

Hard Empty Capsules from Brazil, China, India, and Vietnam

Investigation Nos. 701-TA-742–745 and 731-TA-1720–1723 (Final)

Publication 5696

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U.S. International Trade Commission



Washington, DC 20436

U.S. International Trade Commission

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CONTENTS

	Page
Determinations	1
Views of the Commission	3
Part 1: Introduction	1.1
Background.....	1.1
Statutory criteria	1.2
Organization of report.....	1.4
Market summary	1.4
Summary data and data sources.....	1.5
Previous and related investigations	1.5
Nature and extent of subsidies and sales at LTFV	1.6
Subsidies	1.6
Sales at LTFV	1.7
The subject merchandise	1.10
Commerce’s scope	1.10
Tariff treatment.....	1.11
The product	1.15
Description and applications.....	1.15
Manufacturing processes	1.16
Domestic like product issues.....	1.19
Part 2: Conditions of competition in the U.S. market	2.1
U.S. market characteristics.....	2.1
U.S. purchasers.....	2.2
Changes in purchasing patterns	2.3
Impact of section 301 tariffs and other tariff changes	2.4
Channels of distribution	2.6
Geographic distribution	2.7
Supply and demand considerations.....	2.7
U.S. supply	2.7

CONTENTS

	Page
Part 2: Conditions of competition in the U.S. market.....	<i>continued</i>
U.S. demand	2.13
Substitutability issues.....	2.16
Factors affecting purchasing decisions.....	2.17
Purchase factor comparisons of domestic HECs, subject imports, and nonsubject imports	2.22
Comparison of U.S.-produced and imported HECs	2.28
Elasticity estimates.....	2.31
U.S. supply elasticity.....	2.31
U.S. demand elasticity.....	2.31
Substitution elasticity	2.31
Part 3: U.S. producers' production, shipments, and employment	3.1
U.S. producers	3.1
U.S. production, capacity, and capacity utilization	3.5
HEC sizes	3.8
Gelatin and non-gelatin HECs.....	3.9
Alternative products.....	3.9
U.S. producers' U.S. shipments and exports.....	3.10
U.S. producers' inventories	3.14
U.S. producers' imports from subject sources.....	3.15
U.S. producers' purchases of imports from subject sources	3.16
U.S. employment, wages, and productivity	3.16
Part 4: U.S. imports, apparent U.S. consumption, and market shares	4.1
U.S. importers.....	4.1
U.S. imports.....	4.4
Negligibility.....	4.12
Cumulation considerations	4.19
Fungibility	4.20

CONTENTS

	Page
Part 4: U.S. imports, apparent U.S. consumption, and market shares	<i>continued</i>
Geographical markets	4.33
Presence in the market	4.35
Apparent U.S. consumption and market shares	4.40
Quantity	4.40
Value	4.42
Part 5: Pricing data	5.1
Factors affecting prices	5.1
Raw material costs	5.1
Transportation costs to the U.S. market	5.1
U.S. inland transportation costs	5.1
Pricing practices	5.2
Pricing methods	5.2
Sales terms and discounts	5.3
Price leadership	5.3
Price data	5.4
Price trends	5.22
Price comparisons	5.24
Lost sales and lost revenue	5.28
Part 6: Financial experience of U.S. producers	6.1
Background	6.1
Operations on HECs	6.2
Net sales	6.13
Cost of goods sold and gross profit or loss	6.14
SG&A expenses and operating income or loss	6.17
All other expenses and net income or loss	6.17
Variance analysis	6.18
Capital expenditures and research and development expenses	6.20

CONTENTS

	Page
Part 6: Financial experience of U.S. producers	<i>continued</i>
Assets and return on assets	6.21
Capital and investment	6.22
Part 7: Threat considerations and information on nonsubject countries	7.1
Subject countries.....	7.3
Changes in operations	7.7
Installed and practical overall capacity	7.11
Constraints on capacity	7.12
Operations on HECs.....	7.15
HEC sizes	7.25
Gelatin and non-gelatin HECs.....	7.25
Alternative products.....	7.26
Exports.....	7.26
U.S. inventories of imported merchandise	7.28
U.S. importers' outstanding orders.....	7.31
Third-country trade actions	7.32
Information on nonsubject countries	7.32
Appendixes	
A. Federal Register notices.....	A.1
B. List of hearing witnesses.....	B.1
C. Summary data	C.1
D. U.S. producers' and U.S. importers' U.S. shipments by end user type	D.1
E. Nonsubject country price data	E.1
F. Price comparison tables excluding proprietary VCAPS-plus price data	F.1
G. U.S. producers' net sales by sales type.....	G.1
H. Information from U.S. and foreign producers on HEC sizes and types.....	H.1

CONTENTS

Page

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-742-745 and 731-TA-1720-1723 (Final)

Hard Empty Capsules from Brazil, China, India, and Vietnam

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 an industry in the United States is materially injured by reason of imports of hard empty capsules from China, India, and Vietnam and threatened with material injury by reason of imports of hard empty capsules from Brazil, provided for in subheadings 9602.00.10 and 9602.00.50 of the Harmonized Tariff Schedule of the United States, that have been found by the U.S. Department of Commerce (“Commerce”) to be sold in the United States at less than fair value (“LTFV”), and imports of the subject merchandise from Brazil, China, India, and Vietnam that have been found to be subsidized by the governments of Brazil, China, India, and Vietnam.²

BACKGROUND

The Commission instituted these investigations effective October 24, 2024, following receipt of petitions filed with the Commission and Commerce by Lonza Greenwood LLC, Greenwood, South Carolina. The final phase of the investigations was scheduled by the Commission following notification of preliminary determinations by Commerce that imports of hard empty capsules from Brazil, China, India, and Vietnam were subsidized within the meaning of section 703(b) of the Act (19 U.S.C. 1671b(b)) and sold at LTFV within the meaning of 733(b) of the Act (19 U.S.C. 1673b(b)). Notice of the scheduling of the final phase of the Commission’s investigations and of a public hearing to be held in connection therewith was given by posting copies of the notice in the Office of the Secretary, U.S. International Trade Commission, Washington, DC, and by publishing the notice in the *Federal Register* on June 25, 2025 (90 FR

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 60626, 60613, 60623, 60610, 60620, 60618, 60628, and 60607 (December 29, 2025).

27052).³ The Commission conducted its hearing on December 2, 2025. All persons who requested the opportunity were permitted to participate.

³ Due to the lapse in appropriations and ensuing cessation of Commission operations, the Commission tolled its schedule for this proceeding. The schedule was revised in subsequent notices published in the Federal Register on November 24, 2025 (90 FR 52999) and on December 15, 2025 (90 FR 58054).

Views of the Commission

Based on the record in the final phase of these investigations, we determine that an industry in the United States is materially injured by reason of imports of hard empty capsules from China, India, and Vietnam found by the U.S. Department of Commerce (“Commerce”) to be sold in the United States at less than fair value and subsidized by the governments of China, India, and Vietnam. We also determine that an industry in the United States is threatened with material injury by reason of imports of hard empty capsules from Brazil found by Commerce to be sold in the United States at less than fair value and subsidized by the government of Brazil.¹

I. Background

Lonza Greenwood, LLC (“Lonza,” or “Petitioner”), a domestic producer of hard empty capsules (“HECs”), filed the petitions in these investigations on October 24, 2024.² Representatives of Lonza appeared at the hearing with counsel and submitted prehearing and posthearing briefs, and final comments.³

Several respondent entities participated in these investigations. The Associated Capsules Group (“ACG”), a corporate group comprising producers and exporters of HECs in India⁴ and Brazil⁵ and their U.S. importer,⁶ appeared at the hearing with counsel. Indian producer/exporter Custom Capsules Private Limited (“Custom Capsules”) and its U.S. importer, Torpac, Inc. (“Torpac”) also appeared at the hearing with counsel. ACG, Custom Capsules, and

¹ Due to the lapse in appropriations and ensuing cessation of Commission operations, the Commission tolled its schedule for this proceeding. The schedule was revised in subsequent notices published in the Federal Register on November 24, 2025, and December 15, 2025. *See Hard Empty Capsules From Brazil, China, India, and Vietnam; Revised Schedule for the Subject Proceeding*, 90 Fed. Reg. 52999 (Nov. 24, 2025); *Hard Empty Capsules From Brazil, China, India, and Vietnam; Revised Schedule for the Subject Proceeding*, 90 Fed. Reg. 58054 (Dec. 15, 2025).

² *See* Confidential Staff Report, INV-YY-002 (“CR”), EDIS Doc. 868277 (Jan. 7, 2026); *Hard Empty Capsules from Brazil, China, India, and Vietnam*, Inv. Nos. 701-TA-742-745 and 731-TA-1720-1723 (Final), USITC Publication 5696 (Feb. 2026)(“PR”) (together “CR/PR”).

³ Petitioner Prehearing Brief, EDIS Doc. 864831 (Nov. 24, 2025); Petitioner Posthearing Brief, EDIS Doc. 866132 (Dec. 9, 2025); Petitioner Final Comments, EDIS Doc. 868775 (Jan. 13, 2025); *see also* Transcript of December 2, 2025 Hearing (“Hearing Tr.”), EDIS Doc. 865463.

⁴ The ACG affiliates in India are: ACG Associated Private Limited and ACG Universal Capsules Private Limited (“ACG India”).

⁵ The ACG affiliate in Brazil is ACG do Brasil S.A. (“ACG Brazil”).

⁶ The ACG affiliate in the United States is ACG North America, LLC (“ACG USA”).

Torpac submitted joint prehearing and posthearing briefs, and final comments.⁷ An ad hoc coalition of HEC producers from China (“Chinese Respondent Coalition”),⁸ appeared at the hearing with counsel and submitted prehearing and posthearing briefs and final comments.⁹ Finally, Suheung Vietnam Co., Ltd. and Suheung America Corp. (collectively, “Suheung”), a producer and exporter of HECs in Vietnam and a U.S. importer of HECs from Vietnam, respectively, submitted a joint prehearing brief.¹⁰

U.S. industry data are based on the questionnaire responses of two domestic producers that accounted for all known U.S. HEC production in 2024.¹¹ U.S. import data are based on the questionnaire responses of 16 firms that accounted for essentially all U.S. imports of HECs in 2024.¹² The Commission received responses to its questionnaire from 20 foreign producers of subject merchandise: two producers/exporters in Brazil, accounting for approximately *** percent of production of subject merchandise in Brazil in 2024; 11 producers/exporters in China, accounting for approximately *** percent of production of subject merchandise in China in 2024; six producers/exporters in India, accounting for approximately *** percent of production of subject merchandise in India in 2024; and one producer/exporter in Vietnam,

⁷ ACG Prehearing Brief, EDIS Doc. 864875 (Nov. 24, 2025); ACG Posthearing Brief, EDIS Doc. 866143 (Dec. 9, 2025); ACG Final Comments, EDIS Doc. 868829 (Jan. 13, 2025). Commerce determined that ACG India is related to Custom Capsules and that Torpac is the *** U.S. importer of Custom Capsules’ HECs from India. See CR/PR at 4.16 n.12. We refer to these three firms collectively as the “ACG Respondents”. ACG Respondents also filed a supplemental brief on Commerce’s final determinations. ACG Supplemental Brief, EDIS Doc 867851 (Dec. 30, 2025).

⁸ The Chinese Respondent Coalition consists of Qingdao Yiqing Biotechnology Co., Ltd., Anhui Huangshan Capsule Co., Ltd., Hubei Humanwell Pharmaceutical Excipients Co., Ltd., Shanghai Guang De Li Capsule Co., Ltd., Guizhou Guang De Li Pharmaceuticals Co., Ltd., Chongqing Heng Sheng Pharmaceutical Capsule Co., Ltd, Xinchang County Hexin Capsule Co., Ltd., Zhejiang Lujian Capsule Co., Ltd., and Hebei Kangxin Plant Capsule Co., Ltd.

⁹ Chinese Respondent Coalition Prehearing Brief, EDIS Doc. 864825 (Nov. 24, 2025); Chinese Respondent Coalition Posthearing Brief, EDIS Doc. 866035 (Dec. 9, 2025). Chinese Respondent Coalition Final Comments, EDIS Doc. 868790 (Jan. 13, 2025). The Chinese Respondent Coalition also filed a supplemental brief on Commerce’s final determinations. Chinese Respondent Coalition Supplemental Brief, EDIS Doc. 867557 (Dec. 30, 2025).

¹⁰ Suheung Prehearing Brief, EDIS Doc. 864846 (Nov. 24, 2025).

¹¹ CR/PR at 1.5.

¹² CR/PR at 1.5.

accounting for approximately *** percent of production of subject merchandise in Vietnam in 2024.¹³

II. Domestic Like Product

A. In General

In determining whether an industry in the United States is materially injured or threatened with material injury by reason of imports of subject merchandise, the Commission first defines the “domestic like product” and the “industry.”¹⁴ 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.”¹⁵ 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.”¹⁶

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 Commerce.¹⁷ Therefore, Commerce’s determination as to the scope of the imported merchandise that is subsidized and/or sold at less than fair value is “necessarily the starting point of the Commission’s like product analysis.”¹⁸ The Commission then defines the domestic like product in light of the imported articles Commerce has identified.¹⁹ The decision regarding the

¹³ CR/PR at Table 7.1.

¹⁴ 19 U.S.C. § 1677(4)(A).

¹⁵ 19 U.S.C. § 1677(4)(A).

¹⁶ 19 U.S.C. § 1677(10).

¹⁷ 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).

¹⁸ *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. Circ. Feb. 7, 2020) (the statute requires the Commission to start with Commerce’s subject merchandise in reaching its own like product determination).

¹⁹ *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 Co. v. United States*, 747 F. Supp. 744, 748–52 (Ct. Int’l Trade 1990), (Continued...)

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.²⁰ No single factor is dispositive, and the Commission may consider other factors it deems relevant based on the facts of a particular investigation.²¹ The Commission looks for clear dividing lines among possible like products and disregards minor variations.²²

B. Product Description

Commerce defined the scope of the imported merchandise under investigation as:

hard empty capsules, which are comprised of two prefabricated, hollowed cylindrical sections (cap and body). The cap and body pieces each have one closed and rounded end and one open end, and are constructed with different or equal diameters at their open ends.

Hard empty capsules are unfilled cylindrical shells composed of at least 80 percent by weight of a water soluble polymer that is considered non-toxic and appropriate for human or animal consumption by the United States Pharmacopeia—National Formulary (USP–NF), Food Chemical Codex (FCC), or equivalent standards. The most common polymer materials in hard empty capsules are gelatin derived from animal collagen (including, but not limited to, pig, cow, or fish collagen), hydroxypropyl methylcellulose (HPMC), and pullulan.

aff'd, 938 F.2d 1278 (Fed. Cir. 1991) (affirming the Commission’s determination defining six like products in investigations where Commerce found five classes or kinds).

²⁰ See, e.g., *Cleo Inc. v. United States*, 501 F.3d 1291, 1299 (Fed. Cir. 2007); *NEC Corp. v. Dep’t of Commerce*, 36 F. Supp. 2d 380, 383 (Ct. Int’l Trade 1998); *Nippon Steel Corp. v. United States*, 19 CIT 450, 455 (1995); *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).

²¹ See, e.g., S. Rep. No. 96-249 at 90-91 (1979).

²² *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.”).

Hard empty capsules may also contain water and additives, such as opacifiers, colorants, processing aids, controlled release agents, plasticizers, and preservatives. Hard empty capsules may also be imprinted or otherwise decorated with markings.

Hard empty capsules are covered by the scope of these investigations regardless of polymer material, additives, transparency, opacity, color, imprinting, or other markings.

Hard empty capsules are also covered by the scope of these investigations regardless of their size, weight, length, diameter, thickness, and filling capacity.

Cap and body pieces of hard empty capsules are covered by the scope of these investigations regardless of whether they are imported together or separately, and regardless of whether they are imported in attached or detached form.

Hard empty capsules covered by the scope of these investigations are those that disintegrate in water, simulated intestinal fluid, simulated gastric fluid, or other similar water-based (i.e., aqueous) fluids within 2 hours under tests specified in Chapter 701 of the USP–NF, or equivalent disintegration tests.²³

HECs are two-piece, unfilled, hard, cylindrical shells used to deliver medications and supplements.²⁴ They are composed of a shorter cap and a longer body. Both the cap and the body have one closed end and one open end. The open end of the cap and the open end of the body have rings or grooves allowing them to interlock.²⁵ HEC manufacturers supply finished caps and bodies to pharmaceutical and nutraceutical companies, which fill them with medications or supplements and then interlock them for distribution.²⁶ Once interlocked, the caps and bodies form hermetically sealed chambers.²⁷

HECs are made from either gelatin- or plant-based polymers. Gelatin-based polymers are derived from animal collagen, including pig, cow, and fish collagen.²⁸ Plant-based polymers

²³ See, e.g., *Hard Empty Capsules From Brazil: Final Affirmative Determination of Sales at Less Than Fair Value*, 90 Fed. Reg. 60610, 60611 (Dec. 29, 2025). The scopes of the antidumping and countervailing duty investigations are identical for each subject country and are unchanged from the preliminary phase of these investigations.

²⁴ CR/PR at 1.15.

²⁵ CR/PR at 1.15.

²⁶ CR/PR at 1.15.

²⁷ CR/PR at 1.16.

²⁸ CR/PR at 1.16.

are derived from fibrous plant materials and include hydroxypropyl methylcellulose (“HPMC”) produced from plant cellulose derived from cotton or wood and pullulan produced from cultures of *Aureobasidium pullulans*.²⁹ The scope of these investigations covers HECs regardless of polymer type.

HECs are produced in a variety of standardized sizes, which typically range between size 5 (approximately 11 millimeters closed length) and size 000 (approximately 26 millimeters closed length).³⁰ The scope of these investigations covers HECs regardless of size. All HECs are considered either food ingredients or pharmaceuticals and must meet applicable health and safety standards.³¹

C. Arguments of the Parties

Petitioner’s Arguments. Petitioner contends, as it did in the preliminary phase, that all HECs, regardless of size or polymer composition, have similar physical characteristics and end uses; are interchangeable in pharmaceutical and nutraceutical applications; are sold through similar channels of distribution; are perceived as a single product category by producers and consumers; share the same production processes and manufacturing facilities using the same employees; and are priced along a continuum.³²

Petitioner argues that the Commission should decline to consider domestic like product arguments that ACG Respondents and Chinese Respondent Coalition raised in their prehearing briefs. Petitioner asserts that these respondents did not make any domestic like product

²⁹ CR/PR at 1.16 and 1.17. Pullulan is a non-pathogenic and non-toxic fungus. Hearing Tr. at 25 (McCutcheon).

³⁰ CR/PR at 1.15 n.24.

³¹ CR/PR at 2.1.

³² Petitioner Posthearing Brief at 3-4. Petitioner acknowledges that although plant-based HECs generally may be more expensive than gelatin HECs, that factor is not dispositive given the similarities among all HECs on the other domestic like product factors. *Id.* at 4.

arguments during the questionnaire finalization process and failed to request that the Commission collect relevant data to support their proposed separate domestic like products.³³

ACG Respondents. ACG Respondents argue that the Commission should define two separate domestic like products: one consisting of gelatin (animal-based) HECs, and one consisting of HPMC (vegetable-based) HECs.³⁴

ACG Respondents contend that gelatin and HPMC HECs differ significantly in raw materials, as they are made from different polymers, and the distinction in their chemical compositions leads to differences that affect the types of drugs that can be used to fill gelatin and HPMC HECs.³⁵ ACG Respondents further argue that there are significant differences in other chemical characteristics, such as oxygen transfer rate, water transfer rate, and dissolution metrics.³⁶ ACG Respondents additionally contend that there are significant differences in end uses stemming from consumer preferences based on religious beliefs, dietary habits, and ethical concerns that limit the interchangeability between gelatin and HPMC HECs.³⁷ For example, ACG Respondents assert that HPMC HECs are vegan and vegetarian compliant whereas gelatin-based HECs are not.³⁸

ACG Respondents contend that HPMC and gelatin HECs are produced through different processes in different manufacturing facilities. Specifically, they assert that there are significant differences in the manufacturing process in temperature ranges, moisture management, required HVAC/environmental controls, and equipment setup and operating procedures.³⁹ ACG

³³ Petitioner Posthearing Brief at 1-2.

³⁴ ACG Prehearing Brief at 13. This argument differs from ACG Respondents' argument in the preliminary phase that the Commission should define two separate domestic like products consisting of gelatin-based HECs and plant-based HECs. See *Hard Empty Capsules from Brazil, China, India, and Vietnam*, Inv. Nos. 701-TA-742-745 and 731-TA-1720-1723 (Preliminary), USITC Pub. 5572 (Dec. 2024), at 9 ("Preliminary Determinations"). Plant-based HECs consists of both HPMC HECs and pullulan HECs. CR/PR at 1.16.

³⁵ ACG Prehearing Brief at 15. For example, ACG Respondents argue that gelatin contains amino acids that cause an electrostatic effect, whereas HPMC is free of amino acids and has little or no electrostatic effect. ACG Prehearing Brief at 14. ACG Respondents assert that the electrostatic effect leads to "cross-linking" issues that make gelatin HECs inappropriate for filling with aldehyde-based drugs. *Id.*

³⁶ ACG Prehearing Brief at 15. For example, ACG Respondents contend that gelatin HECs start to dissolve immediately in *** degrees Celsius in distilled water or gastric fluid, while HPMC HECs begin to dissolve after *** degrees Celsius. *Id.* at 16.

³⁷ ACG Prehearing Brief at 18. ACG Respondents cite *Large Diameter Welded Pipe from China and India*, USITC Pub. 4859, Inv. Nos. 701-TA-593-594 and 731-TA-1402 and 1404 (Final) (January 2019) as support for its contention that limited interchangeability provide a clear dividing line between products. *Id.* at 18.

³⁸ ACG Prehearing Brief at 16.

³⁹ ACG Prehearing Brief at 15.

Respondents argue that when a producer makes HECs of a certain polymer, it cannot switch to a different polymer without retooling its entire production line, which they assert is a long and expensive process.⁴⁰ Furthermore, ACG Respondents contend that due to dietary restrictions or religious requirements, gelatin and HPMC manufacturing lines must remain separate to prevent contamination.⁴¹ They also assert that gelatin and HPMC HECs are produced by different employees who require *** and that switching “an employee from gelatin HEC production to HPMC HEC production is akin to asking a driver accustomed to right-hand-side driving to switch to left-hand-side driving.”⁴²

ACG Respondents contend that customers and producers generally perceive HPMC and gelatin HECs as separate products because of differences in raw materials and end uses.⁴³ They argue that subject imports of *** are sold primarily to *** while domestic producers ***.⁴⁴ They also contend that the difference in the channels of distribution provide a clear dividing line between gelatin and HPMC HECs.⁴⁵

ACG Respondents argue that HPMC HECs are generally *** in price than gelatin HECs because they are *** to manufacture as gelatin HECs.⁴⁶

Torpac argues that the Commission should define two separate domestic like products based on size: one consisting of HECs in standard sizes 5 to 000, and one consisting of HECs in sizes over 000. Torpac contends that HECs in standard sizes 5 to 000 are used exclusively for human consumption, and HECs in sizes over 000 are used for large farm animal consumption.⁴⁷

Chinese Respondent Coalition’s Arguments. The Chinese Respondent Coalition argues that the Commission should define two separate like products based on end use, with one consisting of pharmaceutical HECs and another consisting of nutraceutical HECs. The Chinese

⁴⁰ ACG Prehearing Brief at 29; ACG Posthearing Brief, Answers to Commission Questions at 19. ACG Respondents’ witness contends that *** and that HPMC capsule manufacturing. ACG Posthearing Brief, Exhibit 11, Witness Statement of *** at 2. The witness further stated ***. *Id.*

⁴¹ ACG Posthearing Brief, Answers to Commission Questions at 18. For example, ACG Respondents contend that the standards of the Islamic Food Nutrition Council of America do not allow manufacturing on equipment that processes both the gelatin and HPMC capsules. *Id.*

⁴² ACG Prehearing Brief at 29.

⁴³ ACG Prehearing Brief at 33 (citing Prehearing Staff Report at 2.16).

⁴⁴ ACG Prehearing Brief at 21.

⁴⁵ ACG Respondents cite as support *Pure and Alloy Magnesium from Canada and Pure Magnesium from China*, Inv. Nos. 701-TA-309 and 731-TA-696, USITC Pub. 3859 (July 2006) (Second Review), at 39, in which the Commission found two separate domestic like products consisting of pure and alloy magnesium partly based on the fact that pure magnesium was sold most to aluminum producer end users, while alloy magnesium was sold mostly to die caster end users.

⁴⁶ Their witness stated that ***. ACG Posthearing Brief, Exhibit 11, Witness Statement of *** at 3.

⁴⁷ ACG Posthearing Brief at 64.

Respondent Coalition contends that pharmaceutical HECs primarily consist of gelatin-based capsules and nutraceutical HECs primarily are HPMC-based capsules. It asserts that HPMC capsules have potential issues with dissolution that “do not necessarily work in most pharmaceutical applications.”⁴⁸ It further contends that pharmaceutical companies primarily use gelatin capsules and that the only HPMC capsules used in pharmaceutical uses are patented products that Lonza produces.⁴⁹ The Chinese Respondent Coalition acknowledges HPMC and gelatin HECs share a “dip” and “pin” production process, but argues that there are significant differences in the temperature, chemical, and equipment requirements for producing the two products.⁵⁰

D. Domestic Like Product Analysis

In the preliminary determinations, the Commission defined a single domestic like product, consisting of HECs, coextensive with the scope in these investigations. It found that although gelatin-and plant-based HECs differ in raw material composition, they have the same end use and overlap in “design, appearance, size, disintegration rate, taste, smell, and industry- and regulatory-mandated specifications{.}”⁵¹ The Commission further found that gelatin-and plant-based HECs are produced in the same facilities using the same general process by the same employees, and were sold in the same channels of distribution. It found that although Petitioner and ACG Respondents disagreed on the interchangeability and customer and producer perceptions, on balance, the preponderance of similarities in terms of the other factors indicated that there is no clear dividing line between gelatin- and plant-based HECs.⁵²

Given that the domestic like product arguments raised prior to the issuance of the Commission’s final phase questionnaires only concerned gelatin- and plant-based HECs, the final phase questionnaires were limited to seeking additional information about gelatin- and plant-based HECs, *i.e.*, there was no distinction between the two plant-based HECs that are

⁴⁸ Chinese Respondent Coalition Posthearing Brief at 2.

⁴⁹ Chinese Respondent Coalition Posthearing Brief at 2-3.

⁵⁰ As discussed further below, the Chinese Respondent Coalition contends that there is attenuated competition between domestically produced pharmaceutical HECs and nutraceutical HECs produced in China.

⁵¹ Preliminary Determinations, USITC Pub. 5572 at 13.

⁵² Preliminary Determinations, USITC Pub. 5572 at 13. The Commission rejected ACG Respondents’ argument that HECs greater than 1.45 ml in volume are a separate domestic like product. The Commission found that HECs greater than 1.45 ml were not domestically produced, and that the domestically produced article “most similar” to such imported HECs consisted of domestically produced HECs less than 1.45 ml in volume. *Id.* at 14. The Commission also found that all HECs, regardless of size, have the same physical characteristics and end uses. *Id.* at 14 n.73.

domestically produced. Based on the information available in the final phase of these investigations, we again define a single domestic like product consisting of HECs, coextensive with Commerce's scope.⁵³

Physical Characteristics and Uses. Gelatin- and plant-based HEC polymers differ in terms of raw materials, but overlap in terms of many other physical characteristics. They share the same design, an interlocking cap and body.⁵⁴ They are similar in appearance, and come in the

⁵³ In the preliminary phase, ACG Respondents argued that the Commission should define two separate domestic like products consisting of gelatin-based HECs and plant-based HECs. Preliminary Determinations, USITC Pub. 5572 at 9. In their prehearing brief in the final phase, ACG Respondents instead argue that the Commission should define two separate domestic like products consisting of gelatin HECs and HPMC HECs. ACG Prehearing Brief at 12.

ACG Respondents did not provide comments on the Commission's draft questionnaires in the final phase, so the Commission's questionnaires did not ask market participants to differentiate between pullulan HECs from HPMC HECs and gelatin HECs for purposes of the Commission's domestic like product analysis. We therefore have minimal record data to analyze ACG Respondents argument. To the extent that the absence of data on pullulan HECs limits our analysis, we note the importance of providing comments on the Commission's draft questionnaires and raising domestic like product arguments to allow for sufficient time for the Commission to collect relevant data. See *Certain Polyester Staple Fiber from China*, Inv. No. 731-TA-1104 (Final) USITC Pub. 3922 (June 2007) at 6 n.18 ("We remind parties that as a general matter, as our rules contemplate, arguments that would require data collection, such as those related to like product (and the consequent industry data corresponding to a newly proposed like product), should be made during the preliminary phase of the investigation, or at least no later than the written comments on draft questionnaires."); see also 19 C.F.R. § 207.20 ("Any party desiring to comment on draft questionnaires shall submit such comments in writing to the Commission within a time specified by the Director. All requests for collecting new information shall be presented at this time."). As the Court of International Trade has stated "the Commission does bear the responsibility for making ultimate legal determinations, but it cannot do so in a vacuum, without the assistance of interested parties." *Autoliv ASP, Inc. v. United States*, 422 F. Supp. 3d 1295, 1306-08 (Ct. Int'l Trade 2019) (upholding Commission's domestic like product definition and noting party should have proposed domestic like product and requested that the Commission collect relevant data in questionnaires).

Furthermore, ACG Respondents do not explain how the Commission should treat in-scope pullulan HECs, which are made of a different non-gelatin polymer. The incompleteness of ACG Respondents' like product argument redirects us to considering whether gelatin- and plant-based HECs are separate domestic like products.

⁵⁴ CR/PR at 1.15 to 1.17.

same sizes.⁵⁵ HECs regardless of polymer can disintegrate at the same rate,⁵⁶ and have the same taste and smell profile.⁵⁷

Gelatin- and plant-based HECs, including HPMC HECs, also have the same end use, which is the delivery of medicines and supplements.⁵⁸ Moreover, because they are compatible with the same fill materials, gelatin- and plant-based HECs can be used to deliver medications and supplements in the same preparations (*e.g.*, in liquid, viscous, or granular preparations).⁵⁹ While all parties agree that HECs are generally produced to standard specifications and must meet some health and safety standards in terms of manufacturing and composition, they disagree about the extent to which customer and regulatory standards apply to HECs used in pharmaceutical uses versus nutraceutical uses.⁶⁰ The record contains conflicting evidence, but

⁵⁵ CR/PR at 1.15 (stating “HECs are available in a variety of sizes”). We also note that Commission collected pricing data for eight products that included gelatin and HPMC capsules sold in the same sizes. See CR/PR at 5.4.

⁵⁶ See CR/PR 1.18 n.42. ACG Respondents contend that gelatin HECs and HPMC HECs have different chemical compositions that affect their dissolution rates, among other properties. See ACG Prehearing Brief; see also ACG Prehearing Brief, Exhibit 2 at Slide 24. Evidence in the record, however, indicates that HPMC and gelatin HECs can dissolve at similar rates in at least some circumstances. For example, in its posthearing brief, Petitioner provided an informational brochure from ACG advertising its ACGcaps™ H+ product, which are vegetarian capsules that use proprietary technology that “eliminates the need for traditional gelling agents found in most HPMC capsules.” See Petitioner Posthearing Brief, Exhibit 9. The brochure further states that these capsules, “{c}omprising only cellulose and water ensures a pH-independent dissolution profile *similar to that found in gelatin capsules*.” (emphasis added).

⁵⁷ See CR/PR at 1.16 n.32 (stating HECs are “tasteless and odorless capsules”).

⁵⁸ CR/PR at 1.16. ACG Respondents contend that the differences in chemical properties may limit the appropriateness of gelatin-based HECs in certain types of applications, such as aldehyde-based drugs. See ACG Prehearing Brief at 14. Lonza’s Vice President stated in a declaration that “pharmaceutical and nutraceutical customers choose between gelatin- and plant-based HECs based on a mix of formulation needs, customer needs . . . regulatory expectations for the finished product, and supply considerations.” Petitioner Posthearing Brief, Exhibit 4, Affidavit of Frank Romanski, at 2. Given that there are potentially at least hundreds of pharmaceutical drugs and nutraceutical supplements, the fact that gelatin HECs may not be appropriate for use in certain types of drugs or supplements does not indicate a clear dividing line between gelatin- and plant-based HECs.

⁵⁹ CR/PR at 1.16 (stating all HECs, regardless of polymer type, can be used with liquid, viscous, or granular materials). See *also* Hearing Tr. at 25 (McCutcheon) (“Usually, the open end of the cap is made slightly wider than the open end of the body to allow the shells to latch together to create a hermetically sealed chamber that can hold pharmaceutical or nutraceutical substances, including powdered, liquid, viscous, semi-solid, or granular materials.”).

⁶⁰ CR/PR at 2.1. ACG Respondents contend that the USP-NF “includes over 5,000 quality standards for medicines, active pharmaceutical ingredients (“API”), and excipients (or inactive ingredients).” ACG Prehearing Brief at 14 n.64. Petitioner generally agrees that the United States Pharmacopeia-National Formulary (“USP-NF”) establishes standards that govern the physical attributes (Continued...)

on balance indicates that HECs used in pharmaceutical applications may be subject to stricter regulatory and customer requirements than HECs used in nutraceutical applications, but without any clear dividing line based on polymer type. Accordingly, it appears that gelatin- and plant-based HECs have similar physical characteristics and the same end uses.

Manufacturing Facilities, Production Processes, and Employees. All HECs, regardless of polymer type, are produced using the same general process.⁶¹ The polymer is first mixed with water and additives, creating a solution.⁶² The polymer solution is then coated onto metal pins. The solution-coated pins are then kiln-dried, which stiffens their coatings into hardened shells.

of HECs such as disintegration rates, and argues that USP-NF also establishes non-binding manufacturing, quality, and performance standards for pharmaceutical end uses. See Petitioner Posthearing Brief, Answers to Commission Questions at 17.

Petitioner, ACG Respondents, and the Chinese Coalition Respondents, however, disagree regarding the burden on HEC producers to meet regulatory requirements. According to ACG Respondents and the Chinese Coalition Respondents, the regulatory requirements imposed by the Food and Drug Administration (“FDA”) for pharmaceutical products are stricter, more time-consuming, and more expensive than for nutraceutical products. See ACG Posthearing Brief, Answers to Commission Questions at 3-4; Chinese Coalition Respondent Prehearing Brief at 2-3. Furthermore, ACG’s Managing Director testified that “the FDA requires the pharmaceutical company to take all the relevant steps to ensure that they’re absolutely safe and produced in CGMP conditions that conform to the U.S. FDA pharmaceutical standards.” Moreover, the Chinese Coalition Respondent’s counsel testified that “once a pharma capsule is approved, supplier changes are extremely difficult, requiring new bio-equivalent studies and FDA approval.” Hearing Tr. at 145 (Craven). On the other hand, ACG’s Managing Director testified that “nutraceutical companies don’t undertake the stringent checks that the pharmaceutical companies do undertake.” Hearing Tr. at 202 (Singh).

According to Petitioner, the qualification process starts by ensuring that an HEC producer can meet standard specifications, such as those established by the USP-NF. See Hearing Tr. at 36 (Romanski). Petitioner’s Vice President testified that the “qualification process typically takes more time in the pharmaceutical segment than in the nutraceutical segment, but it is not an impediment to purchasers’ seeking the lowest cost supply in either segment.” Hearing Tr. at 36. According to Petitioner, FDA regulations “simply mandate that pharmaceutical manufacturers switching suppliers for the same HECs for use in pharmaceutical products notify the FDA of the switch in their annual report.” Petitioner Posthearing Brief, Answers to Commission Questions at 18. Petitioner contends that if the HEC producer is registered with the FDA, which Lonza asserts is true for all its foreign competitors, nutraceutical customers may switch suppliers at any time without notifying the FDA. Petitioner Posthearing Brief, Answers to Commission Questions at 18; see also Hearing Tr. at 36 (Romanski).

⁶¹ See CR/PR at 1.17 (“The process of transforming polymers into HECs is similar regardless of whether the polymer is derived from animals or plants with minor differences.”); see also Hearing Tr. at 27 (“{T}here are no significant differences for HECs made from different polymers.”) (McCutcheon); see also Hearing Tr. at 57 (“From a manufacturing perspective, the manufacturing process for HPMC and gelatin is substantially similar. It’s a dipping process so we dip the capsule, we dry the capsule, we strip the capsule, we cut the capsule and we join the capsule.”) (McCutcheon).

⁶² Hearing Tr. at 25 (McCutcheon); see also CR/PR at 1.17.

