organism (“GMO”) dextrose) of erythritol share the physical appearance of small white odorless particles. Petitioner’s postconference brief, p. 2; Conference transcript, p. 20 (Woo).

¹⁷ The most common commercial polyols include mannitol (CAS no. 69-65-8), isomalt (CAS no. 64519-82-0), maltitol (CAS no. 585-88-6), lactitol (CAS no. 585-86-4), xylitol (CAS no. 87-99-0), and sorbitol (CAS no. 50-70-4). DeCock, Peter, “Sugar Alcohols,” Kirk-Othmer Encyclopedia of Chemical Technology, 2021, <https://doi.org/10.1002/0471238961.1921070112012319.a01.pub2>.

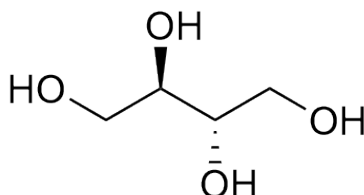
¹⁸ Daza-Serna, Laura et al., “From the Culture Broth to the Erythritol Crystals: An Opportunity for Circular Economy,” Applied Microbiology and Biotechnology, volume 105, pp. 4467 to 4486, May 27, 2021, <https://doi.org/10.1007/s00253-021-11355-2>.

¹⁹ Conference transcript, p. 53 (Shultz).

²⁰ Daza-Serna, Laura et al., “From the Culture Broth to the Erythritol Crystals: An Opportunity for Circular Economy,” Applied Microbiology and Biotechnology, volume 105, pp. 4467 to 4486, May 27, 2021, <https://doi.org/10.1007/s00253-021-11355-2>.

fermentation of glucose (i.e., dextrose).²¹ Erythritol is known to be the first polyol to be manufactured industrially via a fermentation process.²²

Figure 1.1 Erythritol molecule



Source: "Erythritol," CAS Common Chemistry, accessed December 23, 2024, <https://scifinder-n.cas.org/searchDetail/substance/67656fa5fd9ec115492af7e1/substanceDetails>.

When compared to sucrose (i.e., table sugar, C₁₂H₂₂O₁₁), erythritol is 70 to 80 percent as sweet.²³ As a result, erythritol^{24 25} is commonly used as an alternative to table sugar as an ingredient in food.²⁶ Erythritol is also used in the following applications: pharmaceutical excipient, flavor modifier, formulation aid, texturizer, sequestrant, humectant, thickener, and stabilizer.²⁷ For example, erythritol can be found as an ingredient in everyday products such as chocolate products, snacks, chewing gums, ice cream, brownies, cookies, and personal care products (e.g., toothpaste, deodorants, lotions, face cream).^{28 29}

²¹ Hydrogenation is the process of adding hydrogen to another compound (sometimes in the presence of a catalyst). "Erythritol," Encyclopedia of Food and Health, 2016, accessed January 2, 2025, <https://www.sciencedirect.com/topics/agricultural-and-biological-sciences/erythritol>; Petitioner's postconference brief, p.6.

²² "Production Process," Cargill, accessed December 31, 2024, <https://www.cargill.com/food-beverage/emea/low-calorie-sweeteners-production-process>.

²³ Daza-Serna, et al., "From the Culture Broth to the Erythritol Crystals: An Opportunity for Circular Economy," Applied Microbiology and Biotechnology, volume 105, pp. 4467 to 4486, May 27, 2021, <https://doi.org/10.1007/s00253-021-11355-2>.

²⁴ The petitioner sells erythritol under the brand name Zerose. Petition, vol. 1, p. 2.

²⁵ The petitioner sells erythritol as standard (conventional), organic, non-GMO, and non-GMO project verified. Conference transcript, p. 25 (Szamosszegi).

²⁶ The petitioner states that their standard granular erythritol (i.e., crystals) has a shelf life of 3 years, and that their competitors have a 2-year shelf life; however, shelf life can vary from competitor to competitor. Petitioner's fine powder has a shelf life of 2 years. Conference transcript, p. 59 (Shultz)

²⁷ A sequestrant is used in food to improve the stability and quality. A humectant is used in food to help retain moisture. Petition, vol. 1, p. 5.

²⁸ Petition, vol. 1, p. 5.

²⁹ Conference transcript, pp. 12, 105 to 106 (Shultz).

One of the main oft cited benefits of erythritol is that it has a zero glycemic index (GI), which can be seen as benefit to consumers such as diabetics.³⁰ ³¹ Subsequently, diabetics can substitute table sugar with erythritol since erythritol does not affect the individual's insulin or glucose levels.³² ³³ After consumption, erythritol is absorbed in the small intestine, and then the vast majority (i.e., up to 90 percent) of erythritol is excreted out via urine without any significant changes.³⁴ Foods containing other sugars such as maltose and glucose have a higher GI value when compared to foods containing polyols such as mannitol and erythritol (see figure 1.2).³⁵ ³⁶

³⁰ The glycemic index measures the effect of certain types of food on blood sugar levels. The glycemic index is a scale that goes from 0 to 100 with higher numbers indicating a fast breakdown resulting in a fast rise in blood sugar and insulin levels and lower numbers indicating a slow breakdown resulting in a slow rise in blood sugar and insulin levels. Glycemic Index Guide, "What is the Glycemic Index?," accessed December 31, 2024, <https://glycemic-index.net/what-is-the-glycemic-index/>.

³¹ Conference transcript, p. 85 (Shultz).

³² Daza-Serna, et al., "From the Culture Broth to the Erythritol Crystals: An Opportunity for Circular Economy," *Applied Microbiology and Biotechnology*, volume 105, pp. 4467 to 4486, May 27, 2021, <https://doi.org/10.1007/s00253-021-11355-2>.

³³ Conference transcript, pp. 84 to 85 (Woo).

³⁴ Daza-Serna, et al., "From the Culture Broth to the Erythritol Crystals: An Opportunity for Circular Economy," *Applied Microbiology and Biotechnology*, volume 105, pp. 4467 to 4486, May 27, 2021, <https://doi.org/10.1007/s00253-021-11355-2>.

³⁵ Although erythritol is generally regarded as safe, a recent study conducted by the Cleveland Clinic found that individuals with higher erythritol levels in their blood had increased risk of experiencing a cardiac event (e.g., heart attack, stroke). Witowski et al., "The Artificial Sweetener Erythritol and Cardiovascular Event Risk," *Nature Medicine*, volume 29, pp. 710 to 718, February 27, 2023, <https://doi.org/10.1038/s41591-023-02223-9>.

³⁶ There is also group of sugars called rare sugars (e.g., allulose) that occur in small amounts in nature. Zhang, et al., "D-allulose, a Versatile Rare Sugar: Recent Biotechnological Advances and Challenges", *Critical Reviews in Food Science and Nutrition*, volume 63 (22), pp. 5661 to 5679. <https://doi.org/10.1080/10408398.2021.2023091>.

Figure 1.2 Comparison of glycemic index (GI) bands of various fruits, snacks, sugars, and polyols

Band	Polyols	GI	Fruits	GI	Sugars	GI	Candies and snacks	GI
High GI (GI >70–140)			Dates (dried)	103	Maltose	105	Jelly beans	87
			Watermelon	72	Glucose	100	Pretzels	83
							Com chips	72
Intermediate GI (GI >55–70)			Pineapple	66	Sucrose	65	Regular candy	70
			Banana	55	Honey	58	Fruit chews	70
							Almond bar	68
							Power chocolate bar	58
							Chocolate confection	58
Low GI (GI >40–55)	Maltitol syrups				Lactose	46	Ice-cream	52
	Intermediate	53	Grapes	54			Chocolate	49
	Regular	52	Oranges	50			Yoghurt	46
	High	48					Popcorn	45
							Chocolate coated toffee and cookie bar	44
							Chocolate peanut confection	41
Very low GI (GI 0–40)	Polyglycitol	39	Plum	39	Fructose	23	Fried chipped potato	38
	Maltitol syrup		Apple	38			Maltitol chocolate	30
	(high-polymer)	36	Cherries	22			Potato chips (crisps)	23
	Maltitol	35					Peanuts	14
	Xylitol	13					Isomalt chocolate	14
	Isomalt	9					Erythritol chocolate	2
	Sorbitol	9						
	Lactitol	6						
	Erythritol	0						
	Mannitol	0						

Source: Livesey, Geoffrey, "Health Potential of Polyols as Sugar Replacers, with Emphasis on Low Glycemic Properties," Nutrition Research Reviews, 2003, pp. 163 to 191, <https://polyols-eu.org/wp-content/uploads/Publication-1.pdf>.

While erythritol can be used on its own, erythritol can also be blended with other sweeteners to achieve different flavor profiles and sweetness levels.³⁷ With a sweetness rating of 0.8 relative to sucrose (see figure 1.3), erythritol is considered a good substitute for use in chocolates, as it offers comparable taste and lower calories without worrying about an increase in blood sugar.³⁸ For example, a chocolate treat made with standard table sugar would have a GI value of 58, while a chocolate treat made with erythritol would have a GI value of only 2.³⁹ With the rise in popularity of keto diets, erythritol is often used as a zero calorie sweetener (0.21 kcal/g), as other polyols typically have higher calories (see table 1.2).^{40 41}

Table 1.2 Relative sweetness of sugar alcohols and food energy, to sucrose (i.e., table sugar)

kcal/g = Kilocalories per gram

Sweeteners	Sweetness Relative to Sucrose	Food Energy (kcal/g)
Sucrose	1	4
Erythritol	0.8	0.21
Sorbitol	0.6	2.6
Xylitol	1	2.4
Maltitol	0.9	2.1
Lactitol	0.4	2
Isomalt	0.5	2
Mannitol	0.5	1.6

Source: Ross Chocolates, “What Are Sugar Alcohols & Why Do We Use Them?”, accessed December 31, 2024, <https://rosschocolates.ca/what-are-sugar-alcohols-why-do-we-use-them/>.

³⁷ Petition, vol. 1, p. 5.

³⁸ Ross Chocolates, “What Are Sugar Alcohols & Why Do We Use Them?,” accessed December 31, 2024, <https://rosschocolates.ca/what-are-sugar-alcohols-why-do-we-use-them/>.

³⁹ Livesey, Geoffrey, “Health Potential of Polyols as Sugar Replacers, with Emphasis on Low Glycaemic Properties,” Nutrition Research Reviews, 2003, pp. 163 to 191, <https://polyols-eu.org/wp-content/uploads/Publication-1.pdf>.

⁴⁰ Kilocalories per gram (kcal/g) is a unit of measurement used to determine the amount of energy found in a particular amount of food. Conference transcript, p. 14 (Shultz).

⁴¹ Conference transcript, p. 49 (Woo).

Erythritol is also promoted as a possible prevention method for dental caries (i.e., tooth decay).⁴² Polyols do not contribute to tooth decay, as they are not digested by saliva and mouth bacteria, and therefore not transformed into acids that can cause tooth decay.⁴³ Compared to other polyols, erythritol also has the advantage of a lower freezing point, which is beneficial in ice cream since it prevents crystal formation.⁴⁴ Another difference between erythritol and other high-intensity sweeteners (e.g., monk fruit⁴⁵, stevia⁴⁶) is its ability to act as a bulking agent to provide texture and mouthfeel for certain foods.⁴⁷

Manufacturing processes

According to the petitioner all erythritol is produced using similar production methods, on the same type of equipment, and by the same employees—small differences in grade or form do not stem from the manufacturing process.⁴⁸ ⁴⁹ In general, the production process for erythritol involves a series of steps to produce the final product.⁵⁰ The production process for erythritol is the same regardless of the product being labeled as standard, organic, non-GMO, or any other grade.⁵¹ The manufacturing of erythritol is generally described in two stages: fermentation and downstream (see figure 1.3).⁵² As outlined below during the fermentation process, also referred to as the culture stage, there are several compounds present such as the following: erythritol, byproduct sugars, biomass insoluble, and salts. The downstream stage of

⁴² Livesey, Geoffrey, “Health Potential of Polyols as Sugar Replacers, with Emphasis on Low Glycaemic Properties,” Nutrition Research Reviews, 2003, pp. 163 to 191, <https://polyols-eu.org/wp-content/uploads/Publication-1.pdf>.

⁴³ Ross Chocolates, “What Are Sugar Alcohols & Why Do We Use Them?,” accessed December 31, 2024, <https://rosschocolates.ca/what-are-sugar-alcohols-why-do-we-use-them/>.

⁴⁴ Conference transcript, p. 49 (Woo).

⁴⁵ Monk fruit (i.e., *siraitia grosvenorii*) is a plant native to China that is used as a natural sweetener. Gong, et al., “The Fruits of *Siraitia Grosvenorii*: a Review of a Chinese Food-Medicine,” Frontiers in Pharmacology, volume 10 (1400), November 22, 2019, <https://doi.org/10.3389/fphar.2019.01400>.

⁴⁶ Stevia (i.e., *stevia rebaudiana*) is a plant native to South America (Brazil, Paraguay) that is used as a natural sweetener, and Truvia is the brand name that stevia is sold under. Peteliuk, et al., “Natural Sweetener *Stevia Rebaudiana*: Functionalities, Health Benefits and Potential Risks,” EXCLI Journal, volume 20, pp. 1412 to 1430, September 22, 2021, <https://doi.org/10.17179/excli2021-4211>.

⁴⁷ A bulking agent increases the volume of food without adding significant calories. Conference transcript, p. 50 (Woo).

⁴⁸ Petitioner’s postconference brief, p. 3.

⁴⁹ The petitioner claimed that the overall production process for the Chinese companies is similar to their own process. Conference transcript, p. 39 (Woo).

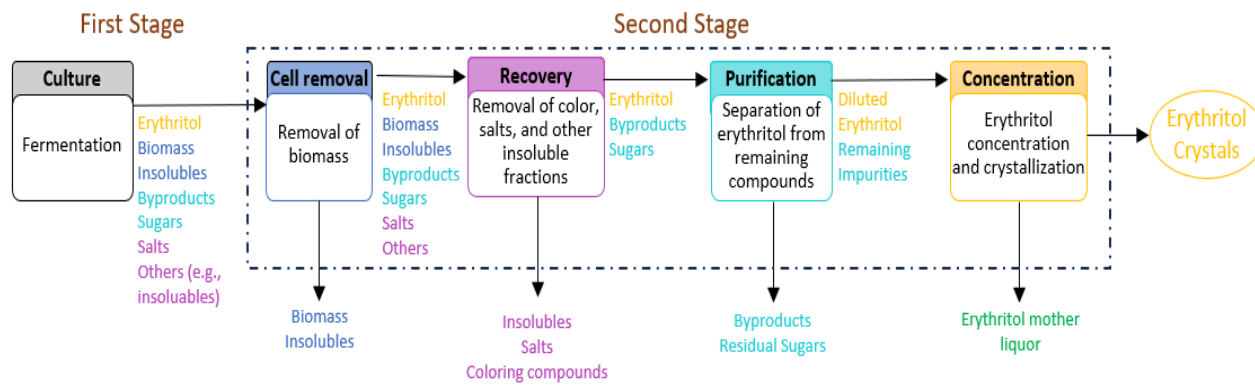
⁵⁰ The petitioner is the sole known producer of erythritol in the United States. Petition, vol. 1, p. 2.

⁵¹ For the past few years, the most produced grade of erythritol is “standard” due to the competitive erythritol market. Conference transcript, p. 20 (Woo).

⁵² Conference transcript, p. 37 (Woo).

production involves a series of steps (cell removal, recovery, purification, and concentration) that are designed to isolate and yield erythritol crystals.⁵³ The first stage (i.e., fermentation taking place over a period of 3 to 4 days) is batched while the second stage is continuous.⁵⁴

Figure 1.3 General flowchart outlining production of erythritol



Source: Adapted from Daza-Serna, et al., “From the Culture Broth to the Erythritol Crystals: An Opportunity for Circular Economy,” *Applied Microbiology and Biotechnology*, volume 105, pp. 4467 to 4486, May 27, 2021, <https://doi.org/10.1007/s00253-021-11355-2>.

More specifically, the first step is the culture stage, which involves fermenting dextrose⁵⁵ and other nutrients using a specific microorganism,⁵⁶ resulting in a fermented product hereby referred to as the “broth.”⁵⁷ ⁵⁸ ⁵⁹ The aerobic microorganisms require carbon, (i.e., dextrose), nitrogen (e.g., nitrogen-containing salts), and minerals in order for the

⁵³ Daza-Serna, et al., “From the Culture Broth to the Erythritol Crystals: An Opportunity for Circular Economy,” *Applied Microbiology and Biotechnology*, volume 105, May 27, 2021, <https://doi.org/10.1007/s00253-021-11355-2>.

⁵⁴ Conference transcript, p. 53 (Woo).

⁵⁵ Dextrose, which is derived from corn, is the largest material input in the erythritol production process. Conference transcript, p. 20 (Woo).

⁵⁶ Petitioner uses *** in the fermentation process. Petitioner’s postconference brief, exhibit 1, p.3.

⁵⁷ Petition, vol. I, p. 5.

⁵⁸ The most prevalent raw materials include corn, corn starch, and glucose. European Union, “Commission Implementing Regulation (EU) 2024/1959: Imposing A Provisional Anti-Dumping Duty on Imports of Erythritol Originating in the People’s Republic of China,” July 17, 2024, <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32024R1959>.

⁵⁹ There are several microorganisms that can be used in the fermentation process to produce erythritol such as *moliniella pollinis*, *trichosporonoides megachiliensis*, and *yarrowia lipolytica*. Daza-Serna, et al., “From the Culture Broth to the Erythritol Crystals: An Opportunity for Circular Economy,” *Applied Microbiology and Biotechnology*, volume 105, pp. 4467 to 4486, May 27, 2021, <https://doi.org/10.1007/s00253-021-11355-2>.

microorganism to grow.^{60 61} Due to its ease of handling along with purity, safety, and selectivity towards erythritol, the most commonly used carbon source in research and industrial settings is “high-concentrated glucose syrup” (16 to 40 percent w/v).⁶²

After the fermentation process is complete, the cell removal stage begins, as the broth is filtered to remove any solid materials (which will be used as an animal feed ingredient elsewhere).⁶³ For the recovery stage, the filtrate proceeds to go through a softening step to remove any hard minerals that are present such as calcium and magnesium, and the filtrate then goes through an evaporation step to remove water.⁶⁴ In the purification stage, the resulting liquid product then goes through a separation process known as chromatography to help separate the unwanted byproducts (i.e., unwanted polyols, glycerol) from the desired products (i.e., erythritol).⁶⁵ Once again, the unwanted byproducts are used elsewhere as an animal feed ingredient. After chromatography, the resulting liquid product then undergoes an additional series of processing steps to remove color (using activated carbon), to remove minerals (i.e., demineralization), and to remove water (i.e., evaporation).⁶⁶

Lastly, the primary goal of the concentration stage is to obtain erythritol crystals.⁶⁷ The liquid erythritol undergoes a “proprietary cooling process” and subsequent crystallization, which results in crystals of a certain shape and size.⁶⁸ The process of centrifugation is

⁶⁰ Daza-Serna, et al., “From the Culture Broth to the Erythritol Crystals: An Opportunity for Circular Economy,” *Applied Microbiology and Biotechnology*, volume 105, pp. 4467 to 4486, May 27, 2021, <https://doi.org/10.1007/s00253-021-11355-2>.

⁶¹ Conference transcript, p. 51 (Woo).

⁶² W/v stands for weight per unit volume. Daza-Serna, et al., “From the Culture Broth to the Erythritol Crystals: An Opportunity for Circular Economy,” *Applied Microbiology and Biotechnology*, volume 105, pp. 4467 to 4486, May 27, 2021, <https://doi.org/10.1007/s00253-021-11355-2>.

⁶³ The presence of these solid materials, which include non-soluble byproducts and other microorganisms, can cause operational issues such as clogged membranes or columns. Petition, vol. 1, p. 5; Daza-Serna, et al., “From the Culture Broth to the Erythritol Crystals: An Opportunity for Circular Economy,” *Applied Microbiology and Biotechnology*, volume 105, pp. 4467 to 4486, May 27, 2021, <https://doi.org/10.1007/s00253-021-11355-2>.

⁶⁴ Petition, vol.1, p. 6.

⁶⁵ Petition, vol. 1, p. 6.

⁶⁶ Petition, vol. 1, p. 6.

⁶⁷ Daza-Serna, et al., “From the Culture Broth to the Erythritol Crystals: An Opportunity for Circular Economy,” *Applied Microbiology and Biotechnology*, volume 105, May 27, 2021, pp. 4467 to 4486, <https://doi.org/10.1007/s00253-021-11355-2>.

⁶⁸ Petition, vol. 1, p. 6.

performed to separate the crystals from the remaining liquid, and the crystals are then sifted and selected based on existing size requirements (e.g., standard mesh size).^{69 70}

According to the petitioner, approximately thirty percent of the crystals do not meet the size criteria⁷¹ and are sent back to the prior processing steps to undergo the crystallization process once again (evaporation → crystallization → crystal separation), see figure 1.4.⁷² Any subsequent remaining material that does not meet the size specifications is sent to be processed elsewhere as feed byproduct.⁷³ For the material that passed specifications, the final erythritol product in the standard granule form is then packaged into 20kg bags and supersacks (500 to 1000kg)⁷⁴ for CPG (consumer packaged goods) customers.⁷⁵ For a certain subset of customers, the erythritol crystals undergo an additional processing step whereby the crystals are milled into powder form.⁷⁶ The final erythritol product in the fine powdered form is then packaged into 25lb boxes.⁷⁷ These packaged products have a typical shelf life of three years.⁷⁸

⁶⁹ Petition, vol. 1, p. 6.

⁷⁰ Mesh size refers to the particle size of a granular material. Conference transcript, p. 70 (Shultz).

⁷¹ The level of crystallization can be impacted by the presence of impurities with certain levels of impurities inhibiting crystallization. Conference transcript, pp. 86 to 87 (Woo).

⁷² ***. Petitioner's postconference brief, exhibit 1, p.3; Petition, vol. 1, p. 6.

⁷³ Petition, vol. 1, pp. 7, 18.

⁷⁴ For more information on the specifications of the standard granule see Petitioner's postconference brief, exhibit 1, attachment C.

⁷⁵ CPGs are products that consumers purchase for personal use that are consumed and need to be replenished. Conference transcript, p. 22 (Woo).

⁷⁶ Petitioner refers to the final product as "standard" granulation. *** Petitioner's postconference brief, exhibit 1, attachment C; Conference transcript, p. 20 (Woo).

⁷⁷ Petition, vol. 1, p. 6.

⁷⁸ Conference transcript, p. 59 (Shultz).

Figure 1.4 Cargill's production process for erythritol

* * * * *

Source: Petition, Exhibit 1-3, n.p.

Note: ***.

Domestic like product issues

The petitioner proposes that the Commission should define a single domestic like product co-extensive with the scope, which encompasses all erythritol regardless of physical form or grade.⁷⁹ Petitioner argues that all erythritol covered by the scope of these investigations share the same physical characteristics and uses; all forms of erythritol are generally interchangeable; all erythritol is produced using similar production methods, on the same equipment and by the same employees; customers and producers generally do not perceive differences between different forms and grades of erythritol and perceive different forms and grades of erythritol as interchangeable; in addition, petitioner affirms that the price for all forms of and grades of erythritol also fall on the same continuum and have shared similar price declines.^{80 81}

Further, the petitioner argues that other polyols, rare sugars, and tabletop sweeteners are not in the scope and constitute a separate like product because other polyols are not interchangeable with erythritol and of the clear dividing line between the market for tabletop sweeteners and erythritol.⁸² No respondents participated in the preliminary phase of these investigations.

The U.S. producer and U.S. importers were asked to report on comparability of erythritol and other polyol sweeteners addressing physical characteristics and end uses, interchangeability, channels of distribution, manufacturing facilities, production processes, and production employees, customer and producer perceptions, and price. The results of the responses regarding the product comparisons are summarized below in table 1.3.⁸³

⁷⁹ Petitioner's postconference brief, pp. 2 to 3.

⁸⁰ Petitioner's postconference brief, pp. 3 to 5.

⁸¹ Petitioner also mentioned limited interchangeability in a small fraction of the market that prefers Non-GMO Project Verified erythritol and cited an exception to perceived differences in grade if a customer sought to produce a Non-GMO Project Verified product. Petitioner's postconference brief, pp. 3 to 4.

⁸² Petitioner's postconference brief, pp. 5 to 8.

⁸³ Additional information is also presented in Appendix D.

Table 1.3 Erythritol: Count of firm's responses regarding the domestic like product factors comparing in-scope erythritol vs. out-of-scope other polyol sweeteners

Count in number of firms reporting

Firm type	Factor	Fully	Mostly	Somewhat	Never
U.S. producer	Physical characteristics	***	***	***	***
U.S. producer	Interchangeability	***	***	***	***
U.S. producer	Channels	***	***	***	***
U.S. producer	Manufacturing	***	***	***	***
U.S. producer	Perceptions	***	***	***	***
U.S. producer	Price	***	***	***	***
U.S. importers	Physical characteristics	2	1	12	2
U.S. importers	Interchangeability	2	1	10	3
U.S. importers	Channels	2	8	4	1
U.S. importers	Manufacturing	2	4	5	3
U.S. importers	Perceptions	1	1	11	1
U.S. importers	Price	0	0	11	4

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

Part 2: Conditions of competition in the U.S. market

U.S. market characteristics

Erythritol is a natural zero-calorie bulk sweetener with a look and taste similar to sugar. It typically appears as a white crystalline, odorless product that rapidly dissolves in water. Erythritol is most commonly used as a clean-tasting natural alternative to sugar, but can also be used as a flavor modifier, formulation aid, humectant, stabilizer, thickener, sequestrant, texturizer, and pharmaceutical excipient. It is often used as an ingredient in beverages, sweet biscuits, cookies, dairy, and dessert products. It is also used in chewing gums, personal care and cosmetics, health and nutrition products, chocolate confectionaries, and snacks and cereal bars. It has a zero glycemic index and is highly digestible, making it an ideal zero-calorie sugar replacer. It is preferred over other types of sweeteners and sugar because of certain unique characteristics, including that it has shelf-life enhancing functionality, is highly stable at a wide range of pH levels, depresses freezing points, resists high heat, and has oral health benefits. It may also be blended with other types of sweeteners or sugars to achieve reductions in calories or different flavor effects, such as erythritol's cooling effect in the mouth.¹

There is one U.S. producer of erythritol, petitioner Cargill, and the majority of imports of erythritol are imported from China. Erythritol can be sold as standard/conventional, organic, non-genetically modified ("non-GMO"), and non-GMO project verified.² Some importers report that Cargill does not produce certain types of erythritol, in particular certified non-GMO or organic erythritol. Cargill stated that it can produce certified non-GMO erythritol and that the vast majority of the market does not require non-GMO project verified erythritol.³

¹ Petition, p. 1-5.

² Conference transcript, p. 24 (Szamoszegi).

³ Conference transcript, p. 21 (Woo). Cargill estimates the non-GMO erythritol market to be less than 25 percent of the total market and that it's important to differentiate between non-GMO project verified other non-GMO because there are non-GMO applications in which its standard product would meet the criteria since it does not need to be declared as genetically modified. Conference transcript, pp. 50-51 (Schultz).

U.S. producer Cargill and most importers indicated that the market was not subject to distinctive conditions of competition. Five importers reported that the market was subject to distinctive conditions of competition, specifically one importer reported that fluctuations in production can greatly affect the market price since there are limited Chinese and domestic producers while another importer reported that multiple origins/competitors offering the same type of product and another importer reported that the domestic producer is more competitive than other producers. One importer reported that there is less market demand and over-production/capacity by domestic and foreign producers. U.S. producer Cargill and the vast majority of importers reported that there had not been any changes to the product mix or marketing of erythritol since January 1, 2021. Importer *** reported that it has decreased erythritol usage as consumers look to replace sugar alcohols in their diet. Importer *** reported that recent research papers in 2023 and 2024 suggested that erythritol consumption might lead to heart disease and blood clots, which led to temporal decrease in consumption and triggered discussion and publications on positive effects of erythritol in mass-media and scientific press.

Apparent U.S. consumption of erythritol fluctuated during 2021 to 2023, increasing from 2021 to 2022 before declining sharply from 2022 to 2023. Overall, apparent U.S. consumption in 2023 was lower than in 2021.

Impact of section 301 tariffs

U.S. producers and importers were asked to report the impact of section 301 tariffs on overall demand, supply, prices, or raw material costs. Eleven importers reported that the section 301 tariffs on China did have an impact on the erythritol market; *** five importers reported that the section 301 tariffs did not have an impact on the erythritol market, and eleven importers reported they did not know if there was an impact on the erythritol market. Reported impact included passing along the 25 percent tariff on to customers, increasing the price of erythritol.

Channels of distribution

*** importers sold mainly to food processors, as shown in table 2.1.

Table 2.1 Erythritol: Share of U.S. shipments by source, channel of distribution, and period

Shares in percent; interim is January to September

Source	Channel	2021	2022	2023	Interim 2023	Interim 2024
United States	Distributors	***	***	***	***	***
United States	Retailers	***	***	***	***	***
United States	Food processors	***	***	***	***	***
United States	Other end users	***	***	***	***	***
China	Distributors	***	***	***	***	***
China	Retailers	***	***	***	***	***
China	Food processors	***	***	***	***	***
China	Other end users	***	***	***	***	***
Nonsubject	Distributors	***	***	***	***	***
Nonsubject	Retailers	***	***	***	***	***
Nonsubject	Food processors	***	***	***	***	***
Nonsubject	Other end users	***	***	***	***	***
All imports	Distributors	***	***	***	***	***
All imports	Retailers	***	***	***	***	***
All imports	Food processors	***	***	***	***	***
All imports	Other end users	***	***	***	***	***

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

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "—".

Geographic distribution

*** most importers reported selling erythritol to all regions in the contiguous United States (table 2.2). For U.S. producer Cargill, *** percent of sales were within 100 miles of their production facility, *** percent were between 101 and 1,000 miles, and *** percent were over 1,000 miles. Importers sold 25.5 percent within 100 miles of their U.S. point of shipment, 55.9 percent between 101 and 1,000 miles, and 18.6 percent over 1,000 miles.

Table 2.2 Erythritol: Count of U.S. producer’s and U.S. importers’ geographic markets

Region	U.S. producer	China
Northeast	***	17
Midwest	***	20
Southeast	***	15
Central Southwest	***	16
Mountain	***	16
Pacific Coast	***	20
Other	***	1
All regions (except Other)	***	12
Reporting firms	1	23

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

Note: Other U.S. markets include AK, HI, PR, and VI.

Supply and demand considerations

U.S. supply

Table 2.3 provides a summary of the supply factors regarding erythritol from U.S. producer Cargill. No foreign producers reported production or shipment data at the time of this report.

Table 2.3 Erythritol: Supply factors that affect the ability to increase shipments to the U.S. market, by country

Quantity in 1,000 pounds; ratio and share in percent

Factor	Measure	United States
Capacity 2021	Quantity	***
Capacity 2023	Quantity	***
Capacity utilization 2021	Ratio	***
Capacity utilization 2023	Ratio	***
Inventories to total shipments 2021	Ratio	***
Inventories to total shipments 2023	Ratio	***
Home market shipments 2023	Share	***
Non-US export market shipments 2023	Share	***
Ability to shift production (firms reporting “yes”)	Count	***

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

Note: U.S. producer Cargill accounted for all of U.S. production of erythritol in 2023. Responding foreign exporter firms accounted for minimal U.S. imports of erythritol from China during 2023; no foreign producers responded to the Commission’s questionnaire. For additional data on the number of responding firms and their share of U.S. production and of U.S. imports from China, please refer to Part 7.

Domestic production

Based on available information, U.S. producer Cargill has the ability to respond to changes in demand with *** changes in the quantity of shipments of U.S.-produced erythritol to the U.S. market. The main contributing factors to this degree of responsiveness of supply are ***.

Cargill's practical capacity increased while production declined, leading to a *** decline in capacity utilization. Inventories increased *** from 2021 to 2023. Cargill reported exporting to ***. Other products that Cargill reportedly can produce on the same equipment as erythritol are fermentation-derived stevia on one of six fermenters where it can produce erythritol, though it has never utilized this asset. It stated that downstream purification and crystallization processes cannot be used to produce any other products.⁴ The factor affecting the U.S. producer's ability to shift production is that the production process is highly specific to the fermentation and purification of erythritol, and ability to produce another product would require substantial investment.⁵

Subject imports from China

Based on available information, producers of erythritol from China have the ability to respond to changes in demand with large changes in the quantity of shipments of erythritol to the U.S. market. While no foreign producers provided production or shipment data in response to the Commission's questionnaire, petitioner asserted that during 2021 to 2023, "Chinese erythritol companies announced and completed significant capacity expansions. However, major Chinese beverage companies reformulated their products in 2022 and 2023, leading to excess production of erythritol in China that was then exported to the United States and elsewhere in large quantities at rock bottom prices."⁶ Petitioner also asserted that "producers of erythritol in the subject country have demonstrated the ability to rapidly increase exports to the United States and to injure the erythritol industry in Europe. Moreover, the Chinese industry has recently added more than *** MT in annual capacity."⁷

⁴ Conference transcript, pp. 37-38 (Shultz and Herther).

⁵ Conference transcript, pp. 38-39 (Herther).

⁶ Petition, p. I-10.

⁷ Petition, p. I-13.

Imports from nonsubject sources

Nonsubject imports accounted for *** percent of total U.S. imports in 2023. According to official Commerce statistics, the largest source of nonsubject imports during 2021 through 2023 was France, which accounted for 68.9 percent of nonsubject imports in 2023.⁸

Supply constraints

U.S. producer Cargill and 14 of 27 responding importers reported that they had experienced supply constraints since January 1, 2021. Most of these constraints were reported in 2021, with Cargill and 14 importers reporting constraints, citing unanticipated demand during the COVID-19 pandemic as well as supply chain disruptions such as port congestion, availability of containers and high sea freight rates. Eight importers reported constraints in 2022, again citing supply disruptions, and one importer reported constraints in 2023 and 2024. Cargill stated that it did not shut down erythritol production during the COVID-19 pandemic and honored and fulfilled all customer commitments during that time, and that an increase in demand from customers over-booking, as well as the rise in the popularity in the keto diet constrained availability in the market.⁹

⁸ Derived from Dataweb for HTS 2905.49.4000, see also Petition Table 1, p. I-9, and Exhibit I-6.

⁹ Conference transcript, p. 60 (Shultz).

U.S. demand

Based on available information, the overall demand for erythritol is likely to experience moderate changes in response to changes in price. The main contributing factors are the somewhat limited range of substitute products and the small-to-moderate cost share of erythritol in most of its end-use products. General drivers of demand have been consumer shifts in food consumption, such as sugar reduction, low carb, and keto diets.¹⁰

End uses and cost share

U.S. demand for erythritol depends on the demand for U.S.-produced downstream products, primarily food products. Reported end uses include baking/baking mixes, beverages, chocolate bars, confectionary, granola, liquid syrups, powders, snack foods, and tabletop sweetener.¹¹ Firms reported that erythritol accounts for a small-to-moderate share of the cost of the end-use products in which it is used, with most firms reporting that the cost share of erythritol was one-third or less of the total end use product.¹²

Business cycles

Most firms reported that the erythritol market is not subject to business cycles, however six importers reported that the market is subject to business cycles. Specifically, importer *** reported that demand ramps up in February to July during “beverage season” and importer *** noted the use in beverages has seasonal production trends. Importer *** reported that erythritol usage is generally higher in the first quarter of the year as more people in the U.S. go on diets.

¹⁰ Conference transcript, p. 64 (Weideman).

¹¹ Petitioner Cargill stated it captively consumes a portion of the erythritol it produces in the production of its Truvia brand table-top sweetener. Conference transcript, p. 25 (Szamoszegi).

¹² Importer *** reported that erythritol account for 95 percent of tabletop sweeteners. Several firms reported that erythritol was itself an end use.

Demand trends

Most firms reported that U.S. demand for erythritol either fluctuated down or steadily decreased since January 1, 2021 (table 2.4). Several firms reported that there was a significant increase in demand in 2020 and 2021 and that demand normalized through 2024. Importer *** reported that there was strong demand for material at the start of 2021 as a carryover from 2020 and the start of the pandemic and that demand was driven more by logistic delays and panic buying/inventory stockpiling than from market growth. It continued that there was a strong contraction of demand in the second half of 2022 due to high inventory levels of customers and partially due to slowing market demand and that the market normalized in 2023 and into 2024.¹³ Five importers, ***, cited a study on the health effects of erythritol, particularly the potential increase in cardiovascular event risks, that caused a decline in demand for erythritol.¹⁴ Cargill asserted that it saw some minimal demand erosion or reformulations due to this study but there has not been a significant shift in consumer landscape or in the formulation landscape as it can take upwards of one to two years for customers to reformulate.¹⁵

Table 2.4 Erythritol: Count of firms' responses regarding overall domestic and foreign demand, by firm type

Market	Firm type	Steadily Increase	Fluctuate Up	No change	Fluctuate Down	Steadily Decrease
Domestic demand	U.S. producer	***	***	***	***	***
Domestic demand	Importers	2	4	6	10	4
Foreign demand	U.S. producer	***	***	***	***	***
Foreign demand	Importers	5	5	6	4	2

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

¹³ Cargill described a similar accounting of demand trends. Conference transcript, p. 60 (Shultz).

¹⁴ This study was "The artificial sweetener erythritol and cardiovascular event risk", *Nature Medicine*, March 2023. <https://pmc.ncbi.nlm.nih.gov/articles/PMC10334259/pdf/nihms-1907030.pdf>. Accessed January 8, 2025.

¹⁵ Conference transcript, p. 66 (Schultz).

Substitute products

Substitutes for erythritol are limited. *** a majority of importers (15 of 25) reported that there were no substitutes. Importers that indicated there are substitutes reported allulose, dextrose, maltitol, monk fruit, stevia, sugar, and xylitol as substitutes, all of which are used in the same end uses as erythritol. Importer *** reported that allulose and xylitol impact the price of erythritol, and importer *** reported that allulose, monk fruit, and stevia impact the price of erythritol. With respect to allulose, importer *** reported that negative publicity surrounding erythritol may lead to a decrease in its demand, which could stabilize or lower its price, while the demand for allulose as a substitute may increase, potentially driving up its price due to higher demand and limited supply. With respect to xylitol, it reported that the side effects and risks associated with xylitol may limit its demand, which could stabilize or lower its price, while erythritol may maintain higher demand as an alternative, preventing a significant drop in its price.

Substitutability issues

This section assesses the degree to which U.S.-produced erythritol and imports of erythritol from subject countries can be substituted for one another by examining the importance of certain purchasing factors and the comparability of erythritol from domestic and imported sources based on those factors. Based on available data, staff believes that there is a high degree of substitutability between domestically produced erythritol and erythritol imported from subject sources.¹⁶ Factors contributing to this level of substitutability include similar lead times for erythritol from inventory and interchangeability between domestic and subject sources. Factors that may reduce substitutability include limited availability at times early in the period of investigation, certain types of erythritol only being available from subject sources, and significant factors other than price that firms consider. Specifically, importers reported that certified non-GMO and organic erythritol is only available from China; however, petitioner asserted that GMO erythritol and non-GMO erythritol can be used in the same applications.¹⁷

¹⁶ The degree of substitution between domestic and imported erythritol depends upon the extent of product differentiation between the domestic and imported products and reflects how easily purchasers can switch from domestically produced erythritol to the erythritol imported from subject countries (or vice versa) when prices change. The degree of substitution may include such factors as quality differences (e.g., grade standards, defect rates, etc.), and differences in sales conditions (e.g., lead times between order and delivery dates, reliability of supply, product services, etc.).

¹⁷ Conference transcript, pp. 50-51 (Shultz).

Factors affecting purchasing decisions

Purchasers responding to lost sales lost revenue allegations¹⁸ were asked to identify the main purchasing factors their firm considered in their purchasing decisions for erythritol. The factors firms consider in their purchasing decisions for erythritol were customer service, supply assurance, price/cost, availability, quality, strong partnership with a U.S. based seller, and ease of doing business. Purchaser *** reported that it only purchased imported erythritol when there was a shortage of product in the U.S. in 2022 and that it has a strategic partnership with Cargill.

Lead times

Erythritol is primarily sold from inventory. U.S. producer Cargill reported that *** its commercial shipments were from inventory, with lead times averaging *** days. Importers reported that 84.1 percent of their commercial shipments were from U.S. inventory, with lead times averaging 12 days. The remaining 13.8 percent of their commercial shipments came from foreign inventories, with lead times averaging 66 days, and 2.1 percent were produced-to-order, with lead times averaging 63 days.