The hardened shells are then removed from the pins and trimmed to specific lengths, forming complete caps and bodies.⁶³

Although parties disagree on the degree of difficulty in switching equipment between production of different polymer types,⁶⁴ and some HEC producers may maintain separate production lines to avoid those costs,⁶⁵ the record indicates that domestic producers can produce gelatin- and plant-based polymers using the same facilities and equipment.⁶⁶ Finally, all HECs, regardless of polymer type, can be produced by the same employees. Although ACG Respondents maintain that their employees are trained to work with a designated polymer, the record indicates that petitioner's employees are trained to produce, and do produce, both gelatin- and plant-based HECs.⁶⁷ Petitioner's Vice President testified that "our employees are trained to run both polymers. In many cases they're running the machines

⁶³ Hearing Tr. at 25 (McCutcheon); CR/PR at 1.17.

⁶⁴ ACG Respondents state that "{c}onverting a production facility from producing gelatin to HPMC is estimated to take {a} ***" and "amounts to standing up a new production facility." ACG Prehearing Brief at 30-31. ACG Respondents' witness asserted that it is ***. ACG Posthearing Brief, Exhibit 11, Witness Statement of *** at 3. Lonza states that it ***, and that the ***. Petitioner Posthearing Brief, Exhibit 3, Declaration of Gabriel McCutcheon, at 3. Lonza further states that ***. Petitioner Posthearing Brief, Responses to Commission Questions at 37. Lonza estimates that it takes *** working hours to ***, and the changeover takes approximately *** calendar days. Petitioner Posthearing Brief, Exhibit 3, Declaration of Gabriel McCutcheon, at 3. *See also* CR/PR at 3.9; 7.25-7.26.

⁶⁵ *See* ACG Prehearing Brief at 19. We recognize that purchasers seeking to comply with dietary restrictions may disallow plant-based HECs produced on equipment previously used to produce gelatin HECs. However, as we found in the preliminary phase, "Lonza is Halal certified . . . and does in fact manufacture gelatin-and plant-based HECs in the same facility." Preliminary Determinations, USITC Pub. 5572 at 12 n.55. The Commission stated that "even if it were true that concerns over maintaining such certifications would lead domestic producers to manufacture gelatin-based HECs, this would extend only to pig-gelatin-based HECs (and not, *e.g.*, cow-or-fish gelatin-based HECs)." *Id.* The Commission further found that "even hypothetically, the alleged concerns over losing Halal certification that the ACG respondents posit would not prevent domestic producers from manufacturing most types of gelatin-based HECs in the same facilities as plant-based HECs." *Id.* There is no information in the record in this final phase that indicates differently.

⁶⁶ Furthermore, as the Commission noted in the preliminary phase, it "normally does not consider the manufacture of products on different equipment within a common facility to establish a clear dividing line between products." Preliminary Determinations, USITC Pub. 5572 at 12 n.56.; *see also*, *Cleo Inc. v. United States*, 30 C.I.T. 1380 (2006), *aff'd*, 501 F.3d 1291 (Fed. Cir. 2007) (upholding the Commission's definition of bulk and consumer tissue paper within a single domestic like product, notwithstanding that domestic producers manufactured them on different production lines within the same facilities); *Brake Drums from China and Turkey*, Inv. Nos. 701-TA-729-730 and 731-TA-1698-1699 (Preliminary), USITC Pub. 5532 (Aug. 2024) at 9 (finding a single domestic like product notwithstanding that brake drum castings were "produced on different input lines for different machines based on SKU").

⁶⁷ *See* Petitioner Posthearing Brief, Exhibit 3, Declaration of Gabe McCutcheon at 2.

beside one another.”⁶⁸ He also testified that “HECs made from different polymers are produced on separate product lines to avoid cross-contamination, but they are made in the same facilities to the same standards using the same production process and labor.”⁶⁹

Channels of Distribution. During the January 2022 - June 2025 period of investigation (“POI”), domestically produced HECs of all types were overwhelmingly sold to ***, with the remainder sold to ***.⁷⁰ Although gelatin-based HECs had a higher concentration in the pharmaceutical segment while plant-based HECs were more concentrated in the nutraceutical segment, each type of HEC was sold to both pharmaceutical and nutraceutical end users.⁷¹

Interchangeability. The record is more mixed on this factor. The ACG Respondents and the Chinese Respondent Coalition argue that interchangeability is limited because of the distinct regulatory requirements for HECs used in pharmaceutical applications, which primarily utilize gelatin-based HECs, versus nutraceutical applications, which primarily use plant-based HECs. A large majority (33 of 38) purchasers indicated that gelatin-based HECs are never interchangeable with HPMC HECs, and the remaining five indicated that they are sometimes interchangeable.⁷² Furthermore, the record indicates that the interchangeability of finished HECs is limited by the fact that many customers design their pharmaceutical or nutraceutical

⁶⁸ Hearing Tr. at 66 (McCutcheon).

⁶⁹ Hearing Tr. at 30 (McCutcheon).

⁷⁰ CR/PR at Table 2.4. U.S. producers sold *** percent of their U.S. shipments to end users in 2022, *** percent in 2023, *** percent in 2024, *** percent in interim 2024, and *** percent in interim 2025. *Id.* The remainder of their sales were to distributors/retailers.

ACG Respondents’ reliance on *Pure and Alloy Magnesium from Canada and Pure Magnesium from China*, Inv. Nos. 701-TA-309 and 731-TA-696, USITC Pub. 3859 (Second Review) (July 2006) is misplaced. In those reviews, the Commission found pure magnesium and alloy magnesium to be separate domestic like products not only because they were sold to different classes of end users, die casters and aluminum producers, but also because the products were not interchangeable. *Id.* at 39. The Commission found that “pure magnesium cannot be used for diecasting.” *Id.* at 40. In these investigations, the record indicates that both pharmaceutical and nutraceutical customers can use gelatin and HPMC HECs.

⁷¹ For example, a Lonza official testified that “the number of capsules that we’ve been manufacturing for the pharmaceutical market have increased in HPMC.” Hearing Tr. at 57 (McCutcheon). Another Lonza witness testified that “historically . . . gelatin was more volume in the pharmaceutical industry than HPMC. However, the newer drugs that are coming out are predominantly in HPMC-based capsules.” Hearing Tr. at 57-58 (Romanski); *see also* Hearing Tr. at 35 (McCutcheon) (“Both segments use gelatin and plant-based HECs.”); Hearing Tr. at 55-56 (McCutcheon) (“In the market both the pharmaceutical and nutraceutical industry utilize gelatin as well as HPMC capsules.”).

⁷² CR/PR at 2.16.

products with the intention to use a specific polymer, and then solicit price quotes from producers.⁷³

Although pharmaceutical end users are more likely to use gelatin-based HECs, the record indicates that once an HPMC HEC supplier is approved and meets customer standards, HPMC HECs may be used in pharmaceutical applications. For example, a Lonza official testified that “the number of capsules that we’ve been manufacturing for the pharmaceutical market have increased in HPMC.”⁷⁴ Another Lonza witness testified that “historically . . . gelatin was more volume in the pharmaceutical industry than HPMC. However, the newer drugs that are coming out are predominantly in HPMC-based capsules.”⁷⁵ Similarly, although nutraceutical end users are more likely to purchase HPMC HECs, the record indicates that gelatin HECs can be used in nutraceutical applications.⁷⁶

Producer and Customer Perceptions. The information on the record is mixed concerning producer and customer perceptions. Petitioner contends that HEC producers market their full

⁷³ See Hearing Tr. at 69 (Romanski) (“So for example, most of the finished dosage forms . . . are designed either by a marketing department that's aiming for a certain consumer population, or in a laboratory based on a drug formulation that's coming to market. They are primarily the decision-makers of what's doing that. Then it goes to what would be described as a procurement department that would then procure the gelatin, or the HPMC.”). Lonza’s economist testified that “the customer is not coming to Lonza and saying this is the product I want to make, and Lonza is telling them it’s going to be in gelatin or its going to be HPMC. The customer has made that choice already{.}” Hearing Tr. at 72 (Groden).

⁷⁴ Hearing Tr. at 57 (McCutcheon).

⁷⁵ Hearing Tr. 57-58 (Romanski).

⁷⁶ Hearing Tr. at 35 (McCutcheon) (“Both segments use gelatin- and plant-based HECs.”); Hearing Tr. at 55-56 (McCutcheon) (“In the market both the pharmaceutical and nutraceutical industry utilize gelatin as well as HPMC capsules.”). We note that in 2024, U.S. producers’ U.S. shipments to the pharmaceutical market totaled *** units, while U.S. producers’ U.S. shipments of gelatin HECs in that year totaled *** units, indicating that a significant portion of U.S. producers’ U.S. shipments of gelatin HECs were to non-pharmaceutical markets (*i.e.*, the nutraceutical market). *Compare Id.* at Tables 4.9, 4.10 and Tables D.1, D.2.

ACG Respondents’ reliance on *Large Diameter Welded Pipe from China and India*, Inv. Nos. 701-TA-593-594 and 731-TA-1402 and 1404 (Final), USITC Pub. 4859 (Jan. 2019) is misplaced. In *Large Diameter Welded Pipe*, the Commission found a clear dividing line between LDW line pipe and LDW structural pipe in part based on limited “one-way” interchangeability because LDW line pipe and structural pipe could both be used in structural applications, but LDW structural pipe could never be used in line pipe applications such as the conveyance of oil and gas. *Id.* at 15. Here, the record indicates that gelatin and HPMC HECs can both be used in pharmaceutical and nutraceutical applications. For that same reason, we also find that the record does not support Chinese Respondent Coalition’s argument proposing two separate domestic like products based on end use.

line of HECs to customers⁷⁷ and that customers consider all HECs as a single product category.⁷⁸ ACG Respondents contend that producers and customers distinguish between HECs based on polymer type.⁷⁹ The record also indicates that customers may prefer plant-based HECs, including HPMC HECs, for dietary or religious reasons in some circumstances.⁸⁰

Price. Petitioner argues that HECs are priced along a continuum, although both Petitioner and ACG Respondents agree, and our pricing product data confirm, that plant-based HECs generally are higher in price than gelatin HECs.⁸¹ The pricing product data for the eight pricing products indicate that HPMC HECs are generally priced higher than gelatin HECs, but also show that size and whether the HECs are imprinted can have a significant effect on price. These data suggest that pricing is not entirely determined by the base polymer of the capsule.⁸²

Conclusion. Several factors indicate important similarities and overlaps between gelatin-and plant-based HECs, including HPMC HECs. They may differ in terms of raw material inputs, but they overlap in terms of many physical characteristics, such as design, appearance, disintegration rate, taste, smell, and industry- and regulatory-mandated specifications, and have the same end use. Although converting production lines between gelatin- and plant-

⁷⁷ See Petitioner Posthearing Brief, Exhibit 4, Declaration of Frank Romanski, at 2 (“From the HEC supplier’s perspective, polymer choice (e.g. gelatin, HPMC, pullulan) are all options to fill the same customer orders, and we compete across polymer types to supply those needs.”).

⁷⁸ Petitioner Posthearing Brief at 4.

⁷⁹ ACG Prehearing Brief at 33-34.

⁸⁰ For example, in a declaration, Lonza’s Vice President for Strategic Growth stated “a customer might select gelatin for one prescription product because of its long history and historic cost, and alternatively choose HPMC for another product because it wants a vegan label claim.” Petitioner Posthearing Brief, Exhibit 4, Declaration of Frank Romanski, at 2.

⁸¹ See Petitioner Posthearing Brief at 4; ACG Prehearing Brief at 35-36.

⁸² See CR/PR at Table 5.11. Pricing products 1, 2, 5, and 6 are gelatin HECs and pricing products 3, 4, 7, and 8 are HPMC HECs. CR/PR at 5.4. Products 1, 2, 3, and 4 are HECs between sizes 00 to 0, and products 5, 6, 7, and 8 are HECs between sizes 1 to 3. *Id.* Products 1, 3, 5, and 7 are imprinted, and products 2, 4, 6, and 8 are not imprinted. *Id.*

Among the U.S. producers’ prices for gelatin HECs (in dollars per 1,000 units): for product 1 (size 00 to 0, imprinted), the lowest reported quarterly U.S. price was \$*** and the highest was \$***; for product 2 (size 00 to 0, not imprinted), the lowest reported quarterly U.S. price was \$*** and the highest was \$***; for product 5 (size 1 to 3, imprinted), the lowest reported quarterly U.S. price was \$*** and the highest was \$***; for product 6 (size 1 to 3, not imprinted), the lowest reported quarterly U.S. price was \$*** and the highest was \$***. CR/PR at Table 5.11.

Among the U.S. producers’ prices for HPMC HECs: for product 3 (size 00 to 0, imprinted), the lowest reported quarterly U.S. price was \$*** and the highest was \$***; for product 4 (size 00 to 0, not imprinted), the lowest reported quarterly U.S. price was \$*** and the highest was \$***; for product 7 (size 1 to 3, imprinted), the lowest reported quarterly U.S. price was \$*** and the highest was \$***; for product 8 (size 1 to 3, not imprinted), the lowest reported quarterly U.S. price was \$*** and the highest was \$***. CR/PR at Table 5.11.

based polymers may be time-consuming and labor-intensive, the record nevertheless indicates that domestic producers produce gelatin and plant-based polymers in the same facilities, using the same general process and equipment, and with the same employees. Although HPMC HECs generally are priced higher than gelatin HECs, the record indicates that there is a continuum of HEC prices that also depend on capsule size and whether the HECs are imprinted. We recognize that ACG Respondents and most purchasers rate gelatin- and plant-based HECs as never being interchangeable. However, the large number of similarities and the absence of clear dividing lines with respect to most factors outweigh the limited indications of differentiation. Therefore, we define a single domestic like product consisting of all HECs, coextensive with Commerce's scope.⁸³

III. 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."⁸⁴ In defining the domestic industry, the Commission's general practice has been to include in the industry producers of all

⁸³ The Commission's analyses of the other domestic like product arguments, raised by Respondents Torpac and the Chinese Respondent Coalition, also suffers from the fact that neither argument was raised during the drafting of the Commission's final phase questionnaires. For example, Torpac argues that HECs above size 000 are a separate domestic like product, ACG Prehearing Brief at 63-64, but the record data with respect to the domestic production of HECs above size 000 is limited to 2024, when the domestic industry reported no such production. CR/PR at 4.20. Lonza, however, asserts that there was no domestic production of HECs larger than size 000 during the POI, though they claim that the domestic industry has the capability to produce such HECs, Petitioner Posthearing Brief, Answers to Commission Questions at 15-16, and ACG Respondents argue that domestic producers do not produce HECs larger than size 000. ACG Prehearing Brief at 64. In the absence of domestic production of a product "like" an article subject to investigation, the domestic like product consists of a product "most similar in characteristics and uses with . . . the article subject to investigation." 19 U.S.C. 1677(10). The record does not indicate the existence of any substitute for HECs other than other HECs. Therefore, the domestically produced article most similar to imported HECs larger than size 000 would be in-scope HECs smaller than size 000, which possess characteristics and uses most similar to those of imported HECs larger than size 000.

The Chinese Respondent Coalition argues for two domestic like products based on end-use market segments, *i.e.*, the pharmaceutical and nutraceutical segments, as discussed above, but our domestic like product analysis concerning gelatin- and plant-based HECs shows that each product type was sold in both market segments, and that there is no clear dividing line between the two products. Accordingly, we do not define separate domestic like products based on the end-use market segments.

⁸⁴ 19 U.S.C. § 1677(4)(A).

domestic production of the like product, whether toll-produced, captively consumed, or sold in the domestic merchant market.

A. Related Parties

We must determine whether any producer of the domestic like product should be excluded from the domestic industry pursuant to section 771(4)(B) of the Tariff Act. This provision allows the Commission, if appropriate circumstances exist, to exclude from the domestic industry producers that are related to an exporter or importer of subject merchandise or which are themselves importers.⁸⁵ Exclusion of such a producer is within the Commission's discretion based upon the facts presented in each investigation.⁸⁶

*** is a related party because it shares a parent company with producers, exporters, and importers of HECs from subject countries, and because it imported subject merchandise during the POI.⁸⁷ *** is a related party because it shares a parent company with a producer and importer of subject merchandise, ***.⁸⁸ No party addressed whether appropriate circumstances exist to exclude any domestic producers as a related party.

***, ***, ***, accounted for *** percent of U.S. production of HECs in 2024, and was the *** U.S. producer in 2024.⁸⁹ It imported subject merchandise in 2022, 2024, and the

⁸⁵ See *Torrington Co. v. United States*, 790 F. Supp. 1161, 1168 (Ct. Int'l Trade 1992), *aff'd without opinion*, 991 F.2d 809 (Fed. Cir. 1993); *Sandvik AB v. United States*, 721 F. Supp. 1322, 1331-32 (Ct. Int'l Trade 1989), *aff'd mem.*, 904 F.2d 46 (Fed. Cir. 1990); *Empire Plow Co. v. United States*, 675 F. Supp. 1348, 1352 (Ct. Int'l Trade 1987).

⁸⁶ The primary factors the Commission has examined in deciding whether appropriate circumstances exist to exclude a related party include the following:

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

⁸⁷ CR/PR at 3.2. *** indicated that it is ***. *** owns ***, a producer and importer of subject merchandise from ***, ***, a producer of subject merchandise from ***. CR at Table 3.2.

⁸⁸ CR/PR at Table 3.2. *** indicated that *** is owned by *** parent company, ***. *Id.*

⁸⁹ CR/PR at 3.1.

interim period from January-June 2024 (“interim 2024”), but the ratio of its subject imports to its domestic production was *** percent in each period.⁹⁰ *** indicates that ***.⁹¹

Given that the ratio of *** subject imports to domestic production was very low, as well as its status as the *** U.S. producer and ***, its primary interest appears to be in domestic production. There also is no information on the record suggesting that *** was shielded from subject import competition by virtue of its affiliation with a producer and importer of subject merchandise *** and exporter of subject merchandise *** such that its inclusion in the domestic industry would skew industry data.⁹² In light of these considerations, and in the absence of any contrary argument, we find that appropriate circumstances do not exist to exclude *** from the domestic industry.

***. *** accounted for *** percent of domestic production of HECs in 2024, making it the *** domestic producers of HECs that year.⁹³ It ***.⁹⁴ However, there is no indication that *** was shielded from subject imports by virtue of its affiliation with *** such that its inclusion in the domestic industry would skew industry data in a way that would mask injury to the industry.⁹⁵ Accordingly, and in the absence of any contrary argument, we find that appropriate circumstances do not exist to exclude *** from the domestic industry.

Accordingly, consistent with our definition of the domestic like product, we define the domestic industry to include all U.S. producers of HECs.

IV. 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

⁹⁰ CR/PR at Table 3.12. *** domestic production was *** units in 2022, *** units in 2024, and *** units in interim 2024. Its imports from *** were *** units in 2022, *** units in 2024, and *** units in interim 2024. *Id.*

⁹¹ CR/PR at Table 3.13.

⁹² Staff noted many of the trends in the domestic industry’s trade, employment, and financial indicators are driven by ***. See CR/PR at 3.6, 6.1.

⁹³ CR/PR at Table 3.1.

⁹⁴ CR/PR at 3.1.

⁹⁵ Indeed, the record suggests that *** domestic HECs operations may have suffered during the POI due to subject import competition, with the company reporting that it expects to ***. CR/PR at Table 3.3. We also note that ***, which is the smaller of the *** responding *** producers/exporters, did not export subject merchandise to the U.S. during 2024. CR/PR at Table 7.2. In addition, *** did not report any U.S. imports of subject merchandise during 2024. CR/PR at Table 4.1.

which data are available preceding the filing of the petition shall be deemed negligible.⁹⁶ The statute further provides that subject imports from a single country which comprise less than 3 percent of total such imports of the product may not be considered negligible if there are several countries subject to investigation with negligible imports and the sum of such imports from all those countries collectively accounts for more than 7 percent of the volume of all such merchandise imported into the United States.⁹⁷

A. Arguments of the Parties

Petitioner's Arguments. Petitioner asserts that subject imports from China, India, and Vietnam all exceed the threshold for the Commission's analysis of present material injury. Petitioner concedes that subject imports from Brazil during the negligibility period from October 2023 through September 2024 accounted for only *** percent of total HEC imports based on questionnaire data, and *** percent based on adjusted official import statistics,⁹⁸ but argues that the Commission should find that subject imports from Brazil are likely to imminently exceed the negligibility threshold for purposes of the analysis of threat of material injury.⁹⁹

Using adjusted official import statistics, Petitioner contends that Brazil's 12-month import shares were *** percent for the period ending August 2024, and *** percent for the period ending in July 2024.¹⁰⁰ Petitioner also argues that subject producers in Brazil increased their practical capacity throughout the POI, while their capacity utilization decreased.¹⁰¹ It further contends that Brazilian producers' exports to the United States and share of total shipments exported to the United States increased over the POI. Petitioner additionally asserts that Brazilian producers' end-of-period inventories increased in interim 2025 and are projected to increase in 2026, indicating that Brazilian producers will be able to quickly direct export shipments in the United States.¹⁰² Petitioner notes statements by representatives of ACG do Brasil ("ACG Brazil"), the largest exporter of HECs from Brazil, emphasizing the importance of

⁹⁶ 19 U.S.C. §§ 1671b(a), 1673b(a), 1677(24)(A)(i), 1677(24)(B); *see also* 15 C.F.R. § 2013.1 (developing countries for purposes of 19 U.S.C. § 1677(36)).

⁹⁷ 19 U.S.C. § 1677(24)(A)(ii).

⁹⁸ Petitioner Prehearing Brief at 9.

⁹⁹ Petitioner Prehearing Brief at 9.

¹⁰⁰ Petitioner Prehearing Brief at 10.

¹⁰¹ Petitioner Prehearing Brief at 11-12.

¹⁰² Petitioner Prehearing Brief at 12.

the United States as an export market.¹⁰³ Petitioner also states that ACG Brazil's parent company announced a \$200 million dollar investment in October 2025 to expand capacity in the Americas, including Brazil.¹⁰⁴

Petitioner contends that the decrease in Brazilian exports in 2025 stems partly from the filing of these petitions, as well as ACG Brazil suspending operations for several weeks that year due to water and electricity supply issues. Petitioner asserts further that during those temporary disruptions, ACG Brazil sourced HECs from its parent company's affiliates in India.¹⁰⁵ Petitioner argues that these supply issues have resolved and Brazilian producers will likely increase production and export volumes to the United States. It further contends that ACG Brazil's parent company has shown that it can shift production from India and other countries to Brazil, which would lead to imports from Brazil imminently exceeding the negligibility threshold if the investigations from Brazil are terminated.¹⁰⁶

Respondents' Arguments. ACG Respondents argue that subject imports from Brazil are negligible for purposes of present material injury and are unlikely to imminently exceed the three percent negligibility threshold. They argue that although subject imports from Brazil slightly increased over the POI by volume, their market share remained steady at *** percent in 2022 and *** percent in 2023, fluctuated up to *** percent in 2024, and decreased significantly to *** percent in interim 2025.¹⁰⁷ ACG Respondents assert that subject imports from Brazil began to decrease even before the filing of the petitions, and that Brazilian producers focus more on serving their domestic customers and customers in other Latin American countries.¹⁰⁸ ACG Respondents contend that ACG Brazil did not export any HECs from Brazil to the United States after June 2025. They further argue that official import statistics show that there were no U.S. imports of gelatin HECs from Brazil since May 2025, and no U.S. imports of plant-based

¹⁰³ See, e.g., Petitioner Prehearing Brief at 13 (citing César Ferro, "ACG expansion receives an investment of R\$ 80 million," February 10, 2024, <https://panoramafarmaceutico.com.br/expansao-da-acg/> (attached to Petitioner Prehearing Brief as Exhibit 3)).

¹⁰⁴ Petitioner Prehearing Brief at 13 (citing ACG News Release, "India's ACG pumps \$200M into its first US empty-capsule production facility," October 17, 2025, <https://www.acg-world.com/news/indias-acg-pumps-200m-its-first-us-empty-capsule-productionfacility> (attached to Petitioner Prehearing Brief as Exhibit 4)).

¹⁰⁵ Petitioner Prehearing Brief at 14; Petitioner Posthearing Brief at 6-7.

¹⁰⁶ Petitioner Prehearing Brief at 14.

¹⁰⁷ ACG Posthearing Brief at 6.

¹⁰⁸ ACG Prehearing Brief at 9-10; ACG Posthearing Brief at 9.

HECs from Brazil from January to December 2025, except for July 2025 when there was a small shipment of 12,000 capsules.¹⁰⁹

ACG Respondents contest Petitioner's argument that temporary supply constraints during the negligibility period caused Brazilian subject imports to remain below the negligibility threshold. They argue that ACG Brazil's operational issues were limited to approximately three weeks in July 2025, and did not affect the firm's sales or shipments to the United States.¹¹⁰ They contend that ACG Brazil did not export any HECs after the resolution of the supply issues and that there are no arranged imports to the United States in its sales forecast for December 2025 to March 2026.¹¹¹ ACG Brazil projects that *** percent of its sales volume in those four months will be to home market customers, and the remaining sales will be to customers in other South American countries, including Argentina, Uruguay, Paraguay, and Chile.¹¹² Relatedly, ACG Respondents argue that any increases in ACG Brazil's and other Brazilian producers' production capacity during the POI were due to Brazilian producers' increased focus on serving growing demand in their home market and other Latin American export markets.¹¹³

B. Analysis

For the reasons explained below, we find that imports from China, India, and Vietnam are not negligible for purposes of present material injury. We also find that subject imports from Brazil are negligible for purposes of present material injury in the antidumping and countervailing duty investigations. We further find that subject imports from Brazil are likely to imminently exceed the applicable negligibility threshold for purposes of determining threat of material injury in the antidumping and countervailing duty investigations.

As a preliminary matter, we consider what data to use for calculating import shares for purpose of our negligibility analysis. The record contains both questionnaire data and official Commerce import statistics on the volume of HEC imports in the 12-month period preceding the filing of the petitions. We base our analysis on the questionnaire data as opposed to official import statistics because questionnaire data account for essentially all of the imports of subject

¹⁰⁹ ACG Posthearing Brief at 7.

¹¹⁰ ACG Posthearing Brief at 8.

¹¹¹ ACG Posthearing Brief at 10.

¹¹² See ACG Posthearing Brief at 9-10.

¹¹³ See ACG Posthearing Brief at 11-12.

merchandise under HTS statistical reporting numbers 9602.00.1040 and 9602.00.5010 as well as subject merchandise that importers reported under other HTS categories.¹¹⁴

Based on questionnaire data, during the 12-month period preceding the filing of the petitions (October 2023-September 2024), subject imports from Brazil accounted for *** percent of total imports, subject imports from China subject to the countervailing duty investigation and the antidumping duty investigation accounted for *** percent and *** percent, respectively, of total imports, subject imports from India accounted for *** percent of total imports, and subject imports from Vietnam accounted for *** percent of total imports.¹¹⁵

Because imports from China, India, and Vietnam exceed the three percent negligibility threshold, we find that the imports from each of these countries subject to the antidumping and countervailing duty investigations are not negligible. Because imports from Brazil fall below this threshold, we find that imports from Brazil subject to the antidumping and countervailing duty investigations are negligible for purposes of the Commission's present material injury analysis.

We next consider whether subject imports from Brazil have the potential to imminently exceed the three percent negligibility threshold for purposes of determining threat of material injury. Subject imports from Brazil, at *** percent of total imports during the 12-month negligibility period preceding the filing of the petition, were *** the three percent negligibility threshold. Information on the record indicates that this figure is likely to increase in the imminent future.

The Brazilian industry's exports to the United States showed upward trends during the full years of the investigation period, increasing from *** units in 2022 to *** units in 2024, an increase of *** percent.¹¹⁶ At the same time, its exports to the United States as a share of its

¹¹⁴ CR/PR at Table 4.5. HECs may also be imported under HTS statistical reporting number 1905.90.9090 and gelatin HECs may also be imported under HTS statistical reporting number 3503.00.5510. HPMC HECs may also be imported under HTS statistical reporting number 3923.90.0080; and pullulan HECs may also be imported under HTS statistical reporting number 2106.90.9998. CR/PR at 1.11, n.10.

¹¹⁵ CR/PR at Table 4.5. Based on adjusted official import statistics, subject imports from Brazil accounted for *** percent of total imports, subject imports from China accounted for *** percent of total in the CVD investigations and *** percent of total imports in the AD investigations, subject imports from India accounted for *** percent of total imports, and subject imports from Vietnam accounted for *** percent of total imports. *Id.* The import volumes from China subject to the AD investigations are less than the import volumes subject to the CVD investigations because Commerce excluded Chinese producer Shanxi JC Biological Technology Co., Ltd. from the AD investigation on subject imports from China. *Hard Empty Capsules From the People's Republic of China: Final Affirmative Determination of Sales at Less Than Fair Value*, 90 Fed. Reg. 60623 (Dec. 29, 2025).

¹¹⁶ *Derived from* CR/PR at Table 7.15.

total shipments increased irregularly from *** percent in 2022 to *** percent in 2024.¹¹⁷ The Brazilian industry's exports to the United States were *** percent lower in interim 2025 at *** units, compared with *** units in interim 2024, which appears attributable at least in part to operational difficulties faced by ACG Brazil.^{118 119}

Several other factors indicate that Brazil's exports to the United States are likely to increase. In 2024, ACG Brazil announced a \$15 million expansion of its production facility. According to ACG Brazil's commercial director in 2024, "{w}ith the introduction of four new production lines, our capacity has increased between 40 {percent} and {60} percent Annually we manufactured around 15 billion capsules per year. Now we will reach 20 billion by 2024."¹²⁰ Available data confirm that Brazil producers' production capacity increased from *** units in 2022 to *** units in 2024, while their capacity utilization declined from *** percent in

¹¹⁷ CR/PR at Table 7.15.

¹¹⁸ See Petitioner Prehearing Brief at Exhibit 1, Attachment 1 ("Letter from ACG Brazil to Customers," dated July 21, 2025). In that letter, ACG Brazil reported to customers as follows:

Reinforcing our commitment to quality, safety, and reliability, we inform you that, despite significant progress in restoring the electrical system at our Pouso Alegre (MG) facility, we are now facing a new issue related to the supply of purified water in the region.

Unfortunately, this situation affects the stability of our operations and temporarily limits our full production capacity. From the very beginning, our technical teams have been working with the highest priority to minimize the impact and restore operations as quickly as possible. We believe the issue will be resolved within the next two weeks, as our technical teams in Brazil, India, and other locations are working together in a coordinated, efficient, and agile manner.

As part of our contingency plan — and leveraging ACG's global infrastructure — we are expediting, along with our partners, the emergency qualification of other group facilities located in India in order to ensure continued supply with the least possible impact on our customers. Given this scenario, please note that previously communicated delivery timelines may undergo minor adjustments.

¹¹⁹ See CR/PR at Table 4.12 and Figure 4.7. Although ACG Respondents argue that there are no arranged imports of subject merchandise from Brazil for December 2025 to March 2026, that is also likely attributable to the filing of the petitions and the effects of the preliminary antidumping and countervailing duty orders. See Petitioner Prehearing Brief at 15. Furthermore, in the preliminary phase, the Commission found that arranged imports did not account for the total volume of future imports, "particularly given that longer-term demand can be hard to predict and the fact that importers, including those importing from Brazil, make a significant number of their sales on the spot market for immediate delivery." Preliminary Determinations, USITC Pub. 5572 at 20 n.105. The record in the final phase similarly indicates that importers make a significant number of spot sales, see CR/PR at Table 5.2, and accordingly, we accord limited weight to the lack of arranged imports from Brazil for purposes of our negligibility analysis.

¹²⁰ Petitioner Prehearing Brief at Exhibit 3.

2022 to *** percent in 2024.¹²¹ Capacity in interim 2025 was *** units, compared with *** units in interim 2024.¹²² In 2024, the Brazilian industry possessed excess capacity of *** units, equivalent to *** percent of apparent U.S. consumption that year,¹²³ and end-of-period inventories of *** units, equivalent to *** percent of apparent U.S. consumption that year.¹²⁴ Thus, the record indicates that subject producers in Brazil possess sufficient excess capacity that, if directed *** toward the U.S. market, would result in subject imports from Brazil exceeding the negligibility threshold.

The record also indicates that Brazilian producers have an incentive to increase exports of HECs to the United States. Although ACG Respondents argue that Brazilian producers are primarily focused on supplying their home market, ACG Brazil has emphasized the importance of the United States as an export market. For example, its commercial director stated in August 2024, before the petitions were filed, that ACG Brazil’s “exports to the United States, Mexico, and other Latin American countries contributed significantly to {its} performance.”¹²⁵ He also highlighted in 2024 that ACG Brazil’s “active customer base is around 200 per month, across Brazil, Latin America, Africa, and the *United States*.”¹²⁶

There is also potential for shifts amongst ACG’s subsidiaries in sourcing of the group’s imports into the United States. ACG Brazil and ACG India each sourced HECs from each other when one of them experienced operational or supply issues at different times during the POI.¹²⁷ Thus, based on ACG’s demonstrated ability to shift supply amongst its subsidiaries, ACG could

¹²¹ CR/PR at Table 7.14.

¹²² CR/PR at Table 7.14.

¹²³ *Derived from* CR/PR at Tables 7.13, 7.14, C.1.

¹²⁴ *Derived from* CR/PR at Tables 7.16, C.1. Furthermore, in the rolling 12-month periods ending each month from January 2023 to June 2025, the annual average of ACG Brazil’s excess capacity as a share of total U.S. imports increased overall, from *** percent in the period ending in January 2023, to *** percent in the period ending June 2025. Moreover, the annual average of ACG Brazil’s excess capacity in relation to total U.S. imports remained above *** percent for all 12-month rolling periods ending in February 2024 to the end of the POI, and peaked at *** percent in the period ending on December 2024. CR/PR at Table 4.7.

¹²⁵ Petitioner Prehearing Brief at Exhibit 3.

¹²⁶ Petitioner Prehearing Brief at Exhibit 3 (emphasis added).

¹²⁷ *See* Hearing Tr. at 182 (Levinson) (“India was having lead problems, and therefore had to rely on Brazil for a temporary period of time{.}”); Hearing Tr. at 101 (Lutz) (“{W}e have heard that with the problems that Brazil is having in their production, that they are sourcing from India to meet those volumes that they can’t ship from Brazil.”). *See also* Petitioner Prehearing Brief at Exhibit 1, Attachment 1 (“Letter from ACG Brazil to Customers,” dated July 21, 2025). In that letter, ACG Brazil reported to customers that it had been facing issues with both its electricity supply and water quality, which resulted in suspended operations. Due to the water quality issues, ACG Brazil experienced quality issues with the HECs produced at its plant, resulting in an inability to supply its customers. ACG Brazil has been temporarily filling orders out of its affiliated manufacturing plants in India during this time.

shift sourcing HECs from ACG India to ACG Brazil, and given ACG Brazil's excess capacity, subject imports from Brazil would likely imminently exceed three percent of total imports.¹²⁸

Thus, we find that subject imports from Brazil will likely imminently exceed the negligibility threshold and therefore are not negligible for purposes of the Commission's analysis of threat of material injury.

V. Cumulation

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

- (1) the degree of fungibility between subject imports from different countries and between subject imports and the domestic like product, including consideration of specific customer requirements and other quality related questions;
- (2) the presence of sales or offers to sell in the same geographic markets of subject imports from different countries and the domestic like product;
- (3) the existence of common or similar channels of distribution for subject imports from different countries and the domestic like product; and
- (4) whether the subject imports are simultaneously present in the market.¹²⁹

While no single factor is necessarily determinative, and the list of factors is not exhaustive, these factors are intended to provide the Commission with a framework for

¹²⁸ We also note that U.S. producer Qualicaps announced that it is closing its North Carolina HEC plant by December 2026, which will result in "a strategic realignment {that} will transition product supply to our other capsule manufacturing sites worldwide." CR/PR at Table 3.3. Given that Qualicaps *** and it has stated that it intends to shift HEC production from the U.S. to other countries by the end of 2026, if it shifted production to Brazil that would further increase the likelihood that subject imports from Brazil will imminently exceed the negligibility threshold.

¹²⁹ See *Certain Cast-Iron Pipe Fittings from Brazil, the Republic of Korea, and Taiwan*, Inv. Nos. 731-TA-278-280 (Final), USITC Pub. 1845 (May 1986), *aff'd*, *Fundicao Tupy, S.A. v. United States*, 678 F. Supp. 898 (Ct. Int'l Trade), *aff'd*, 859 F.2d 915 (Fed. Cir. 1988).

determining whether the subject imports compete with each other and with the domestic like product.¹³⁰ Only a “reasonable overlap” of competition is required.¹³¹

1. Party Arguments

Petitioner’s Arguments. Petitioner argues that cumulation is mandatory for the Commission’s analysis of present material injury by subject imports from China, India, and Vietnam. It asserts that the petitions for all three countries were filed on the same day, that none of the statutory exceptions to cumulation apply, and that there is a reasonable overlap in competition between and among subject imports from China, India, and Vietnam.¹³²

Petitioner disputes the Chinese Respondent Coalition’s argument that the Commission should not cumulate subject imports from China. It asserts that subject imports from China were present in the U.S. in *** sizes, including all eight pricing products, were sold universally to similar end users ***, were present in all regions of the U.S., and were present in all months of the POI.¹³³ It contends that the fact that subject imports from China *** customers does not preclude a finding of “reasonable” overlap in competition.¹³⁴

Respondents’ Arguments. The Chinese Respondent Coalition argues that subject imports from China should not be cumulated with other subject imports because competition is attenuated between subject imports from China, subject imports from other sources, and the domestic like product. The Chinese Respondent Coalition asserts that imports from China are not fungible with the domestic like product because the subject imports from China are not gelatin-based HECs, whereas most U.S. producers’ domestic shipments were gelatin-based HECs. It asserts that subject imports from China are not fungible with imports from other sources because they are different in size than imports from India or Vietnam. The Chinese Respondent Coalition also argues that subject imports from China are sold in different

¹³⁰ See, e.g., *Wieland Werke, AG v. United States*, 718 F. Supp. 50 (Ct. Int’l Trade 1989).

¹³¹ The Statement of Administrative Action (SAA) to the Uruguay Round Agreements Act (URAA), expressly states that “the new section will not affect current Commission practice under which the statutory requirement is satisfied if there is a reasonable overlap of competition.” H.R. Rep. No. 103-316, Vol. I at 848 (1994) (citing *Fundicao Tupy, S.A. v. United States*, 678 F. Supp. at 902; see *Goss Graphic Sys., Inc. v. United States*, 33 F. Supp. 2d 1082, 1087 (Ct. Int’l Trade 1998) (“cumulation does not require two products to be highly fungible”); *Wieland Werke, AG*, 718 F. Supp. at 52 (“Completely overlapping markets are not required.”)).

¹³² Petitioner Prehearing Brief at 16-18; Petitioner Posthearing Brief at 7-8. As explained below, Petitioner also argues that the Commission should cumulate subject imports from Brazil with subject imports from the other three countries in analyzing threat of material injury.

¹³³ Petitioner Posthearing Brief at 8.

¹³⁴ Petitioner Posthearing Brief at 8.

geographic markets than other subject imports and the domestic like product, with sales primarily in the western United States. It asserts that subject imports from China were sold primarily to nutraceutical customers, whereas HECs from other subject countries and the United States are distributed primarily to pharmaceutical customers.¹³⁵

Other than arguing that subject imports from Brazil are negligible and unlikely to imminently exceed three percent, ACG Respondents did not challenge cumulation for purposes of the Commission's present material injury analysis. No other respondent party addressed cumulation.

2. Analysis

The statutory threshold for cumulation is satisfied in these investigations because Petitioner filed the antidumping and countervailing duty petitions with respect to all subject countries on the same day, October 24, 2024.¹³⁶

Fungibility. The record indicates that domestically produced HECs and subject imports from China, India, and Vietnam are generally fungible. One U.S. producer reported that subject imports from each subject country were *** interchangeable with each other as well as with the domestic like product, and the other U.S. producer indicated that subject imports from each subject country were *** interchangeable with each other as well as with the domestic like product.¹³⁷ The responses of importers and purchasers were more mixed. Most U.S. importers reported that subject imports from each subject country were either "always" or "frequently" interchangeable with the domestic like product and one another, although a plurality indicated that the domestic like product was only "sometimes" interchangeable with subject imports from China and India, and one importer indicated that the domestic like product was "never" interchangeable with subject imports from India.¹³⁸ Most responding

¹³⁵ Chinese Respondent Coalition Posthearing Brief at 14.

¹³⁶ None of the statutory exceptions to cumulation applies. We observe that subject imports from China, India, and Vietnam are alleged to be both dumped and subsidized. The import volumes from China subject to the AD investigations are less than the import volumes subject to the CVD investigations because Commerce excluded Chinese producer Shanxi JC Biological Technology Co., Ltd. from the AD investigation on subject imports from China. *Hard Empty Capsules From the People's Republic of China: Final Affirmative Determination of Sales at Less Than Fair Value*, 90 Fed. Reg. 60623 (Dec. 29, 2025). Thus, the decision to cumulate subject imports from China with subject imports from one or more of the other subject countries for present material injury in these investigations will involve "cross-cumulating" subsidized imports with dumped imports. See *Polyethylene Terephthalate (PET) Resin from Canada, China, India, and Oman*, Inv. Nos. 701-TA-531-532 and 731-TA-1270-1273 (Final), USITC Pub. 4604 at 9-11 (April 2016).

¹³⁷ CR/PR at 2.28.

¹³⁸ See CR at Table 2.16.

purchasers reported that subject imports from each subject country were either “always” or “frequently” interchangeable with the domestic like product and one another.¹³⁹

Questionnaire response data indicate that there was not a complete overlap in sizes of HECs available from the subject imports and domestic producers in 2024. However, U.S. producers’ shipments of the domestic like product and U.S. importers’ U.S. shipments of HECs from China, India, and Vietnam overlapped in sizes 00E, 00, 0E, 0, and sizes 1-4.¹⁴⁰ Furthermore, U.S. importers’ U.S. shipments of HECs from China, India, and Vietnam, as well as U.S. producers’ U.S. shipments of the domestic like product, consisted of both gelatin- and plant-based HECs in 2024.¹⁴¹ In addition, HECs for sale in the U.S. market, regardless of source, were subject to the same manufacturing and regulatory standards.¹⁴²

The Commission’s pricing data also indicate that subject imports from China, India, and Vietnam consisted of many of the same specific products as the domestic like product. In particular, in all quarters of the POI, U.S. producers and responding U.S. importers of subject merchandise reported sales of pricing products 2, 4, 6, and 8 from China, India, and Vietnam.¹⁴³

*** U.S. producers reported that differences other than price between the domestic like product and subject imports from each country, and among subject imports from each country, were “sometimes” significant.¹⁴⁴ There was a wide range of responses from importers regarding differences other than price in purchasing decisions.¹⁴⁵ Several purchasers reported

¹³⁹ CR/PR at Table 2.17. Some responding purchasers indicated that the domestic like product was only “sometimes” or “never” interchangeable with subject imports from India. *Id.*

¹⁴⁰ CR/PR at Table 4.8.

¹⁴¹ CR/PR at Table 4.9. In 2024, *** percent of U.S. producers’ U.S. shipments were gelatin capsules, and *** percent were non-gelatin capsules. In 2024, *** percent of U.S. importers’ U.S. shipments of subject imports from China were gelatin capsules, and *** percent were non-gelatin capsules. *Id.* In 2024, *** percent of U.S. importers’ U.S. shipments of subject imports from India were gelatin capsules, and *** percent were non-gelatin capsules. *Id.* In 2024, *** percent of U.S. importers’ U.S. shipments of subject imports from Vietnam were gelatin capsules, and *** percent were non-gelatin capsules. *Id.*

¹⁴² See Petitioner Posthearing Brief, Answers to Commission Questions at 8. Petitioner contends the FDA regulates both HPMC and gelatin HECs as food products pursuant to 21 C.F.R. Part 117, and thus that there are no differences in manufacturing standards for either polymer. *Id.*

¹⁴³ CR/PR at Table 5.11.

¹⁴⁴ CR/PR at 2.29.

¹⁴⁵ See CR/PR at Table 2.18. Six of ten importers reported that differences other than price were “sometimes” or “never” significant between the domestic like product and subject imports from China. *Id.* Three of six importers reported that differences other than price were “sometimes” or “never” significant between the domestic like product and subject imports from India. *Id.* Two of three importers reported that differences other than price were “sometimes” or “never” significant between the domestic like product and subject imports from Vietnam. *Id.*

(Continued...)

that differences other than price between HECs produced in the United States and subject countries were “always” significant, several reported that differences were “sometimes” significant, and no purchasers responded that differences in price were “never” significant.¹⁴⁶

Although the evidence on interchangeability and non-price differences is mixed, given the overlap in U.S. shipments of the domestic like product and imports from each subject country based on size and polymer type, and the significant overlap in four of the pricing products, the record indicates that, on balance, there is a sufficient degree of fungibility between subject imports and the domestic like product for purposes of cumulation.

Channels of Distribution. During the POI, domestically produced HECs of all types were primarily sold to ***, with the remainder sold to ***.¹⁴⁷ The record indicates that, in 2024, subject imports from China did not *** but they did ***.¹⁴⁸

Geographic Overlap. Domestically produced HECs and subject imports from China, India, and Vietnam were sold in overlapping geographic markets, with the domestic like product and subject imports from China and India being sold in all regions of the United States

Two of four responding importers reported that differences other than price were “never” significant between subject imports from China and India, although one reported differences than price were “always” significant, and another reported they were “frequently” significant. *Id.* A sole responding importer reported that that differences other than price were “never” significant between subject imports from China and Vietnam, and a sole responding importer reported that that differences other than price were “never” significant between subject imports from India and Vietnam. *Id.*

¹⁴⁶ CR/PR at Table 2.19.

¹⁴⁷ CR/PR at Table 2.4. U.S. producers sold *** percent of their U.S. shipments to end users in 2022, *** percent in 2023, *** percent in 2024, *** percent in interim 2024, and *** percent in interim 2025. *Id.* The remainder of their sales were to distributors/retailers. U.S. importers of subject merchandise from China sold *** percent of their U.S. shipments to end users in 2022, *** percent in 2023, *** percent in 2024, *** percent in interim 2024, and *** percent in interim 2025. *Id.* The remainder of their sales were to distributors/retailers. U.S. importers of subject merchandise from India sold *** percent of their U.S. shipments to end users in 2022, *** percent in 2023, *** percent in 2024, *** percent in interim 2024, and *** percent in interim 2025. *Id.* U.S. importers of subject merchandise from Vietnam sold *** percent of their U.S. shipments to end users in 2022, *** percent in 2023, *** percent in 2024, *** percent in interim 2024, and *** percent in interim 2025. *Id.*

¹⁴⁸ CR/PR at Table 4.10. In 2024, *** percent of U.S. producers’ U.S. shipments were to nutraceutical end users, *** percent of U.S. importers’ U.S. shipments of subject imports from China were to nutraceutical end users, *** percent of U.S. importers’ U.S. shipments of subject imports from India were to nutraceutical end users; and *** percent of U.S. importers’ U.S. shipments of subject imports from Vietnam were to nutraceutical end users. *Id.*

Although the record indicates that subject imports from China were not sold to U.S. pharmaceutical customers as the Chinese Respondent Coalition argues, the Chinese Respondent Coalition fails to address the significant overlap in U.S. shipments to nutraceutical end users.

and subject imports from Vietnam being sold in all regions except “other.”¹⁴⁹ Moreover, ports of entry for HECs from all subject sources overlapped, with HECs from China and India entering the United States through all borders in 2024, and HECs from Vietnam entering through all but the Northern border that year.¹⁵⁰

Simultaneous Presence in Market. The domestic like product was present in the U.S. market throughout the POI. Similarly, imports from China, India, and Vietnam were present in the U.S. market in every month of the POI.¹⁵¹

Conclusion. The record indicates that subject imports from China, India, and Vietnam are fungible with the domestic like product and each other, and that imports from each of these subject countries and the domestic like product were sold in overlapping channels of distribution and overlapping geographic markets, and were simultaneously present in the U.S. market throughout the POI. Because the record indicates a reasonable overlap of competition between and among the domestic like product and subject imports from China, India, and Vietnam, we cumulate subject imports from these three sources for purposes of our present material injury analysis.

VI. Material Injury by Reason of Subject Imports

Based on the record in the final phase of these investigations, we find that an industry in the United States is materially injured by reason of imports of HECs from China, India, and Vietnam that Commerce has found to be sold in the United States at less than fair value and subsidized by the governments of China, India, and Vietnam.

A. Legal Standards

In the final phase of antidumping and countervailing duty investigations, the Commission determines whether an industry in the United States is materially injured or threatened with material injury by reason of the imports under investigation.¹⁵² 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

¹⁴⁹ CR/PR at Table 2.5. The “other” region of the United States refers to Alaska, Hawaii, Puerto Rico, and the U.S. Virgin Islands. *Id.*

¹⁵⁰ CR/PR at Table 4.11.

¹⁵¹ CR/PR at 4.35.

¹⁵² 19 U.S.C. §§ 1671d(b), 1673d(b).

like product, but only in the context of U.S. production operations.¹⁵³ The statute defines “material injury” as “harm which is not inconsequential, immaterial, or unimportant.”¹⁵⁴ In assessing whether the domestic industry is materially injured by reason of subject imports, we consider all relevant economic factors that bear on the state of the industry in the United States.¹⁵⁵ 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.”¹⁵⁶

Although the statute requires the Commission to determine whether the domestic industry is “materially injured or threatened with material injury by reason of” unfairly traded imports,¹⁵⁷ 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.¹⁵⁸ In identifying a causal link, if any, between subject imports and material injury to the domestic industry, the Commission examines the facts of record that relate to the significance of the volume and price effects of the subject imports and any impact of those imports on the condition of the domestic industry. This evaluation under the “by reason of” standard must ensure that subject imports are more than a minimal or tangential cause of injury and that there is a sufficient causal, not merely a temporal, nexus between subject imports and material injury.¹⁵⁹

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

¹⁵³ 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).

¹⁵⁴ 19 U.S.C. § 1677(7)(A).

¹⁵⁵ 19 U.S.C. § 1677(7)(C)(iii).

¹⁵⁶ 19 U.S.C. § 1677(7)(C)(iii).

¹⁵⁷ 19 U.S.C. §§ 1671d(b), 1673d(b).

¹⁵⁸ *Angus Chemical Co. v. United States*, 140 F.3d 1478, 1484-85 (Fed. Cir. 1998) (“{T}he statute does not ‘compel the commissioners’ to employ {a particular methodology}.”), *aff’g*, 944 F. Supp. 943, 951 (Ct. Int’l Trade 1996).

¹⁵⁹ 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).

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.¹⁶⁰ In performing its examination, however, the Commission need not isolate the injury caused by other factors from injury caused by unfairly traded imports.¹⁶¹ Nor does the “by reason of” standard require that unfairly traded imports be the “principal” cause of injury or contemplate that injury from unfairly traded imports be weighed against other factors, such as nonsubject imports, which may be contributing to overall injury to an industry.¹⁶² It is

¹⁶⁰ SAA at 851-52 (“{T}he Commission must examine other factors to ensure that it is not attributing injury from other sources to the subject imports.”); S. Rep. 96-249 at 75 (1979) (the Commission “will consider information which indicates that harm is caused by factors other than less-than-fair-value imports.”); H.R. Rep. 96-317 at 47 (1979) (“in examining the overall injury being experienced by a domestic industry, the ITC will take into account evidence presented to it which demonstrates that the harm attributed by the petitioner to the subsidized or dumped imports is attributable to such other factors;” those factors include “the volume and prices of nonsubsidized imports or imports sold at fair value, contraction in demand or changes in patterns of consumption, trade restrictive practices of and competition between the foreign and domestic producers, developments in technology and the export performance and productivity of the domestic industry”); *accord Mittal Steel*, 542 F.3d at 877.

¹⁶¹ SAA at 851-52 (“{T}he Commission need not isolate the injury caused by other factors from injury caused by unfair imports.”); *Taiwan Semiconductor Industry Ass’n*, 266 F.3d at 1345 (“{T}he Commission need not isolate the injury caused by other factors from injury caused by unfair imports Rather, the Commission must examine other factors to ensure that it is not attributing injury from other sources to the subject imports.” (emphasis in original)); *Asociacion de Productores de Salmon y Trucha de Chile AG v. United States*, 180 F. Supp. 2d 1360, 1375 (Ct. Int’l Trade 2002) (“{t}he Commission is not required to isolate the effects of subject imports from other factors contributing to injury” or make “bright-line distinctions” between the effects of subject imports and other causes.); *see also Softwood Lumber from Canada*, Inv. Nos. 701-TA-414 and 731-TA-928 (Remand), USITC Pub. 3658 at 100-01 (Dec. 2003) (Commission recognized that “{i}f an alleged other factor is found not to have or threaten to have injurious effects to the domestic industry, *i.e.*, it is not an ‘other causal factor,’ then there is nothing to further examine regarding attribution to injury”), *citing Gerald Metals*, 132 F.3d at 722 (the statute “does not suggest that an importer of LTFV goods can escape countervailing duties by finding some tangential or minor cause unrelated to the LTFV goods that contributed to the harmful effects on domestic market prices.”).

¹⁶² S. Rep. 96-249 at 74-75; H.R. Rep. 96-317 at 47.

clear that the existence of injury caused by other factors does not compel a negative determination.¹⁶³

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.”¹⁶⁴ 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.”¹⁶⁵ The Federal Circuit has examined and affirmed various Commission methodologies and has disavowed “rigid adherence to a specific formula.”¹⁶⁶

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

¹⁶³ 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.”).

¹⁶⁴ *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 *Swift-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*.

¹⁶⁵ *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.

¹⁶⁶ *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.”).

evidence standard.¹⁶⁷ Congress has delegated this factual finding to the Commission because of the agency’s institutional expertise in resolving injury issues.¹⁶⁸

B. Conditions of Competition and the Business Cycle

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

1. Demand Considerations

U.S. demand for HECs derives from demand for U.S.-produced pharmaceutical products such as prescription and over-the-counter medications, and for nutraceutical products such as vitamins, mineral supplements, probiotics, and other dietary supplements.¹⁶⁹ Demand for HECs for pharmaceutical uses is driven by demand for prescription and over-the-counter medications, which is influenced by (1) U.S. health trends (including the prevalence of contagious diseases and certain chronic conditions); (2) the willingness of U.S. patients to seek medical care and accept prescription treatments; (3) the age distribution of the U.S. population; (4) drug prices, and (5) government healthcare and tax policies that either promote or disincentivize pharmaceutical use.¹⁷⁰ U.S. demand for nutraceutical HECs is influenced by U.S. demand for dietary supplements, vitamins, mineral supplements, and probiotics. According to Petitioner, U.S. demand for nutraceuticals is increasing because the U.S. population is aging and consumers are focusing more on proactive healthcare, such as immune system health, gut and digestive health, neurological health, and weight management.¹⁷¹

U.S. producer *** reported that U.S. and global demand ***, while U.S. producer *** reported that U.S. and global demand *** since January 1, 2022.¹⁷² *** reported customers stockpiled inventory during the pandemic and “right sized” inventories in 2023 and 2024, leading to a decrease in U.S. demand.¹⁷³ Purchaser responses were more varied, but most noted increased demand for HECs and downstream products that use HECs. U.S. producer *** reported that the HEC market in the United States is split between nutraceuticals and

¹⁶⁷ We provide in our discussion below a full analysis of other factors alleged to have caused any material injury experienced by the domestic industry.

¹⁶⁸ *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.”).

¹⁶⁹ CR/PR at 2.13.

¹⁷⁰ CR/PR at 2.13-2.14; *see also* ACG Prehearing Brief at 38.

¹⁷¹ CR/PR at 2.14; *see also* ACG Prehearing Brief at 38.

¹⁷² CR/PR at 2.15.

¹⁷³ CR/PR at 2.15.

pharmaceuticals, where the nutraceutical market is approximately twice the size of the pharmaceutical market in terms of volume.¹⁷⁴

Both responding U.S. producers and most importers and purchasers reported that there were no substitutes for HECs.¹⁷⁵ Firms that did report substitute products listed tablets, soft gelatin capsules, gummies, loose powder, and packets.¹⁷⁶

*** U.S. producers and eight of 13 U.S. importers indicated that the U.S. HECs market is subject to business cycles, while 33 of 39 responding purchasers reported that the U.S. market for HECs is not subject to business cycles.¹⁷⁷ U.S. producer *** reported that there are seasonal trends due to allergies and seasonal viruses.¹⁷⁸ Importers also reported that the HEC market is seasonal, with sales increasing in the winter months.¹⁷⁹

Apparent U.S. consumption was approximately the same at *** units in 2022 and *** units in 2023, and then increased to *** units in 2024, a level *** percent higher than in 2022.¹⁸⁰ Apparent U.S. consumption was *** percent higher in interim 2025, at *** units, than in interim 2024, at *** units.¹⁸¹

2. Supply Considerations

The domestic industry was the smallest source of supply of HECs to the U.S. market throughout the POI, with domestic market share falling from 2022 to 2024, and ending interim 2025 slightly higher than interim 2024. The domestic industry's share of apparent U.S. consumption of HECs by quantity decreased by *** percentage points from 2022 to 2024, decreasing from *** percent in 2022 to *** percent in 2023 and to *** percent in 2024; it was *** percentage points higher in interim 2025, at *** percent, than in interim 2024, at *** percent.¹⁸²

Domestic producers reported changes to their operations during the POI. *** U.S. producers reported production shutdowns or curtailments. Representatives of Lonza testified that its practical capacity decreased from 2022 to 2024, as Lonza took equipment offline due to

¹⁷⁴ CR/PR at 2.16.

¹⁷⁵ CR/PR at 2.16.

¹⁷⁶ CR/PR at 2.16.

¹⁷⁷ CR/PR at 2.14.

¹⁷⁸ CR/PR at 2.14.

¹⁷⁹ CR/PR at 2.14. U.S. purchaser *** indicated that there is higher demand for nutraceuticals between October to March. *Id.* U.S. importer *** reported that instances of cattle diseases affect demand for HECs in veterinary pharmaceuticals. *See id.*

¹⁸⁰ CR/PR at Tables 4.13, C.1.

¹⁸¹ CR/PR at Tables 4.13, C.1.

¹⁸² CR/PR at Tables 4.13, C.1.

market share loss to subject imports.¹⁸³ A Lonza representative also testified further that “by 2024 we had also resized the facility that we had in Greenwood as a result of the imports that had affected our business. So, in order to maintain a certain degree of profitability, we had to reduce the number of lines that we had, we had to lay off employees.”¹⁸⁴ *** reported ***. *** additionally reported ***.¹⁸⁵ Overall, the domestic industry decreased its practical capacity by *** percent between 2022 and 2024, from *** units in 2022 to *** units in 2023 and to *** units in 2024; its practical capacity was *** percent higher in interim 2025, at *** units than in interim 2024, at *** units.¹⁸⁶ The domestic industry’s capacity utilization decreased irregularly by *** percentage points from 2022 to 2024, increasing from *** percent in 2022 to *** percent in 2023, and decreasing to *** percent in 2024; it was *** percent in interim 2025 compared to *** percent in interim 2024.¹⁸⁷

Cumulated subject imports from China, India, and Vietnam were the largest source of supply of HECs to the U.S. market throughout the POI and they increased their market share from 2022 to 2024 and ended interim 2025 with a higher market share than in interim 2024. Subject imports’ share of apparent U.S. consumption of HECs by quantity increased by *** percentage points from 2022 to 2024, increasing from *** percent in 2022 to *** percent in 2023 and to *** percent in 2024; their share was *** percentage points higher in interim 2025, at *** percent, than in interim 2024, at *** percent.¹⁸⁸

Nonsubject imports (including Brazil, for purposes of our material injury analysis) were the second largest source of supply of HECs to the U.S. market throughout the POI and they slightly increased their market share from 2022 to 2024 but ended interim 2025 with a lower market share than interim 2024. Nonsubject imports’ share of apparent U.S. consumption of HECs by quantity increased irregularly by *** percentage points from 2022 to 2024, decreasing from *** percent in 2022 to *** percent in 2023 and increasing to *** percent in 2024; their share was *** percentage points lower in interim 2025, at *** percent, than in interim 2024, at

¹⁸³ CR/PR at 3.6 (citing Hearing Tr. at 51, 54 (Lutz); Hearing Tr. at 64 (Romanski)).

¹⁸⁴ Hearing Tr. at 64 (Romanski).

¹⁸⁵ CR/PR at Table 3.4. There also were changes to the domestic industry after the POI. In December 2025, Qualicaps announced plans to permanently close its North Carolina HECs facility by December 2026. CR/PR at Table 3.3. Also, after the POI, in October 2025, ACG announced a \$200 million investment in Atlanta, Georgia, and the surrounding area to establish its first HEC manufacturing operations in the United States. CR/PR at Table 3.3. ACG is scheduled to begin U.S. HEC operations in 2027 and will produce both gelatin- and plant-based HECs. *Id.*

¹⁸⁶ CR/PR at Tables 3.7, C.1.

¹⁸⁷ CR/PR at Tables 3.7, C.1.

¹⁸⁸ CR/PR at Tables 4.13, C.1.

*** percent.¹⁸⁹ The largest sources of nonsubject imports during January 2022 to June 2025 were Canada, South Korea, Colombia, Taiwan, and Mexico.¹⁹⁰

*** domestic producers reported supply constraints during the POI. *** reported that the supply constraints occurred in 2022 ***.¹⁹¹ Domestic producers also reported practical capacity constraints related to insufficient workforce availability, regular scheduled maintenance, and planned shutdowns.¹⁹²

Five of 13 importers reported supply constraints for 2022, 2023, and 2025. Several importers attributed their supply constraints in 2022 to COVID-19, which caused longer lead times and higher shipping costs. Three importers attributed supply constraints in 2023 to transportation difficulties, including container shortages, port slowdowns, and high freight costs.¹⁹³ No importers reported supply constraints in 2024, but for four of five importers reported supply constraints in 2025 attributable to these investigations and other “uncertain import duties”.¹⁹⁴

Eleven of 40 purchasers reported supply constraints during the POI, with nine of the 11 reporting supply constraints from domestic producers in 2022.¹⁹⁵ The majority of the nine purchasers noting supply issues with domestically produced HECs in 2022 reported long lead times.¹⁹⁶ Fewer purchasers reported domestic supply constraints later in the POI.¹⁹⁷ A smaller number of purchasers attributed supply constraints to quality issues with Lonza and

¹⁸⁹ CR/PR at Tables 4.13, C.1.

¹⁹⁰ CR/PR at 2.11.

¹⁹¹ CR/PR at 2.11.

¹⁹² CR/PR at Table 3.6.

¹⁹³ CR/PR at 2.11.

¹⁹⁴ CR/PR at 2.11-2.12.

¹⁹⁵ CR/PR at 2.12.

¹⁹⁶ Most responding purchasers identified Lonza as the source with long lead times, including “two to three times longer lead times” for ***, 8 to 10 months for ***, 9 to 12 months for ***, over 20 weeks for ***, and 11 months for ***. CR/PR at 2.12.

¹⁹⁷ CR/PR at Table 2.7. In 2022, nine of 40 purchasers reported domestic supply constraints, in 2023, eight of 40 reported domestic supply constraints, and in 2024, four of 40 purchasers reported domestic supply constraints. *Id.* In interim 2025, three of 40 purchasers reported domestic supply constraints. *Id.* Four purchasers reported that domestic producers had long lead times in 2023, although purchaser *** reported lead times had improved to four to six months as the backlog from 2022 orders cleared. CR/PR at 2.12.

Qualicaps.¹⁹⁸ Eight of 35 responding purchasers also reported that the availability of U.S.-produced HECs had changed since January 1, 2022.¹⁹⁹

3. Substitutability and Other Conditions

We find that there is a moderately high to high degree of substitutability between the domestic like product and cumulated subject imports from China, India, and Vietnam.²⁰⁰ Factors that may limit the substitutability of domestically produced HECs and subject imports include differences of compatibility between certain producers' of HECs with certain purchasers' machinery, preferences for multiple sources of supply, and supply constraints.²⁰¹

One U.S. producer reported all country pairs as *** comparable and one U.S. producer reported all country pairs as *** comparable.²⁰² Most U.S. importers reported that subject imports from each subject country were either "always" or "frequently" interchangeable with the domestic like product and one another, although a plurality indicated that the domestic like product was only "sometimes" interchangeable with subject imports from China and India.²⁰³ Most responding purchasers reported that subject imports from each subject country were either "always" or "frequently" interchangeable with the domestic like product and one another, although some indicated that the domestic like product was only "sometimes" or "never" interchangeable with subject imports from India.²⁰⁴

We also find that price is an important factor in purchasing decisions, although there are other important purchasing factors. The most often cited top six factors firms consider in their purchasing decisions for HECs were quality (35 firms), price/cost (29 firms), availability (17 firms), and lead time and reliability of supply (8 firms each).²⁰⁵ Quality was the most frequently cited first-most important factor (cited by 28 firms), followed by price/cost (six firms);

¹⁹⁸ CR/PR at 2.12. For example, U.S. purchaser *** reported poor management and operations at Lonza in the United States as a reason for supply constraints, and purchaser *** reported quality issues with both Lonza and Qualicaps. *Id.*

¹⁹⁹ CR/PR at 2.12. One purchaser, ***, stated that the "U.S. supply appears to have become more available for the nutraceutical industry apparently due to a decrease in pharmaceutical demand." *Id.* Purchaser *** observed that the "{s}upply of domestic HECs has increased dramatically. {During} 2019 to 2022, U.S. supply was next to impossible in our industry. Lonza was not able to support the growing needs of the industry, forcing us, and other contract manufacturers to look internationally and getting great support." *Id.*

²⁰⁰ CR/PR at 2.16-2.17.

²⁰¹ CR/PR at 2.16.

²⁰² CR/PR at Table 2.16.

²⁰³ CR/PR at Table 2.16.

²⁰⁴ CR/PR at Table 2.17.

²⁰⁵ CR/PR at Table 2.10.

availability was the most frequently reported second-most important factor (13 firms); and price/cost was the most frequently reported third-most important factor (18 firms).²⁰⁶ The majority of purchasers (30 of 39) reported that they usually (14) or sometimes (16) purchase the lowest-priced product.²⁰⁷

*** domestic producers noted that there are *** differences other than price that matter in their sales of HECs.²⁰⁸ Importers' responses were more varied, but a plurality reported that differences other than price were sometimes or never important. Nearly all purchaser responses indicated that there are either always or sometimes differences between the sources being compared.²⁰⁹ However, the majority of responding purchasers rated domestically produced HECs as comparable to HECs imported from China, India, and Vietnam with respect to 21 factors that influence purchasing decisions, including availability of FDA-approved product, availability of USP-qualified product, quality meeting or exceeding industry standards, reliability of supply, and technical support/service.²¹⁰

In 2024, U.S. producers reported that *** percent of their commercial shipments were from inventories, with lead times averaging *** days.²¹¹ The remaining *** percent of their commercial shipments were produced to order, with lead times averaging *** days.²¹² In 2024, U.S. importers reported that 86.2 percent of their commercial shipments were sold from U.S. inventories, with lead times averaging four days²¹³ and 13.1 percent of their commercial shipments were produced to order, with average lead times of 90 days.²¹⁴ U.S. importers reported that 0.6 percent of their commercial shipments were from foreign inventories, with average lead times of *** days.²¹⁵

Most U.S. producers reported selling their HECs in spot sales *** percent in 2024, followed by annual contracts *** percent, and long-term contracts *** percent.²¹⁶ A plurality of responding U.S. importers reported that their commercial shipments were through short term contracts (33.3 percent), followed by spot sales (30.5 percent), followed by annual

²⁰⁶ CR/PR at 2.18.

²⁰⁷ CR/PR at 2.18. We also note that 25 of 39 purchasers listed price as "very important", 11 listed it as "somewhat important", and only 3 listed price as "never important." CR/PR at Table 2.11.

²⁰⁸ CR/PR at 2.19.

²⁰⁹ CR/PR at 2.19.

²¹⁰ CR/PR at Table 2.15.

²¹¹ CR/PR at Table 2.12.

²¹² CR/PR at Table 2.12.

²¹³ CR/PR at Table 2.12.

²¹⁴ CR/PR at Table 2.12.

²¹⁵ CR/PR at Table 2.12.

²¹⁶ CR/PR at Table 5.2.

contracts (28.2 percent) and long-term contracts (8.0 percent).²¹⁷ U.S. producer ***.²¹⁸ ***.²¹⁹ At least one of four responding importers that use contracts reported renegotiating the contracts during the contract period, fixing either price or both price and quantity, or indexing prices to raw material costs.²²⁰ *** and importers reported setting prices using transaction-by-transaction negotiations, contracts, and price lists.²²¹ *** two importers reported other methods, including pricing based on customer-by-customer negotiation according to their required specifications, price guidelines used in negotiations, and setting a price floor based on gross or variable margin.²²²

All responding purchasers require their suppliers to become certified or qualified to sell HECs to their firm.²²³ Purchasers reported that the time to qualify a new supplier ranged from three days to one year.²²⁴ Purchasers that were pharmaceutical manufacturers reported that regulatory approval could take up to one year, while some reported that regulatory approval is not required.²²⁵ Four purchasers reported that since 2022, at least one domestic or foreign supplier had failed in its qualification attempts or had lost its approved status.²²⁶

The primary raw material inputs for HECs are the gelatin or plant-based polymer used in their production.²²⁷ Raw materials as a share of the domestic industry's total cost of goods sold ("COGS") decreased *** percentage points from 2022 to 2024, decreasing from *** percent in 2022 to *** percent in 2023 and to *** percent in 2024; they were *** percentage points higher in interim 2025, at *** percent, than in interim 2024, at *** percent.²²⁸ Gelatin was the largest share of raw material costs both by polymer type and by all raw materials costs in 2024.²²⁹ U.S. producers reported that raw materials accounted for between approximately ***

²¹⁷ CR/PR at Table 5.2.

²¹⁸ CR/PR at 5.2.

²¹⁹ CR/PR at 5.2.

²²⁰ CR/PR at 5.3.

²²¹ CR/PR at 5.2.

²²² CR/PR at 5.2.

²²³ CR/PR at 2.20.

²²⁴ CR/PR at 2.20.

²²⁵ CR/PR at Table 2.13. For example, purchaser *** reported that *** while purchaser *** reported that ***. *Id.* Other purchasers indicated ***. *See id.*

²²⁶ CR/PR at 2.20. Purchaser *** reported that Quadra Chemicals lost its approval status because its HECs did not perform well with Quadra's machinery. *Id.* Purchaser *** reported that Shangdong Healsee lost its approval status at one of its divisions due to quality issues. *Id.* Purchaser *** reported that Catherych lost its approval status due to quality issues. *Id.*

²²⁷ CR/PR at 5.1.

²²⁸ CR/PR at Table 6.1.

²²⁹ CR/PR at 6.15.

of their COGS throughout the period.²³⁰ Gelatin accounted for the largest share of these raw materials costs throughout the period, and was *** percent in 2024, followed by *** percent for HPMC, *** percent for pullulan, and *** percent for other raw material input costs).²³¹

Both *** importers, regardless of source, sold HECs almost entirely to end users throughout the POI.²³² U.S. producers sold a larger share of U.S. shipments to pharmaceutical end users throughout the POI than subject imports.²³³ U.S. importers of subject merchandise sold a larger share of U.S. shipments to nutraceutical end users than U.S. producers throughout the POI.²³⁴ However, subject imports gained U.S. market share in both the pharmaceutical and nutraceutical portions of the market during the POI.²³⁵

Imports of HECs originating in China became subject to an additional 15 percent ad valorem duty under section 301 of the Trade Act of 1974, effective September 1, 2019.²³⁶ Effective February 14, 2020, the section 301 duty rates for HECs originating in China decreased to 7.5 percent ad valorem.²³⁷

²³⁰ CR/PR at 5.1.

²³¹ CR/PR at Table 6.5.

²³² See CR/PR at Table 2.4.

²³³ CR/PR at Table D.1. U.S. producers accounted for *** percent of U.S. shipments of HECs to pharmaceutical end users in 2022, *** percent in 2023, *** percent in 2024; they accounted for *** percent in interim 2025 compared to *** percent in interim 2024. *Id.* U.S. importers' U.S. shipments of cumulated subject imports from China, India, and Vietnam accounted for *** percent of U.S. shipments to pharmaceutical end users in 2022, *** percent in 2023, *** percent in 2024; they accounted for *** percent in interim 2025 compared to *** percent in interim 2024. With U.S. importers' U.S. shipments of HECs from Brazil included, these ***. *Id.*

²³⁴ CR/PR at D.2. U.S. importers of subject merchandise from China, India, and Vietnam accounted for *** percent of U.S. shipments of HECs to nutraceutical end users in 2022, *** percent in 2023, *** percent in 2024; they accounted for *** percent in interim 2025 compared to *** percent in interim 2024. *Id.* With U.S. importers' U.S. shipments of HECs from Brazil included, U.S. importers' U.S. shipments of subject imports accounted for *** percent of U.S. shipments of HECs to nutraceutical end users in 2022, *** percent in 2023, *** percent in 2024; they accounted for *** percent in interim 2025 compared to *** percent in interim 2024. *Id.* U.S. producers accounted for *** percent of U.S. shipments of HECs to nutraceutical end users in 2022, *** percent in 2023, *** percent in 2024; they accounted for *** percent in interim 2025 compared to *** percent in interim 2024. *Id.*

²³⁵ CR/PR at Tables D.1, D.2.

²³⁶ CR/PR at 1.11.