Certified organic and non-GMO erythritol

U.S. producers and importers were asked if they sold certified organic or non-GMO erythritol since January 1, 2021. U.S. producer Cargill reported that they sold ***. Fifteen of 26 responding importers reported selling certified organic erythritol, 14 of 26 reported selling certified non-GMO project butterfly label erythritol, and 4 of 20 responding importers reported selling other certified non-GMO erythritol since January 1, 2021. Eleven importers reported selling both certified organic and non-GMO butterfly label erythritol since 2021, and two importers (***) reported selling certified organic and certified non-GMO, both butterfly label and other, erythritol. Table 2.5 shows how frequently firms reported selling these certified organic and non-GMO erythritol in 2023.

¹⁸ This information is compiled from responses by purchasers identified by the petitioner to the lost sales lost revenue allegations. See Part 5 for additional information.

Petitioner Cargill contends that it can produce non-GMO verified erythritol, but it is not effective for it to do so in the current market climate.¹⁹ It also asserts that non-GMO imported product is competing against GMO product and that the final chemical compositing of the product is identical whether the erythritol is organic, non-GMO, standard, or any other grade.²⁰

Table 2.5 Erythritol: Count of firms' frequency of sales that were certified organic and/or non-GMO erythritol in 2023, by firm type

Firm type	Certification	All	Most	Some	None
U.S. producer	Organic	***	***	***	***
U.S. producer	Non-GMO project	***	***	***	***
U.S. producer	Non-GMO other	***	***	***	***
Importers	Organic	2	0	13	5
Importers	Non-GMO project	9	2	2	6
Importers	Non-GMO other	2	1	1	12

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

Comparison of U.S.-produced and imported erythritol

In order to determine whether U.S.-produced erythritol can generally be used in the same applications as imports from China, U.S. producers and importers were asked whether the products can always, frequently, sometimes, or never be used interchangeably. As shown in table 2.6, *** a majority of responding importers reported that domestically produced erythritol and erythritol imported from China are always or frequently interchangeable. Of the seven importers that reported that domestically produced erythritol and erythritol imported from China are sometimes or never interchangeable, three indicated limited interchangeability due to non-GMO erythritol being produced in China and not produced in the United States. Importer *** reported that the product specification between two factories is not always equivalent and that it is only approved to deliver from one specified factory to its customer.

¹⁹ Conference transcript, p. 61 (Schultz).

²⁰ Conference transcript, pp. 62-63 (Reiskin), and p. 20 (Woo).

Table 2.6 Erythritol: Count of U.S. producer and importers reporting the interchangeability between product produced in the United States and in other countries, by country pair

Country pair	Firm type	Always	Frequently	Sometimes	Never
U.S. vs. China	U.S. producer	***	***	***	***
U.S. vs. other	U.S. producer	***	***	***	***
China vs. other	U.S. producer	***	***	***	***
U.S. vs. China	Importers	7	6	6	1
U.S. vs. other	Importers	6	4	4	0
China vs. other	Importers	7	3	3	0

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

In addition, U.S. producers and importers were asked to assess how often differences other than price were significant in sales of erythritol from the United States, subject, or nonsubject countries. As seen in table 2.7, *** a slight majority of responding importers reported that there are sometimes or never significant differences other than price between domestically produced erythritol and erythritol imported from China. Other significant factors cited by importers were availability, including frequent supply constraints from the U.S. producer which cannot supply full U.S. demand; non-GMO certification; quality; special packaging or granulation may not be available from all suppliers; and customer service.

Table 2.7 Erythritol: Count of U.S. producer and importers reporting the significance of differences other than price between product produced in the United States and in other countries, by country pair

Country pair	Firm type	Always	Frequently	Sometimes	Never
U.S. vs. China	U.S. producer	***	***	***	***
U.S. vs. other	U.S. producer	***	***	***	***
China vs. other	U.S. producer	***	***	***	***
U.S. vs. China	Importers	3	6	8	3
U.S. vs. other	Importers	1	3	5	3
China vs. other	Importers	1	1	5	4

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

Part 3: U.S. producer’s production, shipments, and employment

The Commission analyzes a number of factors in making injury determinations (see 19 U.S.C. §§ 1677(7)(B) and 1677(7)(C)). Information on the subsidies and dumping margins was presented in Part 1 of this report and information on the volume and pricing of imports of the subject merchandise is presented in Part 4 and Part 5. Information on the other factors specified is presented in this section and/or Part 6 and (except as noted) is based on the questionnaire response of one firm that accounted for all known U.S. production of erythritol at production scale during 2023.^{1 2}

U.S. producers

The Commission issued a U.S. producer questionnaire to one firm based on information contained in the petitions, and one firm provided usable data on its operations. Table 3.1 lists the U.S. producer of erythritol, its production location, position on the petitions, and share of total production.

Table 3.1 Erythritol: U.S. producer, its positions on the petitions, production location, and shares of reported production, 2023

Firm	Position on petition	Production location	Share of production
Cargill	Petitioner	Blair, Nebraska	100.0

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

Cargill is not related to ***³ or other ***. In addition, as discussed in greater detail below, Cargill *** the subject merchandise but does not ***.

¹ Conference transcript, p. 12 (Shultz). Cargill began production and sales of erythritol in 2004, after opening its \$60 million facility in the city of Blair, Nebraska. Cargill was one of the first companies worldwide to produce erythritol and is currently the only producer of erythritol in the United States.

² Conference transcript, pp. 101 and 102 (Shultz). Cargill added that there may be other smaller firms that produce sample size or small volumes for product attribution qualification and R&D, but they’re not producing at scale. Conference transcript, pp. 114 to 116 (Shultz and Reiskin).

³ Email from ***, January 10, 2025.

Table 3.2 presents events in the U.S. industry since January 1, 2021.

Table 3.2 Erythritol: Important industry events since 2021

Item	Firm	Event
***	Cargill	***
Other	Cargill	In December 2024, Cargill announces that it will be laying off 5 percent of its global workforce, impacting about 8,000 workers worldwide.

Source: Petition, vol. 1, p. 13; AP News, “Cargill Lays Off 5% of its Workforce, With Job Cuts Impacting Thousands of Employees Globally,” December 3, 2024, <https://apnews.com/article/cargill-layoffs-thousands-job-cuts-27b8882b53fd1c026d17e0570ea49d4b>.

The U.S. producer was asked to report any change in the character of its operations or organization relating to the production of erythritol since 2021. The U.S. producer indicated in its questionnaire that it had experienced such changes. Table 3.3 presents the changes identified by this producer.

Table 3.3 Erythritol: Cargill’s reported changes in operations, since January 1, 2021

Item	Narrative response on changes in operations
Prolonged shutdowns	***
Production curtailments	***
Weather-related or force majeure events	***

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

U.S. production, capacity, and capacity utilization

Table 3.4 and figure 3.1 present Cargill's installed overall, practical overall, and practical erythritol's capacity, production, and capacity utilization on the same equipment. Installed overall capacity increased between 2021 and 2022 by *** percent and remained unchanged from 2022 to 2023 and in both interim periods.⁴ However, installed overall production had opposite trends and steadily declined by *** percent from 2021 to 2022 and by *** percent between 2022 to 2023, with an overall decrease of *** percent from 2021 to 2023, with lower production in interim 2024 compared to interim 2023. Since Cargill did not report ***,⁵ practical overall and practical erythritol capacity, production, and corresponding utilization rates match throughout the period.

Practical erythritol capacity increased between 2021 and 2022 by *** percent and remained unchanged from 2022 to 2023 and in both interim periods. In contrast, production declined overall by *** percent between 2021 and 2023, a decrease in 2023 by approximately two-thirds from the previous year.⁶ Production quantities were also lower in interim 2024 by *** percent compared to interim 2024. Capacity utilization rates, as a consequence, also followed the downward trend and declined by *** percentage points from ***

⁴ Cargill reported that the capacity increase in 2022 was the result of the June 2021 retrofit completion of one of the fermenters enabling it to make fermentation-derived stevia. Capacity in 2021 included six months of capacity from this fermenter and 2022 included 12 months of capacity. The firm's capacity has remained largely the same since then. Conference transcript, pp. 38, 40, and 41 (Herther and Shultz).

⁵ ***. Email from ***, January 14, 2025.

⁶ Cargill explained that the production declined was the result of ***. Cargill's U.S. producer questionnaire response, section II.17, revised.

In addition, Cargill stated that customers were over-booking based on demand signals that quickly adjusted as the markets normalized after the COVID pandemic. The markets went into 2022 with a very high volume of inventory and at the end of 2022 into 2023 there would not have been much space to bring in more product. Customers' warehouses were full, distributors were full; Cargill had an excess amount of inventory. While Cargill managed through the push of volume into the marketplace the demand signals normalized and left a lot of inventory at play, and it took quite a bit of time for that inventory consumption to work its way through based on adjusted normalized demand. Conference transcript, pp. 44 and 45 (Shultz).

percent in 2021 to *** percent in 2023 and were *** percentage points lower in interim 2024 compared to interim 2023.

Table 3.4 Erythritol: Cargill’s installed and practical capacity and production on the same equipment as in-scope production, by period

Capacity and production in 1,000 pounds; utilization in percent; interim is January to September

Item	Measure	2021	2022	2023	Interim 2023	Interim 2024
Installed overall	Capacity	***	***	***	***	***
Installed overall	Production	***	***	***	***	***
Installed overall	Utilization	***	***	***	***	***
Practical overall	Capacity	***	***	***	***	***
Practical overall	Production	***	***	***	***	***
Practical overall	Utilization	***	***	***	***	***
Practical Erythritol	Capacity	***	***	***	***	***
Practical Erythritol	Production	***	***	***	***	***
Practical Erythritol	Utilization	***	***	***	***	***

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

Note: Capacity utilization ratio represents the ratio of the U.S. producer’s production to its production capacity.

Figure 3.1 Erythritol: Cargill’s capacity, production, and capacity utilization, by period

* * * * *

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

Table 3.5 presents Cargill’s reported narratives regarding practical capacity constraints.

Table 3.5 Erythritol: Cargill’s reported capacity constraints since January 1, 2021

Item	Firm name and narrative response on constraints to practical overall capacity
Production bottlenecks	***

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

Alternative products

Cargill reported producing *** on the same equipment during the period for which data were collected.⁷

U.S. producer’s U.S. shipments and exports

Table 3.6 presents U.S. producers’ U.S. shipments, export shipments, and total shipments. The quantity of U.S. shipments (inclusive of commercial U.S. shipments and internal consumption)⁸ decreased steadily from 2021 to 2023 by *** percent (*** pounds), but was higher by *** percent in interim 2024 compared to interim 2023. The value of U.S. shipments decreased by *** percent from 2021 to 2023 and was lower by *** percent in interim 2024 than in interim 2023. U.S. shipments unit values increased from \$*** per pound in 2021 to \$*** per pound in 2022 and then decreased to \$*** per pound in 2023. Unit values and were lower in interim 2024 than in interim 2023. U.S. shipments accounted for the largest share of total shipments and remained well above *** percent by quantity and value in all periods.

The quantity of exports declined by *** percent during 2021 to 2023 and was higher by *** percent in interim 2024 than in interim 2023. Export shipment values increased from 2021 to 2022 by *** percent but declined by *** percent from 2022 to 2023, and were lower by *** percent in interim 2024 than in interim 2023. Export shipments unit values increased from \$*** to \$*** per pound from 2021 to 2022 but declined in 2023 to \$*** per pound and were lower in interim 2024 than in interim 2023.⁹

⁷ ***. Email from ***, January 14, 2025.

⁸ Cargill did not report ***.

⁹ Cargill suspects that these downward trends in its top export markets *** are related to competition from China. Petitioner’s postconference brief, exh. 1, p. 9.

Total shipment quantities decreased from 2021 to 2023 by *** percent (** pounds), but were higher by *** percent in interim 2024 than in interim 2023. The value of total shipments decreased by *** percent from 2021 to 2023 and was lower by *** percent in interim 2024 than in interim 2023. Total shipments unit values increased from 2021 to 2023 from \$*** to \$*** per pound and were lower in interim 2024 than in interim 2023.

Table 3.6 Erythritol: Cargill's total shipments, by destination and period

Quantity in 1,000 pounds; value in 1,000 dollars; unit values in dollars per pound; shares in percent; interim is January to September

Item	Measure	2021	2022	2023	Interim 2023	Interim 2024
U.S. shipments	Quantity	***	***	***	***	***
Export shipments	Quantity	***	***	***	***	***
Total shipments	Quantity	***	***	***	***	***
U.S. shipments	Value	***	***	***	***	***
Export shipments	Value	***	***	***	***	***
Total shipments	Value	***	***	***	***	***
U.S. shipments	Unit value	***	***	***	***	***
Export shipments	Unit value	***	***	***	***	***
Total shipments	Unit value	***	***	***	***	***
U.S. shipments	Share of quantity	***	***	***	***	***
Export shipments	Share of quantity	***	***	***	***	***
Total shipments	Share of quantity	100.0	100.0	100.0	100.0	100.0
U.S. shipments	Share of value	***	***	***	***	***
Export shipments	Share of value	***	***	***	***	***
Total shipments	Share of value	100.0	100.0	100.0	100.0	100.0

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

Table 3.7 presents U.S. producers' U.S. shipments by type. Cargill reported both U.S. commercial shipments and internal U.S. consumption. The quantity of U.S. commercial U.S. shipments decreased steadily from 2021 to 2023 by *** percent (** pounds), but was higher by *** percent in interim 2024 compared to interim 2023. The value of U.S. commercial shipments also decreased by *** percent from 2021 to 2023 and was lower by *** percent in interim 2024 than in interim 2023. U.S. commercial shipments unit values increased from \$*** per pound in 2021 to \$*** per pound in 2023. Unit values were lower in interim 2024 than in interim 2023. U.S. commercial shipment quantities accounted for the largest share of U.S. shipments by quantity and value, except in 2023 when internal consumption by quantity consisted of more than *** of U.S. shipments.

The quantity of internal consumption increased by *** percent during 2021 to 2023 and was lower by *** percent in interim 2024 than in interim 2023. Internal consumption values increased from 2021 to 2022 by *** percent but declined by *** percent from 2022 to 2023, and were lower by *** percent in interim 2024 than in interim 2023. Internal consumption unit values increased from \$*** to \$*** per pound from 2021 to 2022 but declined in 2023 to \$*** per pound and were lower in interim 2024 than in interim 2023.

As reported above, U.S. shipment quantities decreased from 2021 to 2023 but were higher in interim 2024 than in interim 2023.

Table 3.7 Erythritol: Cargill's U.S. shipments, by type and period

Quantity in 1,000 pounds; value in 1,000 dollars; unit values in dollars per pound; shares in percent; interim is January to September

Item	Measure	2021	2022	2023	Interim 2023	Interim 2024
Commercial U.S. shipments	Quantity	***	***	***	***	***
Internal consumption	Quantity	***	***	***	***	***
U.S. shipments	Quantity	***	***	***	***	***
Commercial U.S. shipments	Value	***	***	***	***	***
Internal consumption	Value	***	***	***	***	***
U.S. shipments	Value	***	***	***	***	***
Commercial U.S. shipments	Unit value	***	***	***	***	***
Internal consumption	Unit value	***	***	***	***	***
U.S. shipments	Unit value	***	***	***	***	***
Commercial U.S. shipments	Share of quantity	***	***	***	***	***
Internal consumption	Share of quantity	***	***	***	***	***
U.S. shipments	Share of quantity	100.0	100.0	100.0	100.0	100.0
Commercial U.S. shipments	Share of value	***	***	***	***	***
Internal consumption	Share of value	***	***	***	***	***
U.S. shipments	Share of value	100.0	100.0	100.0	100.0	100.0

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

Captive consumption

Section 771(7)(C)(iv) of the Act states that—¹⁰

If domestic producers internally transfer significant production of the domestic like product for the production of a downstream article and sell significant production of the domestic like product in the merchant market, and the Commission finds that—

- (I) the domestic like product produced that is internally transferred for processing into that downstream article does not enter the merchant market for the domestic like product,*
- (II) the domestic like product is the predominant material input in the production of that downstream article, and*
- (III) then the Commission, in determining market share and the factors affecting financial performance . . . , shall focus primarily on the merchant market for the domestic like product.*

Transfers and sales

As reported in table 3.7 above, Cargill’s internal consumption accounted for between *** percent and *** percent of the quantity of the firm’s U.S. shipments during 2021 to 2023. Cargill’s internal consumption accounted for *** percent in interim 2023 and *** percent in interim 2024 of the firm’s U.S. shipments of erythritol.

First statutory criterion in captive consumption

The first requirement for application of the captive consumption provision is that the domestic like product that is internally transferred for processing into that downstream article not enter the merchant market for the domestic like product. Cargill, the sole U.S. producer, reported internal consumption of erythritol for the production of downstream products, specifically Truvia, a tabletop sweetener alternative. Cargill reported *** diverting erythritol intended for internal consumption to the merchant market.¹¹

¹⁰ Amended by PL 114-27 (as signed, June 29, 2015), Trade Preferences Extension Act of 2015.

¹¹ Conference transcript, p. 42 (Shultz).

Table 3.8 Erythritol: Cargill’s U.S. production used in downstream products, by type of consumption and period

Quantity in 1,000 pounds; shares in percent; interim period is January to September

Item	Measure	2021	2022	2023	Interim 2023	Interim 2024
Internal consumption: Sold as is	Quantity	***	***	***	***	***
Internal consumption: Processed into downstream products	Quantity	***	***	***	***	***
All internal consumption	Quantity	***	***	***	***	***
Internal consumption: Sold as is	Share	***	***	***	***	***
Internal consumption: Processed into downstream products	Share	***	***	***	***	***
All internal consumption	Share	100.0	100.0	100.0	100.0	100.0

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

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as “—”.

Note: "Downstream products" refers to Cargill's production of Truvia, a branded tabletop sweetener alternative

Second statutory criterion in captive consumption

The second criterion of the captive consumption provision concerns whether the domestic like product is the predominant material input in the production of the downstream article that is captively produced. With respect to the downstream articles resulting from captive production, erythritol reportedly comprises *** percent of the finished cost of downstream product and *** percent of the quantity of material inputs for the downstream product.

Table 3.9 Erythritol: Cargill's contribution to downstream product

Share in percent

Material input	Share of value	Share of quantity
Erythritol	***	***
All other material inputs	***	***
All material inputs	100.0	100.0

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

Note: "Downstream products" refers to Cargill's production of Truvia, a branded tabletop sweetener alternative.

U.S. producer’s inventories

Table 3.10 presents Cargill’s end-of-period inventories and the ratio of these inventories to Cargill’s production, U.S. shipments, and total shipments. Cargill’s ending inventories increased by *** percent from 2021 to 2022 and again in 2023 by *** percent.¹² End-of-period inventories were lower by approximately *** in interim 2024, compared to interim 2023. Ending inventory ratios to production, U.S. shipments and total shipments had similar trends and steadily increased between 2021 and 2023 but were lower in interim 2024 than in interim 2023. Ending inventory ratios to U.S. production increased by *** percentage points between 2021 and 2023 and accounted for *** percent in 2023; inventory ratios to U.S. shipments increased by *** percentage points between 2021 and 2023 and accounted for *** percent in 2023; ending inventory ratios to total shipments increased by *** percentage points between 2021 and 2023 and accounted for *** percent in 2023.

Table 3.10 Erythritol: Cargill’s inventories and their ratio to select items, by period

Quantity in 1,000 pounds; ratio in percent; interim is January to September

Item	2021	2022	2023	Interim 2023	Interim 2024
End-of-period inventory quantity	***	***	***	***	***
Inventory ratio to U.S. production	***	***	***	***	***
Inventory ratio to U.S. shipments	***	***	***	***	***
Inventory ratio to total shipments	***	***	***	***	***

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

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "—".

U.S. producer’s imports from subject sources

Cargill’s imports of erythritol are presented in table 3.11. During the period of data collection, Cargill reported imports of erythritol from China *** imports of erythritol from China ***. The ratio of imports from China to U.S. production were *** percent in 2022 and *** percent in interim 2024.

¹² Cargill stated that over-booking or over-forecasting prior to 2022 resulted in excess amount of inventory in 2022 and 2023; in addition, over-consumption across a lot of materials prior to 2022 created a chain effect. Conference transcript, pp. 44 and 60 (Shultz).

Table 3.11 Erythritol: Cargill’s U.S. production, subject imports, and ratio of subject imports to production, by source and period

Quantity in 1,000 pounds; ratio in percent; interim is January to September

Item	Measure	2021	2022	2023	Interim 2023	Interim 2024
U.S. production	Quantity	***	***	***	***	***
Imports from China	Quantity	***	***	***	***	***
Imports from China to U.S. production	Ratio	***	***	***	***	***

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

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as “—”.

Table 3.12 Erythritol: Cargill’s reasons for importing

Item	Narrative response on reasons for importing
Cargill's reason for importing	***.

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

U.S. producer's purchases of imports from subject sources

*** reported purchases of erythritol from 2021 to 2023 and both interim periods.

U.S. employment, wages, and productivity

Table 3.13 shows Cargill’s employment-related data. The number of production and related workers (“PRWs”), total hours worked, and productivity declined between 2021 to 2023. Total hours worked, wages paid decreased between 2021 and 2022, but experienced a slight recovery in 2023. In contrast, hours worked per PRW, hourly wages and unit labor costs increased between 2021 and 2023. While PRWs were the same, all labor indicators were higher in interim 2024 compared to interim 2023, except for productivity, which was lower by *** percent in interim 2024.¹³

¹³ Cargill stated that the decline in the domestic industry’s productivity reflects the combination of falling output and the fixed nature of labor in the production process. Petitioner’s postconference brief, p. 23.

Table 3.13 Erythritol: Cargill’s employment related information, by period

Interim is January to September

Item	2021	2022	2023	Interim 2023	Interim 2024
Production and related workers (PRWs) (number)	***	***	***	***	***
Total hours worked (1,000 hours)	***	***	***	***	***
Hours worked per PRW (hours)	***	***	***	***	***
Wages paid (\$1,000)	***	***	***	***	***
Hourly wages (dollars per hour)	***	***	***	***	***
Productivity (pounds per hour)	***	***	***	***	***
Unit labor costs (dollars per pound)	***	***	***	***	***

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

Part 4: U.S. imports, apparent U.S. consumption, and market shares

U.S. importers

The Commission issued importer questionnaires to 110 firms believed to be importers of subject erythritol, as well as to all U.S. producers of erythritol.¹ Usable questionnaire responses were received from 28 companies,² representing vast majority³ of U.S. imports from China in 2023 under HTS subheading 2905.49.40, a “basket” category.⁴ ⁵ Table 4.1 lists all responding U.S. importers of erythritol from China and other sources, their locations, and their shares of U.S. imports, in 2023.

¹ The Commission issued questionnaires to those firms identified in the petitions; staff research; and proprietary, Census-edited Customs’ import records.

² Three firms, *** certified they did not import erythritol during the period of data collection. ***, both importers of erythritol from China, provided unusable U.S. questionnaire responses and therefore were not included in the dataset of this report.

³ Coverage of subject imports is based on staff research and official Commerce statistics.

⁴ Petitioner affirmed that the overwhelming majority of in-scope imports is being imported under HTS subheading 2905.49.40 and that they believe erythritol accounts for the majority of the imports under this HTS. Conference transcript, pp. 32 to 34. (McConkey and Szamosszegi). Petitioner added that other polyols account for the very small (below 10 percent) remaining quantities of imports under 2905.49.4000. Other polyols include xylitol, maltitol, mannitol, erythritol sweetener blends, and sugar alcohols or polyhydric alcohols. Postconference brief, exh. 1.

⁵ Two responding importers reported importing small quantity of out-of-scope product under HTS subheading 2905.49.40 and two other firms imported a small quality of erythritol under other HTS numbers.

Table 4.1 Erythritol: U.S. importers, their headquarters, and share of imports within each source, 2023

Share in percent

Firm	Headquarters	China	Nonsubject sources	All import sources
ACT	Boston, MA	***	***	***
ADM	Chicago, IL	***	***	***
AIDP	City Of Industry, CA	***	***	***
AIF	Ada, MI	***	***	***
Anderson	Irvine, CA	***	***	***
Apura	Las Vegas, NV	***	***	***
Barry Callebaut	Chicago, IL	***	***	***
Cargill	Wayzata, MN	***	***	***
Fenchem	Chino, CA	***	***	***
GC Chemicals	Parsippany, NJ	***	***	***
HealthSmart	Evansville, IN	***	***	***
Hhoya	S-Hertogenbosch (The Netherlands), NB	***	***	***
Icon	Portland, OR	***	***	***
Impact Products	Heber City, UT	***	***	***
Ingredient House	Pinehurst, NC	***	***	***
Jebsen and Jessen	Charlotte, NC	***	***	***
Jiaherb	Pine Brook, NJ	***	***	***
Jungbunzlauer	Newton, MA	***	***	***
Life Bridge	Ontario, CA	***	***	***
Monster	Corona, CA	***	***	***
NiuSource	Pomona, CA	***	***	***
Nura	Irvine, CA	***	***	***
Nutra Food	Kentwood, MI	***	***	***
Prinova	Itasca, IL	***	***	***
Rega Vita	Covina, CA	***	***	***
Saraya	Orem, UT	***	***	***
Tate & Lyle	Hoffman Estates, IL	***	***	***
Wego	Great Neck, NY	***	***	***
All firms	Various	100.0	100.0	100.0

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

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "—".

U.S. imports

Tables 4.2 and 4.3 and figure 4.1 present data for U.S. imports of erythritol from China and all other sources and changes related to these imports.

Subject imports accounted for *** percent of total imports of erythritol by quantity and *** percent by value in 2023. The quantity of subject imports increased by *** percent from 2021 to 2022 before decreasing by *** percent from 2022 to 2023, and was lower by *** percent in interim 2024 than in interim 2023. Overall, subject imports decreased by *** percent

from 2021 to 2023, or by *** pounds. *** accounted for *** percent of total imports from China in 2022 and the vast majority of the increase in subject imports that year. The firm *** imports during the period of data collection.^{6 7} The value of subject imports decreased overall by *** percent from 2021 to 2023 but was higher by *** percent in interim 2024 than in interim 2023. The average unit value of subject imports fell by *** percent from 2021 to 2023, from \$*** per pound to \$*** per pound, respectively, but was higher interim 2024 than in interim 2023 by *** percent. The ratio of subject imports to U.S. production increased from *** percent in 2021 to *** percent in 2022, before decreasing to *** percent in 2023, and was higher in interim 2024 than in interim 2023.

Nonsubject imports of erythritol into the United States decreased from 2021 to 2023 by *** percent or by *** pounds, and were higher in interim 2024 by *** percent than in interim 2023.⁸ During 2021 to 2023, the value of nonsubject imports decreased by *** percent and was higher by *** percent in interim 2024 than in interim 2023. The average unit value for erythritol imports from nonsubject sources increased by *** percent from 2021 to 2023, from \$*** per pound to \$*** per pound, respectively, and was lower by *** percent in interim 2024 than in interim 2023. The ratio of nonsubject imports to U.S. production decreased from *** percent in 2021 to *** percent in 2023 and was higher in interim 2024 than in interim 2023.

⁶ When asked for a reason for the increase in imports of erythritol in 2022, the firm said that ***. Email from ***, January 8, 2025.

⁷ *** were the largest sources of imports of erythritol from China in 2023, and together accounted for *** percent of subject imports that year.

⁸ The only two firms that reported nonsubject imports were ***, while *** accounted for the *** of nonsubject imports under HTS subheading 2905.49.40 over the period for which data were collected, and both sourced from ***. ***. Email from ***, January 14, 2025.

Table 4.2 Erythritol: U.S. imports by source and period

Quantity in 1,000 pounds; value in 1,000 dollars; unit value in dollars per pounds; ratios and shares in percent; interim is January to September

Source	Measure	2021	2022	2023	Interim 2023	Interim 2024
China	Quantity	***	***	***	***	***
Nonsubject sources	Quantity	***	***	***	***	***
All import sources	Quantity	70,634	73,040	35,023	25,442	25,309
China	Value	***	***	***	***	***
Nonsubject sources	Value	***	***	***	***	***
All import sources	Value	105,236	101,587	30,817	24,329	28,813
China	Unit value	***	***	***	***	***
Nonsubject sources	Unit value	***	***	***	***	***
All import sources	Unit value	1.49	1.39	0.88	0.96	1.14
China	Share of quantity	***	***	***	***	***
Nonsubject sources	Share of quantity	***	***	***	***	***
All import sources	Share of quantity	100.0	100.0	100.0	100.0	100.0
China	Share of value	***	***	***	***	***
Nonsubject sources	Share of value	***	***	***	***	***
All import sources	Share of value	100.0	100.0	100.0	100.0	100.0
China	Ratio	***	***	***	***	***
Nonsubject sources	Ratio	***	***	***	***	***
All import sources	Ratio	***	***	***	***	***

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

Note: Share of quantity is the share of U.S. imports by quantity; share of value is the share of U.S. imports by value; ratio are U.S. imports to production.

Figure 4.1 Erythritol: U.S. import quantities and average unit values, by source and period

* * * * *

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

Table 4.3 Erythritol: Changes in U.S. imports, by source and period

Changes (Δ) in percent (%) or percentage point (ppt)

Source	Measure	2021 to 2023	2021 to 2022	2022 to 2023	Interim 2023 to 2024
China	% Δ Quantity	▼***	▲***	▼***	▼***
Nonsubject sources	% Δ Quantity	▼***	▼***	▼***	▲***
All import sources	% Δ Quantity	▼(50.4)	▲3.4	▼(52.0)	▼(0.5)
China	% Δ Value	▼***	▼***	▼***	▲***
Nonsubject sources	% Δ Value	▼***	▼***	▼***	▲***
All import sources	% Δ Value	▼(70.7)	▼(3.5)	▼(69.7)	▲18.4
China	% Δ Unit value	▼***	▼***	▼***	▲***
Nonsubject sources	% Δ Unit value	▲***	▲***	▲***	▼***
All import sources	% Δ Unit value	▼(40.9)	▼(6.6)	▼(36.7)	▲19.1
China	ppt Δ Quantity	▲***	▲***	▲***	▼***
Nonsubject sources	ppt Δ Quantity	▼***	▼***	▼***	▲***
All import sources	ppt Δ Quantity	—	—	—	—
China	ppt Δ Value	▲***	▲***	▲***	▼***
Nonsubject sources	ppt Δ Value	▼***	▼***	▼***	▲***
All import sources	ppt Δ Value	—	—	—	—
China	ppt Δ Ratio	▲***	▲***	▼***	▲***
Nonsubject sources	ppt Δ Ratio	▼***	▼***	▼***	▲***
All import sources	ppt Δ Ratio	▼***	▲***	▼***	▲***

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

Note: Shares and ratios shown as “0.0” percent represent non-zero values less than “0.05” percent (if positive) and greater than “(0.05)” percent (if negative). Zeroes, null values, and undefined calculations are suppressed and shown as “—”. Period changes preceded by a “▲” represent an increase, while period changes preceded by a “▼” represent a decrease.

Negligibility

The statute requires that an investigation be terminated without an injury determination if imports of the subject merchandise are found to be negligible.⁹ 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.¹⁰ Imports from China accounted for *** percent of total imports of erythritol by quantity during the twelve-month period preceding filing of the petition, or December 1, 2023, and November 30, 2024.

Table 4.4 Erythritol: U.S. imports in the twelve-month period preceding the filing of the petition, December 2023 through November 2024

Quantity in 1,000 pounds; share in percent;

Source of imports	Quantity	Share of quantity
China	***	***
Nonsubject sources	***	***
All import sources	***	100.0

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

⁹ 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)).

¹⁰ Section 771 (24) of the Act (19 U.S.C § 1677(24)).

Apparent U.S. consumption and market shares (total market)

Quantity

Table 4.5 and figure 4.2 present data on apparent U.S. consumption and U.S. market shares in the total market, by quantity, for erythritol. By quantity, apparent U.S. consumption for the total market decreased by *** percent between 2021 and 2023 and was lower by *** percent in interim 2024, compared to interim 2023. Cargill's market shares of erythritol for the total market decreased between 2021 and 2023 by *** percentage points, from *** percent in 2021 to *** percent in 2023, but were higher in interim 2024 by *** percentage points, compared to interim 2023. In contrast, the market shares of subject imports from China steadily increased by quantity between 2021 and 2023 by *** percentage points from *** percent in 2021 to *** percent in 2023, but were lower in interim 2024 by *** percentage points, compared to interim 2023. The share of quantity of nonsubject sources decreased by *** percentage points between 2021 and 2023 but was higher in interim 2024 by *** percentage points, compared to interim 2023.

Table 4.5 Erythritol: Apparent U.S. consumption and market shares (total market) based on quantity, by source and period

Quantity in 1,000 pounds; shares in percent; interim is January to September

Source	Measure	2021	2022	2023	Interim 2023	Interim 2024
U.S. producers	Quantity	***	***	***	***	***
China	Quantity	***	***	***	***	***
Nonsubject sources	Quantity	***	***	***	***	***
All import sources	Quantity	58,767	70,862	45,847	31,217	30,172
All sources	Quantity	***	***	***	***	***
U.S. producers	Share	***	***	***	***	***
China	Share	***	***	***	***	***
Nonsubject sources	Share	***	***	***	***	***
All import sources	Share	***	***	***	***	***
All sources	Share	100.0	100.0	100.0	100.0	100.0

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

Figure 4.2 Erythritol: Apparent U.S. consumption (total market) based on quantity, by source and period

* * * * *

Source: Compiled from data submitted in response to Commission questionnaires

Value

Table 4.6 and figure 4.3 present data on apparent U.S. consumption and U.S. market shares in the total market, by value, for erythritol. By value, apparent U.S. consumption for the total market decreased irregularly by *** percent between 2021 and 2023 and was lower by *** percent in interim 2024, compared to interim 2023. Cargill's market shares of erythritol for the total market increased between 2021 and 2023 by *** percentage points, from *** percent in 2021 to *** percent in 2023, but were lower in interim 2024 by *** percentage points, compared to interim 2023. The market shares of subject imports from China slightly increased by value between 2021 and 2023 by *** percentage points from *** percent in 2021 to *** percent in 2023, but were lower in interim 2024 by *** percentage points, compared to interim 2023. The share of value of nonsubject sources decreased by *** percentage points between 2021 and 2023 but was higher in interim 2024 by *** percentage points, compared to interim 2023.

Table 4.6 Erythritol: Apparent U.S. consumption and market shares (total market) based on value, by source and period

Value in 1,000 dollars; shares in percent; interim is January to September

Source	Measure	2021	2022	2023	Interim 2023	Interim 2024
U.S. producers	Value	***	***	***	***	***
China	Value	***	***	***	***	***
Nonsubject sources	Value	***	***	***	***	***
All import sources	Value	125,708	148,438	71,034	50,695	44,232
All sources	Value	***	***	***	***	***
U.S. producers	Share	***	***	***	***	***
China	Share	***	***	***	***	***
Nonsubject sources	Share	***	***	***	***	***
All import sources	Share	***	***	***	***	***
All sources	Share	100.0	100.0	100.0	100.0	100.0

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

Figure 4.3 Erythritol: Apparent U.S. consumption (total market) based on value, by source and period

* * * * *

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

Apparent U.S. consumption and market shares (merchant market)

Quantity

Table 4.7 and figure 4.4 present data on apparent U.S. consumption and U.S. market shares in the merchant market, by quantity, for erythritol. By quantity, apparent U.S. consumption for the merchant market decreased by *** percent between 2021 and 2023 but was higher by *** percent in interim 2024, compared to interim 2023. Cargill’s market shares of erythritol for the merchant market decreased between 2021 and 2023 by *** percentage points, from *** percent in 2021 to *** percent in 2023, but were higher in interim 2024 by *** percentage points, compared to interim 2023. Conversely, the market shares of subject imports from China increased by quantity between 2021 and 2023 by *** percentage points from *** percent in 2021 to *** percent in 2023, but were lower in interim 2024 by *** percentage points, compared to interim 2023. The share of quantity of nonsubject sources decreased by *** percentage points between 2021 and 2023 but was higher in interim 2024 by *** percentage points, compared to interim 2023.

Table 4.7 Erythritol: Apparent U.S. consumption and market shares (merchant market) based on quantity, by source and period

Quantity in 1,000 pounds; shares in percent; interim is January to September

Source	Measure	2021	2022	2023	Interim 2023	Interim 2024
U.S. producers	Quantity	***	***	***	***	***
China	Quantity	***	***	***	***	***
Nonsubject sources	Quantity	***	***	***	***	***
All import sources	Quantity	58,767	70,862	45,847	31,217	30,172
All sources	Quantity	***	***	***	***	***
U.S. producers	Share	***	***	***	***	***
China	Share	***	***	***	***	***
Nonsubject sources	Share	***	***	***	***	***
All import sources	Share	***	***	***	***	***
All sources	Share	100.0	100.0	100.0	100.0	100.0

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

Figure 4.4 Erythritol: Apparent U.S. consumption (merchant market) based on quantity, by source and period

* * * * *

Source: Compiled from data submitted in response to Commission questionnaires

Value

Table 4.8 and figure 4.5 present data on apparent U.S. consumption (merchant market) and U.S. market shares in the merchant market, by value, for erythritol. By value, apparent U.S. consumption for the merchant market decreased irregularly by *** percent between 2021 and 2023 and was lower by *** percent in interim 2024, compared to interim 2023. Cargill’s market shares of erythritol for the merchant market decreased between 2021 and 2023 by *** percentage points, from *** percent in 2021 to *** percent in 2023, and were lower in interim 2024 by *** percentage points, compared to interim 2023. The market shares of subject imports from China increased by value between 2021 and 2023 by *** percentage points from *** percent in 2021 to *** percent in 2023, but were lower in interim 2024 by *** percentage points, compared to interim 2023. The share of value of nonsubject sources decreased by *** percentage points between 2021 and 2023 but was higher in interim 2024 by *** percentage points, compared to interim 2023.

Table 4.8 Erythritol: Apparent U.S. consumption and market shares (merchant market) based on value, by source and period

Value in 1,000 dollars; shares in percent; interim is January to September

Source	Measure	2021	2022	2023	Interim 2023	Interim 2024
U.S. producers	Value	***	***	***	***	***
China	Value	***	***	***	***	***
Nonsubject sources	Value	***	***	***	***	***
All import sources	Value	125,708	148,438	71,034	50,695	44,232
All sources	Value	***	***	***	***	***
U.S. producers	Share	***	***	***	***	***
China	Share	***	***	***	***	***
Nonsubject sources	Share	***	***	***	***	***
All import sources	Share	***	***	***	***	***
All sources	Share	100.0	100.0	100.0	100.0	100.0

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

Figure 4.5 Erythritol: Apparent U.S. consumption (merchant market) based on value, by source and period

* * * * *

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

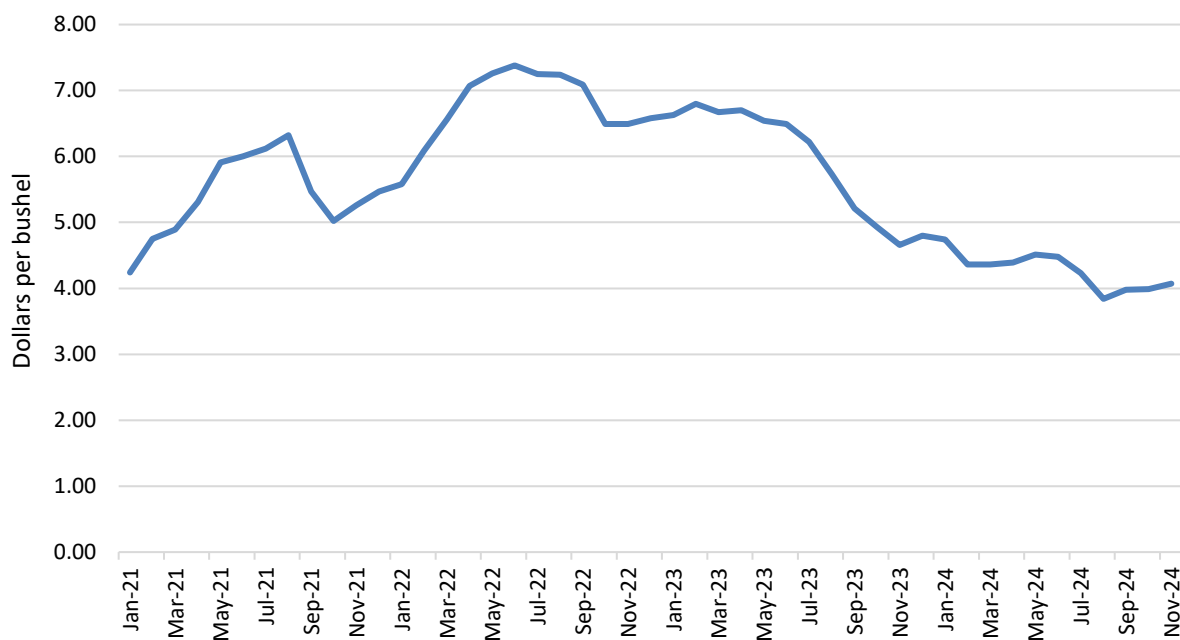
Part 5: Pricing data

Factors affecting prices

Raw material costs

Erythritol is made from dextrose, which is made from corn.¹ U.S. producer Cargill’s reported raw materials, as a share of the cost of goods sold (COGS), ranged between *** percent (2023) and *** percent (2022). Corn prices fluctuated between January 2021 and November 2024; the price of corn received increased irregularly by 74.1 percent from January 2021 to June 2022, when it reached its period peak of \$7.38 per bushel, then declined by 44.9 percent thereafter to \$4.07 per bushel in November 2024 (figure 5.1 and table 5.1). Overall, the prices received for corn declined by 4 percent from January 2021 to November 2024.