²³⁷ CR/PR at 1.11. Pursuant to section 301 of the Trade Act of 1974, the Office of the U.S. Trade Representative ("USTR") initiated an investigation on July 15, 2025 into Brazil's acts, policies, and practices related to digital trade and electronic payment services; unfair, preferential tariffs; anti-corruption enforcement; intellectual property protection; ethanol market access; and illegal deforestation. *Id.* USTR held a public hearing on September 3, 2025, and the investigation remains ongoing. *Id.*

In 2025, the United States imposed tariffs under the International Emergency Economic Powers Act (IEEPA), including on subject imports.²³⁸ Effective February 4, 2025, HECs from China became subject to a 10 percent ad valorem duty under IEEPA in connection with the national emergency declaration regarding the illicit importation of fentanyl into the United States,²³⁹ which increased to 20 percent effective March 4, 2025.²⁴⁰

Effective April 5, 2025, HECs originating in Brazil, China, India, and Vietnam became subject to additional 10 percent “reciprocal” ad valorem duties.²⁴¹ Effective April 9, 2025, China was assigned an individualized additional rate of 84 percent (instead of 10 percent), which rose again to 125 percent effective April 10, 2025. However, effective May 14, 2025, the individualized country duty for China returned to 10 percent.²⁴²

Effective April 9, 2025, India was assigned an individualized additional duty rate of 26 percent and Vietnam was assigned an individualized additional duty rate of 46 percent (instead of the 10 percent rate of April 5, 2025).²⁴³ However, effective April 10, 2025, the individualized country duties were suspended and the additional duty rate for HECs originating in India and Vietnam returned to 10 percent.²⁴⁴

²³⁸ CR/PR at 1.12 n.13.

²³⁹ See *Executive Order 14195 of February 1, 2025, Imposing Duties To Address the Synthetic Opioid Supply Chain in the People's Republic of China*, 90 Fed. Reg. 9121 (Feb. 7, 2025).

²⁴⁰ CR/PR at 1.12. After the POI, effective November 10, 2025, China’s individual country rate for the fentanyl tariffs returned to 10 percent. *Id.*

²⁴¹ See *Executive Order 14257 of April 2, 2025, Regulating Imports With a Reciprocal Tariff To Rectify Trade Practices That Contribute to Large and Persistent Annual United States Goods Trade Deficits*, 90 Fed. Reg. 15041 (Apr. 7, 2025). The additional reciprocal tariffs with respect to China noted in this paragraph are applied in addition to the fentanyl tariffs noted in the prior paragraph. CR/PR at 1.13. As of December 19, 2025, the total ad valorem rate for tariffs under Section 301 and IEEPA on HECs from China was 27.5 percent. *Id.* at Table 1.10.

After the POI, effective August 7, 2025, Brazil was assigned an individual country rate of 10 percent. Additionally, effective August 6, 2025, HECs from Brazil became subject to another 40 percent duty under IEEPA, for a total ad valorem rate of 50 percent. *Id.* at 1.12, Table 1.10.

²⁴² CR/PR at 1.13.

²⁴³ CR/PR at 1.13, 1.14.

²⁴⁴ CR/PR at 1.13. The individualized country duties initiated in April 2025 for all countries other than China were suspended until August 1, 2025. CR/PR at 1.13 n.21. After the POI, effective August 7, 2025, India was assigned an individual country rate of 25 percent and Vietnam was assigned an individual country rate of 20 percent. CR/PR at 1.13-1.14. As of December 19, 2025, the total ad valorem rate for tariffs under IEEPA on HECs from India was 50 percent, and the total ad valorem rate for tariffs under IEEPA on HECs from Vietnam was 20 percent. *Id.* at Table 1.10.

The IEEPA tariffs are currently subject to ongoing litigation, making their applicability to subject imports in the imminent future uncertain. See *V.O.S. Selections Inc. v. Trump*, 149 F.4th 1312 (Fed. Cir. 2025) (*en banc*) (holding that IEEPA does not authorize these tariffs), *cert. granted*, (Sept. 9, 2025) (No. 25-250). The Supreme Court held oral argument on November 5, 2025, but has not yet issued its ruling.

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.”²⁴⁵ The volume of cumulated subject imports of HECs from China, India, and Vietnam, by quantity, increased *** percent overall from 2022 to 2024, initially declining from *** units in 2022, but then increasing to *** units in 2023, and *** units in 2024; they were *** percent lower in interim 2025, at *** units compared to *** units in interim 2024.²⁴⁶

Cumulated subject imports’ share of apparent U.S. consumption by quantity increased by *** percentage points from 2022 to 2024, increasing from *** percent in 2022 to *** percent in 2022 and to *** percent in 2024; their *** percent share in interim 2025 was *** percentage points higher than their *** percent in interim 2024.²⁴⁷ The ratio of subject imports to U.S. production decreased from *** percent in 2022 to *** percent in 2023, and increased to *** percent in 2024 for an overall increase of *** percentage points; it was lower in interim 2025 at *** percent compared with *** percent in interim 2024.²⁴⁸

Based on the foregoing, we find that the volume from cumulated subject imports from China, India, and Vietnam, and the increase in that volume, are significant in absolute terms and relative to apparent U.S. consumption and domestic production.

D. Price Effects of the Subject Imports

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

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

(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.²⁴⁹

²⁴⁵ 19 U.S.C. § 1677(7)(C)(i).

²⁴⁶ CR/PR at Tables 4.2, C.1.

²⁴⁷ CR/PR at Tables 4.2, C.1.

²⁴⁸ CR/PR at Table 4.2.

²⁴⁹ 19 U.S.C. § 1677(7)(C)(ii).

As discussed in section VI.B.3 above, we find that the degree of substitutability between cumulated subject imports and the domestic like product is moderately high to high, and that price is an important factor in purchasing decisions among other important factors.

The Commission collected quarterly quantity and f.o.b. pricing data on sales of eight pricing products shipped to unrelated U.S. customers during the POI.²⁵⁰ Two U.S. producers and 11 importers provided usable pricing data for sales of the requested products, although not all firms reported pricing for all products for all quarters. Pricing data reported by these firms accounted for approximately *** percent of U.S. producers' U.S. commercial shipments of HECs and *** percent of U.S. commercial shipments of subject imports from China, *** percent from India, and *** percent from Vietnam in 2024.²⁵¹

Subject imports from China, India, and Vietnam undersold the domestic like product in 276 instances, at margins ranging from 0.4 to 80.5 percent, and averaging 41.8 percent. Subject imports from China, India, and Vietnam oversold the domestic like product in eight instances, at margins ranging from 3.6 to 27.0 percent, and averaging 14.1 percent.²⁵² The

²⁵⁰ CR/PR at 5.4. The eight pricing products are:

Product 1.-- Hard empty gelatin capsules (including cap and body) for human consumption, in all sizes between 00 to 0 (whether regular, elongated, or enrobing), imprinted, and sold in per 1,000 unit increments.

Product 2.-- Hard empty gelatin capsules (including cap and body) for human consumption, in all sizes between 00 to 0 (whether regular, elongated, or enrobing), NOT imprinted, and sold in per 1,000 unit increments.

Product 3.-- Hard empty hydroxypropyl methylcellulose ("HPMC") capsules (including cap and body) for human consumption, in all sizes between 00 to 0 (whether regular, elongated, or enrobing), imprinted, and sold in per 1,000 unit increments.

Product 4.-- Hard empty hydroxypropyl methylcellulose ("HPMC") capsules (including cap and body) for human consumption, in all sizes between 00 to 0 (whether regular, elongated, or enrobing), NOT imprinted, and sold in per 1,000 unit increments.

Product 5.-- Hard empty gelatin capsules (including cap and body) for human consumption, in all sizes between 1 to 3 (whether regular, elongated, or enrobing), imprinted, and sold in per 1,000 unit increments.

Product 6.-- Hard empty gelatin capsules (including cap and body) for human consumption, in all sizes between 1 to 3 (whether regular, elongated, or enrobing), NOT imprinted, and sold in per 1,000 unit increments.

Product 7.-- Hard empty hydroxypropyl methylcellulose ("HPMC") capsules (including cap and body) for human consumption, in all sizes between 1 to 3 (whether regular, elongated, or enrobing), imprinted, and sold in per 1,000 unit increments.

Product 8.-- Hard empty hydroxypropyl methylcellulose ("HPMC") capsules (including cap and body) for human consumption, in all sizes between 1 to 3 (whether regular, elongated, or enrobing), NOT imprinted, and sold in per 1,000 unit increments.

²⁵¹ CR/PR at 5.4.

²⁵² CR/PR at Table 5.13.

volume of subject import sales in quarters with underselling was 151.0 billion units, compared with 6.9 billion units in the quarters with overselling.²⁵³ In all, subject imports undersold the domestic like product in 97 percent of the quarterly comparisons, which encompassed *** percent of the volume of subject imports in the pricing data. The pricing data demonstrate that subject import underselling was near-universal, by product type, by country, and by time period.²⁵⁴ Additionally, the absolute volume of undersold subject imports increased markedly over the full years of the POI.^{255 256}

Importantly, subject imports undersold the domestic like product regardless of the base polymer. Subject imports from China, India, and Vietnam for the gelatin-based HECs covered by pricing products 1, 2, 5, and 6 undersold the domestic like product in 149 instances, at margins ranging from 0.4 to 74.6 percent, and averaging 39.8 percent. Subject imports from China, India, and Vietnam of gelatin-based HECs oversold the domestic like product in eight instances, at margins ranging from 3.6 to 27.0 percent, and averaging 14.1 percent.²⁵⁷ The volume of subject import sales in quarters with underselling for pricing products 1, 2, 5, and 6 was 62.2 billion units, compared with 6.9 billion units in the quarters with overselling.²⁵⁸

Subject imports of the HPMC HECs covered by pricing products 3, 4, 7, and 8 from China, India, and Vietnam undersold the domestic like product in all 127 instances, at margins ranging from 6.1 to 80.5 percent, and averaging 41.0 percent. The volume of subject import sales in quarters with underselling for pricing products 3, 4, 7, and 8 was 88.8 billion units, and there were no quarters of overselling for these products.²⁵⁹

²⁵³ CR/PR at Table 5.13.

²⁵⁴ CR/PR at Tables 5.12, 5.13, and 5.14.

²⁵⁵ CR/PR at Table 5.14. In 2022, altogether there were 77 quarters of underselling by subject imports from China, India, and Vietnam, with a volume *** units. *Id.* There were six quarters of overselling by cumulated subject imports from China, India, and Vietnam, with a volume *** units.

In 2023, there were 81 quarters of underselling by subject imports from China, India, and Vietnam, with a volume *** units in total. *Id.* There were no instances of overselling by cumulated subject imports in 2023.

In 2024, overall there were 79 quarters of underselling by subject imports from China, India, and Vietnam, with a volume *** units. *Id.* There were 2 quarters of overselling by cumulated subject imports from China, India, and Vietnam, with a volume *** units.

²⁵⁶ The pricing data also indicate that subject imports universally undersold the domestic like product in the interim 2025 period. In interim 2025, there were 39 quarters of underselling by subject imports from China, India, and Vietnam at margins ranging from *** to *** percent and averaging *** percent, with a volume of *** units in total. There were no instances of overselling by cumulated subject imports in 2025.

²⁵⁷ CR/PR at Table 5.12.

²⁵⁸ CR/PR at Table 5.12.

²⁵⁹ CR/PR at Table 5.12.

We have considered information concerning lost sales. The Commission sent a lost sales/lost revenue survey to 79 firms.²⁶⁰ Of the 40 responding purchasers, 30 reported that, since 2022, they had purchased subject imports instead of the domestic like product and 17 of these purchasers reported that subject import prices were lower than U.S.-produced HECs.²⁶¹ Of these 17 purchasers, nine reported that price was a primary reason for purchasing *** units of subject imports instead of the domestic like product.²⁶²

Based on the moderately-high-to-high degree of substitutability between subject imports and the domestic like product, the importance of price in purchasing decisions, pricing data showing near-universal underselling by subject imports from China, India, and Vietnam throughout the POI regardless of polymer type, and the lost sales data showing nearly half of responding purchasers reported that subject imports are priced lower than the domestic like product, we find that subject imports from China, India, and Vietnam undersold the domestic like product to a significant degree throughout the POI.²⁶³ The underselling led to cumulated subject imports capturing market share at the expense of the domestic industry. Cumulated subject imports gained *** percentage points of market share for HECs from 2022 to 2024, while the domestic industry's market share decreased by *** percentage points, the large majority of which was lost to subject imports.²⁶⁴ Furthermore, despite the fact that the domestic industry's market share

²⁶⁰ CR/PR at 5.28.

²⁶¹ CR/PR at Table 5.17.

²⁶² CR/PR at Table 5.17. This total represents *** percent of total reported purchases of subject imports over the POI (*** units); and *** percent of total U.S. importers' shipments of subject imports over the POI (*** units). *Derived from* Id. at Table 5.15 and Table C.1.

²⁶³ In their final comments, ACG Respondents argue that the Commission's pricing data are not reliable because each pricing product contains an overly broad range of capsule shapes and sizes, such that "there is a wide range of differing prices that could be reported within each pricing product category, which serves to distort the significance of the pricing data." ACG Final Comments at 3. We consider this concern to be misplaced. The differences alleged by ACG Respondents would affect the pricing comparisons only to the extent they resulted in significant price differentiation, and the higher priced shapes and sizes were more prevalent for the domestic like product than subject imports. Respondents cite no concrete evidence that either is the case. Moreover, if any party had concerns regarding the breadth of the pricing products, it should have raised them in comments on the draft questionnaires, and not after reviewing the resulting data to address potential variations of cost and size within the product mix for each pricing product. Lonza was the only party during the questionnaire response period that proposed pricing products for the Commission to gather data on prices. See Petitioner Comments on Draft Questionnaires, EDIS Doc. 845095 (Mar. 6, 2025).

²⁶⁴ CR/PR at Table 4.13; C.1. Even if we were to analyze the pharmaceutical and nutraceutical segments separately, subject imports captured market share at the expense of the domestic industry in both segments from 2022 to 2024.

(Continued...)

was *** percentage points higher in interim 2025 compared with interim 2024, subject imports' market share was *** percentage points higher in interim 2025 than in interim 2024.²⁶⁵

We have also considered whether subject imports depressed or suppressed U.S. prices. Domestic prices were lower at the end of the POI than at the beginning, with prices of seven products decreasing and only one (Product 2) increasing, but the record shows price fluctuations rather than steady declines.²⁶⁶ Consistent with the pricing data, the domestic industry's U.S. shipment AUV increased from \$*** per 1,000 units in 2022 to \$*** per 1,000 units in 2023, and then decreased to \$*** per 1,000 units in 2024; it was higher in interim 2025, at \$*** per 1,000 units, than in interim 2024, at \$*** per 1,000 units.²⁶⁷ Subject import prices were mixed with no clear trend over the POI, other than that they were generally lower at the end of the period than at the beginning.²⁶⁸ The U.S. shipment AUV of cumulated subject imports decreased from \$*** per 1,000 units in 2022 to \$*** per 1,000 units in 2023 and to \$*** per 1,000 units in 2024; it was higher in interim 2025, at \$*** per 1,000 units, than in interim 2024, at \$*** per 1,000 units.²⁶⁹

The domestic industry's net sales AUV increased *** percent from 2022 to 2024, and was *** percent higher in interim 2025 than in interim 2024, while per-unit COGS increased by *** percent from 2022 to 2024 but was *** percent lower in interim 2025 compared with interim 2024.²⁷⁰ The domestic industry's net sales AUV was \$*** per 1,000 units in 2022, \$*** per 1,000 units in 2023, and \$*** per 1,000 units in 2024; it was \$*** per 1,000 units in interim

In the pharmaceutical segment, cumulated subject imports gained *** percentage points of market share for HECs from 2022 to 2024, while the domestic industry's market share decreased by *** percentage points. CR/PR at Table D.1. Cumulated subject imports' market share was *** percentage points lower in interim 2025 than in interim 2024 while the domestic industry's market share was *** percentage points higher in interim 2025 than in interim 2024 but still lower than in 2022. *See id.*

In the nutraceutical segment, cumulated subject imports gained *** percentage points of market share from 2022 to 2024, while the domestic industry's market share decreased by *** percentage points. CR/PR at Table D.2. Cumulated subject imports' market share was *** percentage points higher in interim 2025 than in interim 2024 while the domestic industry's market share was *** percentage points lower in interim 2025 than in interim 2024. *See id.*

²⁶⁵ CR/PR at Table 4.13; C.1.

²⁶⁶ CR/PR at 5.22 and Figures 5.1-5.8. Between the first quarter of 2022 and the second quarter of 2025, U.S. producers' sales prices for HECs decreased by 9.8 percent for product 1, 19.1 percent for product 3, 39.5 percent for product 4, 0.9 percent for product 5, 21.2 percent for product 6, 18.2 percent for product 7, and 23.9 percent for product 8. *Id.*

²⁶⁷ CR/PR at Tables 3.8, C.1.

²⁶⁸ CR/PR at 5.22 and Figures 5.1-5.8.

²⁶⁹ CR/PR at Table C.1.

²⁷⁰ CR/PR at Table C.1.

2025 compared with \$*** per 1,000 units in interim 2024.²⁷¹ Per-unit COGS was \$*** per 1,000 units in 2022, \$*** per 1,000 units in 2024, and \$*** per 1,000 units in 2024; it was \$*** per 1,000 units in interim 2025 compared with \$*** per 1,000 units in interim 2024. The domestic industry’s ratio of COGS to net sales increased irregularly by *** percentage points from 2022 to 2024, decreasing from *** percent in 2022 to *** percent in 2023, and increasing to *** percent in 2024; it was *** percentage points lower at *** percent in interim 2025 compared with *** percent in interim 2024.²⁷² The increase in the industry’s ratio of COGS to net sales between 2022 and 2024 are attributable to per-unit increases in direct labor costs and other factory costs; per-unit raw material costs declined over this period.²⁷³

In sum, we find that the near-universal underselling by cumulated subject imports throughout the POI enabled the cumulated subject imports to gain market share from the domestic industry. We therefore find that cumulated subject imports had significant price effects.

E. Impact of the Subject Imports²⁷⁴

Section 771(7)(C)(iii) of the Tariff Act provides that examining the impact of subject imports, the Commission “shall evaluate all relevant economic factors which have a bearing on

²⁷¹ CR/PR at Table C.1.

²⁷² CR/PR at Table C.1.

²⁷³ CR/PR at Table 6.1.

²⁷⁴ The statute instructs the Commission to consider the “magnitude of the dumping margin” in an antidumping proceeding as part of its consideration of the impact of imports. 19 U.S.C. § 1677(7)(C)(iii)(V). In its final determination of sales at less value with respect to HECs from China, Commerce found dumping margins of 0.00 percent to 18.71 percent. *Hard Empty Capsules From the People’s Republic of China: Final Affirmative Determination of Sales at Less Than Fair Value*, 90 Fed. Reg. 60623, 60624 (Dec. 29, 2025). Commerce found a dumping margin of 0.00 percent for Shanxi JC Biological Technology Co., Ltd. Thus, Shanxi JC Biological Technology Co., Ltd. (“Shanxi JC”), will be excluded from any antidumping duty order. *Id.* In its final determination of sales at less value with respect to HECs from India, Commerce found a dumping margins of 10.66 percent to 26.69 percent. *Hard Empty Capsules From India: Final Affirmative Determination of Sales at Less Than Fair Value*, 90 Fed. Reg. 60613, 60615 (Dec. 29, 2025). In its final determination of sales at less value with respect to HECs from Vietnam, Commerce found a dumping margin 47.12 percent for imports from Vietnam. *Hard Empty Capsules From the Socialist Republic of Vietnam: Final Affirmative Determination of Sales at Less Than Fair Value*, 90 Fed. Reg. 60626, 60627 (Dec. 29, 2025). We take into account in our analysis the fact that Commerce has made a final determination that, with the exception of Shanxi JC in China, all subject producers in China, India, and Vietnam are selling subject imports in the United States at less than fair value.

the state of the industry.”²⁷⁵ These factors include output, sales, inventories, capacity utilization, market share, employment, wages, productivity, gross profits, net profits, operating profits, cash flow, return on investment, return on capital, ability to raise capital, ability to service debts, research and development, and factors affecting domestic prices. No single factor is dispositive and all relevant factors are considered “within the context of the business cycle and conditions of competition that are distinctive to the affected industry.”²⁷⁶

As significant and increasing volumes of low-priced imports significantly undersold the domestic like product and captured market share from the domestic industry, the domestic industry’s trade, employment, and financial indicators declined, though there was some improvement in interim 2025 compared with interim 2024.

As to trade indicators, the domestic industry’s practical capacity decreased *** percent from 2022 to 2024, from *** units in 2022 to *** units and to *** units in 2024; it was *** percent higher in interim 2025, at *** units, than in interim 2024, at *** units.²⁷⁷ The domestic industry’s production by quantity decreased *** percent from 2022 to 2024, from *** units in 2022 to *** units in 2023 and *** units in 2024; it was *** percent higher in interim 2025 at *** units compared with *** units in interim 2024.²⁷⁸ Capacity utilization decreased by *** percentage points overall from 2022 to 2024, increasing from *** percent in 2022 to *** percent in 2023 and then decreasing to *** percent in 2024; it was *** percentage points higher in interim 2025, at *** percent than interim 2024, at *** percent.²⁷⁹

The domestic industry’s number of production and related workers (“PRWs”) decreased *** percent overall from 2022 to 2024, increasing from *** in 2022 to *** in 2023, and decreasing to *** in 2024; the *** PRWs in interim 2025 were *** percent fewer than the *** PRWS in interim 2025.²⁸⁰ Hours worked decreased *** percent overall from 2022 to 2024, increasing from *** hours in 2022 to *** hours in 2023, and decreasing to *** hours in 2024; hours worked were *** percent lower in interim 2025, at *** hours, than in interim 2024, at *** hours. Wages paid decreased by *** percent overall from 2022 to 2024, increasing from

²⁷⁵ 19 U.S.C. § 1677(7)(C)(iii); *see also* SAA at 851 and 885 (“In material injury determinations, the Commission considers, in addition to imports, other factors that may be contributing to overall injury. While these factors, in some cases, may account for the injury to the domestic industry, they also may demonstrate that an industry is facing difficulties from a variety of sources and is vulnerable to dumped or subsidized imports.”).

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

²⁷⁷ CR/PR at Tables 3.5; C.1.

²⁷⁸ CR/PR at Tables 3.5; C.1.

²⁷⁹ CR/PR at Tables 3.5; C.1.

²⁸⁰ CR/PR at Tables 3.14, C.1.

\$*** in 2022 to \$*** in 2023, and decreasing to \$*** in 2024; wages paid were *** percent lower in interim 2025, at \$*** than in interim 2024, at \$***.²⁸¹ Productivity (measured by 1,000 units per hour) decreased by *** percent from 2022 to 2024, from *** thousand units per hour in 2022 to *** thousand units per hour in 2023 and *** thousand units per hour in 2024; productivity was *** percent higher in interim 2025, at *** thousand units per hour, than in interim 2024, at *** thousand units per hour.²⁸²

U.S. producers' U.S. shipments decreased by *** percent from 2022 to 2024, from *** units in 2022 to *** units in 2023 and to *** units in 2024; U.S. producers' U.S. shipments were *** percent higher in interim 2025, at *** units, compared with interim 2024, at *** units.²⁸³ U.S. producers' share of apparent U.S. consumption by quantity decreased overall by *** percentage points from 2022 to 2024, decreasing from *** in 2022 to *** in 2023 and to *** in 2024; U.S. producers' share of apparent U.S. consumption was *** percentage points higher in interim 2025, at *** percent compared with interim 2024, at *** percent.²⁸⁴

The domestic industry's end-of-period inventories of HECs decreased by *** percent overall from 2022 to 2024, increasing from *** units in 2022 to *** units in 2023, and decreasing to *** units in 2024; end-of-period inventories were *** percent higher in interim 2025, at *** units, than in interim 2024, at *** units.²⁸⁵ As a ratio to U.S. shipments, the industry's end-of-period inventories increased by *** percentage points overall from 2022 to 2024, increasing from *** percent in 2022 to *** percent in 2023 and decreasing to *** percent in 2024; this ratio was *** percentage points lower in interim 2025, at *** percent, than in interim 2024, at *** percent.²⁸⁶

The industry's net sales by quantity decreased by *** percent from 2022 to 2024, from *** units in 2022 to *** units in 2023 and to *** units in 2024; net sales volume was *** percent higher in interim 2025, at *** units than in interim 2024, at *** units.²⁸⁷ The domestic industry's net sales by value decreased by *** percent overall from 2022 to 2024, increasing from \$*** in 2022 to \$*** in 2023, and decreasing to \$*** in 2024; net sales by value were *** percent higher in interim 2025, at \$***, than in interim 2024, at \$***.²⁸⁸ The domestic industry's gross profit decreased by *** percent overall from 2022 to 2024, increasing from

²⁸¹ CR/PR at Tables 3.14, C.1.

²⁸² CR/PR at Tables 3.14, C.1.

²⁸³ CR/PR at Tables 3.5; C.1.

²⁸⁴ CR/PR at Tables 4.13, C.1.

²⁸⁵ CR/PR at Table C.1.

²⁸⁶ CR/PR at Table C.1.

²⁸⁷ CR/PR at Tables 6.1, C.1.

²⁸⁸ CR/PR at Tables 6.1, C.1.

\$*** in 2022 to \$*** in 2023, and decreasing to \$*** in 2024; its gross profit was *** percent higher in interim 2025, at \$*** compared with \$*** in interim 2024.²⁸⁹

The industry's operating income declined *** percent overall from 2022 to 2024, increasing from \$*** in 2022 to \$*** in 2023, and declining to \$*** in 2024; it was \$*** in interim 2025 compared with \$*** in interim 2024.²⁹⁰ The industry's net income decreased by *** percent overall from 2022 to 2024, increasing from \$*** in 2022 to \$*** in 2023, and decreasing to \$*** in 2024.²⁹¹ It was \$*** in interim 2025, higher than the *** figure in interim 2024.²⁹²

The domestic industry's ratio of operating income to net sales decreased by *** percentage points overall from 2022 to 2024; increasing from *** percent in 2022 to *** percent in 2023 and decreasing to *** percent in 2024; it was *** percent in interim 2025, which was higher than the *** percent figure in interim 2024.²⁹³ The domestic industry's net income margin worsened overall by *** percentage points from 2022 to 2024, increasing from *** percent in 2022 to *** percent in 2023 and decreasing to *** percent in 2024; it was *** percent in interim 2025, which was higher than the *** percent figure in interim 2024.²⁹⁴

The industry's total assets decreased by *** percent between 2022 and 2024, increasing from \$*** in 2022 to \$*** in 2023 and decreasing to \$*** in 2024.²⁹⁵ ***.²⁹⁶

The industry's capital expenditures increased by *** percent between 2022 and 2024, increasing from \$*** in 2022 to \$*** in 2023 and \$*** in 2024. Capital expenditures were \$*** in interim 2025 compared with \$*** in interim 2024.²⁹⁷

As discussed above, the moderately-high-to-high degree of substitutability between subject imports and the domestic like product and the importance of price in purchasing resulted in a significant and increasing volume of lower priced subject imports gaining market share at the expense of the domestic industry during the POI. As a result of this market share loss, the domestic industry suffered steep declines in trade and financial indicators during the

²⁸⁹ CR/PR at Tables 6.1, C.1.

²⁹⁰ CR/PR at Tables 6.1, C.1.

²⁹¹ CR/PR at Tables 6.1, C.1.

²⁹² CR/PR at Tables 6.1, C.1.

²⁹³ CR/PR at Tables 6.1, C.1. Notably, between 2022 and 2024, the domestic industry registered a decline in operating income and a decline in its ratio of operating income to net sales for its sales of both gelatin- and HPMC-based HECs. While the industry's ratios of operating income to net sales increased over the interim periods for sales of both polymer types, the ratios remained lower in interim 2025 than in 2022. *Id.* at Table 6.1.

²⁹⁴ CR/PR at Tables 6.1, C.1.

²⁹⁵ CR/PR at Tables 6.9, C.1. Data on assets were not available for the interim periods. *Id.*

²⁹⁶ CR/PR at 6.20. *** reported that ***. *Id.*

²⁹⁷ CR/PR at Tables 6.7, C.1.

2022-24 period. While the domestic industry's trade and financial performance indicators improved in interim 2025 compared with interim 2024 as a result of higher market share in the interim 2025 period,²⁹⁸ the industry's performance remained worse than it was at the beginning of the POI. Furthermore, subject imports continued to gain market share at the expense of the domestic industry in the nutraceutical market segment over the interim periods. We have also 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' share of apparent U.S. consumption of HECs by quantity increased irregularly by *** percentage points over the full years of the POI. However, cumulated subject imports gained far more market share over this period, *** percentage points.²⁹⁹ While the

²⁹⁸ In a final phase investigation, the statute requires the Commission to consider whether changes in the volume, price effects, or impact of subject imports are related to the pendency of the investigation. 19 U.S.C. § 1677(7)(I). If the Commission determines that such changes are related to the pendency of the investigation, it has the discretion under the statute to reduce the weight accorded to such information. In these investigations, the market share held by subject imports was higher in interim 2025 than in interim 2024. Subject imports gained *** percentage points of market share between 2022 and 2023, and gained an additional *** percentage points of market share between 2023 and 2024; in contrast, the market share held by subject imports was only *** percentage points higher in interim 2025 than in interim 2024. We attribute this slower rate of growth, in part, to the filing of the petition in late October 2024. In contrast to the full calendar years of the POI during which the domestic industry lost market share year-on-year, the interim 2025 period was the only time during the POI when the domestic industry's market share showed improvement over the relevant previous period. CR/PR at Table 4.13; C.1. Contemporaneously, several key output and financial indicators registered improvement in the interim 2025 period relative to the interim 2024 period, including: the quantity and average unit value of U.S. producers' U.S. shipments; production and the capacity utilization rate; the industry's ratio of COGS-to-net sales, and the industry's operating margin both on a per-unit basis and as a ratio to net sales value.

Commissioner Kearns does not join this finding. He sees no need to attribute the domestic industry's improved market share interim 2025 as compared to interim 2024, which resulted in improvements to other industry performance indicators during that period, to the filing of the petitions in these investigations. The record shows that a significant volume of lower priced subject imports had a significant adverse impact on the domestic industry during the 2022-24 period, and neither the record data nor respondents justify the discrediting of this injury. Furthermore, the industry's performance in interim 2025, although improved compared to interim 2024, was worse than its performance at the beginning of the POI. He also questions whether the record supports finding that the slower rate of growth is attributable to the filing of the petitions when there were no significant changes in the subject import volume or pricing data after the filing of the petitions. See CR/PR at Tables 4.12, 5.14, and C.1 and Figures 5.1-5.8.

²⁹⁹ CR/PR at Tables 4.13 and C.1. Subject imports' market share was *** percentage points higher over the interim periods, compared to nonsubject imports which registered a *** percentage points decline in market share over the interim periods. *Id.*

AUVs of nonsubject imports of HECs were lower than domestic AUVs at times during the POI, they were higher than the AUVs of cumulated subject imports of HECs from China, India, and Vietnam throughout the POI.³⁰⁰ Accordingly, nonsubject imports cannot explain the material injury that we have attributed to cumulated subject imports.³⁰¹

Respondents' arguments regarding market segmentation also do not explain the material injury to the domestic industry. As detailed above, the domestic industry produces substantial volumes of both gelatin and HPMC HECs and has shipped substantial volumes of HECs to both the pharmaceutical and nutraceutical markets. As we previously stated, the record indicates that subject import underselling throughout the POI was near-universal in both the pharmaceutical and nutraceutical markets that resulted in the domestic industry losing market share.³⁰² And as also noted above, the domestic industry registered a decline in its operating income and its ratio of operating income to net sales for sales of both gelatin and HPMC HECs.

Respondents also assert that any injury to the domestic industry was the result of declining export sales rather than increasing subject imports. We acknowledge that domestic producers' export shipment accounted for a substantial percentage of their total shipments throughout the POI,³⁰³ and that the volume of those shipments declined by *** percent from 2022 to 2024.³⁰⁴ However, the domestic industry's U.S. shipments declined to a far greater degree, by *** percent,³⁰⁵ meaning that a larger portion of the domestic industry's performance declines is explained by the significant and increasing volume of lower priced subject imports that took market share from the domestic industry. Furthermore, the decline in export shipments does not explain the near universal underselling by subject imports, the

³⁰⁰ CR/PR at Table C.1.

³⁰¹ For the same reasons, we are unpersuaded by the respondents' arguments that nonsubject imports from Mexico, alone, explain the injury we attributed to subject imports. Specifically, we note that when comparing pricing data for commercial shipments of imports of HECs from Mexico with U.S. producer pricing data, prices for product imported from Mexico were lower than prices for U.S.-produced product in *** instances and higher in *** instances. When comparing pricing data for commercial shipments of imports of HECs from Mexico with that for subject countries, prices for product imported from Mexico were lower in *** instances and higher in *** instances. CR/PR at Table E.5.

³⁰² CR/PR at Table 5.12.

³⁰³ In 2024, U.S. producers' export shipments accounted for *** percent of their total shipments, and home market shipments accounted for *** percent of their total shipments.

³⁰⁴ CR/PR at Table C.1. U.S. producers' U.S. shipments also decreased by a greater degree in each full year of the POI. From 2022 to 2023, U.S. producers' U.S. shipments decreased by *** percent, while their export shipments increased by *** percent. From 2023 to 2024, U.S. producers' U.S. shipments decreased by *** percent, while their export shipments decreased by *** percent. *Id.*

³⁰⁵ CR/PR at Table C.1.

significant market share that the domestic industry lost to subject imports from 2022 to 2024 as a result of that underselling, or the resulting negative effects that we have identified to the domestic industry's production and financial performance.

Respondents also argue that the domestic producers' injury is attributable to reduced U.S. demand caused by the destocking of customers' inventories. First, apparent U.S. consumption increased overall from 2022 to 2024, and in the interim periods.³⁰⁶ Although there was a slight decline in apparent U.S. consumption of *** percent from 2022 to 2023 during the alleged period of destocking, cumulated subject imports' market share increased by *** percentage points that year while domestic producers' market share declined by *** percentage points.³⁰⁷ The slight decline in apparent U.S. consumption from 2022 to 2023 does not explain why subject imports undersold the domestic like product and captured significant market share at the expense of the domestic industry that year. Furthermore, the record also shows that apparent U.S. consumption increased by *** percent from 2023 to 2024, after the alleged destocking subsided, but domestic producers nevertheless lost *** percentage points of market share,³⁰⁸ while cumulated subject imports' market share increased by *** percentage points.³⁰⁹ In sum, any reduced U.S. demand caused by destocking of customers' inventories

³⁰⁶ CR/PR at Tables 4.13, C.1.

³⁰⁷ CR/PR at Tables 4.13, C.1.

³⁰⁸ CR/PR at Tables 4.13, C.1.

³⁰⁹ CR/PR at Table 2.6.

does not explain the consistent market share shift from the domestic industry to subject imports each year from 2022 to 2024.³¹⁰

Relatedly, ACG Respondents' arguments regarding domestic producers' supply constraints do not explain the material injury that we have attributed to subject imports.³¹¹ It is only a minority of purchasers that reported supply constraints from domestic producers during the POI, and the number reporting such constraints declined from nine of 40 purchasers in 2022 to eight of 40 in 2023, and only four of 40 in 2024.³¹² Lead times may also indicate supply constraints, but domestic producers' lead times shortened significantly over the POI. For produced-to-order shipments, U.S. producers' lead times fell significantly, from *** days in 2022, to *** days in 2023, *** days in 2024, and *** days in 2025.³¹³ In contrast, U.S. importers' lead times were 107 days in 2022, 102 days in 2023, 90 days in 2024, and 90 days in 2025.³¹⁴ For shipments from U.S. inventories, U.S. producers' lead times were *** days in

³¹⁰ To the extent that ACG Respondents argue that the declines in the industry's capacity and market share from 2023 to 2024, specifically, are due to declining export sales and customer destocking, resulting in reduced demand, that led the domestic industry (specifically Lonza) to implement cost containment measures, such as idling equipment, we are unpersuaded. The record shows that overall apparent U.S. consumption increased by *** percent from 2023 to 2024, driven solely by an increase in the nutraceutical segment because apparent U.S. consumption in the pharmaceutical segment declined during that period. CR/PR at Tables C.1 and D.1-D.2. Accordingly, ACG Respondents' destocking argument during this period is limited to the pharmaceutical segment. As the domestic industry was capable of, and did make, sales to both market segments during the POI, declining export shipments and reduced demand in one market segment cannot explain the domestic industry's market share loss when the industry had excess capacity, evidence by its capacity utilization rate being *** percent in 2024. CR/PR at Table C.1. In addition, neither declining export sales nor customer destocking explain the significant underselling by subject imports.

Relatedly, we do not find that the significant underselling by subject imports is explained by the domestic industry selling a higher quality product, *i.e.*, VCAPS Plus (an HPMC capsule with no gelling agent), in the high end of the pharmaceutical segment, as claimed by ACG Respondents. See ACG Final Comments at 5-6; see also Chinese Respondent Coalition Posthearing Brief at 2-3. When comparisons involving VCAPS Plus HPMC products are excluded from the pricing comparisons, the data still show almost universal underselling. In that scenario, cumulated subject imports from China, India, and Vietnam undersold the domestic like product in 149 instances, at margins ranging from *** percent (average of *** percent) with volumes of *** units and oversold in 8 instances, at margins ranging from *** to *** percent (average of *** percent), with volumes of *** units. CR/PR at Table F.2. We note again that ACG Respondents and the Chinese Respondent Coalition raised these arguments in post-hearing submissions and did not propose any pricing products that would have allowed the Commission to further investigate whether differences in the generation of HPMC HECs, or the proprietary nature of some HECs, would have affected price comparisons.