Figure 5.1 Raw materials: Prices Received for Corn, by month, January 2021 to November 2024



Source: USDA National Agricultural Statistics Service (NASS), Prices Received: Corn Prices Received by Month, US, https://www.nass.usda.gov/Charts_and_Maps/Agricultural_Prices/pricecn.php, accessed January 10, 2025.

¹ Conference transcript, p. 67 (von Kessler, Shultz, and Woo). Cargill also stated that in addition to corn for fermentation, it needs uses salt and nitrogen-containing salts. Conference transcript p. 51 (Woo).

Table 5.1 Raw materials: Prices Received for Corn, by month, January 2021 to November 2024

Price in dollars per bushel

Month	2021	2022	2023	2024
January	4.24	5.58	6.63	4.74
February	4.75	6.09	6.80	4.36
March	4.89	6.56	6.67	4.36
April	5.31	7.07	6.70	4.39
May	5.91	7.26	6.54	4.51
June	6.00	7.38	6.49	4.48
July	6.12	7.25	6.22	4.23
August	6.32	7.24	5.73	3.84
September	5.47	7.09	5.21	3.98
October	5.02	6.49	4.93	3.99
November	5.26	6.49	4.66	4.07
December	5.47	6.58	4.80	NA

Source: USDA National Agricultural Statistics Service (NASS), Prices Received: Corn Prices Received by Month, US, https://www.nass.usda.gov/Charts_and_Maps/Agricultural_Prices/pricecn.php, accessed January 10, 2025.

Transportation costs to the U.S. market

Transportation costs for erythritol shipped from China to the United States averaged 7.5 percent during 2023. These estimates were derived from official import data and represent the transportation and other charges on imports.²

U.S. inland transportation costs

The responding U.S. producer and most importers reported that they typically arrange transportation to their customers. The U.S. producer reported that its U.S. inland transportation costs were *** percent, while several responding importers reported costs between 4 to 13 percent, with reported costs ranging between 0.1 to 60 percent.³

² The estimated transportation costs were obtained by subtracting the customs value from the c.i.f. value of the imports for 2023 and then dividing by the customs value based on the HTS statistical reporting number 2905.49.4000.

³ Cost estimates of 0.0 and 100.0 were not included.

Pricing practices

Pricing methods

U.S. producer Cargill reported setting prices ***, while most importers reported setting prices using transaction-by-transaction negotiations and contracts (table 5.2).

Table 5.2 Erythritol: Count of U.S. producers' and importers' reported price setting methods

Method	U.S. producer	Importers
Transaction-by-transaction	***	20
Contract	***	19
Set price list	***	8
Other	***	0
Responding firms	***	25

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

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

U.S. producer Cargill reported selling most of its erythritol ***, while importers reported selling the majority of their erythritol under annual contracts, with large shares sold under short-term contracts and on the spot market (table 5.3).

Table 5.3 Erythritol: U.S. producers' and importers' shares of commercial U.S. shipments by type of sale, 2023

Share in percent

Type of sale	U.S. producer	Subject importers
Long-term contracts	***	***
Annual contracts	***	***
Short-term contracts	***	***
Spot sales	***	***
Total	100.0	100.0

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

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

U.S. producer Cargill reported ***. Most importers reported no price renegotiation, fixing to both price and quantity, and not indexing contracts to raw materials.

Sales terms and discounts

U.S. producer Cargill typically quotes prices on *** basis, while importers typically quote prices on an f.o.b. basis. U.S. producer Cargill and importers reported having no discount policy.

Price data

The Commission requested U.S. producers and importers to provide quarterly data for the total quantity and f.o.b. value of the following erythritol products shipped to unrelated U.S. customers during January 2021 to September 2024.

Product 1.-- Erythritol, standard granules, sold in 20 kg (44.1 lb) bags.

Product 2.-- Erythritol, standard granules, sold in 500-1000 kg (1,102 lb – 2,205 lb) supersacks.

Product 3.-- Erythritol, fine powdered, sold in 25 lb boxes.

One U.S. producer and 22 importers provided usable pricing data for sales of the requested products, although not all firms reported pricing for all products for all quarters.⁴ Pricing data reported by these firms accounted for approximately *** percent of U.S. producers' U.S. shipments of erythritol and 79.8 percent of U.S. shipments of subject imports from China in 2023.⁵ Price data for products 1 to 3 are presented in tables 5.4 to 5.6 and figures 5.2 to 5.4.

⁴ Per-unit pricing data are calculated from total quantity and total value data provided by U.S. producers and importers. The precision and variation of these figures may be affected by rounding, limited quantities, and producer or importer estimates.

⁵ Pricing coverage is based on U.S. shipments reported in questionnaires, which includes commercial shipments, internal consumption, and transfers to related firms. Pricing data reported by these firms accounted for approximately *** percent of U.S. producers' U.S. commercial shipments of erythritol and 80.6 percent of U.S. commercial shipments of subject imports from China in 2023.

Table 5.4 Erythritol: Weighted-average f.o.b. prices and quantities of domestic and imported product 1 and margins of underselling/(overselling), by source and quarter

Price in dollars per pound, quantity in pounds, margin in percent.

Period	U.S. price	U.S. quantity	China price	China quantity	China margin
2021 Q1	***	***	***	***	***
2021 Q2	***	***	***	***	***
2021 Q3	***	***	***	***	***
2021 Q4	***	***	***	***	***
2022 Q1	***	***	***	***	***
2022 Q2	***	***	***	***	***
2022 Q3	***	***	***	***	***
2022 Q4	***	***	***	***	***
2023 Q1	***	***	***	***	***
2023 Q2	***	***	***	***	***
2023 Q3	***	***	***	***	***
2023 Q4	***	***	***	***	***
2024 Q1	***	***	***	***	***
2024 Q2	***	***	***	***	***
2024 Q3	***	***	***	***	***

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

Note: Product 1: Erythritol, standard granules, sold in 20 kg (44.1 lb) bags.

Table 5.5 Erythritol: Weighted-average f.o.b. prices and quantities of domestic and imported product 2 and margins of underselling/(overselling), by source and quarter

Price in dollars per pound, quantity in pounds, margin in percent.

Period	U.S. price	U.S. quantity	China price	China quantity	China margin
2021 Q1	***	***	***	***	***
2021 Q2	***	***	***	***	***
2021 Q3	***	***	***	***	***
2021 Q4	***	***	***	***	***
2022 Q1	***	***	***	***	***
2022 Q2	***	***	***	***	***
2022 Q3	***	***	***	***	***
2022 Q4	***	***	***	***	***
2023 Q1	***	***	***	***	***
2023 Q2	***	***	***	***	***
2023 Q3	***	***	***	***	***
2023 Q4	***	***	***	***	***
2024 Q1	***	***	***	***	***
2024 Q2	***	***	***	***	***
2024 Q3	***	***	***	***	***

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

Note: Product 2: Erythritol, standard granules, sold in 500-1000 kg (1,102 lb – 2,205 lb) supersacks.

Table 5.6 Erythritol: Weighted-average f.o.b. prices and quantities of domestic and imported product 3 and margins of underselling/(overselling), by source and quarter

Price in dollars per pound, quantity in pounds, margin in percent.

Period	U.S. price	U.S. quantity	China price	China quantity	China margin
2021 Q1	***	***	***	***	***
2021 Q2	***	***	***	***	***
2021 Q3	***	***	***	***	***
2021 Q4	***	***	***	***	***
2022 Q1	***	***	***	***	***
2022 Q2	***	***	***	***	***
2022 Q3	***	***	***	***	***
2022 Q4	***	***	***	***	***
2023 Q1	***	***	***	***	***
2023 Q2	***	***	***	***	***
2023 Q3	***	***	***	***	***
2023 Q4	***	***	***	***	***
2024 Q1	***	***	***	***	***
2024 Q2	***	***	***	***	***
2024 Q3	***	***	***	***	***

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

Note: Product 3: Erythritol, fine powdered, sold in 25 lb boxes.

Figure 5.2 Erythritol: Weighted-average f.o.b. prices and quantities of domestic and imported product 1, by source and quarter

Price of product 1						
*	*	*	*	*	*	*

Volume of product 1						
*	*	*	*	*	*	*

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

Note: Product 1: Erythritol, standard granules, sold in 20 kg (44.1 lb) bags.

Figure 5.3 Erythritol: Weighted-average f.o.b. prices and quantities of domestic and imported product 2, by source and quarter

Price of product 2						
*	*	*	*	*	*	*

Volume of product 2						
*	*	*	*	*	*	*

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

Note: Product 2: Erythritol, standard granules, sold in 500-1000 kg (1,102 lb – 2,205 lb) supersacks.

Figure 5.4 Erythritol: Weighted-average f.o.b. prices and quantities of domestic and imported product 3, by source and quarter

Price of product 3						
*	*	*	*	*	*	*

Volume of product 3						
*	*	*	*	*	*	*

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

Note: Product 3: Erythritol, fine powdered, sold in 25 lb boxes.

Price trends

In general, prices decreased during January 2021 to September 2024. Table 5.7 summarizes the price trends, by country and by product. As shown in the table, domestic price decreases ranged from *** percent to *** percent during January 2021 to September 2024 while import price decreases ranged from *** percent to *** percent.

Table 5.7 Erythritol: Summary of price data, by product and source, January 2021 to September 2024

Quantity in pounds, price in dollars per pound

Product	Source	Number of quarters	Quantity of shipments	Low price	High price	First quarter price	Last quarter price	Percent change in price over period
Product 1	United States	15	***	***	***	***	***	***
Product 1	China	15	***	***	***	***	***	***
Product 2	United States	15	***	***	***	***	***	***
Product 2	China	14	***	***	***	***	***	***
Product 3	United States	15	***	***	***	***	***	***
Product 3	China	15	***	***	***	***	***	***

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

Note: Percent change column is percentage change from the first quarter 2021 to the last quarter in 2024 for domestically produced products 1, 2, and 3 and products 1 and 3 imported from China. Percent change column is percentage change from the second quarter 2021 to the last quarter in 2024 for product 2 from China.

Figures 5.5 and 5.6 and tables 5.8 and 5.9 present the indexed U.S. producer and importer prices from January 2021 to September 2024. Import prices increased dramatically in 2021 and 2022 before declining until the third quarter of 2024. U.S. producer prices were ***.

Figure 5.5 Erythritol: Indexed U.S. producer prices, by quarter

* * * * *

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

Figure 5.6 Erythritol: Indexed U.S. importer prices, by quarter

* * * * *

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

Note: Product 2 from China was indexed to the second quarter 2021.

Table 5.8 Erythritol: Indexed U.S. producer prices, by quarter

Period	Product 1	Product 2	Product 3
2021 Q1	100.0	100.0	100.0
2021 Q2	***	***	***
2021 Q3	***	***	***
2021 Q4	***	***	***
2022 Q1	***	***	***
2022 Q2	***	***	***
2022 Q3	***	***	***
2022 Q4	***	***	***
2023 Q1	***	***	***
2023 Q2	***	***	***
2023 Q3	***	***	***
2023 Q4	***	***	***
2024 Q1	***	***	***
2024 Q2	***	***	***
2024 Q3	***	***	***

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

Table 5.9 Erythritol: Indexed U.S. importer prices, by quarter

Period	Product 1	Product 2	Product 3
2021 Q1	100.0	—	100.0
2021 Q2	***	100.0	***
2021 Q3	***	***	***
2021 Q4	***	***	***
2022 Q1	***	***	***
2022 Q2	***	***	***
2022 Q3	***	***	***
2022 Q4	***	***	***
2023 Q1	***	***	***
2023 Q2	***	***	***
2023 Q3	***	***	***
2023 Q4	***	***	***
2024 Q1	***	***	***
2024 Q2	***	***	***
2024 Q3	***	***	***

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

Note: Product 2 from China was indexed to the second quarter 2021.

Price comparisons

As shown in table 5.10, prices for erythritol imported from China were below those for U.S.-produced product in 29 of 44 instances (73.7 million pounds); margins of underselling ranged from 0.3 to 65.8 percent. In the remaining 15 instances (59 million pounds), prices for erythritol from China were between 0.3 and 109.1 percent above prices for the domestic product. As shown in table 5.11, most of the overselling occurred in 2021 and 2022 while most underselling occurred in 2023 and January to September 2024.

Table 5.10 Erythritol: Instances of underselling and overselling and the range and average of margins, by product

Quantity in pounds; margin in percent

Product	Type	Number of quarters	Quantity	Average margin	Min margin	Max margin
Product 1	Underselling	6	***	***	***	***
Product 2	Underselling	10	***	***	***	***
Product 3	Underselling	13	***	***	***	***
All products	Underselling	29	73,716,612	27.2	0.3	65.8
Product 1	Overselling	9	***	***	***	***
Product 2	Overselling	4	***	***	***	***
Product 3	Overselling	2	***	***	***	***
All products	Overselling	15	59,027,819	(48.6)	(0.3)	(109.1)

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

Note: These data include only quarters in which there is a comparison between the U.S. and subject product.

Table 5.11 Erythritol: Instances of underselling and overselling and the range and average of margins, by year

Quantity in pounds; margin in percent

Year	Type	Number of quarters	Quantity	Average margin	Min margin	Max margin
2021	Underselling	2	***	***	***	***
2022	Underselling	7	***	***	***	***
2023	Underselling	12	***	***	***	***
January to September 2024	Underselling	8	***	***	***	***
All years	Underselling	29	73,716,612	27.2	0.3	65.8
2021	Overselling	9	***	***	***	***
2022	Overselling	5	***	***	***	***
2023	Overselling	—	***	***	***	***
January through September 2024	Overselling	1	***	***	***	***
All years	Overselling	15	59,027,819	(48.6)	(0.3)	(109.1)

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

Note: These data include only quarters in which there is a comparison between the U.S. and subject product.

Lost sales and lost revenue

The Commission requested that U.S. producers of erythritol report purchasers with which they experienced instances of lost sales or revenue due to competition from imports of erythritol from China during January 2021 to September 2024. Responding U.S. producer Cargill reported that it had to reduce prices, identifying 21 firms with which it lost sales or revenue (18 consisting lost sales allegations, 2 consisting of lost revenue allegations, and 1 consisting of both types of allegations). The timing of the allegations occurred in 2022, 2023, and 2024, however most allegations (16) occurred in 2023.

Staff contacted 19 purchasers and received responses from four purchasers.⁶ Responding purchasers reported purchasing and importing *** pounds of erythritol during January 2021 to September 2024 (table 5.12).

Table 5.12 Erythritol: Purchasers' reported purchases and imports, by firm and source

Quantity in pounds, share in percent

Purchaser	Domestic quantity	Subject quantity	All other quantity	Change in domestic share	Change in subject country share
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
All firms	***	***	***	***	***

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

Note: All other includes all other sources and unknown sources. Change is the percentage point change in the share of the firm's total purchases of domestic and/or subject country imports between first and last years.

⁶ Staff emails to the contact information provided for two purchasers, ***, were returned as undeliverable.

During 2023, responding purchasers purchased *** percent from U.S. producers and *** percent from China. Purchasers were asked about changes in their purchasing patterns from different sources since 2021. Of the responding purchasers, two reported that purchases from domestic producers fluctuated down and two reported no change.⁷ Explanations for decreasing purchases of domestic product included discontinuing use of non-GMO erythritol after 2021, and decreased volume because of sales on those SKUs. Of the four responding purchasers, one reported that purchases from China fluctuated down, two reported that they steadily decreased, and one reported no change. Explanations for decreasing purchases of erythritol from China included introducing GMO-erythritol as an ingredient in 2023, reduced erythritol consumption, and switching entirely to domestically produced erythritol.

Of the four responding purchasers, three reported that, since 2021, they had purchased imported erythritol from China instead of U.S.-produced product (table 5.13). Two of these purchasers reported that subject import prices were lower than U.S.-produced product, and none of these purchasers reported that price was a primary reason for the decision to purchase imported product rather than U.S.-produced product.⁸ Purchasers identified availability, ease of doing business with importers, a product shortage, and supplier partnerships as non-price reasons for purchasing imported rather than U.S.-produced product.

Of the four responding purchasers, all reported that they did not know whether U.S. producers had reduced prices in order to compete with lower-priced imports from China.⁹

⁷ Of the four responding purchasers, one purchaser, ***, indicated that it did not know the source of *** pounds of erythritol it purchased ***.

⁸ No purchasers provided an estimate of the quantity of erythritol from China purchased instead of domestic product.

⁹ No purchasers provided an estimated price reduction.

Table 5.13 Erythritol: Purchasers' responses to purchasing subject imports instead of domestic product, by firm

Quantity in pounds

Purchaser	Purchased subject imports instead of domestic	Imports priced lower	Choice based on price	Quantity	Explanation
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
All firms	Yes--3; No--1	Yes--2; No--1	Yes--0; No--3	***	NA

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

Part 6: Financial experience of U.S. producers

Background¹

The petitioner, Cargill, is the sole U.S. producer of erythritol. Cargill reported financial data for a calendar year ending December 31st and on the basis of GAAP.²

The industry's net sales are composed of commercial sales, internal consumption, and transfers to related firms. During the period examined, January 1, 2021, through September 30, 2024, commercial sales represented *** percent of total net sales quantity, internal consumption represented *** percent, and transfers to related firms represented the remaining *** percent.^{3 4}

Figure 6.1 presents Cargill's share of sales quantity by type in 2023.

¹ The following abbreviations are used in the tables and/or text of this section: generally accepted accounting principles ("GAAP"), fiscal year ("FY"), net sales ("NS"), cost of goods sold ("COGS"), selling, general, and administrative expenses ("SG&A expenses"), average unit values ("AUVs"), research and development expenses ("R&D expenses"), and return on assets ("ROA").

² The trade and financial sections reconciled. ***. U.S. producer questionnaire response, section 3.2.

³ Transfers to related firms ***. Email from ***, January 8, 2025, and January 10, 2025; U.S. producer questionnaire response, section 2.13.

⁴ ***. Email from ***, January 8, 2025.

Figure 6.1 Erythritol: U.S. producer Cargill’s share of sales quantity in 2023, by type

* * * * *

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

Operations on Erythritol

Table 6.1 presents data on the U.S. producer’s total operations in relation to erythritol, while table 6.2 presents corresponding changes in AUVs. Financial results for the merchant market are presented in table 6.3, and table 6.4 presents the corresponding changes in AUVs for the merchant market.

Table 6.1 Erythritol: U.S. producer Cargill's results of total market operations, by item and period

Quantity in 1,000 pounds; value in 1,000 dollars; ratios in percent; interim period is January to September

Item	Measure	2021	2022	2023	Interim 2023	Interim 2024
Commercial sales	Quantity	***	***	***	***	***
Internal consumption	Quantity	***	***	***	***	***
Transfers to related firms	Quantity	***	***	***	***	***
Total net sales	Quantity	***	***	***	***	***
Commercial sales	Value	***	***	***	***	***
Internal consumption	Value	***	***	***	***	***
Transfers to related firms	Value	***	***	***	***	***
Total net sales	Value	***	***	***	***	***
COGS: Raw materials	Value	***	***	***	***	***
COGS: Direct labor	Value	***	***	***	***	***
COGS: Other factory	Value	***	***	***	***	***
COGS: Total	Value	***	***	***	***	***
Gross profit or (loss)	Value	***	***	***	***	***
SG&A expenses	Value	***	***	***	***	***
Operating income or (loss)	Value	***	***	***	***	***
Interest expense	Value	***	***	***	***	***
All other expenses	Value	***	***	***	***	***
All other income	Value	***	***	***	***	***
Net income or (loss)	Value	***	***	***	***	***
Depreciation/amortization	Value	***	***	***	***	***
Cash flow	Value	***	***	***	***	***
COGS: Raw materials	Ratio to NS	***	***	***	***	***
COGS: Direct labor	Ratio to NS	***	***	***	***	***
COGS: Other factory	Ratio to NS	***	***	***	***	***
COGS: Total	Ratio to NS	***	***	***	***	***
Gross profit	Ratio to NS	***	***	***	***	***
SG&A expense	Ratio to NS	***	***	***	***	***
Operating income or (loss)	Ratio to NS	***	***	***	***	***
Net income or (loss)	Ratio to NS	***	***	***	***	***

Table continued.

Table 6.1 (Continued) Erythritol: U.S. producer Cargill’s results of total market operations, by item and period

Shares in percent; unit values in dollars per pound; count in number of firms reporting; interim is January to September

Item	Measure	2021	2022	2023	Interim 2023	Interim 2024
COGS: Raw materials	Share of COGS	***	***	***	***	***
COGS: Direct labor	Share of COGS	***	***	***	***	***
COGS: Other factory	Share of COGS	***	***	***	***	***
COGS: Total	Share of COGS	100.0	100.0	100.0	100.0	100.0
Commercial sales	Unit value	***	***	***	***	***
Internal consumption	Unit value	***	***	***	***	***
Transfers to related firms	Unit value	***	***	***	***	***
Total net sales	Unit value	***	***	***	***	***
COGS: Raw materials	Unit value	***	***	***	***	***
COGS: Direct labor	Unit value	***	***	***	***	***
COGS: Other factory	Unit value	***	***	***	***	***
COGS: Total	Unit value	***	***	***	***	***
Gross profit or (loss)	Unit value	***	***	***	***	***
SG&A expenses	Unit value	***	***	***	***	***
Operating income or (loss)	Unit value	***	***	***	***	***
Net income or (loss)	Unit value	***	***	***	***	***
Operating losses	Count	***	***	***	***	***
Net losses	Count	***	***	***	***	***
Data	Count	***	***	***	***	***

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

Note: Zeroes, null values, and undefined calculations are suppressed and shown as “---”.

Table 6.2 Erythritol: Changes in AUVs between comparison periods for the total market

Changes in percent; interim is January to September

Item	2021-23	2021-22	2022-23	Interim 2023-24
Commercial sales	▲ ***	▲ ***	▼ ***	▼ ***
Internal consumption	▲ ***	▲ ***	▼ ***	▼ ***
Transfers to related firms	▲ ***	▲ ***	▼ ***	▼ ***
Total net sales	▲ ***	▲ ***	▼ ***	▼ ***
COGS: Raw materials	▲ ***	▲ ***	▲ ***	▼ ***
COGS: Direct labor	▲ ***	▼ ***	▲ ***	▲ ***
COGS: Other factory	▲ ***	▲ ***	▲ ***	▲ ***
COGS: Total	▲ ***	▲ ***	▲ ***	▲ ***

Table continued.

Table 6.2 (Continued) Erythritol: Changes in AUVs between comparison periods for the total market

Changes in dollars per pound; interim is January to September

Item	2021-23	2021-22	2022-23	Interim 2023-24
Commercial sales	▲ ***	▲ ***	▼ ***	▼ ***
Internal consumption	▲ ***	▲ ***	▼ ***	▼ ***
Transfers to related firms	▲ ***	▲ ***	▼ ***	▼ ***
Total net sales	▲ ***	▲ ***	▼ ***	▼ ***
COGS: Raw materials	▲ ***	▲ ***	▲ ***	▼ ***
COGS: Direct labor	▲ ***	▼ ***	▲ ***	▲ ***
COGS: Other factory	▲ ***	▲ ***	▲ ***	▲ ***
COGS: Total	▲ ***	▲ ***	▲ ***	▲ ***
Gross profit or (loss)	▼ ***	▲ ***	▼ ***	▼ ***
SG&A expense	▲ ***	▲ ***	▲ ***	▲ ***
Operating income or (loss)	▼ ***	▲ ***	▼ ***	▼ ***
Net income or (loss)	▼ ***	▲ ***	▼ ***	▼ ***

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

Note: Period changes preceded by a “▲” represent an increase, while period changes preceded by a “▼” represent a decrease.

Table 6.3 Erythritol: U.S. producer Cargill's results of merchant market operations, by item and period

Quantity in 1,000 pounds; value in 1,000 dollars; ratios in percent; interim is January to September

Item	Measure	2021	2022	2023	Interim 2023	Interim 2024
Commercial sales (CS)	Quantity	***	***	***	***	***
Commercial sales (CS)	Value	***	***	***	***	***
COGS: Raw materials	Value	***	***	***	***	***
COGS: Direct labor	Value	***	***	***	***	***
COGS: Other factory	Value	***	***	***	***	***
COGS: Total	Value	***	***	***	***	***
Gross profit or (loss)	Value	***	***	***	***	***
SG&A expenses	Value	***	***	***	***	***
Operating income or (loss)	Value	***	***	***	***	***
Interest expense	Value	***	***	***	***	***
All other expenses	Value	***	***	***	***	***
All other income	Value	***	***	***	***	***
Net income or (loss)	Value	***	***	***	***	***
COGS: Raw materials	Ratio to CS	***	***	***	***	***
COGS: Direct labor	Ratio to CS	***	***	***	***	***
COGS: Other factory	Ratio to CS	***	***	***	***	***
COGS: Total	Ratio to CS	***	***	***	***	***
Gross profit	Ratio to CS	***	***	***	***	***
SG&A expense	Ratio to CS	***	***	***	***	***
Operating income or (loss)	Ratio to CS	***	***	***	***	***
Net income or (loss)	Ratio to CS	***	***	***	***	***

Table continued.

Table 6.3 (Continued) Erythritol: U.S. producer Cargill's results of merchant market operations, by item and period

Shares in percent; unit values in dollars per pound; count in number of firms reporting; interim is January to September

Item	Measure	2021	2022	2023	Interim 2023	Interim 2024
COGS: Raw materials	Share of COGS	***	***	***	***	***
COGS: Direct labor	Share of COGS	***	***	***	***	***
COGS: Other factory	Share of COGS	***	***	***	***	***
COGS: Total	Share of COGS	100.0	100.0	100.0	100.0	100.0
Commercial sales	Unit value	***	***	***	***	***
COGS: Raw materials	Unit value	***	***	***	***	***
COGS: Direct labor	Unit value	***	***	***	***	***
COGS: Other factory	Unit value	***	***	***	***	***
COGS: Total	Unit value	***	***	***	***	***
Gross profit or (loss)	Unit value	***	***	***	***	***
SG&A expenses	Unit value	***	***	***	***	***
Operating income or (loss)	Unit value	***	***	***	***	***
Net income or (loss)	Unit value	***	***	***	***	***
Operating losses	Count	***	***	***	***	***
Net losses	Count	***	***	***	***	***
Data	Count	***	***	***	***	***

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

Note: Zeroes, null values, and undefined calculations are suppressed and shown as “---”

Table 6.4 Erythritol: Changes in merchant market AUVs between comparison periods

Changes in percent; interim is January to September

Item	2021-23	2021-22	2022-23	Interim 2023-24
Total net sales	▲***	▲***	▼***	▼***
COGS: Raw materials	▲***	▲***	▲***	▼***
COGS: Direct labor	▲***	▼***	▲***	▲***
COGS: Other factory	▲***	▲***	▲***	▲***
COGS: Total	▲***	▲***	▲***	▲***

Table continued.

Table 6.4 (Continued) Erythritol: Changes in merchant market AUVs between comparison periods

Changes in dollars per pound; interim is January to September

Item	2021-23	2021-22	2022-23	Interim 2023-24
Total net sales	▲***	▲***	▼***	▼***
COGS: Raw materials	▲***	▲***	▲***	▼***
COGS: Direct labor	▲***	▼***	▲***	▲***
COGS: Other factory	▲***	▲***	▲***	▲***
COGS: Total	▲***	▲***	▲***	▲***
Gross profit or (loss)	▲***	▲***	▼***	▼***
SG&A expense	▲***	▲***	▲***	▼***
Operating income or (loss)	▼***	▲***	▼***	▼***
Net income or (loss)	▼***	▲***	▼***	▼***

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

Note: Percentages and unit values shown as “0.0” or “0.00” represent values greater than zero, but less than “0.05” or “0.005,” respectively. Zeroes, null values, and undefined calculations are suppressed and shown as “---”. Period changes preceded by a “▲” represent an increase, while period changes preceded by a “▼” represent a decrease.

Net sales

Total market

As shown in table 6.1, the quantity of the industry's total market net sales decreased between 2021 and 2023 and was higher in interim 2024 when compared with the same period in 2023. The value of the industry's total market net sales decreased irregularly between 2021 and 2023 and was lower in interim 2024 when compared with the same period in 2023. Net sales quantity for the total market decreased by *** percent and net sales value decreased by *** percent between 2021 and 2023. Net sales quantity was *** percent higher in interim 2024 compared with interim 2023. In the same interim periods, the net sales value was *** percent lower.

The industry's total net sales AUV increased irregularly from \$*** per pound in 2021 to \$*** per pound in 2023, reflecting the larger decrease in net sales quantity compared to the decrease in net sales value. The industry's net sales AUV was lower in interim 2024, at \$*** per pound, than in interim 2023, at \$*** per pound, which is attributable to the small increase in net sales quantity and decrease in net sales value in the 2024 interim period.⁵

Merchant market

The merchant market sales trends were similar to the trends for total market net sales for 2021 to 2023. As shown in table 6.3, the quantity of the industry's merchant market net sales decreased between 2021 and 2023 and was higher in interim 2024 when compared with the same period in 2023. The value of the industry's merchant market net sales decreased irregularly between 2021 and 2023 and was lower in interim 2024 when compared with the same period in 2023. Merchant market sales quantity decreased by *** percent and merchant sales value decreased by *** percent between 2021 and 2023. Merchant market sales quantity was *** percent higher in interim 2024 compared with interim 2023. In the same interim periods, the merchant market sales value was *** percent lower.

The industry's merchant market net sales AUV increased irregularly from \$*** per pound in 2021 to \$*** per pound in 2023, reflecting the decrease in commercial sales value compared to the smaller decrease in commercial sales quantity. The industry's commercial

⁵ ***. Email from ***, January 15, 2025.

sales AUV was lower in interim 2024, at \$*** per pound, than in interim 2023, at \$*** per pound, which is attributable to the small increase in commercial sales quantity and decrease in commercial sales value between the comparable interim periods.

Cost of goods sold and gross profit or loss

Total market

Raw material costs, direct labor, and other factory costs accounted for ***, ***, and *** percent of total market COGS, respectively, in 2023. Total raw material costs decreased from \$*** in 2021 to \$*** in 2023, and were lower in interim 2024, at \$*** than in interim 2023, at \$***. On a per-pound basis, raw material costs increased from \$*** in 2021 to \$*** in 2023 and were lower in interim 2024, at \$***, than in interim 2023, at \$***. Table 6.5 presents raw materials, by type.⁶

⁶ Cargill starts with acquiring the raw material of corn primarily from local farmers, and it is used by multiple operating divisions of the company, some of which do not include the operating division that produces erythritol. The corn is divided into a fiber stream, oil stream, nitrogen stream, and carbohydrate stream. The carbohydrate stream is divided to go to multiple products, such as lactic acid, corn syrup, and dextrose; the dextrose is used to produce erythritol via a fermentation process. The corn, from a cost allocation perspective, is divided into multiple different cost centers. There is a co-product generated from the erythritol manufacturing process that is de minimis from a volume and value perspective. Conference transcript, p. 77 (Woo), 86-87 (Herther).

***. U.S. producer questionnaire response, section 3.8b and 3.8c; Email from ***, January 8, 2025.

Table 6.5 Erythritol: U.S. producer Cargill's total market raw material costs in 2023

Value in 1,000 dollars; unit values in dollars per pound; share of value in percent

Item	Value	Unit value	Share of value
Dextrose	***	***	***
Media for fermentation	***	***	***
Other raw material inputs	***	***	***
All raw materials	***	***	100.0

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

The industry's cost of direct labor decreased from \$*** in 2021 to \$*** in 2023 but was higher in interim 2024 (\$***) than in interim 2023 (\$***).⁷ The average unit cost of direct labor was essentially unchanged at \$*** from 2021 to 2023, and was higher in interim 2024, at \$***, than in interim 2023, at \$***.

Other factory costs decreased from \$*** in 2021 to \$*** in 2023 and were higher in interim 2024, at \$*** than in interim 2023, at \$***.⁸ On a per-pound basis, other factory costs increased from \$*** in 2021 to \$*** in 2023. Other factory costs were higher on a per-pound basis in interim 2024, at \$***, than in interim 2023, at \$***.⁹

Total COGS decreased by *** percent, from \$*** in 2021 to \$*** in 2023 and were higher in interim 2024, at \$*** than in interim 2023, at \$***. The decrease in total COGS was smaller than the decrease in net sales value, which resulted in gross profit decreasing overall from \$*** in 2021 to \$*** in 2023. Total COGS was higher in interim 2024 than in interim 2023. The increase in total COGS between the comparable interim periods combined with a decline in total sales value resulted

⁷ ***. Email from ***, January 8, 2025.

⁸ ***. Email from ***, January 8, 2025.

⁹ ***. U.S. producer questionnaire response, section 3.3a.

in gross profit being lower in interim 2024, at \$***, than in interim 2023, at \$***.

Total market COGS as a ratio to net sales value increased irregularly from *** percent in 2021 to *** percent in 2023 and was higher in interim 2024, at *** percent, than in interim 2023, at *** percent. Gross profit as a ratio to net sales decreased irregularly from *** percent to *** percent from 2021 to 2023 and was lower in interim 2024 (***) percent) than in interim 2023 (***) percent).

Merchant market

Raw material costs, direct labor, and other factory costs accounted for ***, ***, and *** percent of total market COGS, respectively, in 2023. Total raw material costs decreased from \$*** in 2021 to \$*** in 2023 and were lower in interim 2024, at \$***, than in interim 2023, at \$***. On a per-pound basis, merchant market raw material costs increased from \$*** in 2021 to \$*** in 2023 but were lower in interim 2024, at \$***, than in interim 2023, at \$***.

The industry's cost of direct labor for the merchant market decreased from \$*** in 2021 to \$*** in 2023 but was higher in interim 2024 (\$***) than in interim 2023 (\$***). The average unit cost of direct labor stayed the same at \$*** per pound in 2021 and 2023 and was higher in the interim 2024 (\$*** per pound) than in 2023 (\$*** per pound).

Other factory costs for the merchant market decreased from \$*** in 2021 to \$*** in 2023 and were higher in interim 2024, at \$*** than in interim 2023, at \$***. On a per-pound basis, other factory costs increased from \$*** in 2021 to \$*** in 2023 and were higher in interim 2024, at \$***, than in interim 2023, at \$***.

Merchant market COGS decreased by *** percent, from \$*** in 2021 to \$*** in 2023. The decrease in merchant market sales value was larger than the decrease in COGS, which resulted in an overall decrease in gross profit from \$*** in 2021 to \$*** in 2023. COGS was *** percent higher in interim 2024, at \$***, than in interim 2023, at \$***. The increase in COGS and the decrease in net sales value resulted in merchant market gross profit being lower in interim 2024, at \$***, than in interim 2023, at \$***.

Merchant market COGS as a ratio to commercial sales value increased irregularly from *** percent in 2021 to *** percent in 2023 and was higher in interim 2024, at *** percent, than in interim 2023, at *** percent. Gross profit as a ratio to net sales irregularly

decreased from *** percent to *** percent from 2021 to 2023 and was lower in interim 2024 (***) percent) than in interim 2023 (***) percent).

SG&A expenses and operating income or loss

Total market

Total market SG&A expenses increased from \$*** in 2021 to \$*** in 2023 and were higher in interim 2024, at \$***, than in interim 2023, at \$***. The SG&A expense ratio (SG&A expenses as a share of sales) increased irregularly from *** percent in 2021 to *** percent in 2023 and was higher in interim 2024, at *** percent, than in interim 2023, at *** percent.¹⁰

Total market operating income decreased from \$*** in 2021 to \$*** in 2023. Operating income was lower in interim 2024 (***) than interim 2023 (\$***). The operating margin (operating income as a ratio to net sales) decreased irregularly from *** percent in 2021 to *** percent in 2023 and was lower in interim 2024 (***) percent) than in interim 2023 (***) percent).

Merchant market

Merchant market SG&A expenses decreased irregularly from \$*** in 2021 to \$*** in 2023 and were higher in interim 2024, at \$***, than in interim 2023, at \$***. The SG&A expense ratio for the merchant market (SG&A expenses as a share of sales) increased irregularly from *** percent in 2021 to *** percent in 2023 and was higher in interim 2024, at *** percent, than in interim 2023, at *** percent.

Merchant market operating income decreased irregularly from \$*** in 2021 to \$*** in 2023. Merchant market operating income was lower in interim 2024, at ***, than in interim 2023, at \$***. The operating margin (operating income as a ratio to sales) decreased from *** percent in 2021 to *** percent in 2023 and was lower in interim 2024, at *** percent, than in interim 2023, at *** percent.

¹⁰ ***. Email from ***, January 15, 2025.

All other expenses and net income or loss

Total market

Classified below the total market operating income level are interest expense, other expense, and other income, which are listed in table 6.1. ***. Total market net income decreased overall from \$*** in 2021 to \$*** in 2023 and was lower in interim 2024 *** than in interim 2023 \$***.

Merchant market

Classified below the total market operating income level are interest expense, other expense, and other income, which are listed in table 6.3. ***. Merchant market net income decreased overall from \$*** in 2021 to \$*** in 2023. Merchant market net income was lower in interim 2024 (***) than in interim 2023 (\$***).

Variance analysis

A variance analysis for the total erythritol operations of the U.S. producer is presented in table 6.6.¹¹ The information for this variance analysis is derived from table 6.1. A variance analysis for the merchant market erythritol operations of the U.S. producer is presented in table 6.7, the information for which is derived from table 6.3.

The total market variance analysis in table 6.6 shows that the decrease in total market operating income between 2021 and 2023 was primarily attributable to unfavorable cost/expense and volume variances that offset a smaller favorable price variance (i.e., cost/expense AUVs increased more than sales AUVs, and volume declined). Lower operating

¹¹ The Commission's variance analysis is calculated in three parts: Sales variance, cost of sales variance (COGS variance), and SG&A expense variance. Each part consists of a price variance (in the case of the sales variance) or a cost or expense variance (in the case of the COGS and SG&A expense variance), and a volume variance. The sales or cost/expense variance is calculated as the change in unit price or per-unit cost/expense times the new volume, while the volume variance is calculated as the change in volume times the old unit price or per-unit cost/expense. Summarized at the bottom of the table, the price variance is from sales; the cost/expense variance is the sum of those items from COGS and SG&A variances, respectively, and the volume variance is the sum of the volume components of the net sales, COGS, and SG&A expense variances. The overall volume component of the variance analysis is generally small.

income in interim 2024 compared with interim 2023 is primarily attributable to unfavorable price and cost/expense variances that offset a much smaller favorable volume variance.

Table 6.6 Erythritol: Variance analysis on the total market operations of U.S. producer Cargill between comparison periods

Value in 1,000 dollars; interim period is January through September

Item	2021 to 2023	2021 to 2022	2022 to 2023	Interim 2023 to 2024
Net sales price variance	***	***	***	***
Net sales volume variance	***	***	***	***
Total net sales variance	***	***	***	***
COGS cost variance	***	***	***	***
COGS volume variance	***	***	***	***
COGS total variance	***	***	***	***
Gross profit variance	***	***	***	***
SG&A cost variance	***	***	***	***
SG&A volume variance	***	***	***	***
SG&A total variance	***	***	***	***
Operating income price variance	***	***	***	***
Operating income cost/expense variance	***	***	***	***
Operating income volume variance	***	***	***	***
Operating income total variance	***	***	***	***

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

Note: Unfavorable variances (which are negative) are shown in parentheses, all others are favorable (positive).

The merchant market variance analysis in table 6.7 shows that the decrease in merchant market operating income between 2021 and 2023 was primarily attributable to unfavorable cost/expense and volume variances that offset a favorable price variance. Lower merchant market operating income in interim 2024 compared with interim 2023 is primarily attributable to an unfavorable price and cost/expense variances that offset a much smaller favorable volume variance.