³¹¹ ACG Prehearing Brief at 55-56.

³¹² CR/PR at Table 2.7.

³¹³ CR/PR at Table 2.12.

³¹⁴ CR/PR at Table 2.12.

2022, *** days in 2023, *** days in 2024, and *** days in 2025.³¹⁵ For shipments from U.S. inventories, U.S. importers' lead times were four days throughout the POI.³¹⁶

For the reasons stated above, we determine that an industry in the United States is materially injured by reason of imports of HECs from China, India, and Vietnam found by Commerce to be sold in the United States at LTFV and to be subsidized by the governments of China, India, and Vietnam.

VII. Threat of Material Injury by Reason of Subject Imports

A. Legal Standard

Section 771(7)(F) of the Tariff Act directs the Commission to determine whether the U.S. industry is threatened with material injury by reason of the subject imports by analyzing whether “further dumped or subsidized imports are imminent and whether material injury by reason of imports would occur unless an order is issued or a suspension agreement is accepted.”³¹⁷ The Commission may not make such a determination “on the basis of mere conjecture or supposition,” and considers the threat factors “as a whole” in making its determination whether dumped or subsidized imports are imminent and whether material injury by reason of subject imports would occur unless an order is issued.³¹⁸ In making our

³¹⁵ CR/PR at Table 2.12.

³¹⁶ CR/PR at Table 2.12. To the extent that ACG Respondents are arguing that the market share the domestic industry lost to subject imports from 2022 to 2023, specifically, is due to supply constraints and product quality issues, we are similarly unpersuaded. Only one of two domestic producers reported domestic supply constraints during the POI, when it *** in 2022, and only nine of 40 responding purchasers reported domestic industry supply constraints for 2022 while eight reported such constraints for 2023. While a few purchasers did report issues with domestic producers' product quality, *see id.* at 2.12, the majority of responding purchasers rated domestically produced HECs as comparable to HECs imported from China, India, and Vietnam with respect to 21 factors that influence purchasing decisions, including availability of FDA-approved product, availability of USP-qualified product, quality meeting or exceeding industry standards, reliability of supply, and technical support/service. *Id.* at Table 2.15. ACG respondents' argument is also not supported by the pricing data. If subject imports were pulled into the market due to domestic industry supply constraints and domestic quality issues, there would have been no reason for subject imports to undersell the domestic like product during that period, but the record shows near-universal underselling.

³¹⁷ 19 U.S.C. § 1677(7)(F)(ii).

³¹⁸ 19 U.S.C. § 1677(7)(F)(ii).

determination, we consider all statutory threat factors that are relevant to these investigations.³¹⁹

B. Cumulation for Threat

Under section 771(7)(H) of the Tariff Act, the Commission may “to the extent practicable” cumulatively assess the volume and price effects of subject imports from all

³¹⁹ These factors are as follows:

(I) if a countervailable subsidy is involved, such information as may be presented to it by the administering authority as to the nature of the subsidy (particularly as to whether the countervailable subsidy is a subsidy described in Article 3 or 6.1 of the Subsidies Agreement) and whether imports of the subject merchandise are likely to increase,

(II) any existing unused production capacity or imminent, substantial increase in production capacity in the exporting country indicating the likelihood of substantially increased imports of the subject merchandise into the United States, taking into account the availability of other export markets to absorb any additional exports,

(III) a significant rate of increase of the volume or market penetration of imports of the subject merchandise indicating the likelihood of substantially increased imports,

(IV) whether imports of the subject merchandise are entering at prices that are likely to have a significant depressing or suppressing effect on domestic prices and are likely to increase demand for further imports,

(V) inventories of the subject merchandise,

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

...

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

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

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

countries as to which petitions were filed on the same day if the requirements for cumulation in the material injury context are satisfied.³²⁰

1. Arguments of the Parties

Petitioners' Arguments. Petitioner argues that the Commission should cumulate subject imports from all sources, including Brazil, in its analysis of threat of material injury because the reasonable overlap of competition between and among subject imports from all subject countries and the domestic like product during the POI is likely to continue. It notes that during the preliminary phase, in which the Commission found subject imports from Brazil negligible for material injury purposes, it exercised its discretion to cumulate subject imports from Brazil for threat purposes.³²¹ Petitioner contends that the record continues to support cumulating imports from Brazil.

Petitioner argues that subject imports from Brazil are generally fungible with other subject imports and the domestic like product once suppliers are qualified, and that shipments from Brazil and the other subject countries overlap in sizes of ***.³²² It asserts that subject imports from Brazil encompass both gelatin and plant-based HECs, and are sold for both pharmaceutical and nutraceutical uses. Petitioner argues that subject imports from Brazil were sold in all regions of the United States in 2024, and like other subject sources and the domestic like product, were sold primarily to end users and distributors.³²³ It also contends that Brazilian subject imports were present in a majority of months of the POI, which it asserts is sufficient to satisfy the “reasonable overlap of competition” standard for cumulation.³²⁴

Respondents' Arguments. Other than arguing that subject imports from Brazil are negligible and unlikely to exceed the three percent threshold, AGC Respondents do not address whether the Commission should exercise its discretion to cumulate subject imports from Brazil with subject imports from the other countries.³²⁵ The Chinese Respondent Coalition argues that the Commission should decline to cumulate subject imports from China for the reasons it raised in opposing cumulation for purposes of present material injury.³²⁶

³²⁰ 19 U.S.C. § 1677(7)(H).

³²¹ Petitioner Prehearing Brief at 19 (citing *Preliminary Determinations*, USITC Pub. 5572, at 22-26).

³²² Petitioner Prehearing Brief at 20.

³²³ Petitioner Prehearing Brief at 20.

³²⁴ Petitioner Prehearing Brief at 20-21.

³²⁵ ACG Prehearing Brief at 5-7.

³²⁶ Chinese Respondent Coalition Prehearing Brief at 12-14.

2. Analysis

As discussed above in Section V, the petitions for these investigations were filed on the same day, and there is a reasonable overlap of competition between subject imports from China, India, and Vietnam, and among imports from each of these sources and the domestic like product. There is no information on the record to suggest that the reasonable overlap of competition between and among subject imports from China, India, and Vietnam and the domestic like product will not continue into the imminent future.

We also find that there will likely be a reasonable overlap of competition between and among subject imports from Brazil, subject imports from other sources, and the domestic like product in the imminent future. The record indicates that subject imports from Brazil are generally fungible with subject imports from other sources and the domestic like product. As discussed in our analysis for cumulation for present material injury, on balance, U.S. producers, importers, and purchasers reported that subject imports from China, India, and Vietnam were generally fungible with one another and the domestic like product, and the record does not indicate differently when including questionnaire response data regarding the fungibility of subject imports from Brazil.³²⁷ All responding U.S. importers and U.S. purchasers indicated that subject imports from Brazil were always or frequently interchangeable with subject imports from each subject source and the domestic like product, except in comparing subject imports from Brazil with subject imports from India.³²⁸ Two U.S. importers indicated that subject imports from Brazil are always interchangeable with subject imports from India, one reported that they are only sometimes interchangeable, and one indicated that they are never interchangeable.³²⁹ All four responding U.S. purchasers indicated that subject imports from Brazil are always or frequently interchangeable with subject imports from India.³³⁰

Questionnaire response data indicate that there was not a complete overlap in sizes of HECs available from the subject imports from all four subject sources and domestic producers in 2024. However, U.S. producers' shipments of the domestic like product and U.S. importers' U.S. shipments of HECs from Brazil, China, India, and Vietnam overlapped in sizes 00E, 00, 0E, 0, and sizes 1, 3, and 4.³³¹ Furthermore, U.S. importers' U.S. shipments of HECs from Brazil, China, India, and Vietnam, as well as U.S. producers' U.S. shipments of the domestic like product

³²⁷ See CR/PR at 2.28, Tables 2.16 and 2.17.

³²⁸ See CR/PR at Tables 2.16 and 2.17.

³²⁹ CR/PR at Table 2.16.

³³⁰ CR/PR at Table 2.17.

³³¹ CR/PR at Table 4.8.

overlapped in shipments of gelatin-based HECs in 2024.³³² In addition, the record indicates that HECs for sale in the U.S. market, regardless of source, were subject to the same manufacturing and regulatory standards.³³³

The Commission's pricing data also indicate that subject imports from Brazil, China, India, and Vietnam consisted of many of the same specific products as the domestic like product. In particular, in all quarters of the POI, U.S. producers and responding U.S. importers of subject merchandise reported sales of pricing products 2 and 6 from Brazil, China, India, and Vietnam.³³⁴

Although the evidence on interchangeability and non-price differences is mixed, given the overlap in U.S. shipments of the domestic like product and imports from each subject country based in shipments of gelatin HECs in several sizes, the overlap in two of the pricing products, and in the absence of any contrary argument, we find that there is a sufficient degree of fungibility between subject imports from Brazil with subject imports from other sources and the domestic like product for purposes of cumulation for our analysis of threat of material injury.

In 2024, U.S. importers' U.S. shipments of subject imports from Brazil overlapped with imports from other subject sources, and with the domestic like product in certain sizes of HECs, polymer type, and in shipments to nutraceutical customers. Based on size, there was an overlap among subject imports from Brazil with subject imports from other sources, and with the domestic like product in U.S. shipments of large volumes of HECs between size 00E, size 00, and size 0, and an overlap in smaller volumes of U.S. shipments of HECs in sizes 1, 3, and 4.³³⁵ Based on polymer type, there also was an overlap in shipments of gelatin-based products among subject imports from Brazil with subject imports from other sources, and with the domestic like product.³³⁶ Based on end user, there was an overlap in U.S. shipments of HECs

³³² CR/PR at Table 4.9. In 2024, *** percent of U.S. producers' U.S. shipments were gelatin capsules, *** percent of U.S. importers' U.S. shipments of subject imports from Brazil were gelatin capsules, *** percent of U.S. importers' U.S. shipments of subject imports from China were gelatin capsules, *** percent of U.S. importers' U.S. shipments of subject imports from India were gelatin capsules, and *** percent of U.S. importers' U.S. shipments of subject imports from Vietnam were gelatin capsules. *Id.*

³³³ See Petitioner Posthearing Brief, Answers to Commission Questions at 8. Petitioner contends that the FDA regulates both HPMC and gelatin-based HECs as food products pursuant to 21 C.F.R. Part 117, and thus that there are no differences in manufacturing standards for either polymer. *Id.*

³³⁴ CR/PR at Table 5.11.

³³⁵ CR/PR at Table 4.8.

³³⁶ CR/PR at Table 4.9. In 2024, U.S. producers' U.S. shipments of gelatin HECs were *** units, U.S. importers' U.S. shipments of gelatin HECs from Brazil were *** units, U.S. importers' U.S. shipments (Continued...)

from Brazil with subject imports from other sources, and with the domestic like product in shipments to nutraceutical end users.³³⁷

Subject imports from Brazil also overlapped with subject imports from other sources and with the domestic like product in geographic regions in the United States. U.S. producers and importers of subject merchandise each reported selling HECs to all regions of the contiguous United States.³³⁸ Official import statistics indicate that imports from Brazil and the other three subject countries entered the United States across three overlapping borders of entry in 2024.³³⁹

Furthermore, although subject imports from Brazil were present in the U.S. market in fewer months of the POI than subject imports from China, India, and Vietnam, they still were simultaneously present in 28 of 42 months, and in all months from August 2023 until the end of the POI except for April and June 2025.³⁴⁰ We also note that the absence of subject imports from Brazil during at least some months of the POI is in part attributable to the operational difficulties ACG Brazil experienced at points during the POI which prompted ACG to shift production to ACG India at times in order to continue filling customers' orders.³⁴¹

of gelatin HECs from China were *** units, U.S. importers' U.S. shipments of gelatin HECs from India were *** units, and U.S. importers' U.S. shipments of gelatin HECs from Vietnam were *** units. *Id.* U.S. importers did not report U.S. shipments of any non-gelatin HEC from Brazil in 2024. *Id.*

³³⁷ CR/PR at Tables 4.9, 4.10. In 2024, *** percent of U.S. producers' U.S. shipments were to nutraceutical end users, *** percent of U.S. importers' U.S. shipments of subject imports from Brazil were to nutraceutical end users, *** percent of U.S. importers' U.S. shipments of subject imports from China were to nutraceutical end users, *** percent of U.S. importers' U.S. shipments of subject imports from India were to nutraceutical end users, and *** percent of U.S. importers' U.S. shipments of subject imports from Vietnam were to nutraceutical end users. CR/PR at Table 4.10.

³³⁸ CR/PR at Table 2.5. U.S. importers of subject merchandise from Brazil did not report sales to other regions in the United States, including Alaska, Hawaii, Puerto Rico, and the U.S. Virgin Islands. *Id.*

³³⁹ CR/PR at Table 4.11. Subject imports from all four subject countries entered through eastern, southern, and western borders. *Id.* Subject imports from Brazil and Vietnam did not enter through the northern border. *Id.*

³⁴⁰ CR/PR at Table 4.12. The Commission has found that the simultaneous presence of imports from subject sources and the domestic like product toward the end of a POI is sufficient for purposes of cumulation, when the other three cumulation factors support the existence of a reasonable overlap of competition. *Mattresses from Cambodia, China, Indonesia, Malaysia, Serbia, Thailand, Turkey, and Vietnam*, Inv. Nos. 701-TA-645 and 731-1495-1501 (Final), USITC Pub. 5191 (May 2021) at 23-24 (finding a reasonable overlap of competition even through subject imports from all countries but China were absent or sporadically present during the first two years of the POI, because "imports from all subject countries and the domestic like product were present in every year of the period and their presence increased during the last 16 months of the period," and the other three cumulation factors were satisfied).

³⁴¹ See Section IV.B.

Based on this information, we find that there is a reasonable overlap of competition between and among subject imports from Brazil, subject imports from China, India and Vietnam, and the domestic like product that is likely to continue into the imminent future. We therefore exercise our discretion to cumulate subject imports from Brazil, China, India, and Vietnam for our analysis of whether there is a threat of material injury to the domestic industry by reason of imports from Brazil.

C. Analysis of Threat of Material Injury Factors

1. Likely Volumes of Subject Imports³⁴²

We found in Section VI.C. above that the volume of cumulated subject imports from China, India, and Vietnam and the increase in the volume of those imports during the POI were

³⁴² In its final countervailing duty determination concerning HECs from Brazil, Commerce found the following programs to be countervailable: (1) Provision of Electricity for Less than Adequate Remuneration (“LTAR”); (2) Ex-Tarifário; (3) Access Road Funding – Pouso Alegre Municipality; (4) Tax Incentives to Encourage Local Investment – Pouso Alegre Municipality. *Hard Empty Capsules From Brazil: Final Affirmative Countervailing Duty Determination*, 90 Fed. Reg. 60607 (Dec. 29, 2025), citing *Issues and Decision Memorandum for the Final Affirmative Determination of the Countervailing Duty Investigation of Hard Empty Capsules from Brazil*, Dec. 18, 2025, EDIS Doc. 867826-2470473, at 6-7. Commerce did not characterize any of these programs as export specific subsidies.

In its final countervailing duty determination concerning HECs from China, Commerce found the following programs to be countervailable: (1) Policy Loans to the Hard Empty Capsules Industry; (2) Provision of Electricity for LTAR; (3) Provision of Land-Use Rights for LTAR; (4) Income Tax Reductions for “High and New-Technology Enterprises”; (5) Enterprise Income Tax Law, Research, and Development Program; (6) Small and Medium-Sized Enterprises International Market Exploration Fund; (7) Other Subsidies. *Hard Empty Capsules From the People’s Republic of China: Final Affirmative Countervailing Duty Determination*, 90 Fed. Reg. 60628 (Dec. 29, 2025), citing *Issues and Decision Memorandum for the Final Affirmative Determination of the Countervailing Duty Investigation of Hard Empty Capsules from the People’s Republic of China*, Dec. 18, 2025, EDIS Doc. 867826-2470476, at 5-7. Commerce did not characterize any of these programs as export specific subsidies.

In its final countervailing duty determination concerning HECs from India, Commerce found the following programs to be countervailable: (1) Duty Drawback Program; (2) Advanced Authorization Program; (3) Duty-Free Importation of Capital Goods and Raw Materials, Components, Consumables, Intermediates, Spare Parts, and Pack Material Under Special Economic Zone; (4) Export Promotion of Capital Goods Scheme; (5) Research & Development under the Section 35(1)(i) of the Income Tax Act, 1961. *Hard Empty Capsules From India: Final Affirmative Countervailing Duty Determination*, 90 Fed. Reg. 60618 (Dec. 29, 2025), citing *Issues and Decision Memorandum for the Final Affirmative Determination of the Countervailing Duty Investigation of Hard Empty Capsules from India*, Dec. 18, 2025, EDIS Doc. 867826-2470477, at 4-5. Commerce did not characterize any of these programs as export specific subsidies.

In its final countervailing duty determination concerning HECs from Vietnam, Commerce found the following programs to be countervailable: (1) Income Tax Preferences for Enterprises in Special (Continued...)

significant in absolute and relative terms to apparent U.S. consumption and domestic production. We reach the same conclusion with respect to cumulated imports from all subject countries. The volumes of cumulated subject imports, by quantity, from all subject countries increased by *** percent overall from 2022 to 2024, decreasing from *** units in 2022 to *** units in 2023, and increasing to *** units in 2024; they were *** percent lower in interim 2025, at *** units compared with *** units in interim 2024.³⁴³

Cumulated subject imports' share of apparent U.S. consumption by quantity increased by *** percentage points from 2022 to 2024, increasing from *** percent in 2022 to *** percent in 2023 and to *** percent in 2024; their share was *** percentage points higher in interim 2025 at *** percent, compared with *** percent in interim 2024.³⁴⁴ The ratio of subject imports to U.S. production decreased from *** percent in 2022 to *** percent in 2023, and increased to *** percent in 2024, for an overall increase of *** percentage points; it was lower in interim 2025 at *** percent, compared with *** percent in interim 2024.³⁴⁵ Based on these considerations, we find that the volume of cumulated subject imports, including Brazil, was significant during the POI, both in absolute terms and relative to apparent U.S. consumption and domestic production, and that the increase in the volume of cumulated subject imports was significant in absolute terms and relative to domestic consumption.

We also find that the volume of cumulated subject imports from Brazil, China, India, and Vietnam are likely to be significant in the imminent future.³⁴⁶ HEC producers in the four subject countries increased their capacity for HEC production from 342.6 billion units in 2022 to 354.6 billion units in 2023 and to 371.8 billion units in 2024; their 191.0 billion unit capacity in interim 2025 was higher than their 181.4 billion unit capacity in interim 2024.³⁴⁷ These

Zones; (2) Refund for Import Duties on Raw Materials Used to Produce Exports; (3) Export-Import Bank of Korea Overseas Business Loans; (4) Exemption or Reduction from Land and Water Rents in Industrial Zones. *Hard Empty Capsules From the Socialist Republic of Vietnam: Final Affirmative Countervailing Duty Determination*, 90 Fed. Reg. 60620 (Dec. 29, 2025), citing *Issues and Decision Memorandum for the Final Affirmative Determination of the Countervailing Duty Investigation of Hard Empty Capsules from the Socialist Republic of Vietnam*, Dec. 18, 2025, EDIS Doc. 867826-2470480, at 5-7. Commerce did not characterize any of these programs as export specific subsidies.

³⁴³ CR/PR at Tables 4.2, 4.3.

³⁴⁴ CR/PR at Table 4.13.

³⁴⁵ CR/PR at Table 4.2.

³⁴⁶ Among the conditions of competition, we have considered the fact that HECs from Brazil became subject to tariffs under IEEPA in April 2025 during the POI. See CR/PR at Table 1.10. Given that the volume of subject imports from Brazil was still significant during the POI, and the IEEPA tariffs' rate and duration are uncertain, we do not find that the IEEPA tariffs would likely prevent subject imports from Brazil from entering the United States at levels that would not be likely to threaten the domestic industry with material injury.

³⁴⁷ CR/PR at Table 7.9.

producers' rate of capacity utilization decreased overall from 2022 to 2024, decreasing from 92.7 percent in 2022 to 88.2 percent in 2023, and increasing to 90.3 percent in 2024; it was higher in interim 2025, at 91.0 percent, than in interim 2024, at 89.7 percent.³⁴⁸ In 2024, HEC producers in the four subject countries possessed excess capacity of *** units, equivalent to *** percent of apparent U.S. consumption of HECs that year.³⁴⁹ Furthermore, the combined capacity of HEC producers in the four subject countries is projected to increase in 2025 and in 2026.³⁵⁰

End-of-period inventories of HEC producers in the four subject countries increased by *** percent from 2022 to 2024, and was *** percent higher in interim 2025 than in interim 2024.³⁵¹ U.S. importers' U.S. inventories of HECs from subject sources increased by *** percent from 2022 to 2024 (including a *** percent increase between 2023 and 2024 alone), and was *** percent higher in interim 2025 than in interim 2024.³⁵² U.S. importers' end-of-year inventories of subject merchandise in 2024 were equivalent to *** percent of apparent U.S. consumption of HECs that year.³⁵³ Further, U.S. importers report arranged imports of HECs that total *** units between July 1, 2025 to June 30, 2026.³⁵⁴ The available data do not suggest that U.S. producers and subject producers have the ability to shift production from HECs to alternative products.³⁵⁵

Although home market shipments accounted for the greatest share of subject foreign producers' shipments throughout the POI,³⁵⁶ they also have the incentive to increase exports to the United States given their relatively high volumes of exported HECs and their consistent reliance on the U.S. market throughout the POI. Subject foreign producers of HECs increased their total exports of HECs overall from 2022 to 2024, decreasing from 113.6 billion units in

³⁴⁸ CR/PR at Table 7.9.

³⁴⁹ *Derived from* Tables 4.13 and 7.9.

³⁵⁰ CR/PR at Table 7.12.

³⁵¹ *See* CR/PR at Table 7.16. Subject producers' end of period inventories were 25.8 billion units in 2022, 30.9 billion units in 2023, and 32.5 billion units in 2024; they were 36.1 billion units in interim 2025 compared with 31.8 billion units in interim 2024. *Id.*

³⁵² U.S. importers' end of period inventories of HECs from the four subject countries were *** units in 2022, *** units in 2023, and *** units in 2024; they were *** units in interim 2025 compared with *** units in interim 2024. CR/PR at Tables 7.18, C.1.

³⁵³ *Calculated from* CR/PR at Tables 4.13 and 7.18.

³⁵⁴ CR/PR at Table 7.19. As we noted above, there were no arranged imports from Brazil reported, which we find are likely attributable to post-petition effects of the orders.

³⁵⁵ CR/PR at Table 2.6.

³⁵⁶ Home market shipments accounted for 63.8 percent of subject producers' shipments in 2022, 68.2 percent in 2023, 64.9 percent in 2024, 65.1 percent in interim 2024, and 65.3 percent in interim 2025. CR/PR at Table 7.12.

2022 to 97.5 billion units in 2023, and increasing to 117.0 billion units in 2024; they exported 59.1 billion units in interim 2025 compared with 56.5 billion units in interim 2024.³⁵⁷ Subject foreign producers' exports accounted for 36.2 percent of their total shipments in 2022, 31.8 percent in 2023, and 35.1 percent in 2024; exports accounted for 34.7 percent of their total shipments in interim 2025 compared with 34.9 percent in interim 2024.³⁵⁸ Subject HEC producers' exports to the United States as a share of their total shipments were steady throughout the POI, at 15.1 percent in 2022, 14.1 percent in 2023 and 16.9 percent in 2024; they were 12.9 percent in interim 2025 compared with 16.7 percent in interim 2024.³⁵⁹ These data indicate that the subject foreign producers were export oriented during the POI and exported steady and significant volumes of HECs directed to the United States.

In light of the significant increase in cumulated subject import volume; subject imports' increasing market share; the large and increasing capacity of the cumulated subject producers, including substantial excess capacity; and the cumulated subject foreign producers' significant volumes of exports of HEC products and steady reliance on the U.S. market throughout the POI, we find that absent relief, the volume of cumulated subject imports from all four subject countries is likely to be significant within the imminent future, both in absolute terms and relative to U.S. consumption and production, and that the increase in the volume of subject imports will likely be significant.

³⁵⁷ CR/PR at Table 7.15.

³⁵⁸ CR/PR at Table 7.12

³⁵⁹ CR/PR at Table 7.12.

2. Likely Price Effects of Cumulated Subject Imports

As discussed in section VI.B.3 above, we have found moderately-high-to-high substitutability between subject imports and the domestic like product, and that price is an important factor in purchasing decisions, along with other factors. We found that cumulated subject imports from China, India, and Vietnam significantly undersold the domestic like product from 2022 to 2024, which enabled them to gain market share from the domestic industry. The addition of pricing data regarding subject imports from Brazil does not change these conclusions – indeed, all of the quarterly price comparisons involving Brazil show underselling of the domestic like product³⁶⁰ – and leads us to find with respect to all four countries that significant underselling by the increasing volume of cumulated subject imports is likely in the imminent future, which will likely force domestic producers either to reduce prices to remain competitive or lose additional market share if they try to maintain or raise prices to cover costs.

Overall, subject imports from Brazil, China, India, and Vietnam undersold the domestic like product in 299 instances, at margins ranging from 0.4 to 80.5 percent, and averaging 41.0 percent. In contrast, subject imports from Brazil, China, India, and Vietnam oversold the domestic like product in eight instances, at margins ranging from 3.6 to 27.0 percent and averaging of 14.1 percent.³⁶¹ The volume of subject import sales in quarters with underselling was 155.4 billion units, compared with 6.9 billion units in the quarters with overselling.³⁶² The pricing data indicate that the volume of underselling by subject imports increased in each full year of the POI.³⁶³ The pricing data also indicate that subject imports universally undersold the domestic like product in the interim period from January to June 2025.³⁶⁴

The addition of data from Brazil does not change our finding that subject imports undersold the domestic like product regardless of the base polymer. Pricing data for Brazil

³⁶⁰ CR/PR at Table 5.13.

³⁶¹ CR/PR at Table 5.13.

³⁶² CR/PR at Table 5.13.

³⁶³ CR/PR at Table 5.14. In 2022, there were 83 quarters of underselling by subject imports from Brazil, China, India, and Vietnam at margins ranging from *** to *** percent and averaging of *** percent, with a volume *** units. *Id.* There were six quarters of overselling by subject imports from Brazil, China, India, and Vietnam at margins ranging from *** to *** percent and averaging *** percent, with a volume *** units.

In 2023, there were 86 quarters of underselling by subject imports from Brazil, China, India, and Vietnam at margins ranging from *** to *** percent and averaging of *** percent, with a volume *** units. *Id.* There were no instances of overselling by subject imports in 2023.

(Continued...)

consisted exclusively of pricing products 2 and 6, which are both gelatin-based HECs. Subject imports from Brazil, China, India, and Vietnam for pricing products 1, 2, 5, and 6, the gelatin-based HECs, undersold the domestic like product in 172 instances, at margins ranging from 0.4 to 74.6 percent, and averaging 38.8 percent. Cumulated subject imports from Brazil, China, India, and Vietnam of gelatin HECs oversold the domestic like product in eight instances, at margins ranging from 3.6 to 27.0 percent and averaging 14.1 percent.³⁶⁵ The volume of subject import sales of pricing products 1, 2, 5, and 6 in quarters with underselling was 66.6 billion units, compared with 6.9 billion units in the quarters with overselling.³⁶⁶

Pricing products 3, 4, 7, and 8 are HPMC HECs. Cumulated subject imports for pricing products pricing products 3, 4, 7, and 8 undersold the domestic like product in all 127 instances, at margins ranging from 6.1 to 80.5 percent, and averaging 41.0 percent. The volume of subject import sales in quarters with underselling for pricing products 3, 4, 7, and 8 was 88.8 billion units, and there were no quarters of overselling for these products.³⁶⁷

Based on the moderately-high-to-high degree of substitutability between subject imports and the domestic like product, the importance of price in purchasing decisions, and pricing data showing significant underselling by subject imports throughout the POI, we find that subject imports undersold the domestic like product to a significant degree throughout the POI. The underselling led to subject imports capturing market share at the expense of the domestic industry. Cumulated subject imports gained *** percentage points of market share for HECs from 2022 to 2024, while the domestic industry's market share decreased by *** percentage points.³⁶⁸ Furthermore, despite

In 2024, there were 87 quarters of underselling by subject imports from Brazil, China, India, and Vietnam at margins ranging from *** to *** percent and averaging of *** percent, with a volume *** units. *Id.* There were two quarters of overselling by subject imports from Brazil, China, India, and Vietnam at margins ranging from *** to *** percent and averaging *** percent, with a volume *** units.

³⁶⁴ In 2025, there were 43 quarters of underselling by subject imports from Brazil, China, India, and Vietnam at margins ranging from *** to *** percent and averaging *** percent, with a volume of *** units. There were no instances of overselling by subject imports in 2025.

³⁶⁵ CR/PR at Table 5.12.

³⁶⁶ CR/PR at Table 5.12.

³⁶⁷ CR/PR at Table 5.12. As reviewed above in section VI.D., we have considered information concerning lost sales in our price analysis. As noted, of the 40 responding purchasers, 30 reported that, since 2022, they had purchased subject imports instead of the domestic like product and 17 of these purchasers reported that subject import prices were lower than U.S.-produced HECs. Of these 17 purchasers, nine reported that price was a primary reason for purchasing *** units of subject imports instead of the domestic like product.

³⁶⁸ CR/PR at Tables 4.13, C.1.

the fact that the domestic industry's market share was *** percentage points higher in interim 2025 compared with interim 2024, cumulated subject imports' market share increased by more, *** percentage points, in interim 2025 compared with interim 2024.

In sum, in light of the moderately-high-to-high degree of substitutability between the domestic like product and subject imports, the importance of price, among other factors, in purchasing decisions, and the near-universal underselling by cumulated subject imports throughout the POI, we find that the imminent increase in the volume of subject imports from all four countries will likely significantly undersell the domestic like product, which will force domestic producers to either reduce prices or lose additional market share if they try to maintain or raise prices to cover costs.

3. Likely Impact of Cumulated Subject Imports

The SAA directs that “in threat determinations, the Commission must carefully assess current trends and competitive conditions in the marketplace to determine the probable future impact of imports on the domestic industry and whether the industry is vulnerable to future harm.”³⁶⁹ In these investigations, we have found that the volume of cumulated subject imports from Brazil, China, India and Vietnam, and the increase in that volume, was significant in absolute terms and relative to consumption, and that the near-universal underselling by these cumulated subject imports contributed to a market share shift at the expense of the domestic industry. These considerations are probative to our analysis of whether cumulated subject imports from Brazil, China, India and Vietnam threaten the domestic industry with material injury.

Given our findings that cumulated subject import volume is likely to increase further from already significant levels and continue to undersell the domestic like product, we conclude that, in the absence of trade relief, cumulated subject imports would likely have a significant impact on the domestic industry in the imminent future. Specifically, the likely increased volumes of cumulated subject imports would likely displace sales of the domestic like product and cause the domestic industry to lose additional market share, adversely affecting the domestic industry's production, employment, revenues, and financial performance. *** reported anticipating negative effects from subject imports in the absence of relief.³⁷⁰

In sum, we determine that an industry in the United States is threatened with material injury by reason of imports of HECs from Brazil.

³⁶⁹ SAA at 885.

³⁷⁰ See CR/PR at Tables 6.12, 6.13.

VIII. Conclusion

For the reasons stated above, we determine that an industry in the United States is materially injured by reason of subject imports of HECs from China, India, and Vietnam that are sold in the United States at less than fair value and subsidized by the governments of China, India, and Vietnam. We also determine that an industry in the United States is threatened with material injury by reason of imports of the subject merchandise from Brazil that are sold in the United States at less than fair value and subsidized by the government of Brazil.

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 Lonza Greenwood LLC (“Lonza”), Greenwood, South Carolina, on October 24, 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 hard empty capsules (“HECs”)¹ from Brazil, China, India, and Vietnam. Table 1.1 presents information relating to the background of these investigations.^{2 3}

¹ See the section entitled “The subject merchandise” in Part 1 of this report for a complete description of the merchandise subject to this proceeding.

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

³ Appendix B presents witnesses that appeared at the Commission’s hearing.

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

Effective date	Action
October 24, 2024	Petitions filed with Commerce and the Commission; institution of the Commission investigations (89 FR 86370, October 30, 2024)
November 13, 2024	Commerce’s notice of initiation (89 FR 91680 and 91684, November 20, 2024)
December 9, 2024	Commission’s preliminary determinations (89 FR 101048, December 13, 2024)
March 31, 2025	Commerce’s preliminary countervailing duty determinations and alignment with final antidumping duty determinations (90 FR 14235, 14244, 14237, and 14240, March 31, 2025)
May 29, 2025	Commerce’s preliminary antidumping duty determinations and postponement of final antidumping duty determinations (90 FR 22704, 22699, 22708, and 22688, May 29, 2025); scheduling of final phase of Commission investigations (90 FR 27052, June 25, 2025)
November 20, 2025	Revised scheduling of final phase of Commission investigations (90 FR 52999, November 24, 2025)
December 2, 2025	Commission’s hearing
December 10, 2025	Revised scheduling of final phase of Commission investigations (90 FR 58054, December 15, 2025)
December 29, 2025	Commerce’s final determinations (90 FR 60607, 60610, 60613, 60618, 60620, 60623, 60626, and 60628, December 29, 2025)
January 16, 2026	Commission’s vote
February 12, 2026	Commission’s views

Note: Due to the lapse in appropriations and ensuing cessation of Commission operations, the Commission revised its schedule for this proceeding.

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.

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

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

In addition, Section 771(7)(J) of the Act (19 U.S.C. § 1677(7)(J)) provides that—⁵

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

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

⁵ Amended by PL 114—27 (as signed, June 29, 2015), Trade Preferences Extension Act of 2015.

Organization of report

Part 1 of this report presents information on the subject merchandise, 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 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

HECs are generally used to hold and deliver medicine and health supplements in a consumable form.⁶ The leading U.S. producer of HECs is Lonza, while leading producers of HECs outside the United States include ACG do Brasil S.A. ("ACG Brazil") of Brazil, Suzhou Capsugel Ltd. ("Suzhou") of China, ACG Associated Capsules Private Limited ("ACG Associated") of India, and Suheung Vietnam Co., Ltd. ("Suheung") of Vietnam. The leading U.S. importer of HECs from Brazil and India is ACG North America LLC ("ACG North America"); the leading U.S. importers of HECs from China are Bright Pharma Caps Inc. ("Bright Pharma Caps") and SD Head USA LLC ("SD Head USA"); and the leading U.S. importer of HECs from Vietnam is Suheung-America Corp ("Suheung-America"). The leading importer of HECs from nonsubject countries is Lonza. A large majority of Lonza's imports are from ***. U.S. purchasers of HECs are largely firms that manufacture pharmaceutical and nutraceutical products, but also include contract manufacturers, and ***. Leading purchasers include ***.

⁶ Petitions, pp. 3 to 4; Lonza's postconference brief, p. 7.

Apparent U.S. consumption of HECs totaled approximately *** units (\$***) in 2024. Currently, two firms are known to produce HECs in the United States. U.S. producers' U.S. shipments of HECs totaled *** units (\$***) in 2024, and accounted for *** percent of apparent U.S. consumption by quantity and *** percent by value. U.S. imports from subject sources totaled *** units (\$***) in 2024 and accounted for *** percent of apparent U.S. consumption by quantity and *** percent by value. U.S. imports from nonsubject sources totaled *** units (\$***) in 2024 and accounted for *** percent of apparent U.S. consumption by quantity and *** percent by value.

Summary data and data sources

A summary of data collected in these investigations is presented in appendix C, table C.1. The Commission's questionnaires collected data for the years 2022 to 2024 and interim periods January through June of 2024 ("interim 2024") and January through June of 2025 ("interim 2025"). Except as noted, U.S. industry data are based on questionnaire responses of two firms that accounted for all known U.S. production of HECs during 2024. U.S. imports are based on questionnaire responses of 16 firms that are believed to have represented essentially all U.S. imports of HECs in 2024.

Previous and related investigations

HECs have not been the subject of prior countervailing and antidumping duty investigations in the United States.

Nature and extent of subsidies and sales at LTFV

Subsidies

On December 29, 2025, Commerce published notice in the Federal Register its final determinations of countervailable subsidies for producers and exporters of HECs imported from Brazil, China, India, and Vietnam.⁷ Tables 1.2 through 1.5 present Commerce's final findings of subsidization of HECs in Brazil, China, India, and Vietnam, respectively.

Table 1.2 HECs: Commerce's final subsidy determination with respect to imports from Brazil

Exporter/producer	Final countervailable subsidy rate (percent)
ACG do Brasil S.A.	10.67
All others	10.67

Source: 90 FR 60607, December 29, 2025.

Note: For further information on programs determined to be countervailable, see Commerce's associated Issues and Decision Memorandum.

Table 1.3 HECs: Commerce's final subsidy determination with respect to imports from China

Exporter/producer	Final countervailable subsidy rate (percent)
Jiangsu Lefan Capsule Co., Ltd.	3.14
Shanxi JC Biological Technology Co., Ltd.	8.81
All others	6.90

Source: 90 FR 60628, December 29, 2025.

Note: For further information on programs determined to be countervailable, see Commerce's associated Issues and Decision Memorandum.

Table 1.4 HECs: Commerce's final subsidy determination with respect to imports from India

Exporter/producer	Final countervailable subsidy rate (percent)
ACG Associated Capsules Private Limited; ACG Pam Pharma Technologies Private Limited; ACG Universal Capsules Private Limited	7.06
All others	7.06

Source: 90 FR 60618, December 29, 2025.

Note: For further information on programs determined to be countervailable, see Commerce's associated Issues and Decision Memorandum.

⁷ 90 FR 60607, 60618, 60620, and 60628, December 29, 2025.

Table 1.5 HECs: Commerce’s final subsidy determination with respect to imports from Vietnam

Exporter/producer	Final countervailable subsidy rate (percent)
Suheung Vietnam Co., Ltd.	2.45
All others	2.45

Source: 90 FR 60620, December 29, 2025.

Note: For further information on programs determined to be countervailable, see Commerce’s associated Issues and Decision Memorandum.

Sales at LTFV

On December 29, 2026, Commerce published notice in the Federal Register its final determinations of sales at LTFV with respect to imports from Brazil, China, India, and Vietnam.⁸ Tables 1.6 through 1.9 present Commerce’s final dumping margins with respect to imports of HECs from Brazil, China, India, and Vietnam, respectively.

Table 1.6 HECs: Commerce’s final weighted-average LTFV margins with respect to imports from Brazil

Exporter/producer	Final dumping margin (percent)
ACG do Brasil S.A.	77.63
All others	77.63

Source: 90 FR 60610, December 29, 2025.

⁸ 90 FR 60610, 60613, 60623, and 60626, December 29, 2025.

Table 1.7 HECs: Commerce’s final weighted-average LTFV margins with respect to imports from China

Exporter	Producer	Final dumping margin (percent)
Shandong Healsee Capsule Ltd.	Shandong Healsee Capsule Ltd.	18.71
Shanxi JC Biological Technology Co., Ltd.	Shanxi JC Biological Technology Co., Ltd.	0.00
Guizhou Guang De Li Pharmaceuticals Co., Ltd.	Guizhou Guang De Li Pharmaceuticals Co., Ltd.	18.71
Hebei Kangxin Plant Capsule Co., Ltd.	Hebei Kangxin Plant Capsule Co., Ltd.	18.71
Hubei Kornnac Pharmaceutical Co., Ltd.	Hubei Kornnac Pharmaceutical Co., Ltd.	18.71
Jiangsu Lefan Capsule Co., Ltd.	Jiangsu Lefan Capsule Co., Ltd.	18.71
Jiujiang Angtai Capsule Co., Ltd.	Jiujiang Angtai Capsule Co., Ltd.	18.71
Qingdao Yiqing Biotechnology Co., Ltd.	Qingdao Yiqing Biotechnology Co., Ltd.	18.71
Shaanxi Genex Bio-Tech Co., Ltd.	Shaanxi Genex Bio-Tech Co., Ltd.	18.71
Shanghai Guang De Li Capsule Co., Ltd.	Shanghai Guang De Li Capsule Co., Ltd.	18.71
Shanxi Guangsheng Medicinal Capsule Co., Ltd.; Shanxi Guangsheng Capsule Co., Ltd.	Shanxi Guangsheng Medicinal Capsule Co., Ltd.; Shanxi Guangsheng Capsule Co., Ltd.	18.71
Shaoxing Kangke Capsule Co., Ltd.	Shaoxing Kangke Capsule Co., Ltd.	18.71
Shaoxing Renhe Capsule Co., Ltd.	Shaoxing Renhe Capsule Co., Ltd.	18.71
Xinchang County Hexin Capsule Co., Ltd.	Xinchang County Hexin Capsule Co., Ltd.	18.71
Xinchang Paulo Import And Export Co., Ltd.	Xinchang County No.6 Capsule Factory	18.71
Xinchang Paulo Import And Export Co., Ltd.	Shaoxing Kangke Capsule Co., Ltd.	18.71
Xinchang Paulo Import And Export Co., Ltd.	Zhejiang Huaguang Capsule Co., Ltd.	18.71
Xinchang Paulo Import And Export Co., Ltd.	Shanxi Guangsheng Capsule Co., Ltd.	18.71
Xinchang Paulo Import And Export Co., Ltd.	Zhejiang Pujiang Enerkang Capsule Co., Ltd.	18.71
Yantai Oriental Pharmacap Co., Ltd.	Yantai Oriental Pharmacap Co., Ltd.	18.71
Zhejiang Capsulcn Machinery Co., Ltd.	Ningbo Capsulcn Capsule Co., Ltd.	18.71
Zhejiang Capsulcn Machinery Co., Ltd.	Shaoxing Zhongya Capsules Industry Co., Ltd.	18.71
Zhejiang Capsulcn Machinery Co., Ltd.	Shandong Healsee Capsule Ltd.	18.71
Zhejiang Capsulcn Machinery Co., Ltd.	Zhejiang Guangjuyuan Biotechnology Co., Ltd.	18.71
Zhejiang Capsulcn Machinery Co., Ltd.	Zhejiang Huaguang Capsule Co., Ltd.	18.71
Zhejiang Huaguang Capsule Co., Ltd.	Zhejiang Huaguang Capsule Co., Ltd.	18.71
Zhejiang Huili Capsules Co., Ltd.	Zhejiang Huili Capsules Co., Ltd.	18.71
Zhejiang Lujian Capsule Co., Ltd.	Zhejiang Lujian Capsule Co., Ltd.	18.71
All others		18.71

Source: 90 FR 60623, December 29, 2025.

Table 1.8 HECs: Commerce’s final weighted-average LTFV margins with respect to imports from India

Exporter/producer	Final dumping margin (percent)
ACG Associated Capsules Private Limited; ACG Universal Capsules Private Limited; Custom Capsules Private Limited	26.69
HealthCaps India Limited	10.66
All others	18.68

Source: 90 FR 60613, December 29, 2025.

Note: Given the high level of common ownership, shared management, and intertwined operations, Commerce determined that Indian producers ACG Associated Capsules Private Limited, ACG Universal Capsules Private Limited, and Custom Capsules Private Limited are affiliated entities. 90 FR 60613, December 29, 2025; 90 FR 22699, May 29, 2025; Decision Memorandum for the Preliminary Affirmative Determination in the Less-Than-Fair-Value Investigation of Hard Empty Capsules from India, May 22, 2025; Less Than Fair Value Investigation of Hard Empty Capsules from India: Preliminary Affiliation and Collapsing Analysis Memorandum, April 21, 2025.

Table 1.9 HECs: Commerce’s final weighted-average LTFV margins with respect to imports from Vietnam

Exporter	Producer	Final dumping margin (percent)
Suheung Vietnam Co., Ltd.	Suheung Vietnam Co., Ltd.	47.12
All others		47.12

Source: 90 FR 60626, December 29, 2025.

The subject merchandise

Commerce's scope

In the current proceeding, Commerce has defined the scope as follows:⁹

The merchandise subject to the scope of the investigation is hard empty capsules, which are comprised of two prefabricated, hollowed cylindrical sections (cap and body). The cap and body pieces each have one closed and rounded end and one open end, and are constructed with different or equal diameters at their open ends.

Hard empty capsules are unfilled cylindrical shells composed of at least 80 percent by weight of a water soluble polymer that is considered non-toxic and appropriate for human or animal consumption by the United States Pharmacopeia—National Formulary (USP–NF), Food Chemical Codex (FCC), or equivalent standards. The most common polymer materials in hard empty capsules are gelatin derived from animal collagen (including, but not limited to, pig, cow, or fish collagen), hydroxypropyl methylcellulose (HPMC), and pullulan.

Hard empty capsules may also contain water and additives, such as opacifiers, colorants, processing aids, controlled release agents, plasticizers, and preservatives. Hard empty capsules may also be imprinted or otherwise decorated with markings.

Hard empty capsules are covered by the scope of these investigations regardless of polymer material, additives, transparency, opacity, color, imprinting, or other markings.

Hard empty capsules are also covered by the scope of these investigations regardless of their size, weight, length, diameter, thickness, and filling capacity.

Cap and body pieces of hard empty capsules are covered by the scope of these investigations regardless of whether they are imported together or separately, and regardless of whether they are imported in attached or detached form.

Hard empty capsules covered by the scope of these investigations are those that disintegrate in water, simulated intestinal fluid, simulated

⁹ 90 FR 60607, 60610, 60613, 60623, 60618, 60620, 60626, and 60628, December 29, 2025.

gastric fluid, or other similar water-based (i.e., aqueous) fluids within 2 hours under tests specified in Chapter 701 of the USP–NF, or equivalent disintegration tests.

Tariff treatment

HECs are imported under Harmonized Tariff Schedule of the United States (“HTS”) statistical reporting numbers 9602.00.1040 and 9602.00.5010. The 2025 general rate of duty is 3 percent ad valorem for HTS subheading 9602.00.10 and 2.7 percent ad valorem for HTS subheading 9602.00.50.¹⁰ Decisions on the tariff classification and treatment of imported goods are within the authority of U.S. Customs and Border Protection.

Additional tariffs are listed below grouped by tariff type.

Section 301 tariffs

Effective September 1, 2019, imports originating in China under HTS subheadings 9602.00.10 and 9602.00.50 were 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 such imports was reduced to 7.5 percent.¹¹

The Office of the U.S. Trade Representative (“USTR”) announced that it initiated an investigation effective July 15, 2025, into Brazil’s acts, policies, and practices related to digital trade and electronic payment services; unfair, preferential tariffs; anti-corruption enforcement; intellectual property protection; ethanol market access; and illegal deforestation under section 301 of the Trade Act of 1974. USTR held a public hearing for this investigation on September 3, 2025.¹²

¹⁰ In addition, HECs may also be imported under HTS statistical reporting number 1905.90.9090; gelatin HECs may also be imported under HTS statistical reporting number 3503.00.5510; HPMC HECs may also be imported under HTS statistical reporting number 3923.90.0080; and pullulan HECs may also be imported under HTS statistical reporting number 2106.90.9998. USITC, HTS (2025) Revision 32, Publication 5690, December 2025, pp. 19.22, 21.22, 35.3, 39.32, and 96.2,

¹¹ 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 3 of chapter 99 and related tariff provisions for this duty treatment. USITC, HTS (2025) Revision 32, Publication 5690, December 2025, pp. 99.3.137, 99.3.150, and 99.3.435.

¹² 90 FR 34069, July 18, 2025.

Tariffs initiated under the International Emergency Economic Powers Act (“IEEPA”)¹³

IEEPA – Brazil specific

Effective August 6, 2025, HECs originating in Brazil were subject to an additional 40 percent ad valorem duty under IEEPA.¹⁴

IEEPA – China specific

Effective February 4, 2025, HECs originating in China were subject to an additional 10 percent ad valorem duty under IEEPA, and on March 4, 2025, that additional duty increased to 20 percent ad valorem. However, effective November 10, 2025, that additional duty was reduced back to 10 percent.¹⁵

IEEPA – India specific

Effective August 27, 2025, HECs originating in India were subject to an additional 25 percent ad valorem duty under IEEPA.¹⁶

¹³ Multiple tariffs have been enacted under the authority of IEEPA. Tariffs specific to Canada, China, India, and Mexico were initiated in February 2025. Tariffs initiated in April 2025 under IEEPA were applied globally. Tariffs specific to Brazil were initiated in July 2025. Tariffs under IEEPA have been amended over time. See also *V.O.S. Selections Inc. v. United States*, U.S. Court of Appeals for the Federal Circuit Case Nos. 25-1812, 25-1813, August 29, 2025, https://www.cafc.uscourts.gov/opinions-orders/25-1812.OPINION.8-29-2025_2566151.pdf.

¹⁴ 90 FR 37739, August 5, 2025. See also HTS headings 9903.01.77, 9903.01.80, 9903.01.81, 9903.01.82, and 9903.01.83 and U.S. note 2(x) to subchapter 3 of chapter 99 and related tariff provisions for this duty treatment. USITC, HTS (2025) Revision 32, Publication 5690, December 2025, pp. 99.3.29 to 99.3.36, 99.3.362, and 99.3.363.

¹⁵ 90 FR 9121, February 7, 2025; 90 FR 11426, March 6, 2025; 90 FR 11463, March 7, 2025; 90 FR 50725, November 7, 2025. See also HTS heading 9903.01.20 and U.S. note 2(s) and HTS heading 9903.01.24 and U.S. note 2(u) to subchapter 3 of chapter 99 and related tariff provisions for this duty treatment. USITC, HTS (2025) Revision 32, Publication 5690, December 2025, pp. 99.3.4, 99.3.350, and 99.3.351.

¹⁶ 90 FR 38701, August 11, 2025. See also HTS headings 9903.01.84, 9903.01.85, 9903.01.86, 9903.01.87, 9903.01.88, and 9903.01.89 and U.S. note 2(z) to subchapter 3 of chapter 99 and related tariff provisions for this duty treatment. USITC, HTS (2025) Revision 32, Publication 5690, December 2025, pp. 99.3.36, 99.3.37, 99.3.363, 99.3.364.

Tariffs initiated in April 2025 under IEEPA

Effective April 5, 2025, HECs originating in Brazil were subject to an additional 10 percent ad valorem duty as part of tariffs initiated in April 2025 under the IEEPA. Effective August 7, 2025, Brazil was assigned an individual country rate of 10 percent under IEEPA.¹⁷

Effective April 5, 2025, HECs originating in China were subject to an additional 10 percent ad valorem duty as part of tariffs initiated in April 2025 under IEEPA. That duty rose to 84 percent ad valorem effective April 9, 2025, and rose again to 125 percent effective April 10, 2025. However, effective May 14, 2025, the duty rate for tariffs initiated in April 2025 under IEEPA on such imports originating in China was reduced to 10 percent.¹⁸

Effective April 5, 2025, HECs originating in India were subject to an additional 10 percent ad valorem duty as part of tariffs initiated in April 2025 under IEEPA. Effective April 9, 2025, India was instead assigned an individualized country duty of 26 percent ad valorem. However, effective April 10, 2025, the individualized country duties were suspended and the additional duty rate as part of tariffs initiated in April 2025 under IEEPA for such imports originating in India was returned to 10 percent.¹⁹ Effective August 7, 2025, India was assigned an individualized country duty of 25 percent.²⁰

¹⁷ 90 FR 15041, April 7, 2025; 90 FR 37963, August 6, 2025. See also HTS headings 9903.01.25 and 9903.02.09 and U.S. note 2(v) to subchapter 3 of chapter 99 and related tariff provisions for this duty treatment. USITC, HTS (2025) Revision 32, Publication 5690, December 2025, pp. 99.3.5 to 99.3.14, 99.3.317, and 99.3.366.

¹⁸ The duty as part of tariffs initiated in April 2025 under IEEPA is in addition to the 20 percent ad valorem duty under IEEPA that went into effect on March 4, 2025, for China. 90 FR 15041, April 7, 2025; 90 FR 15509, April 14, 2025; 90 FR 15625, April 15, 2025; and 90 FR 21831, May 21, 2025. See also HTS headings 9903.01.25 and 9903.01.63 and U.S. note 2(v) to subchapter 3 of chapter 99 and related tariff provisions for this duty treatment. USITC, HTS (2025) Revision 32, Publication 5690, December 2025, pp. 99.3.5, 99.3.351, and 99.3.358.

¹⁹ Individualized country duties as part of tariffs initiated in April 2025 under IEEPA for all countries other than China were suspended April 10, 2025, until August 7, 2025. 90 FR 15041, April 7, 2025; 90 FR 15625, April 15, 2025; 90 FR 30823, July 10, 2025; 90 FR 37963, August 6, 2025. See also HTS headings 9903.01.25 and 9903.01.55 and U.S. note 2(v) to subchapter 3 of chapter 99 and related tariff provisions for this duty treatment. USITC, HTS (2025) Revision 32, Publication 5690, December 2025, pp. 99.3.5, 99.3.351, and 99.3.356.

²⁰ 90 FR 37963, August 6, 2025. See also HTS heading 9903.02.26 and U.S. note 2(v) to subchapter 3 of chapter 99 and related tariff provisions for this duty treatment. USITC, HTS (2025) Revision 32, Publication 5690, December 2025, pp. 99.3.5, 99.3.371.

Effective April 5, 2025, HECs originating in Vietnam were subject to an additional 10 percent ad valorem duty as part of tariffs initiated in April 2025 under IEEPA. Effective April 9, 2025, Vietnam was instead assigned an individualized country duty of 46 percent ad valorem. However, effective April 10, 2025, the individualized country duties were suspended and the additional duty rate as part of tariffs initiated in April 2025 under IEEPA for such imports originating in Vietnam was returned to 10 percent. Effective August 7, 2025, Vietnam was assigned an individualized country duty of 20 percent.²¹

Table 1.10 provides a summary of additional tariffs on imports of HECs under HTS subheadings 9602.00.10 and 9602.00.50 from Brazil, China, India, and Vietnam as of December 19, 2025.

Table 1.10 HECs: Additional tariffs on imports from Brazil, China, India, and Vietnam as of December 19, 2025

Duty rates in percent ad valorem; NA = not applicable

Additional tariff	Brazil	China	India	Vietnam
Section 301	Not applicable	7.5	Not applicable	Not applicable
IEEPA – Brazil specific	40	Not applicable	Not applicable	Not applicable
IEEPA – China specific	Not applicable	10	Not applicable	Not applicable
IEEPA – India specific	Not applicable	Not applicable	25	Not applicable
Tariffs initiated in April 2025 under IEEPA	10	10	25	20
Total additional ad valorem rate	50	27.5	50	20

Source: Federal Register notices and other sources cited in this section (Tariff treatment).

Note: Duty rates in the table reflect the duty rates as of the writing of this report. See the text above for historical changes to the additional tariffs.

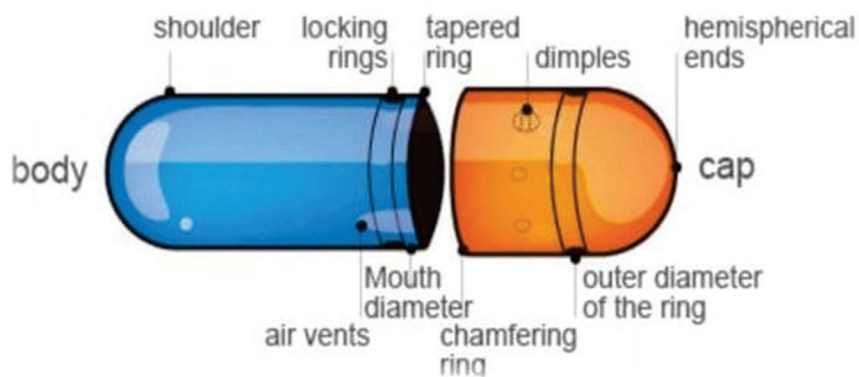
²¹ Individualized country duties as part of tariffs initiated in April 2025 under IEEPA for all countries other than China were suspended until August 1, 2025. 90 FR 15041, April 7, 2025; 90 FR 15625, April 15, 2025; 90 FR 30823, July 10, 2025; and 90 FR 37963, August 6, 2025. See also HTS subheadings 9903.01.25, 9903.01.72, and 9903.02.69 and U.S. note 2(v) to subchapter 3 of chapter 99 and related tariff provisions for this duty treatment. USITC, HTS (2025) Revision 32, Publication 5690, December 2025, pp. 99.3.5, 99.3.351, 99.3.360, and 99.3.382.

The product

Description and applications

HECs are two-piece unfilled cylindrical shells used by the pharmaceutical and nutraceutical industries.²² The two pieces of an HEC are the cap and body, and both have one closed, rounded end and one open end with grooves, bumps, or ridges for interlocking (figure 1.1).²³ HECs are available in a variety of sizes, which typically range from approximately 11 mm closed length to approximately 26 mm closed length.²⁴ HECs also vary according to weight, length, diameter, and filling capacity.

Figure 1.1 HECs: Diagram of a hard empty capsule



Source: Adinath International, "Hard Gelatin Capsule Manufacturing Process Step by Step," accessed September 4, 2025, <https://www.adinath.co.in/hard-gelatin-capsule-step-by-step-manufacturing-process/>.

²² Petitions, p. 3.

²³ Lonza Technical Reference File, 2023, 9; Petitions, p. 13.

²⁴ These sizes are denoted from size 5 (at approximately 11 mm closed length) to size 000 (at approximately 26 mm closed length). Petitions, p. 13. HECs that are used for clinical trials, pediatrics, or veterinary medicine may be smaller than size 5. Some capsules, primarily used for consumption by large animals, can include size ranges larger than 000. Petitions, p. 13; ACG's prehearing brief, pp. 63 to 64; Torpac's posthearing brief, pp. 1 to 4.

The joined pieces – primarily derived from either gelatin or plant-based polymers – form a hermetically sealed chamber for substances, including powdered, liquid, viscous, or granular materials.²⁵ Gelatin capsules are the most common type of HEC and are produced with the collagen of cows, pigs, and fish.²⁶ Plant-based polymers, such as hydroxypropyl methylcellulose (“HPMC”) and pullulan, are derived from fibrous plant materials including cotton and wood.²⁷ HECs come in a variety of colors including monochrome, white, black, opaque, fully transparent, and multicolored.²⁸ Titanium dioxide and calcium carbonate are commonly used in HECs for opacity; however, consumer preference has led to less use of titanium dioxide and more use of calcium carbonate or other alternative opacifiers.²⁹ Variations in color schemes are used for branding and marketing purposes by the drug manufacturer.³⁰ Additionally, some HECs require imprinting using specialized ink.³¹

In the United States, pharmaceutical and nutrition companies use HECs as vehicles to deliver formulations as finished products to patients and consumers.³² Companies may design HECs for either an immediate or delayed release of their contents upon consumption.³³

Manufacturing processes

For gelatin-based HECs, the manufacturing process begins with the preparation of a gelatin solution, which requires transforming animal collagen into gelatin. Animal collagen is typically produced using bones, skins, or tissues of certain animals. Animal collagen goes through partial acid hydrolysis and/or alkaline hydrolysis for one day or multiple weeks depending on the animal product used. Once the animal collagen has been turned into gelatin, the gelatin is treated using warm water to filter any residual unused animal matter; this process is repeated multiple times to ensure all remaining unused animal matter is removed. Next, the

²⁵ Kline & Company, “Empty Hard Capsules: United States, 2021-2022, forecast to 2027 (Q1 2023),” 2023, p. 9.

²⁶ Petitions, p. 14.

²⁷ The polymer material accounts for at least 85 percent of the finished HEC’s dry weight. Petitions, p. 15.

²⁸ Petitions, p. 13.

²⁹ Other opacifiers used in HECs include iron oxide, ammonia caramel coloring, indigotin, and other food coloring additives. Petitions, pp. 13 to 14.

³⁰ Petitions, p. 14.

³¹ Petitions, p. 16.

³² The tasteless and odorless capsules make medicine and supplements easier to consume. Petitions, p. 25.

³³ Petitions, p. 13.

gelatin goes through a dehydration process before further filtering to remove any remaining particles using cellulose polishing filters. The gelatin then goes through a heat sterilization process to ensure all harmful bacteria is removed, before cooling and then setting into hardened “noodles.”³⁴

For HPMC-based HECs, the polymer manufacturing process begins with natural plant cellulose derived from cotton or wood, which is treated with an alkaline solution to produce alkali cellulose. The alkali cellulose byproduct is then partially etherified with methyl chloride and reacted with propylene oxide to form HPMC.³⁵

For pullulan-based HECs, polymer production involves culturing a strain of the *Aureobasidium pullulans* in a liquid starch growth medium, which results in pullulan in the form of an amorphous slime. The pullulan is extracted from the culture medium using particle filtration or centrifugation equipment before being purified.³⁶

The process of transforming polymers into HECs is similar regardless of whether the polymer is derived from animals or plants with minor differences. Some manufacturers produce gelatin and plant-based polymers in the same facilities while others choose to produce different types of polymers in separate facilities.³⁷ The first step in that process is to place polymer materials into a hopper where the polymer is thermally treated and mixed with water. Then, a vacuum pump is used to remove air from the polymer solution. When adding coloration (or opacity) to an HEC, manufacturers move the polymer solution into feeding tanks and mix colorants or opacifying agents with the polymer base material to create the desired color.³⁸

After ensuring color accuracy, the polymer solution is transferred into dipping baths.³⁹ Some HECs use a gelling agent which is added to the polymer solution to ensure HECs settle into the correct shape or consistency; this is done before the dipping stage. For example, carrageenan with potassium chloride are gelling agents that are often used to strengthen a polymer.⁴⁰ During the dipping stage, the polymer solution is shaped into capsule shells using

³⁴ Petitions, pp. 17 to 18.

³⁵ Petitions, p. 19.

³⁶ Petitions, pp. 19 to 20.

³⁷ For firms that produce both gelatin and plant-based HECs in the same facilities, separate production lines are run in order to avoid cross-contamination. Switching between polymer types on a given production line can be (and has been) done, but it requires machine downtime to change the melting and mixing process and technology and such changeovers are done only a few times a year. Lonza’s posthearing brief, p. 4; hearing transcript, pp. 30 to 31 (McCutcheon).

³⁸ Petitions, pp. 14 and 21.

³⁹ Petitions, p. 21.

⁴⁰ Petitions, p. 16.

stainless steel pins arranged in rows on metal bars.^{41 42} After dipping, the polymer is distributed on the pins as the bars rotate, creating a uniform thickness and size of the capsule.⁴³

After the polymer is allowed to set following the dipping and capsule formation stage of the manufacturing process, the metal bars carrying the solidified gelatin, HPMC, or pullulan move through different kilns to reduce the moisture content. Next, the shaped material is removed from the stainless-steel pins and formed into specific cap and body pieces using capsule formation equipment and then cut into specified lengths. Finally, the capsules must go through an inspection process to ensure they meet various regulatory and customer requirements. Some HECs may undergo imprinting based on customer requirements.⁴⁴

⁴¹ Animal and plant-based polymers are treated differently during the dipping stage. Animal-based polymers are hot-dipped, while plant-based polymers are cold-dipped. Petitions, p. 21. Lonza testified that “from a manufacturing perspective, the manufacturing process for HPMC and gelatin is substantially similar. It’s a dipping process so we dip the capsule, we dry the capsule, we strip the capsule, we cut the capsule and we join the capsule. The real difference between the two is one polymer {(i.e., gelatin)} is a heated polymer with cold pins; and the other process for HPMC is a cold polymer with hot pins.” Hearing transcript, p. 57 (McCutcheon).

⁴² First generation HPMC HECs are produced similarly to gelatin HECs in which cold stainless steel pins are dipped into a hot HPMC solution. Since HPMC is not self-gelling like gelatin, a gelling agent is needed to provide the film formation in order to produce HPMC capsules in this manner. U.S. producer Lonza produces a variety of HPMC HECs, including its second generation HPMC VCAPs Plus capsule, in which it holds a process patent. Lonza’s VCAPs Plus HECs are made from HPMC without the use of gelling agents. Lonza notes that the same second generation HPMC HECs produced without gelling agents are also available from the subject countries under different names (e.g., ACG’s ACGcaps H+ produced using a proprietary thermogelation technology). These second generation HPMC HECs have the following superior properties: (1) are free from variability related to either pH value or ionic strength of the dissolution media, (2) show consistent disintegration and dissolution properties leading to quick release, and (3) are more resistant to breaking at lower humidity aiding in long-term storage. Lonza’s posthearing brief, exh. 2, p. 2 and exh. 8; Lonza website, Vcaps® Plus Capsules FAQ, <https://www.capsugel.com/knowledge-center/nutra/capsules/vcaps-plus-frequently-asked-questions>; ACG website, About ACGcaps™ H+, <https://www.acg-world.com/capsules/vegetarian/acgcapstm-h>; Chinese respondents’ posthearing brief, pp. 1 to 3.

⁴³ Petitions, p. 21.

⁴⁴ Petitions, p. 22.

Domestic like product issues

In the preliminary phase of these investigations, the Commission defined a single domestic like product, coextensive with the scope.⁴⁵ Petitioner Lonza argued in the final phase of these investigations that the Commission should again find a single domestic like product consisting of all HECs coextensive with Commerce’s scope.⁴⁶ No parties requested data or other information necessary for the analysis of a different domestic like product in the final phase of these investigations.⁴⁷

Despite the fact that respondents did not provide comments on the draft questionnaires in the final phase of these investigations requesting data or other information necessary for a definition of a domestic like product that was different than that found by the Commission in its preliminary determinations, they nevertheless raised arguments in briefs and at the Commission’s hearing that the Commission should define the domestic like product differently. Respondent ACG argued that the Commission should find the following two separate domestic like products: gelatin HECs and non-gelatin (“HPMC”) HECs.⁴⁸ The Chinese respondents argued that the Commission should find the following two separate domestic like products based on end use: pharmaceutical HECs and nutraceutical HECs.⁴⁹ Respondent Torpac argued that the Commission should find the following two separate domestic like products: HECs in standard sizes 5 to 000 and HECs in sizes over 000.⁵⁰

⁴⁵ Hard Empty Capsules from Brazil, China, India, and Vietnam (Preliminary), USITC Publication 5572, December 2024, pp. 13 to 14.

⁴⁶ Lonza’s prehearing brief, pp. 6 to 7.

⁴⁷ Comments on the draft questionnaires were filed on behalf of petitioner Lonza. No other comments on the draft questionnaires were submitted.

⁴⁸ ACG’s prehearing brief, pp. 11 to 36; hearing transcript, p. 12 (Powell).

⁴⁹ The Chinese respondents argued that pharmaceutical HECs are primarily in the market as gelatin HECs and nutraceutical HECs are primarily in the market as HPMC HECs. Chinese respondents’ posthearing brief, pp. 1 to 2.

⁵⁰ Torpac argued that HECs in standard sizes 5 to 000 are used exclusively for human consumption and HECs in sizes over 000 are used primarily to deliver medication to large farm animals such as cattle. Torpac’s posthearing brief, pp. 1 to 6.

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

U.S. market characteristics

HECs are two-piece unfilled cylindrical shells that are composed primarily of a non-toxic, biodegradable, biocompatible, and water-soluble polymer material.¹ They are produced from either animal-derived gelatin or plant-based polymers, such as HPMC or pullulan. HECs are produced in a variety of sizes with differing weights, lengths, diameters, and filling capacities.² HECs promote ease of swallowing, and they may also mask unpleasant taste or odor, hide or improve the appearance of fill material, facilitate blinding in clinical studies, present a unique appearance, and mediate the release time of their contents.³

HECs are used by the pharmaceutical and nutraceutical industries.⁴ HECs may be imprinted to identify the manufacturer or brand (or generic) name of the pharmaceutical or nutraceutical product contained inside.⁵ Typically, pharmaceutical manufacturers utilize imprinted HECs while nutraceutical manufacturers do not.⁶ HECs are considered food ingredients, excipients (i.e., non-active ingredients), or even pharmaceuticals, and need to comply with applicable health and safety standards in terms of manufacturing and composition.⁷

*** U.S. producers and 8 of 13 responding importers, but only 6 of 38 purchasers indicated that the market was subject to distinctive conditions of competition. Specifically, *** noted that the pharmaceutical market is relatively stable, but the nutraceutical market is more volatile due to changes in consumer demand. Importers and purchasers mostly described supply issues unique to this market. *** observed that in 2021, Lonza “shifted its focus to the high-value pharmaceutical market” which left health and nutraceutical customers at risk and searching for supply. *** stated there have been “many new capsule suppliers entering the U.S. market” with non-price factors such as quality, reliability, service, and lead times as critical criteria in the marketplace, given the low value of the capsules to the overall value of the end-use product. *** relayed that increased demand during the COVID-19 pandemic,

¹ They may also contain additives, colorants and/or opacifying agents, and processing agents. Petitions, p. 4.

² Petitions, p. 13.

³ Petitions, pp. 25 to 26.

⁴ Petitions, p. 4.

⁵ Petitions, p. 13.

⁶ Petitions, p. 26.

⁷ Petitions, p. 22.

paired with decreased production by Lonza due to HEC machine retrofitting caused a supply constraint and then a hurried expansion and output increases at other HEC suppliers, which caused a “supply overload” in 2023 and 2024. *** also noted supply issues since January 1, 2022: “There have been periods where suppliers have run out of HECs due to problems with {the} supply chain and in 2025 with tariffs.” *** noted that competition with tablets is a condition of competition distinct to this market as well. *** described that “certain components are animal- or plant-derived so harvest and slaughter variables can create unique competitive business cycles.”

Apparent U.S. consumption of HECs increased by *** percent between 2022 and 2024 in terms of quantity, and was *** percent higher in interim 2025 than in interim 2024.

U.S. purchasers

The Commission received 40 usable questionnaire responses from firms that had purchased HECs during January 2022 to June 2025 (“period of investigation”).^{8 9 10} Twenty-one responding purchasers are nutraceutical producers, 12 are pharmaceutical producers, 5 are contract manufacturers, one is a ***, one is an intermediary for another firm, and none are distributors. In general, responding U.S. purchasers are located

⁸ The following firms provided purchaser questionnaire responses: ***.

⁹ Of the 40 responding purchasers, 25 purchased the domestic HECs, 4 purchased imports of the subject merchandise from Brazil, 21 from China, 25 from India, 4 from Vietnam, and 22 from other sources.

¹⁰ Twenty-eight purchasers indicated they had marketing/pricing knowledge of domestic product, 4 of product imported from Brazil, 22 of product imported from China, 29 of product imported from India, 7 of product imported from Vietnam, and 22 of HECs imported from nonsubject countries.

throughout the country, but there are higher concentrations of purchasers in the Northeast and on the West Coast. There were a number of large purchasers of HECs that responded to the Commission questionnaire. More than half of purchasers purchased more than a billion HECs during the period of investigation each, and the largest purchasers, *** purchased more than eight billion HECs.

Changes in purchasing patterns

During 2024, responding purchasers purchased 29.2 percent from U.S. producers, 1.8 percent from Brazil, 21.7 percent from China, 23.6 percent from India, 9.1 percent from Vietnam, and 14.6 percent from nonsubject sources.¹¹

Purchasers were asked about changes in their purchasing patterns from different sources since 2022 (table 2.1). Of the 25 responding purchasers, 13 reported decreasing purchases from domestic producers, 8 reported increased purchases, 4 reported similar levels at the start and end of the period of investigation. Explanations for decreased purchases of domestic product most frequently included domestic supply issues (noted by eight purchasers) such as long lead times, being unable to supply, not having product available, insufficient inventory, and deviations from contract terms. Eight purchasers also described demand issues driving purchase level changes. Purchasers with increasing domestic purchases most frequently noted demand factors driving sales higher, including demand for new products.

Table 2.1 HECs: Count of purchasers' responses regarding changes in purchase patterns from U.S., subject, and nonsubject countries

Source of purchases	Steadily increase	Fluctuate upward	No change	Fluctuate downward	Steadily decrease	Did not purchase
United States	4	4	4	7	6	9
Brazil	0	0	2	0	2	25
China	5	8	5	1	5	12
India	5	6	7	4	3	7
Vietnam	1	1	2	0	0	23
Nonsubject sources	3	4	6	2	3	11

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

All purchasers responding to this question about purchases of imported Brazilian HECs noted no change or decreased purchases. A majority (13 of 24) of responding purchasers noted increasing purchases from China. Five purchasers reported demand reasons for the increased purchases and five reported supply/availability issues for increased purchases. Four purchasers noted pricing or cost as the reason for increased purchases of material imported from China,

¹¹ Shares include purchasers' reported purchases and imports. Purchases and imports from unknown sources accounted for less than 0.01 percent of all purchase and import data.

and one noted machine performance as a reason driving increased purchases. Purchasers' trends of purchasing HECs imported from India were mixed, but more purchasers indicated increased purchases than decreased purchases since January 1, 2022. Reasons provided for increased purchases of Indian HECs were similar to those for purchasing Chinese HECs: domestic availability, capacity, and supply issues; increasing demand (including increasing inventories held); and, to a lesser extent, price/cost. All four responding purchasers of HECs imported from Vietnam described increasing or steady purchases.

Eleven of 40 purchasers changed suppliers since January 1, 2022. Six reported adding sources to mitigate supply chain resilience. Two purchasers added sources to procure a specific product, two added sources because of quality, pricing, and delivery times, one added a supplier due to increased demand, and one added a supplier due to limited domestic supply. One purchaser switched between U.S. producers Lonza and Qualicaps Inc. ("Qualicaps") due to poor performance and reliability issues, and one purchaser noted that it has started qualifying Lonza and Qualicaps.