Table 6.7 Erythritol: Variance analysis on the merchant market operations of U.S. producer Cargill between comparison periods

Value in 1,000 dollars; interim period is January through September

Item	2021 to 2023	2021 to 2022	2022 to 2023	Interim 2023 to 2024
Commercial sales price variance	***	***	***	***
Commercial sales volume variance	***	***	***	***
Total commercial sales variance	***	***	***	***
COGS cost variance	***	***	***	***
COGS volume variance	***	***	***	***
COGS total variance	***	***	***	***
Gross profit variance	***	***	***	***
SG&A cost variance	***	***	***	***
SG&A volume variance	***	***	***	***
SG&A total variance	***	***	***	***
Operating income price variance	***	***	***	***
Operating income cost/expense variance	***	***	***	***
Operating income volume variance	***	***	***	***
Operating income total variance	***	***	***	***

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

Note: Unfavorable variances (which are negative) are shown in parentheses, all others are favorable (positive).

Capital expenditures, research and development expenses, assets, and return on assets

Table 6.8 presents Cargill’s total market capital expenditures, R&D expenses, assets, and return on assets, and the firm’s narrative explanations of the nature, focus, and significance of the items are presented in table 6.9.¹²

The industry’s capital expenditures declined between 2021 and 2023 and were lower in interim 2024 than interim 2023. Capex was primarily attributed to ***. R&D expenses, which decreased during from 2021 to 2023 and were lower in interim 2024 compared to interim 2023, were reported to reflect ***. Assets increased from 2021 to 2023 and the corresponding ROA *** in *** three yearly periods.

Table 6.8 Erythritol: U.S. producer Cargill’s capital expenditures, R&D expenses, total net assets, and ROA, by item and period

Value in 1,000 dollars: return on assets in percent; interim period is January through September; NA indicates not applicable

Item	2021	2022	2023	Interim 2023	Interim 2024
Capital expenditures	***	***	***	***	***
R&D expenses	***	***	***	***	***
Total net assets	***	***	***	***	***
Return on assets	***	***	***	***	***

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

¹² The operating ROA is calculated as operating income divided by total assets. With respect to a firm’s overall operations, the total asset value reflects an aggregation of a number of assets which are generally not product specific. Thus, high-level allocations are generally required in order to report a total asset value on a product-specific basis.

Table 6.9 Erythritol: U.S. producer Cargill’s narrative descriptions of its capital expenditures, R&D expenses, and total net assets

Item	Narrative on item
Capital expenditures	***
R&D expenses	***
Total net assets	***

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

Capital and investment

The Commission requested the U.S. producer of erythritol to describe any actual or potential negative effects of imports of erythritol from China on the firm’s growth, investment, ability to raise capital, development and production efforts, or the scale of capital investments. Table 6.10 presents the impact in each category and table 6.11 provides the U.S. producer’s narrative responses.¹³

¹³ Cargill reported that with reference to COVID-19, ***. U.S. producer questionnaire response, section 3.18.

Table 6.10 Erythritol: U.S. producer Cargill’s count indicating actual and anticipated negative effects of imports from subject sources on investment, growth, and development since January 1, 2021, by effect

Number of firms reporting

Effect	Category	Count
Cancellation, postponement, or rejection of expansion projects	Investment	***
Denial or rejection of investment proposal	Investment	***
Reduction in the size of capital investments	Investment	***
Return on specific investments negatively impacted	Investment	***
Other investment effects	Investment	***
Any negative effects on investment	Investment	***
Rejection of bank loans	Growth	***
Lowering of credit rating	Growth	***
Problem related to the issue of stocks or bonds	Growth	***
Ability to service debt	Growth	***
Other growth and development effects	Growth	***
Any negative effects on growth and development	Growth	***
Anticipated negative effects of imports	Future	***

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

Table 6.11 Erythritol: U.S. producer Cargill’s narratives relating to actual and anticipated negative effects of imports on investment, growth, and development, since January 1, 2021, by effect

Item	Narrative on impact of imports
***	***
***	***
***	***
***	***

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

Part 7: Threat considerations and information on nonsubject countries

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

In determining whether an industry in the United States is threatened with material injury by reason of imports (or sales for importation) of the subject merchandise, the Commission shall consider, among other relevant economic factors¹--

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

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

- (VI) *the potential for product-shifting if production facilities in the foreign country, which can be used to produce the subject merchandise, are currently being used to produce other products,*
- (VII) *in any investigation under this title which involves imports of both a raw agricultural product (within the meaning of paragraph (4)(E)(iv)) and any product processed from such raw agricultural product, the likelihood that there will be increased imports, by reason of product shifting, if there is an affirmative determination by the Commission under section 705(b)(1) or 735(b)(1) with respect to either the raw agricultural product or the processed agricultural product (but not both),*
- (VIII) *the actual and potential negative effects on the existing development and production efforts of the domestic industry, including efforts to develop a derivative or more advanced version of the domestic like product, and*
- (IX) *any other demonstrable adverse trends that indicate the probability that there is likely to be material injury by reason of imports (or sale for importation) of the subject merchandise (whether or not it is actually being imported at the time).²*

Information on the nature of the “alleged” subsidies was presented earlier in this report; information on the volume and pricing of imports of the subject merchandise is presented in Parts 4 and 5; and information on the effects of imports of the subject merchandise on U.S. producers’ existing development and production efforts is presented in Part 6. Information on inventories of the subject merchandise; foreign producers’ operations, including the potential for “product-shifting;” any other threat indicators, if applicable; and any dumping in third-country markets, follows. Also presented in this section of the report is information obtained for consideration by the Commission on nonsubject countries.

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

The industry in China

The Commission issued foreign producers' or exporters' questionnaires to 80 firms believed to produce and/or export erythritol from China.³ Usable responses to the Commission's questionnaire were received from three firms: A And Z Food Additives Co., Ltd ("A And Z Food Additives"), Guilin Sanleng Biotech Co. Ltd. ("Sanleng"), and Shaanxi Jiahe Pharmaceutical Co., Ltd. ("Jiaherb China").⁴

Table 7.1 presents the number of resellers/exporters in China that responded to the Commission's questionnaire, their exports to the United States and share of resales exported to the United States.

Table 7.1 Erythritol: Summary data for resellers in China, by firm, January 2021 to September 2024

Reseller	Resales exported to the United States (1,000 pounds)	Share of resales exported to the United States (percent)
A and Z Food Additives	***	***
Jiaherb China	***	***
Sanleng	***	***
All individual resellers	***	***

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

Note: All three firms that responded to foreign producers/exporters questionnaires reported ***. A and Z Food Additives reported exports of *** in 2022 but *** exports to the United States. Jiaherb China reported ***. Jiaherb China's exports to the U.S. were sourced from Chinese producers ***. Sanleng reported ***. Foreign producers' questionnaires, sections II.10 and II.11.

Table 7.2 presents events in China's industry since January 1, 2021.

³ These firms were identified through a review of information submitted in the petition and presented in third-party sources.

⁴ *** certified they did not produce or export erythritol from China since January 1, 2021.

Table 7.2 Erythritol: Important industry events in China since 2021

Item	Firm: Event
Expansions	Shandong Sanyuan Biotechnology Co., Ltd.: In February 2022, Sanyuan Biological proposed a fundraising project to add an additional 50,000 tons of erythritol to its annual production capacity.
Expansions	Dongxiao Biotechnology: On March 2022, the company's erythritol production capacity increased from 65,000 tons to 100,000 tons.
Expansions	Ingedion Incorporated: In January 2023, Ingedion announced that it had increased its erythritol production capacity in China.
Plant Openings	Jilin Jia'ao Biotechnology Co., Ltd.: In April 2021, began construction on a crystalline erythritol production facility with an annual production capacity of 40,000 tons.
Plant Openings	Starlight So True Biological Technology Co., Ltd.: In August 2022, Starlight announced an 11-month construction project that will generate 30,000 tons of annual production capacity of erythritol.
Plant Openings	Baolingbao Biology Co., Ltd.: On December 16, 2024, Baolingbao Biology announced that it will invest \$85 million to open a factory in the United States that will add 30,000 tons of production capacity for sugar substitutes (including erythritol) with a projected timeline of 36 months.
Other	Ningxia Eppen Biotech Co., Ltd.: In March 2022, Ningxia Eppen Biotech converted their 80,000-ton lysine production line into a 20,000-ton food grade erythritol production line.

Sources: Equal Ocean, "China's Largest Erythritol Supplier Sanyuan Surges 17% on Trading Debut," February 12, 2022, <https://equalocean.com/news/2022021217017>; Dongxiao Biotechnology Company, "Company Profile," accessed December 20, 2024, <http://en.cndongxiao.com/quanyuwomen/>; YiCai Global, "China's Baolingbao to Build US Sweetener Plant Costing Up to USD85 Million," December 16, 2024, <https://www.yicai.com/news/chinas-baolingbao-to-build-up-to-usd85-million-sweetener-plant-in-us-to-meet-global-demand>; A.H.A. International Co., Ltd., "Ning Xia Eppen Biotech Co., Ltd. Annual Output of 20,000 Tons of Erythritol (Food Grade) Project," March 9, 2022, <https://www.ahabiochem.com/info/ning-xia-eppen-biotech-co-ltd-annual-output-67408149.html>; A.H.A International Co., Ltd., "Jilin Jiaao Biological Technology Co., Ltd's S High-Purity Crystallized Erythritol Project With Annual Production of 40,000 Tons," January 12, 2022, <https://www.ahabiochem.com/info/jilin-jiaao-biological-technology-co-ltd-s-66056983.html>; CCM Data & Business Intelligence, "Overview of Starlight So True's Functional Sugar (Sugar Alcohol) Project," accessed Dec 20, 2024, <http://www.cnchemicals.com/Press/91642-Jinhe%20Biotechnology's%20projects%20of%205,000t%20per%20year%20premium%20erythritol%20project%20for%20industrial%20chain%20extension.html>; "Skyquest, "Erythritol Market Size, Share, Growth Analysis, By Type (Erythritol Powder, Erythritol Granular), By Application (Beverages, Food, Medicines and Healthcare Products, and Others), By Region - Industry Forecast 2025-2032," February 2024, <https://www.skyquestt.com/report/erythritol-market>.

Exports

According to GTA, the leading export markets for other acyclic alcohols, which includes erythritol, from China are the United States, Poland, and the Netherlands. During 2023, the United States was the top export market for other acyclic alcohols from China, accounting for 23.5 percent, followed by Poland, accounting for 10.8 percent.

Table 7.3 Other acyclic alcohols and their halogenated, sulfonated, nitrated or nitrosated derivatives: Exports from China, by destination market and period

Quantity in 1,000 pounds; value in 1,000 dollars

Destination market	Measure	2021	2022	2023
United States	Quantity	102,980	56,727	61,364
Poland	Quantity	20,360	22,648	28,313
Netherlands	Quantity	12,716	11,025	19,941
Italy	Quantity	11,662	14,446	18,698
Japan	Quantity	10,691	18,950	17,117
South Korea	Quantity	11,374	14,612	17,086
Germany	Quantity	14,818	12,068	11,861
Turkey	Quantity	7,967	12,006	11,330
Russia	Quantity	9,885	9,522	9,340
United Kingdom	Quantity	5,071	6,680	9,183
Australia	Quantity	10,481	6,772	7,238
Brazil	Quantity	4,805	6,204	5,853
All other destination markets	Quantity	41,366	42,729	44,008
All destination markets	Quantity	264,177	234,389	261,330
United States	Value	137,815	66,446	61,020
Poland	Value	25,612	29,342	33,134
Netherlands	Value	15,919	12,378	20,262
Italy	Value	13,277	20,377	23,387
Japan	Value	16,744	24,789	18,076
South Korea	Value	16,695	17,938	15,482
Germany	Value	21,244	14,138	11,725
Turkey	Value	8,862	17,119	14,498
Russia	Value	12,137	12,182	10,704
United Kingdom	Value	6,166	9,152	11,925
Australia	Value	14,351	7,355	5,975
Brazil	Value	6,365	8,315	6,828
All other destination markets	Value	60,772	54,871	50,294
All destination markets	Value	355,960	294,403	283,310

Table continued.

Table 7.3 (Continued) Other acyclic alcohols and their halogenated, sulfonated, nitrated or nitrosated derivatives: Exports from China, by destination market and period

Unit value in dollars per pound; share in percent

Destination market	Measure	2021	2022	2023
United States	Unit value	1.34	1.17	0.99
Poland	Unit value	1.26	1.30	1.17
Netherlands	Unit value	1.25	1.12	1.02
Italy	Unit value	1.14	1.41	1.25
Japan	Unit value	1.57	1.31	1.06
South Korea	Unit value	1.47	1.23	0.91
Germany	Unit value	1.43	1.17	0.99
Turkey	Unit value	1.11	1.43	1.28
Russia	Unit value	1.23	1.28	1.15
United Kingdom	Unit value	1.22	1.37	1.30
Australia	Unit value	1.37	1.09	0.83
Brazil	Unit value	1.32	1.34	1.17
All other destination markets	Unit value	1.47	1.28	1.14
All destination markets	Unit value	1.35	1.26	1.08
United States	Share of quantity	39.0	24.2	23.5
Poland	Share of quantity	7.7	9.7	10.8
Netherlands	Share of quantity	4.8	4.7	7.6
Italy	Share of quantity	4.4	6.2	7.2
Japan	Share of quantity	4.0	8.1	6.5
South Korea	Share of quantity	4.3	6.2	6.5
Germany	Share of quantity	5.6	5.1	4.5
Turkey	Share of quantity	3.0	5.1	4.3
Russia	Share of quantity	3.7	4.1	3.6
United Kingdom	Share of quantity	1.9	2.9	3.5
Australia	Share of quantity	4.0	2.9	2.8
Brazil	Share of quantity	1.8	2.6	2.2
All other destination markets	Share of quantity	15.7	18.2	16.8
All destination markets	Share of quantity	100.0	100.0	100.0

Source: Official export statistics under HS subheading 2905.49, as reported by China Customs in the Global Trade Atlas database, accessed December 31, 2024.

Note: United States is shown at the top. All remaining top export destinations are shown in descending order of 2023 data.

Note: Shares represent the shares of the value exported to the United States out of all destination markets.

U.S. inventories of imported merchandise

Table 7.4 presents data on U.S. importers' reported inventories of erythritol.⁵ U.S. importers' ending inventories of imports from China increased from 2021 to 2022 by *** percent, then decreased by *** percent from 2022 to 2023, decreasing overall from 2021 to 2023 by *** percent. Interim 2024 volumes were lower than in interim 2023 by more than ***. Subject inventory ratios to U.S. imports were *** percent in 2023 and *** percent to total shipments in the same year.

Ending inventory quantities from nonsubject sources decreased by *** percent from 2021 to 2023 and were lower by *** percent in interim 2024 compared to interim 2023.⁷ The ratio of ending inventories from nonsubject sources to total shipments of imports increased by *** percentage points from 2021 to 2023 but then was lower by *** percentage points in interim 2024 compared to interim 2023. Nonsubject inventory ratios to U.S. imports were *** percent in 2023 and *** percent to total shipments in the same year.

The quantity of ending inventories of imports from all import sources decreased irregularly from 2021 to 2023 by *** percent and was lower by more than *** in interim 2024 than in interim 2023. All import sources inventory ratios to U.S. imports were *** percent in 2023 and *** percent to total shipments in the same year.

⁵ Despite staff's attempts to obtain responses from firms, reported inventory data did not reconcile for several U.S. importers and were off by ***.

⁶ ***. ***.

⁷ Only one firm, ***, reported inventories from nonsubject sources, all from ***.

Table 7.4 Erythritol: U.S. importers' inventories and their ratio to select items, by source and period

Quantity in 1,000 pounds; ratio in percent; interim period is January through September

Measure	Source	2021	2022	2023	Interim 2023	Interim 2024
Inventories quantity	China	***	***	***	***	***
Ratio to imports	China	***	***	***	***	***
Ratio to U.S. shipments of imports	China	***	***	***	***	***
Ratio to total shipments of imports	China	***	***	***	***	***
Inventories quantity	Nonsubject sources	***	***	***	***	***
Ratio to imports	Nonsubject sources	***	***	***	***	***
Ratio to U.S. shipments of imports	Nonsubject sources	***	***	***	***	***
Ratio to total shipments of imports	Nonsubject sources	***	***	***	***	***
Inventories quantity	All import sources	***	***	***	***	***
Ratio to imports	All import sources	***	***	***	***	***
Ratio to U.S. shipments of imports	All import sources	***	***	***	***	***
Ratio to total shipments of imports	All import sources	***	***	***	***	***

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

U.S. importers' outstanding orders

The Commission requested importers to indicate whether they imported or arranged for the importation of erythritol from China after September 30, 2024. Their reported data are presented in table 7.5. While 16 of the 28 reporting importers from China indicated they arranged imports in the last quarter of 2024, only four *** reported arranging imports from China in the third quarter of 2025. ***, the only two U.S. importer from nonsubject sources, did not report arranged imports for the second or third quarter of 2025.

Table 7.5 Erythritol: U.S. importers' arranged imports, by source and period

Quantity in 1,000 pounds

Source	Q4 2024	Q1 2025	Q2 2025	Q3 2025	Total
China	***	***	***	***	***
Nonsubject sources	***	***	***	***	***
All import sources	***	***	***	***	***

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

Third-country trade actions

Since January 2021, erythritol from China has been subject to antidumping investigations in the EU.⁸ On July 17, 2024, the EU instituted provisional antidumping rates. On January 15, 2025, the EU imposed the following definitive antidumping duty rates:⁹

Table 7.6 Erythritol: Definitive Antidumping Duties Instituted in the European Union

Company	Definitive antidumping duty rate (%)
Baolingbao Biology Co., Ltd.	34.4
Dongxiao Biotechnology Co., Ltd.	78.4
Sanyuan Biotechnology Co., Ltd.	185.5
Other cooperating companies	160.8
All other imports originating in the People's Republic of China	233.3

Source: European Union, "Commission Implementing Regulation (EU) 2025/60: Imposing a Definitive Anti-Dumping Duty, Definitively Collecting the Provisional Duty Imposed on Imports of Erythritol Originating in the People's Republic of China and Levying the Definitive Anti-dumping Duty on the Registered Imports of Erythritol Originating in the People's Republic of China," January 15, 2025, <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32025R0060&qid=1737043375919>.

Note: "Other cooperating companies" are listed in the annex to "Commission Implementing Regulation (EU) 2025/60."

⁸ European Union, "Commission Implementing Regulation (EU) 2024/1959: Imposing A Provisional Anti-Dumping Duty on Imports of Erythritol Originating in the People's Republic of China," July 17, 2024, <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32024R1959>.

⁹ European Union, "Commission Implementing Regulation (EU) 2025/60: Imposing a Definitive Anti-Dumping Duty, Definitively Collecting the Provisional Duty Imposed on Imports of Erythritol Originating in the People's Republic of China and Levying the Definitive Anti-dumping Duty on the Registered Imports of Erythritol Originating in the People's Republic of China," January 15, 2025, <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32025R0060&qid=1737043375919>.

Information on nonsubject countries

Table 7.7 presents data for global exports of other acyclic alcohols, which includes erythritol, under HS subheading 2905.49. Exports under this heading include both in scope erythritol and out-of-scope products (e.g., other polyols). From 2021 to 2023, the volume of global exports under HS subheading 2905.49 declined from 424.9 million pounds to 366.6 million pounds. During this period China was the largest global exporter, with its share of global exports increasing from 62.2 and 62.6 percent in 2021 and 2022, respectively, to 71.3 percent in 2023. During the same period there was a significant decline in exports from France with its market share declining from 11.8 in 2021 to 5.0 percent in 2023. As a result, the Netherlands became the third largest exporter of erythritol in 2023 despite having a minimal change in market share from 2021 (5.2 percent) to 2023 (5.4 percent).

Table 7.7 Other acyclic alcohols and their halogenated, sulfonated, nitrated or nitrosated derivatives: Global exports by exporter and period

Quantity in 1,000 pounds; value in 1,000 dollars

Exporting country	Measure	2021	2022	2023
United States	Quantity	33,802	27,027	19,516
China	Quantity	264,177	234,389	261,330
Netherlands	Quantity	21,929	22,775	19,898
France	Quantity	50,346	42,626	18,503
Germany	Quantity	15,803	13,037	12,199
Thailand	Quantity	6	50	6,551
Italy	Quantity	7,211	7,645	6,418
Sweden	Quantity	7,664	5,790	5,455
Poland	Quantity	5,445	5,074	3,480
Taiwan	Quantity	2,983	2,738	2,399
Austria	Quantity	1,169	1,512	1,241
Belgium	Quantity	2,097	1,624	1,178
All other exporters	Quantity	12,251	10,365	8,430
All reporting exporters	Quantity	424,882	374,651	366,597
United States	Value	53,689	53,543	36,621
China	Value	355,960	294,403	283,310
Netherlands	Value	38,678	41,847	36,547
France	Value	76,872	68,789	43,393
Germany	Value	30,828	28,319	25,751
Thailand	Value	15	122	1,251
Italy	Value	8,142	8,868	10,951
Sweden	Value	4,799	3,381	3,272
Poland	Value	9,117	7,877	5,212
Taiwan	Value	5,641	6,578	4,912
Austria	Value	2,712	3,338	2,901
Belgium	Value	3,666	2,665	2,152
All other exporters	Value	29,484	29,466	25,689
All reporting exporters	Value	619,603	549,195	481,961

Table continued.

Table 7.7 (Continued) Other acyclic alcohols and their halogenated, sulfonated, nitrated or nitrosated derivatives: Global exports by exporter and period

Unit value in dollars per pound; share in percent

Exporting country	Measure	2021	2022	2023
United States	Unit value	1.59	1.98	1.88
China	Unit value	1.35	1.26	1.08
Netherlands	Unit value	1.76	1.84	1.84
France	Unit value	1.53	1.61	2.35
Germany	Unit value	1.95	2.17	2.11
Thailand	Unit value	2.39	2.44	0.19
Italy	Unit value	1.13	1.16	1.71
Sweden	Unit value	0.63	0.58	0.60
Poland	Unit value	1.67	1.55	1.50
Taiwan	Unit value	1.89	2.40	2.05
Austria	Unit value	2.32	2.21	2.34
Belgium	Unit value	1.75	1.64	1.83
All other exporters	Unit value	2.41	2.84	3.05
All reporting exporters	Unit value	1.46	1.47	1.31
United States	Share of quantity	8.0	7.2	5.3
China	Share of quantity	62.2	62.6	71.3
Netherlands	Share of quantity	5.2	6.1	5.4
France	Share of quantity	11.8	11.4	5.0
Germany	Share of quantity	3.7	3.5	3.3
Thailand	Share of quantity	0.0	0.0	1.8
Italy	Share of quantity	1.7	2.0	1.8
Sweden	Share of quantity	1.8	1.5	1.5
Poland	Share of quantity	1.3	1.4	0.9
Taiwan	Share of quantity	0.7	0.7	0.7
Austria	Share of quantity	0.3	0.4	0.3
Belgium	Share of quantity	0.5	0.4	0.3
All other exporters	Share of quantity	2.9	2.8	2.3
All reporting exporters	Share of quantity	100.0	100.0	100.0

Source: Official export statistics under HS subheading 2905.49, as reported by various national statistical authorities in the Global Trade Atlas database, accessed December 31, 2024.

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "—". United States is shown at the top followed by the countries under investigation, all remaining top exporting countries in descending order of 2023 data.

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
89 FR 103876, December 19, 2024	<i>Erythritol from China; Institution of Antidumping and Countervailing Duty Investigations and Scheduling of Preliminary Phase Investigations</i>	https://www.govinfo.gov/content/pkg/FR-2024-12-19/pdf/2024-30201.pdf
90 FR 1962, January 10, 2025	<i>Erythritol From the People's Republic of China: Initiation of Countervailing Duty Investigation</i>	https://www.govinfo.gov/content/pkg/FR-2025-01-10/pdf/2025-00259.pdf
90 FR 1957, January 10, 2025	<i>Erythritol From the People's Republic of China: Initiation of Less-Than-Fair-Value Investigation</i>	https://www.govinfo.gov/content/pkg/FR-2025-01-10/pdf/2025-00258.pdf

APPENDIX B

LIST OF STAFF CONFERENCE WITNESSES

CALENDAR OF PUBLIC PRELIMINARY CONFERENCE

Those listed below participated in the United States International Trade Commission's preliminary conference via video conference:

Subject: Erythritol from China
Inv. Nos.: 701-TA-751 and 731-TA-1729 (Preliminary)
Date and Time: January 3, 2025 - 9:30 a.m.

OPENING REMARKS:

In Support of Imposition (**Matthew J. McConkey**, Mayer Brown LLP)

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

Mayer Brown LLP
Washington, DC
on behalf of

Cargill, Inc.

Angie Shultz, Product Line Manager, Polyols, Starches, Sweeteners & Texturizers, Cargill, Inc.

Andrew Herther, Finance Lead, North America Business Group for Starches, Sweeteners and Texturizers. Cargill, Inc.

Ali Weideman, Commercial Product Line Specialist, Cargill, Inc.

Anton Woo, Research and Development Director, Cargill, Inc.

Valerie Denaburg, International Trade Analyst, Mayer Brown LLP

Andrew Szamosszegi, Principal, Capital Trade, Inc.

**In Support of the Imposition of the
Antidumping and Countervailing Duty Orders (continued):**

Matthew J. McConkey)
) – OF COUNSEL
Jacob Reiskin)

CLOSING REMARKS:

In Support of Imposition (**Matthew J. McConkey**, Mayer Brown LLP)

APPENDIX C
SUMMARY DATA

Table C.1: Erythritol: Summary data concerning the U.S. total market C.3

Table C.2: Erythritol: Summary data concerning the U.S. merchant market C.5

Total market

Table C.1

Erythritol: Summary data concerning the U.S. total market, by item and period

Quantity=1,000 pounds; Value=1,000 dollars; Unit values, unit labor costs, and unit expenses=dollars per pound; Period changes=percent--exceptions noted; Interim period is January through September

Item	Reported data					Period change comparisons				
	2021	Calendar year 2022	2023	Interim 2023	2024	2021-23	Calendar year 2021-22	2022-23	Interim 2023-24	
U.S. total market consumption quantity:										
Amount	***	***	***	***	***	▼***	▲***	▼***	▼***	
Producers' share (fn1)	***	***	***	***	***	▼***	▼***	▲***	▲***	
Importers' share (fn1):										
China	***	***	***	***	***	▲***	▲***	▲***	▼***	
Nonsubject sources	***	***	***	***	***	▼***	▼***	▼***	▲***	
All import sources	***	***	***	***	***	▲***	▲***	▼***	▼***	
U.S. total market consumption value:										
Amount	***	***	***	***	***	▼***	▲***	▼***	▼***	
Producers' share (fn1)	***	***	***	***	***	▲***	▼***	▲***	▼***	
Importers' share (fn1):										
China	***	***	***	***	***	▲***	▲***	▲***	▼***	
Nonsubject sources	***	***	***	***	***	▼***	▼***	▼***	▲***	
All import sources	***	***	***	***	***	▼***	▲***	▼***	▲***	
U.S. importers' U.S. shipments of imports from:										
China:										
Quantity	***	***	***	***	***	▼***	▲***	▼***	▼***	
Value	***	***	***	***	***	▼***	▲***	▼***	▼***	
Unit value	***	***	***	***	***	▼***	▼***	▼***	▼***	
Ending inventory quantity	***	***	***	***	***	▼***	▲***	▼***	▼***	
Nonsubject sources:										
Quantity	***	***	***	***	***	▼***	▲***	▼***	▲***	
Value	***	***	***	***	***	▼***	▲***	▼***	▲***	
Unit value	***	***	***	***	***	▲***	▲***	▲***	▼***	
Ending inventory quantity	***	***	***	***	***	▼***	▼***	▼***	▼***	
All import sources:										
Quantity	58,767	70,862	45,847	31,217	30,172	▼(22.0)	▲20.6	▼(35.3)	▼(3.3)	
Value	125,708	148,438	71,034	50,695	44,232	▼(43.5)	▲18.1	▼(52.1)	▼(12.7)	
Unit value	\$2.14	\$2.09	\$1.55	\$1.62	\$1.47	▼(27.6)	▼(2.1)	▼(26.0)	▼(9.7)	
Ending inventory quantity	***	***	***	***	***	▼***	▲***	▼***	▼***	
U.S. producers':										
Practical 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	***	***	***	***	***	▲***	▲***	▲***	▲***	

Table continued.

Table C.1 Continued

Erythritol: Summary data concerning the U.S. total market, by item and period

Quantity=1,000 pounds; Value=1,000 dollars; Unit values, unit labor costs, and unit expenses=dollars per pound; Period changes=percent--exceptions noted; Interim period is January through September

Item	Reported data					Period change comparisons			
	2021	Calendar year 2022	2023	Interim 2023	Interim 2024	2021-23	Calendar year 2021-22	2022-23	Interim 2023-24
U.S. producers': Continued									
Net sales:									
Quantity	***	***	***	***	***	▼***	▼***	▼***	▲***
Value	***	***	***	***	***	▼***	▲***	▼***	▼***
Unit value	***	***	***	***	***	▲***	▲***	▼***	▼***
Cost of goods sold (COGS)	***	***	***	***	***	▼***	▼***	▼***	▲***
Gross profit or (loss) (fn2)	***	***	***	***	***	▼***	▲***	▼***	▼***
SG&A expenses	***	***	***	***	***	▲***	▲***	▲***	▲***
Operating income or (loss) (fn2)	***	***	***	***	***	▼***	▲***	▼***	▼***
Net income or (loss) (fn2)	***	***	***	***	***	▼***	▲***	▼***	▼***
Unit COGS	***	***	***	***	***	▲***	▲***	▲***	▲***
Unit SG&A expenses	***	***	***	***	***	▲***	▲***	▲***	▲***
Unit operating income or (loss) (fn2)	***	***	***	***	***	▼***	▲***	▼***	▼***
Unit net income or (loss) (fn2)	***	***	***	***	***	▼***	▲***	▼***	▼***
COGS/sales (fn1)	***	***	***	***	***	▲***	▼***	▲***	▲***
Operating income or (loss)/sales (fn1)	***	***	***	***	***	▼***	▲***	▼***	▼***
Net income or (loss)/sales (fn1)	***	***	***	***	***	▼***	▲***	▼***	▼***
Capital expenditures	***	***	***	***	***	▼***	▼***	▼***	▼***
Research and development expenses	***	***	***	***	***	▼***	▼***	▼***	▼***
Total assets	***	***	***	***	***	▲***	***	▲***	***

Source: Compiled from data submitted in response to Commission questionnaires. 508-compliant tables for these data are contained in parts 3, 4, 6, and 7 of this report.

Note.--Shares and ratios shown as "0.0" percent represent non-zero values less than "0.05" percent (if positive) and greater than "(0.05)" percent (if negative). Zeroes, null values, and undefined calculations are suppressed and shown as "--". Period changes preceded by a "▲" represent an increase, while period changes preceded by a "▼" represent a decrease.

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

fn2.--Percent changes only calculated when both comparison values represent profits; The directional change in profitability provided when one or both comparison values represent a loss.

Merchant market

Table C.2

Erythritol: Summary data concerning the U.S. merchant market, by item and period

Quantity=1,000 pounds; Value=1,000 dollars; Unit values, unit labor costs, and unit expenses=dollars per pound; Productivity=pounds per hour; Period changes=percent--exceptions noted; Interim period is January through September

Item	Reported data					Period change comparisons				
	Calendar year			Interim		Calendar year			Interim	
	2021	2022	2023	2023	2024	2021-23	2021-22	2022-23	2023-24	
U.S. merchant market consumption quantity:										
Amount	***	***	***	***	***	▼***	▲***	▼***	▲***	
Producers' share (fn1)	***	***	***	***	***	▼***	▼***	▼***	▲***	
Importers' share (fn1):										
China.....	***	***	***	***	***	▲***	▲***	▲***	▼***	
Nonsubject sources.....	***	***	***	***	***	▼***	▼***	▼***	▲***	
All import sources.....	***	***	***	***	***	▲***	▲***	▲***	▼***	
U.S. merchant market consumption value:										
Amount	***	***	***	***	***	▼***	▲***	▼***	▼***	
Producers' share (fn1):	***	***	***	***	***	▼***	▼***	▲***	▼***	
Importers' share (fn1):										
China.....	***	***	***	***	***	▲***	▲***	▲***	▼***	
Nonsubject sources.....	***	***	***	***	***	▼***	▼***	▼***	▲***	
All import sources.....	***	***	***	***	***	▲***	▲***	▼***	▲***	
U.S. importers' U.S. shipments of imports from:										
China:										
Quantity.....	***	***	***	***	***	▼***	▲***	▼***	▼***	
Value.....	***	***	***	***	***	▼***	▲***	▼***	▼***	
Unit value.....	***	***	***	***	***	▼***	▼***	▼***	▼***	
Ending inventory quantity.....	***	***	***	***	***	▼***	▲***	▼***	▼***	
Nonsubject sources:										
Quantity.....	***	***	***	***	***	▼***	▲***	▼***	▲***	
Value.....	***	***	***	***	***	▼***	▲***	▼***	▲***	
Unit value.....	***	***	***	***	***	▲***	▲***	▲***	▼***	
Ending inventory quantity.....	***	***	***	***	***	▼***	▼***	▼***	▼***	
All import sources:										
Quantity.....	58,767	70,862	45,847	31,217	30,172	▼(22.0)	▲20.6	▼(35.3)	▼(3.3)	
Value.....	125,708	148,438	71,034	50,695	44,232	▼(43.5)	▲18.1	▼(52.1)	▼(12.7)	
Unit value.....	\$2.14	\$2.09	\$1.55	\$1.62	\$1.47	▼(27.6)	▼(2.1)	▼(26.0)	▼(9.7)	
Ending inventory quantity.....	***	***	***	***	***	▼***	▲***	▼***	▼***	
U.S. producers':										
Commercial U.S. shipments										
Quantity	***	***	***	***	***	▼***	▼***	▼***	▲***	
Value	***	***	***	***	***	▼***	▼***	▼***	▼***	
Unit value.....	***	***	***	***	***	▲***	▲***	▲***	▼***	
Commercial sales:										
Quantity.....	***	***	***	***	***	▼***	▼***	▼***	▲***	
Value.....	***	***	***	***	***	▼***	▲***	▼***	▼***	
Unit value.....	***	***	***	***	***	▲***	▲***	▼***	▼***	
Cost of goods sold (COGS).....	***	***	***	***	***	▼***	▼***	▼***	▲***	
Gross profit or (loss) (fn2).....	***	***	***	***	***	▼***	▲***	▼***	▼***	
SG&A expenses.....	***	***	***	***	***	▼***	▼***	▲***	▲***	
Operating income or (loss) (fn2).....	***	***	***	***	***	▼***	▲***	▼***	▼***	
Net income or (loss) (fn2).....	***	***	***	***	***	▼***	▲***	▼***	▼***	
Unit COGS.....	***	***	***	***	***	▲***	▲***	▲***	▲***	
Unit SG&A expenses.....	***	***	***	***	***	▲***	▲***	▲***	▼***	
Unit operating income or (loss) (fn2).....	***	***	***	***	***	▼***	▲***	▼***	▼***	
Unit net income or (loss) (fn2).....	***	***	***	***	***	▼***	▲***	▼***	▼***	
COGS/sales (fn1).....	***	***	***	***	***	▲***	▼***	▲***	▲***	
Operating income or (loss)/sales (fn1).....	***	***	***	***	***	▼***	▲***	▼***	▼***	
Net income or (loss)/sales (fn1).....	***	***	***	***	***	▼***	▲***	▼***	▼***	

Source: Compiled from data submitted in response to Commission questionnaires. 508-compliant tables for these data are contained in parts 3, 4, 6, and 7 of this report.

Note.--Shares and ratios shown as "0.0" percent represent non-zero values less than "0.05" percent (if positive) and greater than "(0.05)" percent (if negative). Zeroes, null values, and undefined calculations are suppressed and shown as "--". Period changes preceded by a "▲" represent an increase, while period changes preceded by a "▼" represent a decrease.

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

fn2.--Percent changes only calculated when both comparison values represent profits; The directional change in profitability provided when one or both comparison values represent a loss.

APPENDIX D

U.S. PRODUCER'S AND U.S. IMPORTERS'

DOMESTIC LIKE PRODUCT NARRATIVES

Table D.1 Erythritol: U.S. producer Cargill's narratives regarding the domestic like product factors comparing in-scope erythritol vs out-of-scope other polyol sweeteners

Factor	Narrative on the domestic like product factors
Physical characteristics	***
Interchangeability	***
Channels	***
Manufacturing	***
Perceptions	***
Price	***

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

Table D.2 Erythritol: U.S. importers' narratives regarding the domestic like product factors comparing in-scope erythritol vs out-of-scope other polyol sweeteners

Factor	Importer name and narrative on the domestic like product factors
Physical characteristics	***
Physical characteristics	***
Physical characteristics	***
Physical characteristics	***
Physical characteristics	***
Physical characteristics	***
Physical characteristics	***
Physical characteristics	***

Table continued.

Table D.2 Erythritol: U.S. importers' narratives regarding the domestic like product factors comparing in-scope erythritol vs out-of-scope other polyol sweeteners

Factor	Importer name and narrative on the domestic like product factors
Physical characteristics	***
Physical characteristics	***
Physical characteristics	***
Physical characteristics	***
Physical characteristics	***

Table continued.

Table D.2 Erythritol: U.S. importers' narratives regarding the domestic like product factors comparing in-scope erythritol vs out-of-scope other polyol sweeteners

Factor	Importer name and narrative on the domestic like product factors
Physical characteristics	***
Physical characteristics	***
Physical characteristics	***
Physical characteristics	***

Table continued.

Table D.2 Erythritol: U.S. importers' narratives regarding the domestic like product factors comparing in-scope erythritol vs out-of-scope other polyol sweeteners

Factor	Importer name and narrative on the domestic like product factors
Interchangeability	***
Interchangeability	***
Interchangeability	***
Interchangeability	***
Interchangeability	***
Interchangeability	***
Interchangeability	***

Table continued.

Table D.2 Erythritol: U.S. importers' narratives regarding the domestic like product factors comparing in-scope erythritol vs out-of-scope other polyol sweeteners

Factor	Importer name and narrative on the domestic like product factors
Interchangeability	***
Interchangeability	***
Interchangeability	***
Interchangeability	***
Interchangeability	***
Interchangeability	***
Interchangeability	***
Interchangeability	***
Channels	***
Channels	***

Table continued.

Table D.2 Erythritol: U.S. importers' narratives regarding the domestic like product factors comparing in-scope erythritol vs out-of-scope other polyol sweeteners

Factor	Importer name and narrative on the domestic like product factors
Channels	***
Channels	***
Channels	***
Channels	***
Channels	***
Channels	***
Channels	***
Channels	***

Table continued.

Table D.2 Erythritol: U.S. importers' narratives regarding the domestic like product factors comparing in-scope erythritol vs out-of-scope other polyol sweeteners

Factor	Importer name and narrative on the domestic like product factors
Channels	***
Manufacturing	***
Manufacturing	***
Manufacturing	***
Manufacturing	***
Manufacturing	***
Manufacturing	***

Table continued.

Table D.2 Erythritol: U.S. importers' narratives regarding the domestic like product factors comparing in-scope erythritol vs out-of-scope other polyol sweeteners

Factor	Importer name and narrative on the domestic like product factors
Manufacturing	***
Manufacturing	***
Manufacturing	***
Manufacturing	***
Manufacturing	***
Manufacturing	***
Perceptions	***
Perceptions	***
Perceptions	***
Perceptions	***
Perceptions	***

Table continued.

Table D.2 Erythritol: U.S. importers' narratives regarding the domestic like product factors comparing in-scope erythritol vs out-of-scope other polyol sweeteners

Factor	Importer name and narrative on the domestic like product factors
Perceptions	***
Perceptions	***
Perceptions	***
Perceptions	***
Perceptions	***

Table continued.

Table D.2 Erythritol: U.S. importers' narratives regarding the domestic like product factors comparing in-scope erythritol vs out-of-scope other polyol sweeteners

Factor	Importer name and narrative on the domestic like product factors
Perceptions	***
Price	***
Price	***
Price	***
Price	***
Price	***
Price	***

Table continued.

Table D.2 Erythritol: U.S. importers' narratives regarding the domestic like product factors comparing in-scope erythritol vs out-of-scope other polyol sweeteners

Factor	Importer name and narrative on the domestic like product factors
Price	***
Price	***
Price	***
Price	***
Price	***
Price	***

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