Impact of section 301 tariffs and other tariff changes

U.S. producers, importers, and purchasers were asked to report the impact of section 301 tariffs on Chinese-origin products, or changes in these tariffs on overall demand, supply, prices, or raw material costs of HECs (table 2.2). Six of 9 importers and 6 of 15 purchasers providing their views reported that section 301 tariffs in place on China had impacted the HECs market. Five importers and most purchasers noted the higher costs were passed down to their customers or that the increased costs led them to be less competitive in the United States.¹² The remaining importer, ***, noted that demand for HECs increased after the section 301 tariffs were implemented. Purchaser *** reported its costs increased 40 percent in 2025 and purchaser *** reported increasing its prices by 10 percent. Purchaser *** indicated that the section 301 tariffs have disrupted supply chains and dampened demand. Purchaser *** stated that demand has not changed but "supply has become interrupted at times."

¹² One importer noted the timing of the impact to be in February 2025.

Table 2.2 HECs: Count of firms' responses regarding the impact of the section 301 tariffs on Chinese origin products

Firm type	Yes	No	Don't know
U.S. producers	***	***	***
Importers	6	3	5
Purchasers	6	9	25

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

U.S. producers, importers, and purchasers were asked to report the impact of tariff announcements and tariff changes associated with recent executive orders on overall demand, supply, prices, or raw material costs of HECs (table 2.3). The vast majority of firms assessed these events as having an impact on the HEC market in the United States.¹³ U.S. producer Lonza reported that the reciprocal tariffs ***. It also reported that, ***.

Table 2.3 HECs: Count of firms' responses regarding the impact of tariff announcements and tariff changes associated with recent executive orders on the HEC market

Firm type	Yes	No	Don't know
U.S. producers	***	***	***
Importers	12	0	2
Purchasers	20	4	15

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

Nine importers reported having to increase prices, five noted supply shortages or decreased supply from overseas, and two noted decreased demand for HECs. Importer *** stated that the uncertainty that was created from fluctuating rates “has limited our ability to predict or prepare our supply plans for coming months and thereby our ability to respond to customer demands... Further, the domestic industry has taken advantage of this situation and the low available supply to raise its prices, resulting in an overall price increase of 15 percent in the U.S. market.” Importer *** has responded to the uncertainty

¹³ This includes only those responding firms that did not reply “don't know.” *** “long-term impacts are still to be determined, but the tariffs should further increase the cost basis of some of the low-end import transactions and be positive for the domestic producers of HEC. However, it is unclear whether the tariffs announced by President Trump since January 1, 2025 will have a positive impact on the market. At this point, it is unclear how large the duties will be and how they will be imposed and collected.”

from reciprocal tariffs by changing from stable long-term contracts to spot pricing. Importer *** reported the tariffs have allowed it to become more price competitive and continue sourcing from its current suppliers. Purchasers' comments mostly aligned with those of importers: 17 purchasers noted increased prices/costs for HECs; 3 noted supply/lead time issues; 2 noted uncertainty about what to expect in the future; and 1 noted a change in demand.

Channels of distribution

*** importers sold HECs nearly universally to end users regardless of source (table 2.4).

Table 2.4 HECs: Share of U.S. shipments by source, channel of distribution, and period

Shares in percent; interim is January through June

Source	Channel	2022	2023	2024	Interim 2024	Interim 2025
United States	Distributors/retailers	***	***	***	***	***
United States	End users	***	***	***	***	***
Brazil	Distributors/retailers	***	***	***	***	***
Brazil	End users	***	***	***	***	***
China	Distributors/retailers	***	***	***	***	***
China	End users	***	***	***	***	***
India	Distributors/retailers	***	***	***	***	***
India	End users	***	***	***	***	***
Vietnam	Distributors/retailers	***	***	***	***	***
Vietnam	End users	***	***	***	***	***
Subject sources	Distributors/retailers	***	***	***	***	***
Subject sources	End users	***	***	***	***	***
Subject sources less Brazil	Distributors/retailers	***	***	***	***	***
Subject sources less Brazil	End users	***	***	***	***	***
Mexico	Distributors/retailers	***	***	***	***	***
Mexico	End users	***	***	***	***	***
All other sources	Distributors/retailers	***	***	***	***	***
All other sources	End users	***	***	***	***	***
Nonsubject sources	Distributors/retailers	***	***	***	***	***
Nonsubject sources	End users	***	***	***	***	***
Nonsubject sources plus Brazil	Distributors/retailers	***	***	***	***	***
Nonsubject sources plus Brazil	End users	***	***	***	***	***
All import sources	Distributors/retailers	***	***	***	***	***
All import sources	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

*** subject importers of HECs reported selling HECs to all U.S. regions (table 2.5). For U.S. producers, *** percent of sales were within 100 miles of their production facility, *** percent were between 101 and 1,000 miles, and *** percent were over 1,000 miles. Importers sold *** percent within 100 miles of their U.S. point of shipment, *** percent between 101 and 1,000 miles, and *** percent over 1,000 miles.

Table 2.5 HECs: Count of U.S. producers' and U.S. importers' geographic markets

Region	U.S. producers	Brazil	China	India	Vietnam	Subject sources
Northeast	***	***	8	3	***	12
Midwest	***	***	5	3	***	9
Southeast	***	***	8	4	***	12
Central Southwest	***	***	6	3	***	10
Mountain	***	***	9	3	***	13
Pacific Coast	***	***	10	3	***	14
Other	***	***	4	2	***	6
All regions (except Other)	***	***	4	3	***	8
Reporting firms	2	1	10	4	1	14

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 2.6 provides a summary of the supply factors regarding HECs from U.S. producers and from subject countries. In general, production capacity in subject countries grew while production capacity in the United States decreased. Capacity utilization was relatively high in all countries, but higher in subject countries than in the United States. U.S. inventory ratios were generally higher than those in subject countries. U.S. producers' export shipments were higher than their home-market shipments, but home-market shipments were the majority of shipments for producers in each subject country except Vietnam, for which its home market was relatively small. *** reported the ability to shift production from HECs to any other product.

Table 2.6 HECs: Supply factors that affect the ability to increase shipments to the U.S. market, by country

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

Factor	Measure	United States	Brazil	China	India	Vietnam	Subject foreign industries	Subject foreign industries less Brazil
Capacity 2022	Quantity	***	***	***	***	***	***	***
Capacity 2024	Quantity	***	***	***	***	***	***	***
Capacity utilization 2022	Ratio	***	***	***	***	***	***	***
Capacity utilization 2024	Ratio	***	***	***	***	***	***	***
Inventories to total shipments 2022	Ratio	***	***	***	***	***	***	***
Inventories to total shipments 2024	Ratio	***	***	***	***	***	***	***
Home market shipments 2024	Share	***	***	***	***	***	***	***
Non-US export market shipments 2024	Share	***	***	***	***	***	***	***
Ability to shift production (firms reporting "yes")	Count	***	***	***	***	***	***	***

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

Note: Responding U.S. producers accounted for all U.S. production of HECs in 2024. Responding foreign producer/exporter firms accounted for *** of U.S. imports of HECs from Brazil, *** percent from China, *** percent from India, and *** percent from Vietnam during 2024. For additional data on the number of responding firms and their share of U.S. production and of production in each subject country, please refer to Parts 3 and 7.

Domestic production

Based on available information, U.S. producers of HECs have the ability to respond to changes in demand with large changes in the quantity of shipments of U.S.-produced HECs to the U.S. market. The main contributing factors to this degree of responsiveness of supply are a large ability to shift volumes from export shipments to domestic shipments, the availability of inventories, and some available capacity to increase production. The main factor mitigating responsiveness of supply is an inability to shift production to or from alternate products.

Despite a decrease of *** percent in domestic capacity between 2022 and 2024, capacity utilization decreased by *** percentage points. Capacity between the first half and second half of 2024 was not evenly split, with capacity during the first half more than one-third higher than in the second half of 2024. Production, however, was evenly distributed between the two halves of 2024. As a result, domestic capacity utilization in the first half of 2024 was *** percent and *** percent in the second half; in the first half of 2025, capacity utilization was *** percent. *** domestic producers' shipments were exported in ***. Major export markets reported by domestic producers included ***.

Subject imports from Brazil

Based on available information, producers of HECs in Brazil have the ability to respond to changes in demand with moderate changes in the quantity of shipments of HECs to the U.S. market. The main contributing factor to this degree of responsiveness of supply is an increased availability of unused capacity. Factors mitigating responsiveness of supply include relatively small inventories, a limited ability to shift shipments from alternate markets, and no ability to shift production to or from alternate products.

Brazil has the smallest production capacity among the subject countries. Its capacity increased by nearly *** units during 2022 to 2024 while its production increased by *** units, leading to a decrease in capacity utilization from *** percent to *** percent. In interim 2025, its capacity utilization was *** percent, compared with *** percent in interim 2024. Inventory ratios were small and decreased from 2024 to 2022. Non-U.S. export markets were lowest for Brazil among subject countries at *** percent of its 2024 shipments. Noted export markets included ***. Brazilian producers reported *** using the same equipment as HECs.

Subject imports from China

Based on available information, producers of HECs in China have the ability to respond to changes in demand with moderate changes in the quantity of shipments of HECs to the U.S. market. The main contributing factors to this degree of responsiveness of supply are a relatively large inventory to shipment ratio and some unused capacity. Factors mitigating responsiveness of supply include a limited ability to shift shipments from alternate markets and no ability to shift production to or from alternate products.

China has the second-largest production capacity reported among the subject countries, just slightly behind India. Its productive capacity increased (by almost *** units) between 2022 and 2024, similar to all other subject countries, and its production increased by slightly more, leading its capacity utilization to remain relatively steady throughout the period. Capacity utilization in interim 2025 was *** percent, compared with *** percent in interim 2024. Non-U.S. export markets were also relatively small at *** percent of its 2024 shipments. Noted export markets included Australia and Canada, as well as countries in Europe, the Middle East, South America, and Southeast Asia. Chinese producers reported *** using the same equipment as HECs.

Subject imports from India

Based on available information, producers of HECs in India have the ability to respond to changes in demand with small to moderate changes in the quantity of shipments of HECs to the U.S. market. The main contributing factor to this degree of responsiveness of supply is some ability to shift shipments from alternate markets. Factors mitigating responsiveness of supply include a high capacity utilization rate, relatively small inventories, and no ability to shift production to or from alternate products.

In 2024, India had the largest production capacity reported among the subject countries. Its productive capacity increased (by more than *** units) between 2022 and 2024 and its production increased by nearly ***, leading to a decrease in its capacity utilization percentage by *** percentage points, but was still *** percent in 2024. Capacity utilization in India in interim 2025 was *** percent, compared with *** percent in interim 2024. Major non-U.S. export markets noted by foreign producers included all regions of the world except Antarctica. Indian producers reported *** using the same equipment as HECs.

Subject imports from Vietnam

Based on available information, producers of HECs in Vietnam have the ability to respond to changes in demand with small to moderate changes in the quantity of shipments of HECs to the U.S. market. The main contributing factor to this degree of responsiveness of supply is some ability to shift shipments from alternate markets and increase shipments from inventories. Factors mitigating responsiveness of supply include a very high capacity utilization rate and no ability to shift production to or from alternate products.

Between 2022 and 2024, HEC production capacity in Vietnam increased by slightly more than *** units, or by *** percent, while capacity utilization decreased slightly (from

*** to *** percent) but still remained extremely high. Capacity utilization in Vietnam during interim 2025 was *** percent, compared with *** percent in interim 2024. Non-U.S. export markets totaled *** percent of its 2024 shipments; major export markets were not provided.¹⁴ Vietnamese producers reported *** using the same equipment as HECs.

Imports from nonsubject sources

Nonsubject imports accounted for *** percent of total U.S. imports in 2024, a decrease from *** percent in 2022.¹⁵ The largest sources of nonsubject imports during January 2022 to June 2025 were Canada, South Korea, Colombia, Taiwan, and Mexico. Combined, these countries accounted for 95.8 percent of nonsubject imports in 2024, and each exceeded the value of Brazil's imported HECs during that year.¹⁶

Supply constraints

*** U.S. producers and 5 of 13 importers reported that they had experienced supply constraints since January 1, 2022 (table 2.7). *** reported that supply constraints occurred in 2022 and described ***. Importers reported that constraints occurred during 2022, 2023, and 2025. Importers reported that the COVID-19 pandemic caused constraints in 2022, with importer *** noting higher freight costs constrained supply from overseas, importer *** reporting lead times two to three times longer than normal, and importers *** stating that Lonza reduced its output and could not “keep up” with purchase requests. Importer *** reported reducing its sales to nutraceutical customers by 30 percent due to lack of supply and placing customers on allocation. In 2023, three importers noted issues with importation (container shortages, port slowdowns, and extremely high freight costs) and importer *** noted long lead times due to “unstable international environment, such as war, climate change, bad weather... interrupt{ing} domestic transportation, production and materials supply.” While

¹⁴ The responding producer in Vietnam indicated in its questionnaire response in the preliminary phase of these investigations that its major non-U.S. export markets include ***.

¹⁵ If Brazil were a nonsubject country, the 2024 import percentage would increase to *** percent, which would also be a decrease from the *** percent in 2022.

¹⁶ Data is based on official U.S. import statistics of the U.S. Department of Commerce Census Bureau using HTS statistical reporting numbers 9602.00.1040 and 9602.00.5010, accessed August 11, 2025. These data include some product that is not within the scope's product definition.

no importers reported supply constraints in 2024, four of five importers that noted constraints in 2025 identified tariffs as the cause of supply constraints, with two noting these investigations, two noting tariffs generally, and one noting “uncertain import duties.” One importer reported it cannot meet peaks in demand occurring from cattle illnesses in the United States.

Table 2.7 HECs: Count of firms’ responses regarding timing of supply constraints, by firm type and source

Firm type	Source	2022	2023	2024	January 1, 2025 to present
U.S. producers	Domestic	***	***	***	***
Importers	Imported	5 of 13	4 of 13	0 of 13	5 of 13
Purchasers	Domestic	9 of 40	8 of 40	4 of 40	3 of 40
Purchasers	Imported	2 of 40	2 of 40	2 of 40	1 of 40

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

Eleven of 40 purchasers reported that they had experienced supply constraints, with 9 of the 11 reporting supply constraints from domestic producers in 2022 but fewer reporting constraints in subsequent years. Two reported supply constraints from foreign producers or importers in the period of investigation. The majority of purchasers noting supply issues with domestic HECs in 2022 reported long lead times. Most identified Lonza Greenwood (Capsugel) as the source with long lead times and reported the following lead times: “two to three times longer lead times” for ***, 8 to 10 months for ***, 9 to 12 months for ***, over 20 weeks for ***, and 11 months for ***. Purchaser *** also noted that multiple orders placed in 2022 and 2023 with Lonza had to be canceled due to a lack of availability. Purchaser *** reported poor management and operation at Lonza in the United States as a reason for supply constraints, and purchaser *** reported quality issues with both Lonza and Qualicaps causing supply constraints. Four purchasers noted the same lead times with respect to the domestic product in 2023, though purchaser *** reported lead times of four to six months as the backlog from 2022 orders were clearing. Purchaser *** stated that in 2025, Lonza improved and “started supplying better.”

Eight of 35 responding purchasers also noted that the availability of U.S. supply has changed since January 1, 2022. Purchaser *** stated, “The U.S. supply appears to have become more available for the nutraceutical industry apparently due to a decrease in pharmaceutical demand.” Purchaser *** observed that the “{s}upply of domestic HECs has increased dramatically. {During} 2019 to 2022, U.S. supply was next to impossible in our industry. Lonza was not able to support the growing needs of the industry, forcing us, and other

contract manufacturers to look internationally and getting great support.” Most purchasers reporting changes in subject import supply availability described that supply of imported HECs has increased from the time when the COVID-19 pandemic was affecting supply chains early in the period. Among purchasers reporting supply issues with imported products, purchasers *** reported that there were supply chain issues with importers *** during each year. Purchaser *** stated that more international suppliers, notably South Korea, are increasing stocks held in the United States as the U.S. market for HECs grows, which has increased its ability to support its customers. Three of 16 purchasers noted that the filing of the petitions in these investigations has affected the supply of HECs in the U.S. market. Purchaser *** stated that higher duties would lead to shortages from U.S. producers.

New suppliers

Six of 40 purchasers indicated that new suppliers entered the U.S. market since January 1, 2022. Two purchasers didn’t know the firm names, and one purchaser (***) stated that it sees different Chinese suppliers at trade shows. Purchaser *** reported that the presence of new suppliers provides additional options, but their role in its sourcing decisions remain limited compared to established suppliers. Purchaser *** relayed that it sees new suppliers that are based in Croatia, China, India, and Japan.

U.S. demand

Based on available information, the overall demand for HECs is likely to experience small changes in response to changes in price. The main contributing factors are the limited range of substitute products for making pharmaceutical and nutraceutical capsules and the small cost share of HECs in its end-use products.

End uses and cost share

U.S. demand for HECs depends on the demand for U.S.-produced pharmaceuticals and dietary supplements such as vitamins, mineral supplements, and probiotics.

The petitioner stated that demand for HECs for pharmaceutical use is determined by pharmaceutical use in the United States, with the following factors influencing demand: (1) U.S. health trends (including the prevalence of contagious diseases and certain chronic conditions); (2) willingness of U.S. patients to seek medical care and accept prescription treatments; (3) the

age distribution of the U.S. population; (4) drug prices; and (5) government healthcare and tax policies that either promote or disincentivize pharmaceutical use.¹⁷

The petitioner claims that U.S. demand for nutraceutical HECs is tied to U.S. demand for products such as dietary supplements and vitamins, mineral supplements, and probiotics. U.S. demand for these products is growing over the long term, because the U.S. population is aging and consumers are increasingly focused on proactive healthcare, such as immune system health, gut and digestive health, neurological health, and weight management.¹⁸

HECs accounted for a small share of the cost of the end-use products in which they are used. U.S. producers reported that HECs account for between *** and *** percent of filled pharmaceutical pills and *** percent of filled nutritional supplement pills. Most importers reported that HECs accounted for between 1 and 10 percent of filled pharmaceutical pills and between 3 and 5 percent of filled nutritional supplement pills.¹⁹ Purchasers noted a wider variety of cost shares. For pharmaceutical capsules, ten responding purchasers indicated that HECs accounted for between 0.1 and 46 percent of the cost of the end-use pharmaceutical. For nutraceutical capsules, 17 purchasers reported these cost shares to be between 1 and 70 percent of the final cost of the nutraceutical capsules.

Business cycles

*** U.S. producers and 8 of 13 importers indicated that the market was subject to business cycles. Specifically, U.S. producer *** reported that ***. Importers also reported that the HEC market was seasonal with sales increasing in the winter months. Importer *** reported that the instances of cattle diseases can increase or decrease demand. Importer *** reported that the market for HECs is on a 2- to 3-year rotation between favorable, average, and poor cycles. However, the majority of responding purchasers (33 of 39) reported that the market was not subject to business cycles. Purchaser *** stated that the period from October to March has a higher demand for supplements.

¹⁷ Petitions, pp. 62 to 63.

¹⁸ Petitions, p. 63.

¹⁹ Importer *** reported that HECs accounted for *** percent of the cost of filled pharmaceutical pills and importer *** reported that HECs accounted for *** percent of the cost of filled nutritional supplement pills.

Demand trends

U.S. producer *** reported that the demand inside and outside of the United States had *** while U.S. producer *** reported that U.S. demand inside and outside of the United States had *** since January 1, 2022 (table 2.8). U.S. producer *** reported that demand for HECs increased during the COVID-19 pandemic as customers increased their inventories to ensure supply during raw material and logistic shortages. U.S. producer *** reported that these shortages were due to pressures in the global supply chain of pharmaceutical and dietary supplements; as supply chains normalized in 2023 and 2024, the company has noticed a decrease in the demand of HECs due to customers “right sizing” their inventories throughout their supply chain. U.S. producer *** also reported decreased demand due to old legacy drugs being removed from the marketplace. U.S. producer *** reported that the HEC market in the United States is split between nutraceuticals and pharmaceuticals, where the nutraceutical market is approximately twice the size of the pharmaceutical market in terms of volume. U.S. producer *** reported that demand in the nutraceutical market has risen, driven by a demand for proactive healthcare products and the pharmaceutical market has also increased but to a lesser degree as demand in this segment is driven by generic and over-the-counter medications.

Table 2.8 HECs: Count of firms’ responses regarding overall domestic and foreign demand, by firm type

Market	Firm type	Steadily increase	Fluctuate upward	No change	Fluctuate downward	Steadily decrease
Domestic demand	U.S. producers	***	***	***	***	***
Domestic demand	Importers	5	5	2	2	2
Domestic demand	Purchasers	6	7	7	5	3
Foreign demand	U.S. producers	***	***	***	***	***
Foreign demand	Importers	5	1	3	2	0
Foreign demand	Purchasers	3	2	12	1	0
Demand for end use products	Purchasers	11	7	8	5	5

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

The majority of responding importers reported that domestic and foreign demand has increased steadily or fluctuated upward since January 1, 2022. Importer *** reported that demand increased massively in the beginning of the period due to the COVID-19 pandemic; when the pandemic ended, demand decreased, with demand higher at the beginning of the period than at the end. Importer *** reported that demand

for HECs has decreased steadily throughout the period due to lower-priced substitutes entering the market.

Purchaser responses regarding U.S. demand for HECs and the demand for end use products using HECs were varied, but more purchasers noted increasing demand both for HECs as well as for downstream products that use HECs.²⁰ A majority of purchasers reported that foreign demand for HECs remained constant since January 1, 2022, however. U.S. purchasers generally reported that demand for domestic HECs had increased or fluctuated upward, driven by increasing demand for nutraceutical products. Purchasers reporting that U.S. demand for HECs had decreased or fluctuated downward since January 1, 2022 based on the increased presence of substitutes in the market. Purchaser *** reported that the demand for HECs had increased steadily since January 1, 2022 due to the market's movement towards HECs and away from tablets.

Substitute products

All responding U.S. producers and the majority of importers and purchasers reported that there were no substitutes for HECs. Substitutes listed were often downstream products that compete against capsule-based pharmaceuticals and nutraceuticals. Those firms that reported there were substitutes described that substitutes for HECs are limited to tablets, soft gelatin capsules, gummies, loose powder, and packets.

In addition, purchasers were asked how frequently gelatin-based HECs were interchangeable with HPMC capsules. A large majority (33 of 38) of purchasers indicated that they are never interchangeable, and the remaining 5 indicated they are sometimes interchangeable. Customer requirements, labeling restrictions, different active pharmaceutical ingredients, and regulatory approval were among frequently noted limiting factors.

Substitutability issues

This section assesses the degree to which U.S.-produced HECs and imports of HECs from subject countries can be substituted for one another by examining the importance of certain purchasing factors and the comparability of HECs from domestic and imported sources based on those factors. Based on available data, staff believes that there is a moderately high to high degree of substitutability between domestically produced HECs and HECs imported from

²⁰ Twenty-six of 36 responding purchasers indicated that demand for HECs is affected by demand for downstream products incorporating HECs (e.g., nutraceutical and pharmaceutical products).

subject sources.²¹ Factors contributing to this level of substitutability include similar quality, availability, and lead times for HECs shipped from inventory; little preference for HECs with a particular country of origin; and few differences between domestically produced HECs and HECs imported from subject countries across multiple purchase factors. Factors reducing substitutability include differences of compatibility of certain sources' HECs with certain purchasers' machinery, preferences for multiple sources of supply, and previously noted supply constraints.

Factors affecting purchasing decisions

Purchaser decisions based on source

As shown in table 2.9, a plurality of purchasers reported that they never make purchasing decisions based on the producer while a majority of purchasers reported that they never make purchasing decisions based on the country of origin. A majority of purchasers reported that their customers never make purchasing decisions based on the producer or country of origin. Of the nine purchasers that reportedly always make decisions based on the manufacturer, two firms cited suppliers' qualification or approval process as the determinative factor.

Table 2.9 HECs: Count of purchasers' responses regarding frequency of purchasing decisions based on producer and country of origin

Firm making decision	Decision based on	Always	Usually	Sometimes	Never
Purchaser	Producer	9	5	7	19
Customer	Producer	0	2	8	18
Purchaser	Country	6	3	8	23
Customer	Country	0	2	5	20

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

Importance of purchasing domestic HECs

Thirty-five of 38 purchasers reported that most or all of their purchases did not require purchasing U.S.-produced product. Two purchasers reported that domestic product was required by law (for 100 percent of their purchases), four reported it was required by their customers (for 1 to 94 percent of their purchases), and three reported other preferences for

²¹ The degree of substitution between domestic and imported HECs depends upon the extent of product differentiation between the domestic and imported products and reflects how easily purchasers can switch from domestically produced HECs to the HECs 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.).

domestic product. Reasons cited for preferring domestic product included: only domestic manufacturers being qualified to be used at their production facilities and certain production specifications demanding HECs produced in North America.

Most important purchase factors

The most often cited top six factors firms consider in their purchasing decisions for HECs were quality (35 firms), price/cost (29 firms), availability (17 firms), and lead time and reliability of supply (8 firms each) as shown in table 2.10. Quality was the most frequently cited first-most important factor (cited by 28 firms), followed by price/cost (6 firms); availability was the most frequently reported second-most important factor (13 firms); and price/cost was the most frequently reported third-most important factor (18 firms).

Table 2.10 HECs: Count of ranking of factors used in purchasing decisions as reported by purchasers, by factor

Factor	First	Second	Third	Total
Quality	28	2	5	35
Price	6	5	18	29
Performance on purchaser's equipment	2	3	0	5
Availability	1	13	3	17
Reliability of supply / supply chain	1	5	1	7
Regulatory compliance / certificates	1	1	2	4
Customer acceptance or directive	1	1	0	2
Lead time	0	3	2	5
Contracts	0	2	2	4
Service	0	2	0	2
Payment terms	0	0	5	5
All other factors	0	3	2	5

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

Note: "All other factors" includes productive capacity and traditional supplier as second factors and product range as both a second and third factor. Twenty purchasers also listed factors beyond the top three. Many of these factors are included in the table, but purchasers also included sustainability and technical support, which were noted by multiple purchasers, as well as minimum order quantities, safety stock, supplier's cyber security level, and supplier's financial health.

The majority of purchasers (30 of 39) reported that they usually (14) or sometimes (16) purchase the lowest-priced product.

Importance of specified purchase factors

Purchasers were asked to rate the importance of 22 factors in their purchasing decisions (table 2.11). The factors rated as very important by more than half of responding purchasers were product consistency (39 firms); performance on equipment (38 firms); reliability of supply and availability of USP-qualified product (33 firms each); lead times, availability of FDA-

approved product, and requested capsule size (31 firms each); quality meets industry standards, delivery time, and availability of qualified HPMC capsules (30 firms each); availability of qualified gelatin capsules (28 firms), delivery terms and price (25 firms each); technical support/service (22 firms); and quality exceeds industry standards (21 firms).

Table 2.11 HECs: Count of purchasers’ responses regarding importance of purchase factors, by factor

Factor	Very important	Somewhat important	Not important
Product consistency	39	0	0
Performance on your equipment	38	1	0
Reliability of supply	33	6	0
Availability of USP-qualified product	33	3	3
Lead time (i.e., from order receipt to delivery)	31	7	0
Availability of FDA-approved product	31	4	4
Requested capsule size	31	3	5
Quality meets industry standards	30	8	1
Delivery time (i.e., from warehouse to customer)	30	7	2
Availability of qualified HPMC capsules	30	4	3
Availability of qualified gelatin capsules	28	10	1
Delivery terms	25	12	2
Price	25	11	3
Technical support/service	22	15	2
Quality exceeds industry standards	21	13	5
Payment terms	15	23	1
Packaging	15	15	9
Minimum quantity requirements	14	16	9
Product range	13	17	8
U.S. transportation costs	12	17	10
Discounts and/or rebates offered	10	21	8
Supplier diversity	9	20	10

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

Lead times

Lead times over the period of investigation changed considerably. In 2024, U.S. producers’ HECs were primarily sold from inventory (***) percent of their commercial shipments), an increase of *** percentage points from 2022 (table 2.12). In 2022, domestic lead times for produced-to-order HECs was *** days, but this has decreased to *** days in 2024 and *** days in interim 2025. Importers’ lead times also declined for produced-to-order HECs, but to a much smaller degree – from 107 days in 2022 to 90 days in 2024 and interim 2025. Their share of shipments that are produced to order also declined to a smaller degree – from 14.1 percent to 10.4 percent between 2022 and interim 2025.

Table 2.12 HECs: U.S. producers' and U.S. importers' lead times, by period and type of order fulfillment

Lead times in days; shares in percent

Item	Firm type	2022	2023	2024	2025
Produced to order	U.S. producers	***	***	***	***
Produced to order	Importers	107	102	90	90
From U.S. inventories	U.S. producers	***	***	***	***
From U.S. inventories	Importers	4	4	4	4
From foreign inventories	Importers	***	***	***	***
Share of shipments produced to order	U.S. producers	***	***	***	***
Share of shipments produced to order	Importers	14.1	14.1	13.1	10.4
Share of shipments from U.S. inventories	U.S. producers	***	***	***	***
Share of shipments from U.S. inventories	Importers	85.0	85.2	86.2	89.0
Share of shipments from foreign inventories	Importers	0.9	0.7	0.6	0.6

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

Supplier certification

All responding purchasers require their suppliers to become certified or qualified to sell HECs to their firm. Purchasers reported that the time to qualify a new supplier ranged from 3 days to one year.²² Four purchasers reported that at least one domestic or foreign supplier had failed in its attempt to qualify HECs, or had lost its approved status since 2022. Purchaser *** reported that Quadra Chemicals lost its approval status because the HECs were not performing well with its machinery. Purchaser *** reported that Shangdong Healsee lost its approval status at one of its divisions due to quality issues. Purchaser *** reported that Catherych lost its approval status due to quality issues.

Regulatory approval was reported to take up to one year by purchasers that are pharmaceutical manufacturers, but some reported that regulatory approval is not needed (table 2.13).

²² Purchaser *** reported that certification took 500 days and purchaser *** reported that certification took 730 days.

Table 2.13 HECs: Pharmaceutical purchasers' responses regarding timing and description of regulatory approval

Approval time in days

Purchaser	Approval time	Description
***	***	***
***	***	***
***	***	***
***	***	***
***	***	***
***	***	***
***	***	***
***	***	***
***	***	***
***	***	***
***	***	***
***	***	***
***	***	***
***	***	***
***	***	***
***	***	***
***	***	***

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

Minimum quality specifications

As can be seen from table 2.14, a majority of responding purchasers reported that domestically produced HECs always met minimum quality specifications. The majority of responding purchasers reported that the HECs imported from each subject country always met minimum quality specifications as well.

Table 2.14 HECs: Count of purchasers' responses regarding suppliers' ability to meet minimum quality specifications, by source

Source of purchases	Always	Usually	Sometimes	Rarely or never	Don't know
United States	17	9	2	0	8
Brazil	3	0	0	0	27
China	13	9	1	0	12
India	17	7	1	0	10
Vietnam	3	2	0	0	24
Nonsubject sources	13	5	0	0	13

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

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

All but two of the 40 purchasers reported factors that determined quality for HECs. Responses included physical characteristics (e.g., appearance, disintegration time, ingredients, long shelf life, moisture content, size, solubility), manufacture quality (e.g., consistency, meeting specifications, reliability across different production batches, zero lot rejection), performance characteristics (e.g., how well they separate and close on purchasers' equipment, machine compatibility/runnability), compliance with established specifications like USP and FDA, and documentation (e.g., audit history of production site, certificates of analysis, quality documentation).

Purchase factor comparisons of domestic HECs, subject imports, and nonsubject imports

Purchasers were asked to compare HECs produced in the United States, subject countries, and nonsubject countries. First, purchasers were asked for a country-by-country comparison on the same 21 factors for which they were asked to rate the importance of the same factors (from table 2.11).

Most purchasers reported that U.S.-produced HECs and HECs imported from Brazil, China, India, and/or Vietnam were comparable on nearly all of the 21 factors noted in the earlier table. China, India, Vietnam, and nonsubject sources were rated as comparable to the United States on all factors by a majority of responding purchasers (table 2.15). Brazil was rated

as comparable to the United States on a majority of factors as well — all except performance on the purchasers' equipment (U.S. inferior), price (U.S. superior), and discounts/rebates offered (one purchaser each noting comparable and U.S. superior).

Table 2.15 HECs: Count of purchasers' responses comparing U.S.-produced and imported product, by factor and country pair

Factor	Country pair	Superior	Comparable	Inferior
Product consistency	U.S. vs Brazil	0	2	1
Performance on your equipment	U.S. vs Brazil	0	1	2
Reliability of supply	U.S. vs Brazil	0	3	0
Availability of USP-qualified product	U.S. vs Brazil	0	3	0
Lead time (i.e., from order receipt to delivery)	U.S. vs Brazil	0	2	1
Availability of FDA-approved product	U.S. vs Brazil	0	2	0
Requested capsule size	U.S. vs Brazil	0	3	0
Quality meets industry standards	U.S. vs Brazil	0	3	0
Delivery time (i.e., from warehouse to customer)	U.S. vs Brazil	0	3	0
Availability of qualified HPMC capsules	U.S. vs Brazil	0	2	0
Availability of qualified gelatin capsules	U.S. vs Brazil	0	2	1
Delivery terms	U.S. vs Brazil	0	3	0
Price	U.S. vs Brazil	2	0	1
Technical support/service	U.S. vs Brazil	0	3	0
Quality exceeds industry standards	U.S. vs Brazil	0	2	0
Payment terms	U.S. vs Brazil	1	2	0
Packaging	U.S. vs Brazil	0	3	0
Minimum quantity requirements	U.S. vs Brazil	1	2	0
Product range	U.S. vs Brazil	0	2	0
U.S. transportation costs	U.S. vs Brazil	1	2	0
Discounts and/or rebates offered	U.S. vs Brazil	1	1	0
Supplier diversity	U.S. vs Brazil	0	2	0

Table continued.

Table 2.15 (Continued) HECs: Count of purchasers' responses comparing U.S.-produced and imported product, by factor and country pair

Factor	Country pair	Superior	Comparable	Inferior
Product consistency	U.S. vs China	0	19	2
Performance on your equipment	U.S. vs China	1	17	3
Reliability of supply	U.S. vs China	1	17	2
Availability of USP-qualified product	U.S. vs China	2	19	0
Lead time (i.e., from order receipt to delivery)	U.S. vs China	1	14	6
Availability of FDA-approved product	U.S. vs China	2	14	3
Requested capsule size	U.S. vs China	1	17	3
Quality meets industry standards	U.S. vs China	0	21	0
Delivery time (i.e., from warehouse to customer)	U.S. vs China	0	17	4
Availability of qualified HPMC capsules	U.S. vs China	0	20	1
Availability of qualified gelatin capsules	U.S. vs China	0	20	1
Delivery terms	U.S. vs China	0	18	2
Price	U.S. vs China	1	12	8
Technical support/service	U.S. vs China	2	19	0
Quality exceeds industry standards	U.S. vs China	0	20	1
Payment terms	U.S. vs China	1	20	1
Packaging	U.S. vs China	0	21	0
Minimum quantity requirements	U.S. vs China	1	20	0
Product range	U.S. vs China	0	19	2
U.S. transportation costs	U.S. vs China	2	18	0
Discounts and/or rebates offered	U.S. vs China	2	15	2
Supplier diversity	U.S. vs China	0	19	0

Table continued.

Table 2.15 (Continued) HECs: Count of purchasers' responses comparing U.S.-produced and imported product, by factor and country pair

Factor	Country pair	Superior	Comparable	Inferior
Product consistency	U.S. vs India	2	17	2
Performance on your equipment	U.S. vs India	1	17	3
Reliability of supply	U.S. vs India	2	15	3
Availability of USP-qualified product	U.S. vs India	2	18	0
Lead time (i.e., from order receipt to delivery)	U.S. vs India	2	14	5
Availability of FDA-approved product	U.S. vs India	1	18	0
Requested capsule size	U.S. vs India	1	19	1
Quality meets industry standards	U.S. vs India	2	18	1
Delivery time (i.e., from warehouse to customer)	U.S. vs India	3	15	2
Availability of qualified HPMC capsules	U.S. vs India	1	17	0
Availability of qualified gelatin capsules	U.S. vs India	1	18	0
Delivery terms	U.S. vs India	2	18	1
Price	U.S. vs India	2	11	8
Technical support/service	U.S. vs India	2	19	0
Quality exceeds industry standards	U.S. vs India	1	18	1
Payment terms	U.S. vs India	1	19	1
Packaging	U.S. vs India	2	18	1
Minimum quantity requirements	U.S. vs India	2	17	2
Product range	U.S. vs India	1	17	2
U.S. transportation costs	U.S. vs India	3	16	1
Discounts and/or rebates offered	U.S. vs India	1	17	0
Supplier diversity	U.S. vs India	0	20	0

Table continued.

Table 2.15 (Continued) HECs: Count of purchasers' responses comparing U.S.-produced and imported product, by factor and country pair

Factor	Country pair	Superior	Comparable	Inferior
Product consistency	U.S. vs Vietnam	0	4	1
Performance on your equipment	U.S. vs Vietnam	0	4	1
Reliability of supply	U.S. vs Vietnam	0	5	0
Availability of USP-qualified product	U.S. vs Vietnam	0	5	0
Lead time (i.e., from order receipt to delivery)	U.S. vs Vietnam	0	4	1
Availability of FDA-approved product	U.S. vs Vietnam	0	4	0
Requested capsule size	U.S. vs Vietnam	0	5	0
Quality meets industry standards	U.S. vs Vietnam	0	5	0
Delivery time (i.e., from warehouse to customer)	U.S. vs Vietnam	0	5	0
Availability of qualified HPMC capsules	U.S. vs Vietnam	0	5	0
Availability of qualified gelatin capsules	U.S. vs Vietnam	0	4	1
Delivery terms	U.S. vs Vietnam	0	4	0
Price	U.S. vs Vietnam	1	2	2
Technical support/service	U.S. vs Vietnam	0	5	0
Quality exceeds industry standards	U.S. vs Vietnam	0	5	0
Payment terms	U.S. vs Vietnam	1	4	0
Packaging	U.S. vs Vietnam	0	5	0
Minimum quantity requirements	U.S. vs Vietnam	1	4	0
Product range	U.S. vs Vietnam	0	5	0
U.S. transportation costs	U.S. vs Vietnam	0	4	0
Discounts and/or rebates offered	U.S. vs Vietnam	1	3	0
Supplier diversity	U.S. vs Vietnam	0	5	0

Table continued.

Table 2.15 (Continued) HECs: Count of purchasers' responses comparing U.S.-produced and imported product, by factor and country pair

Factor	Country pair	Superior	Comparable	Inferior
Product consistency	U.S. vs Nonsubject sources	0	11	2
Performance on your equipment	U.S. vs Nonsubject sources	0	11	2
Reliability of supply	U.S. vs Nonsubject sources	1	11	1
Availability of USP-qualified product	U.S. vs Nonsubject sources	1	12	0
Lead time (i.e., from order receipt to delivery)	U.S. vs Nonsubject sources	1	8	4
Availability of FDA-approved product	U.S. vs Nonsubject sources	1	11	0
Requested capsule size	U.S. vs Nonsubject sources	0	13	0
Quality meets industry standards	U.S. vs Nonsubject sources	1	12	0
Delivery time (i.e., from warehouse to customer)	U.S. vs Nonsubject sources	2	9	2
Availability of qualified HPMC capsules	U.S. vs Nonsubject sources	0	12	0
Availability of qualified gelatin capsules	U.S. vs Nonsubject sources	0	12	1
Delivery terms	U.S. vs Nonsubject sources	2	11	0
Price	U.S. vs Nonsubject sources	2	8	3
Technical support/service	U.S. vs Nonsubject sources	2	11	0
Quality exceeds industry standards	U.S. vs Nonsubject sources	0	12	0
Payment terms	U.S. vs Nonsubject sources	1	12	0
Packaging	U.S. vs Nonsubject sources	0	13	0
Minimum quantity requirements	U.S. vs Nonsubject sources	1	12	0
Product range	U.S. vs Nonsubject sources	2	9	1
U.S. transportation costs	U.S. vs Nonsubject sources	4	9	0
Discounts and/or rebates offered	U.S. vs Nonsubject sources	1	10	0
Supplier diversity	U.S. vs Nonsubject sources	0	11	0

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

Note: With respect to cost/price factors, a rating of superior means that the cost/price for the first source in the country pair is generally lower. For example, if a firm reported "U.S. superior," it meant that the U.S. product was generally priced lower than the imported product.

Seven of 40 purchasers reported a preference for HECs from one country over another. Two indicated that they source their HECs from suppliers at their clients' direction. Two preferred domestic HECs, with one noting that the supply chain is shorter and the other noting consistent quality and less risk in transit. One purchaser stated that in certain circumstances, "North American" HECs are preferred. Another purchaser prefers Chinese product due to consistent quality and price advantages. The final purchaser prefers Chinese or Korean HECs because they are of a higher quality and run better in its machinery.

Eight of 38 responding purchasers noted certain grades, sizes, colors, combinations, or other types of HECs are available from certain sources. Purchasers *** stated certain HPMC capsules are only available from France, India, Japan, and/or Spain. Purchaser *** noted "pullulan gelatine" capsules are only available from Lonza.

Comparison of U.S.-produced and imported HECs

In order to determine whether U.S.-produced HECs can generally be used in the same applications as imports from Brazil, China, India, and/or Vietnam, producers, importers, and purchasers were asked whether the products can always, frequently, sometimes, or never be used interchangeably. One U.S. producer reported all country pairs as *** comparable and one U.S. producer reported all country pairs as *** comparable. Importers' and purchasers' responses were more varied, as shown in tables 2.16 and 2.17. While importers most frequently reported country pairs as always interchangeable,²³ more importers indicated that domestic HECs are either sometimes or frequently interchangeable with those produced in China and India. A majority of purchasers rated Chinese HECs as frequently or always interchangeable with those from the United States, subject sources, or nonsubject sources. Domestic HECs were rated as always comparable with those produced in Brazil and Vietnam but not those produced in India or nonsubject countries.

Table 2.16 HECs: Count of importers reporting the interchangeability between product produced in the United States and in other countries, by country pair

Country pair	Always	Frequently	Sometimes	Never
U.S. vs. Brazil	3	0	0	0
U.S. vs. China	3	4	3	0
U.S. vs. India	2	0	3	1
U.S. vs. Vietnam	2	0	1	0
Brazil vs. China	2	0	0	0
Brazil vs. India	2	0	1	1
Brazil vs. Vietnam	2	0	0	0
China vs. India	2	1	1	1
China vs. Vietnam	2	0	0	0
India vs. Vietnam	2	0	0	0
U.S. vs. other	3	1	1	0
Brazil vs. other	2	0	0	0
China vs. other	2	1	0	0
India vs. other	2	0	0	0
Vietnam vs. other	2	0	0	0

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

²³ These data include that reported by ***. ***.

Table 2.17 HECs: Count of purchasers reporting the interchangeability between product produced in the United States and in other countries, by country pair

Country pair	Always	Frequently	Sometimes	Never
U.S. vs. Brazil	3	1	0	0
U.S. vs. China	2	9	3	1
U.S. vs. India	8	4	5	1
U.S. vs. Vietnam	4	2	1	0
Brazil vs. China	1	3	0	0
Brazil vs. India	2	2	0	0
Brazil vs. Vietnam	2	2	0	0
China vs. India	4	9	3	0
China vs. Vietnam	2	6	1	0
India vs. Vietnam	3	3	0	0
U.S. vs. other	5	5	4	0
Brazil vs. other	2	1	0	0
China vs. other	2	7	2	0
India vs. other	3	4	1	0
Vietnam vs. other	3	2	0	0

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

In addition, U.S. producers, importers, and purchasers were asked to assess how often differences other than price were significant in sales of HECs from the United States, subject, or nonsubject countries. *** responses from domestic producers noted that there are *** differences other than price that matter in their sales of HECs. As seen in tables 2.18 and 2.19, importers indicated a large range of responses. Purchaser responses were very bifurcated – with nearly all responses indicating that there are either always or sometimes differences between the sources being compared.

Table 2.18 HECs: Count of importers reporting the significance of differences between product produced in the United States and in other countries, by country pair

Country pair	Always	Frequently	Sometimes	Never
U.S. vs. Brazil	1	0	1	1
U.S. vs. China	2	2	4	2
U.S. vs. India	3	0	2	1
U.S. vs. Vietnam	0	1	1	1
Brazil vs. China	0	0	0	1
Brazil vs. India	2	0	0	1
Brazil vs. Vietnam	0	0	0	1
China vs. India	1	1	0	2
China vs. Vietnam	0	0	0	1
India vs. Vietnam	0	0	0	1
U.S. vs. other	1	2	1	1
Brazil vs. other	0	0	0	1
China vs. other	0	1	0	1
India vs. other	0	0	0	1
Vietnam vs. other	0	0	0	1

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

Table 2.19 HECs: Count of purchasers reporting the significance of differences between product produced in the United States and in other countries, by country pair

Country pair	Always	Frequently	Sometimes	Never
U.S. vs. Brazil	3	0	0	0
U.S. vs. China	5	1	7	0
U.S. vs. India	10	1	8	0
U.S. vs. Vietnam	4	0	2	0
Brazil vs. China	2	0	1	0
Brazil vs. India	2	0	1	0
Brazil vs. Vietnam	2	0	1	0
China vs. India	7	0	10	0
China vs. Vietnam	4	0	4	0
India vs. Vietnam	4	0	2	0
U.S. vs. other	7	1	5	0
Brazil vs. other	2	0	1	0
China vs. other	5	0	6	0
India vs. other	5	0	4	0
Vietnam vs. other	4	0	2	0

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

Elasticity estimates

This section discusses elasticity estimates; no parties commented on these estimates in their prehearing or posthearing briefs.

U.S. supply elasticity

The domestic supply elasticity for HECs measures the sensitivity of the quantity supplied by U.S. producers to changes in the U.S. market price of HECs. The elasticity of domestic supply depends on several factors including the level of excess capacity, the ease with which producers can alter capacity, producers' ability to shift to production of other products, the existence of inventories, and the availability of alternate markets for U.S.-produced HECs. Analysis of these factors above indicates that the U.S. industry has the ability to substantially increase or decrease shipments to the U.S. market; an estimate in the range of 6 to 8 is suggested.

U.S. demand elasticity

The U.S. demand elasticity for HECs measures the sensitivity of the overall quantity demanded to a change in the U.S. market price of HECs. This estimate depends on factors discussed above such as the existence, availability, and commercial viability of substitute products, as well as the component share of the HECs in the production of any downstream products. Based on the available information, the aggregate demand for HECs is likely to be highly inelastic; a range of -0.2 to -0.4 is suggested.

Substitution elasticity

The elasticity of substitution depends upon the extent of product differentiation between the domestic and imported products.²⁴ Product differentiation, in turn, depends upon such factors as quality (e.g., chemistry, appearance, etc.) and conditions of sale (e.g., availability, sales terms/discounts/promotions, etc.). Based on available information, the elasticity of substitution between U.S.-produced HECs and imported HECs is likely to be in the range of 4 to 6 based on similar quality, availability, and lead times, little preference for HECs with a particular country of origin, and few differences between domestically produced HECs and HECs imported from subject countries across multiple purchase factors.

²⁴ The substitution elasticity measures the responsiveness of the relative U.S. consumption levels of the subject imports and the domestic like products to changes in their relative prices. This reflects how easily purchasers switch from the U.S. product to the subject products (or vice versa) when prices change.

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

The Commission analyzes a number of factors in making injury determinations (see 19 U.S.C. §§ 1677(7)(B) and 1677(7)(C)). Information on the subsidies and dumping margins was presented in Part 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 responses of two firms that accounted for all known U.S. production of HECs during 2024.

U.S. producers

The Commission issued a U.S. producer questionnaire to two firms based on information contained in the petitions. Lonza and Qualicaps Inc. (“Qualicaps”) provided usable data on their operations. Table 3.1 lists U.S. producers of HECs, their production locations, positions on the petitions, and shares of total production. There are only two domestic producers of HECs, with Lonza accounting for a significant majority of U.S. HEC production.¹

Table 3.1 HECs: U.S. producers, their positions on the petitions, production locations, and shares of reported production, 2024

Firm	Position on petitions	Production location(s)	Share of production
Lonza	Petitioner	Greenwood, SC	***
Qualicaps	***	Whitsett, NC	***
All firms	Various	Various	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 “—”. ***.

¹ Hearing transcript, p. 32 (Romanski).

Table 3.2 presents information on U.S. producers' ownership and related and/or affiliated firms. In December 2024, Lonza announced the sale of its capsule division.²

As indicated in table 3.2, *** are related to foreign producers of the subject merchandise and to U.S. importers of the subject merchandise. In addition, as discussed in greater detail below, *** U.S. producers directly import HECs.

Table 3.2 HECs: U.S. producers' ownership and related and/or affiliated firms

Reporting firm	Relationship type and related firm	Details of relationship
***	***	***
***	***	***
***	***	***
***	***	***
***	***	***
***	***	***
***	***	***
***	***	***
***	***	***
***	***	***
***	***	***
***	***	***
***	***	***
***	***	***
***	***	***
***	***	***
***	***	***

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

² Lonza indicated the sale “was as a consequence of focusing and streamlining the strategy for the Lonza Group. Meanwhile, CHI continues to operate under the Lonza umbrella until the appropriate time in which we will operate as an independent company.” Hearing transcript, pp. 88 to 89 (Romanski).

Table 3.3 presents events in the U.S. industry since January 1, 2022.

Table 3.3 HECs: Important industry events since January 1, 2022

Item	Firm	Event
Acquisition	Roquette Freres	Acquired Qualicaps in October 2023.
Plant closing	Qualicaps	On December 2, 2025, Qualicaps sent a Worker Adjustment and Retraining Notification (“WARN”) Act notice announcing that it plans to permanently shut down its facility in Whitsett, North Carolina by December 2026, resulting in the loss of 91 jobs. It explained, “The reason for the closure is that despite substantial investment and our teams’ commitment, the hard-gelatin capsule facility has faced ongoing structural financial challenges since its acquisition two years ago—including pricing pressures and increasing costs—making long-term operations unsustainable. A strategic realignment will transition product supply to our other capsule manufacturing sites worldwide.”
Plant opening	ACG	In October 2025, global pharmaceutical capsule supplier ACG announced a \$200 million investment to establish its first empty capsule manufacturing operations in the United States, producing both gelatin and plant-based HECs in Atlanta, Georgia and the surrounding area. Operations are anticipated to begin in 2027 and are expected to generate more than 200 jobs.

Sources: Roquette, “Roquette Completes the Acquisition of Qualicaps and Reinforces Its Global Position in the Pharmaceutical Industry,” October 24, 2023, <https://www.roquette.com/-/media/media-center/press-release-ni/202310/20231024-press-release-roquette-qualicaps-acquisition-completion.pdf>; Business North Carolina, “Qualicaps closing its Guilford County capsule plant, 91 to lose jobs next year,” December 8, 2025, <https://businessnc.com/qualicaps-closing-its-guilford-county-capsule-plant-91-to-lose-jobs-next-year/>; Qualicaps WARN notice, December 2, 2025, https://greensboro.com/pdf_8035ba71-68b9-4490-a981-520cea1e2511.html; McEvoy, Erin, ACG will invest \$200 million in its first empty-capsule manufacturing facility in the US, October 20, 2025, <https://www.nutritionaloutlook.com/view/acg-will-invest-200-million-in-its-first-empty-capsule-manufacturing-facility-in-the-us>.

Producers in the United States were asked to report any change in the character of their operations or organization relating to the production of HECs since 2022. *** producers indicated that they had experienced such changes, including among other changes prolonged shutdowns and curtailments of production due to competition with subject imports.³ Table 3.4 presents the changes identified by U.S. producers.

Table 3.4 HECs: U.S. producers' reported changes in operations, since January 1, 2022

Item	Firm name and narrative response on changes in operations
Prolonged shutdowns	***
Prolonged shutdowns	***
Production curtailments	***
Production curtailments	***
Expansions	***
Acquisitions	***
Other	***

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

³ Lonza's prehearing brief, p. 48; hearing transcript, p. 64 (Romanski).

U.S. production, capacity, and capacity utilization

Table 3.5 presents U.S. producers’ installed and practical capacity and production on the same equipment. Installed capacity increased from 2022 to 2023, but decreased in 2024 to a level below that in 2022. Installed overall capacity was lower in interim 2025 compared to interim 2024. There was no reported production of out-of-scope products on the same equipment and machinery used to produce HECs. Therefore, practical overall capacity, production, and utilization were the same as practical HECs capacity, production, and utilization during the period for which data were collected. From 2022 to 2024, practical capacity decreased annually but was higher in interim 2025 compared to interim 2024. Practical capacity utilization increased from 2022 to 2023, then decreased in 2024 to a level below that in 2022. Practical capacity utilization was over *** percent higher in interim 2025 compared to interim 2024.

Table 3.5 HECs: U.S. producers’ installed and practical capacity and production on the same equipment as in-scope production, by period

Capacity and production in 1,000 units; utilization in percent; interim is January through June

Item	Measure	2022	2023	2024	Interim 2024	Interim 2025
Installed overall	Capacity	***	***	***	***	***
Installed overall	Production	***	***	***	***	***
Installed overall	Utilization	***	***	***	***	***
Practical overall	Capacity	***	***	***	***	***
Practical overall	Production	***	***	***	***	***
Practical overall	Utilization	***	***	***	***	***
Practical HECs	Capacity	***	***	***	***	***
Practical HECs	Production	***	***	***	***	***
Practical HECs	Utilization	***	***	***	***	***

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

Table 3.6 presents U.S. producers’ reported narratives regarding practical capacity constraints.

Table 3.6 HECs: U.S. producers’ reported capacity constraints since January 1, 2022

Item	Firm name and narrative response on constraints to practical overall capacity
Existing labor force	***
Other constraints	***

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

Table 3.7 and figure 3.1 present U.S. producers’ production, capacity, and capacity utilization. From 2022 to 2023, practical capacity and production of HECs decreased. Then, from 2023 to 2024 they decreased at a much higher rate. Capacity and production were higher in interim 2025 compared to interim 2024.⁴

While Lonza, accounting for over *** percent of production in 2024, drove the magnitude of industry trends, both firms followed the same capacity and production directional trends during the period for which data were collected. However, each U.S. producer had different capacity utilization trends. ***. During 2022 through 2024, ***. ***.

Table 3.7 HECs: U.S. producers’ output, by firm and period

Practical capacity

Capacity in 1,000 units; interim is January through June

Firm	2022	2023	2024	Interim 2024	Interim 2025
Lonza	***	***	***	***	***
Qualicaps	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

⁴ *** U.S. producers reported production shutdowns or curtailments. Lonza testified that “practical HEC capacity fell between 2022 and 2024, as the domestic industry took equipment offline in response to the market share loss to the subject imports. Capacity increased modestly across the interim periods following the filing of the petitions.” Lonza testified further that “by 2024 we had also resized the facility that we had in Greenwood as a result of the imports that had affected our business. So, in order to maintain a certain degree of profitability, we had to reduce the number of lines that we had, we had to lay off employees.” Hearing transcript, pp. 51, 54 (Lutz), and 64 (Romanski).

Table 3.7 (Continued) HECs: U.S. producers' output, by firm and period**Production**

Production in 1,000 units; interim is January through June

Firm	2022	2023	2024	Interim 2024	Interim 2025
Lonza	***	***	***	***	***
Qualicaps	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table 3.7 (Continued) HECs: U.S. producers' output, by firm and period**Capacity utilization**

Capacity utilization in percent; interim is January through June

Firm	2022	2023	2024	Interim 2024	Interim 2025
Lonza	***	***	***	***	***
Qualicaps	***	***	***	***	***
All firms	***	***	***	***	***

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

Table continued.

Table 3.7 (Continued) HECs: U.S. producers' output, by firm and period**Share of production**

Share in percent; interim is January through June

Firm	2022	2023	2024	Interim 2024	Interim 2025
Lonza	***	***	***	***	***
Qualicaps	***	***	***	***	***
All firms	100.0	100.0	100.0	100.0	100.0

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

Figure 3.1 HECs: U.S. producers' output, by period

* * * * *

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

HEC sizes

U.S. producers were asked to specify the HEC sizes their firms are currently able to produce using the same equipment and/or labor. They were also asked to describe the amount of time, effort, and cost that is required to switch production between different sizes of HECs. Their responses to these questions are presented in appendix H. Lonza indicated that it is able to produce HECs in all sizes and Qualicaps reported that it is able to produce HECs in sizes ***.⁵ The U.S. producers reported the average change over time for the production line to accommodate size changes ranged from ***. They noted that although there was a cost to switching the production runs between HEC sizes, Lonza reported that the cost was minimal and that it performs multiple size changes per week on its production lines.⁶

⁵ Non-standard sizes include AAA to E and 1000 to 250.

⁶ Lonza reports that it “has produced at both ends of the size spectrum, including ***.” It added that, if the market demands, it can produce at its Greenwood facility any size requested by a customer, including HECs smaller than size 5 and larger HECs than size 000, including the large veterinary HECs imported by Torpac. Lonza also explained that all sizes can be made on the same machinery by swapping mold bars and that the mold bar change is a routine operation that may be completed in a matter of hours. Lonza’s prehearing brief, p. 25; Lonza’s posthearing brief, pp. 3 and 16; hearing transcript, pp. 26, 30 (McCutcheon), and 46 (Lutz).

Gelatin and non-gelatin HECs

U.S. producers were asked if they are able to switch production capacity on the same equipment and machinery between gelatin HECs and non-gelatin HECs. They were also asked to describe the amount of time, effort, and cost that is required to switch from gelatin HECs and non-gelatin HECs production runs. Their responses to these questions are presented in appendix H. Lonza reported that it is able to switch production between gelatin and non-gelatin HECs on the same equipment and machinery; Qualicaps reported that ***. Lonza indicated that the average change over time for the production line between gelatin and non-gelatin HEC is ***. It added that the impact of such a change is greater than the impact for changing sizes and is typically limited to only a few changes per year.⁷

Alternative products

U.S. producers did not report any out-of-scope products being produced on the same equipment and machinery used to produce in-scope HECs.⁸

⁷ Lonza confirmed that it manufactures both gelatin and non-gelatin HECs at its Greenwood facility and that its employees are trained to run the production lines for both polymers, in many cases beside one another. It added that it “***.” Lonza’s prehearing brief, p. 26; Lonza’s posthearing brief, pp. 16 and 37; hearing transcript, pp. 26, 31, 66, 71 (McCutcheon), and 46 (Lutz).

⁸ The petitioner confirms that “the HEC machines are developed specifically for making two-piece HECs and it’s hard to imagine another product that can be made on that said machine.” Conference transcript, p. 45 (McCutcheon).

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

Table 3.8 presents U.S. producers' U.S. shipments, export shipments, and total shipments. During 2022 to 2024, U.S. producers' U.S. shipments decreased, both in terms of quantity and in terms of value, with the largest decrease occurring from 2023 to 2024. U.S. producers' export shipments increased from 2022 to 2023 and declined in 2024 to a level below that in 2022. U.S. producers' U.S. shipments and export shipments were higher in interim 2025 compared to interim 2024 both in terms of quantity and value. From 2022 to 2024, U.S. shipments decreased at a higher rate compared to the decrease in export shipments. While the unit value of U.S. shipments decreased overall from 2022 to 2024, the unit value of export shipments increased. The unit value of both U.S. shipments and export shipments were higher in interim 2025 compared to interim 2024. From 2022 to 2024, export shipments had an increasing share of total shipments and accounted for the majority of total shipments in 2023, 2024, and both interim periods.

Table 3.8 HECs: U.S. producers' shipments, by destination and period

Quantity in 1,000 units; value in 1,000 dollars; unit value in dollars per 1,000 units; shares in percent; interim is January through June

Item	Measure	2022	2023	2024	Interim 2024	Interim 2025
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 3.9 presents U.S. producers' export shipments by destination market. During the period for which data were collected, *** were the largest destination markets of U.S. producers' exports of HECs. Other export markets reported by domestic producers include ***. Lonza accounted for over *** percent of U.S. producers' exports during each period for which data were collected.

Table 3.9 HECs: U.S. producers' export shipments, by destination market and period

Quantity in 1,000 units; value in 1,000 dollars; unit value in dollars per 1,000 units; shares in percent; interim is January through June

Destination market	Measure	2022	2023	2024	Interim 2024	Interim 2025
Brazil	Quantity	***	***	***	***	***
China	Quantity	***	***	***	***	***
India	Quantity	***	***	***	***	***
Vietnam	Quantity	***	***	***	***	***
Mexico	Quantity	***	***	***	***	***
All other destination markets	Quantity	***	***	***	***	***
All destination markets	Quantity	***	***	***	***	***
Brazil	Share	***	***	***	***	***
China	Share	***	***	***	***	***
India	Share	***	***	***	***	***
Vietnam	Share	***	***	***	***	***
Mexico	Share	***	***	***	***	***
All other destination markets	Share	***	***	***	***	***
All destination markets	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 "—".

Table 3.10 presents U.S. producers' U.S. shipments by type. During each period for which data were collected, U.S. producers' commercial U.S. shipments accounted for over *** percent of total U.S. shipments, in terms of quantity and value. *** reported internal consumption and transfers. ***.⁹ It also explained that its "***."

⁹ Email from ***, August 28, 2025.

Table 3.10 HECs: U.S. producers' U.S. shipments, by type and period

Quantity in 1,000 units; value in 1,000 dollars; unit value in dollars per 1,000 units; shares in percent; interim is January through June

Item	Measure	2022	2023	2024	Interim 2024	Interim 2025
Commercial U.S. shipments	Quantity	***	***	***	***	***
Internal consumption	Quantity	***	***	***	***	***
Transfers to related firms	Quantity	***	***	***	***	***
U.S. shipments	Quantity	***	***	***	***	***
Commercial U.S. shipments	Value	***	***	***	***	***
Internal consumption	Value	***	***	***	***	***
Transfers to related firms	Value	***	***	***	***	***
U.S. shipments	Value	***	***	***	***	***
Commercial U.S. shipments	Unit value	***	***	***	***	***
Internal consumption	Unit value	***	***	***	***	***
Transfers to related firms	Unit value	***	***	***	***	***
U.S. shipments	Unit value	***	***	***	***	***
Commercial U.S. shipments	Share of quantity	***	***	***	***	***
Internal consumption	Share of quantity	***	***	***	***	***
Transfers to related firms	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	***	***	***	***	***
Transfers to related firms	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.

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. producers' inventories

U.S. producers serve the U.S. market largely from inventory so that their “customers can easily replenish HECs without disruption to their normal production schedules.”¹⁰ Table 3.11 presents U.S. producers’ end-of-period inventories and the ratio of these inventories to U.S. producers’ production, U.S. shipments, and total shipments. *** reported end-of-period inventories from 2022 to 2024 and in both interim periods. *** share of total U.S. producers’ inventories is similar to its share of overall U.S. production, thereby driving inventory trends during the period for which data were collected. Ending inventories were highest in 2023 and lowest in 2024. Ending inventories were higher in interim 2025 compared to interim 2024. Overall, from 2022 to 2024, U.S. producers’ ending inventories as a ratio to U.S. production, U.S. shipments, and total shipments increased, but were lower in interim 2025 compared to interim 2024.

Table 3.11 HECs: U.S. producers’ inventories and their ratio to select items, by period

Quantity in 1,000 units; ratio in percent; interim is January through June

Item	2022	2023	2024	Interim 2024	Interim 2025
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.

¹⁰ Hearing transcript, p. 37 (Romanski).

U.S. producers' imports from subject sources

U.S. producers' imports of HECs from subject sources are presented in table 3.12 and the reported reasons for importing HECs from subject sources are presented in table 3.13. *** reported imports from a subject source (***), as well as from nonsubject sources (***).¹¹ *** reported imports from only nonsubject sources (***).

Table 3.12 HECs: *'s U.S. production, subject imports, and ratio of subject imports to production, by source and period**

Quantity in 1,000 units; ratio in percent; interim is January through June

Item	Measure	2022	2023	2024	Interim 2024	Interim 2025
U.S. production	Quantity	***	***	***	***	***
Imports from ***	Quantity	***	***	***	***	***
Imports from *** 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 3.13 HECs: U.S. producers' reasons for importing

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

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

¹¹ Concerning its U.S. imports from its facility in Mexico, Lonza explained that it "optimizes its production of HECs between its Greenwood, South Carolina and Puebla, Mexico facilities for reasons of portfolio and economic efficiency in order to be most competitive in the North American market. During the POI, because Lonza lost significant sales to producers from subject countries, ***, and it was more efficient to ***." Lonza indicated that both the United States and Mexico produce both gelatin and plant-based HECs and that it has begun shifting production of HPMC HECs from Puebla to Greenwood. It added that it "would strongly prefer to utilize the full production capacity of its Greenwood facility to produce additional volumes of both gelatin and HPMC HECs" and "to turn back on the lines that we've had to shut down as a result of subject imports." Lonza's posthearing brief, pp. 21 to 22.

U.S. producers' purchases of imports from subject sources

No responding U.S. producer reported purchases of HECs during the period for which data were collected.

U.S. employment, wages, and productivity

Table 3.14 shows U.S. producers' employment-related data. The number of production related workers ("PRWs"), total hours worked, and wages were highest in 2023 and lowest in 2024. Meanwhile, hours worked per PRW decreased overall from 2022 to 2024 and hourly wages increased. As the largest producer of HECs, employment metrics were driven by Lonza. From 2022 to 2023, productivity decreased slightly, then experienced a larger decrease from 2023 to 2024. Conversely, unit labor costs increased slightly from 2022 to 2023 then increased sharply from 2023 to 2024.¹² The number of PRWs, total hours worked, wages, and unit labor costs were lower in interim 2025 compared to interim 2024, while hours worked per PRW, hourly wages, and productivity were higher in interim 2025 compared to interim 2024.

Table 3.14 HECs: U.S. producers' employment related information, by period

Interim is January through June

Item	2022	2023	2024	Interim 2024	Interim 2025
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 (1,000 units per hour)	***	***	***	***	***
Unit labor costs (dollars per 1,000 units)	***	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires

¹² Lonza reported that ***. Email from ***, August 29, 2025.

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

U.S. importers

The Commission issued importer questionnaires to 54 firms believed to be importers of subject HECs, as well as to both U.S. producers of HECs.¹ Usable questionnaire responses were received from 16 companies, representing the following percentages of U.S. imports in 2024 under HTS statistical reporting numbers 9602.00.1040 and 9602.00.5010, as adjusted.²

- Brazil: *** percent
- China: *** percent
- India: *** percent
- Vietnam: *** percent
- Subject sources: *** percent
- Nonsubject sources: *** percent
- All imports sources: 107.3 percent

Table 4.1 lists all responding U.S. importers of HECs from Brazil, China, India, Vietnam, and other sources, their locations, and their shares of U.S. imports, in 2024.

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

² Import coverage was calculated as a share of imports, as reported in questionnaire responses, divided by official import statistics of the U.S. Department of Commerce Census Bureau using HTS statistical reporting numbers 9602.00.1040 and 9602.00.5010 adjusted to include imports classified under the secondary HTS statistical reporting numbers as reported in questionnaire responses. Official import statistics may be imprecise as out-of-scope merchandise may be imported under the primary HTS numbers under which HECs are imported and subject HECs may also be imported under other secondary HTS statistical reporting numbers.

Table 4.1 HECs: U.S. importers, their headquarters, and share of imports within each source, 2024

Share in percent

Firm	Headquarters	Brazil	China	India	Vietnam	Subject sources
ACB Pharma	New York, NY	***	***	***	***	***
ACG North America	Piscataway, NJ	***	***	***	***	***
AlfaCaps	Lewes, DE	***	***	***	***	***
Biocaps Enterprise	El Monte, CA	***	***	***	***	***
Biogel Capsules	Buena Park, CA	***	***	***	***	***
Bright Pharma	Hood River, OR	***	***	***	***	***
Capsuline II	Dania Beach, FL	***	***	***	***	***
Catherych	Warren, NJ	***	***	***	***	***
HealthCaps	Hialeah, FL	***	***	***	***	***
Lonza Greenwood	Greenwood, SC	***	***	***	***	***
Qualicaps	Whitsett, NC	***	***	***	***	***
SD Head	Syosset, NY	***	***	***	***	***
Suheung-America	Brea, CA	***	***	***	***	***
Time-Cap	Farmingdale, NY	***	***	***	***	***
Torpac	Fairfield, NJ	***	***	***	***	***
Vivion	Fort Worth, TX	***	***	***	***	***
All firms	Various	100.0	100.0	100.0	100.0	100.0

Table continued.

Table 4.1 (Continued) HECs: U.S. importers, their headquarters, and share of imports within each source, 2024

Share in percent

Firm	Headquarters	Subject sources	Subject sources less Brazil	Nonsubject sources	Nonsubject sources plus Brazil	All import sources
ACB Pharma	New York, NY	***	***	***	***	***
ACG North America	Piscataway, NJ	***	***	***	***	***
AlfaCaps	Lewes, DE	***	***	***	***	***
Biocaps Enterprise	El Monte, CA	***	***	***	***	***
Biogel Capsules	Buena Park, CA	***	***	***	***	***
Bright Pharma	Hood River, OR	***	***	***	***	***
Capsuline II	Dania Beach, FL	***	***	***	***	***
Catherych	Warren, NJ	***	***	***	***	***
HealthCaps	Hialeah, FL	***	***	***	***	***
Lonza Greenwood	Greenwood, SC	***	***	***	***	***
Qualicaps	Whitsett, NC	***	***	***	***	***
SD Head	Syosset, NY	***	***	***	***	***
Suheung-America	Brea, CA	***	***	***	***	***
Time-Cap	Farmingdale, NY	***	***	***	***	***
Torpac	Fairfield, NJ	***	***	***	***	***
Vivion	Fort Worth, TX	***	***	***	***	***
All firms	Various	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 "—".

U.S. imports

Tables 4.2 and 4.3 and figure 4.1 present data for U.S. imports of HECs from Brazil, China, India, and Vietnam, and all other sources. From 2022 to 2024, U.S. imports of HECs, in terms of quantity, from Brazil increased in each annual period, more than *** in 2024 over 2022 levels, but were lower in interim 2025 compared with interim 2024.³ Imports from Vietnam and India decreased from 2022 to 2023, but increased in 2024 to levels higher than those reported in 2022. U.S. imports of HECs from China and from nonsubject sources also decreased from 2022 to 2023, but increased in 2024 to levels that were lower than those reported in 2022. U.S. imports of HECs from Brazil and Vietnam were lower in interim 2025 compared to interim 2024 while imports from China, India, and nonsubject sources were higher in interim 2025 compared to interim 2024.

The unit values of U.S. imports of HECs from Brazil, India, and Vietnam were lower in 2024 than in 2022, while the unit value of imports from China was higher and the unit value of nonsubject imports was the same. The unit values of U.S. imports from Brazil, China, India, and nonsubject sources were higher in interim 2025 compared to interim 2024 while the unit value of imports from Vietnam was lower.

U.S. imports from subject sources accounted for more than *** of total U.S. imports of HECs in 2024, with China and India accounting for the largest shares of the subject sources. Imports from nonsubject sources (the largest of which was Mexico)⁴ together accounted for a smaller share of total imports (*** percent in 2024). The shares of the quantity of U.S. imports of HECs from Brazil, China, and India changed relatively little from 2022 to 2024 while the share accounted for by imports from Vietnam increased *** and the share accounted for by nonsubject imports decreased ***. U.S. imports of HECs from Brazil and Vietnam accounted for a decreasing share of total imports, in terms of quantity, in

³ Respondent ACG explained that the increase in U.S. imports from Brazil that began to peak in August and September 2024 was the result of the ACG facilities in India experiencing increased lead times to its customers for gelatin HECs and AGC Brazil providing temporary relief to those existing customers in the United States with shorter lead times. ACG's posthearing brief, pp. 8 to 9; hearing transcript, p. 129 (Sideris). Lonza argued that U.S. imports from Brazil dropped to zero since June 2025 because the petitions were filed in October 2024 and because ACG Brazil experienced production difficulties in July 2025. It added that ACG Brazil responded to the operational difficulties by indicating that it would shift HEC supply from India to Brazil and "leverag[e] ACG's global infrastructure" to "ensure continued supply" of HECs from "other group facilities located in India." Lonza's posthearing brief, pp. 5 to 7.

⁴ ***.

interim 2025 compared to interim 2024 while imports from China, India, and nonsubject sources accounted for an increasing share.

The ratio of subject imports to U.S. production fell from 2022 to 2023, but increased in 2024 to a level higher than that reported in 2022. That ratio was lower in interim 2025 than in interim 2024.

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

Quantity in 1,000 units; value in 1,000 dollars; unit value in dollars per 1,000 units; interim is January through June

Source	Measure	2022	2023	2024	Interim 2024	Interim 2025
Brazil	Quantity	***	***	***	***	***
China	Quantity	***	***	***	***	***
India	Quantity	***	***	***	***	***
Vietnam	Quantity	***	***	***	***	***
Subject sources	Quantity	***	***	***	***	***
Subject sources less Brazil	Quantity	***	***	***	***	***
Mexico	Quantity	***	***	***	***	***
All other sources	Quantity	***	***	***	***	***
Nonsubject sources	Quantity	***	***	***	***	***
Nonsubject sources plus Brazil	Quantity	***	***	***	***	***
All import sources	Quantity	98,655,598	80,734,801	98,071,606	45,927,695	46,165,243
Brazil	Value	***	***	***	***	***
China	Value	***	***	***	***	***
India	Value	***	***	***	***	***
Vietnam	Value	***	***	***	***	***
Subject sources	Value	***	***	***	***	***
Subject sources less Brazil	Value	***	***	***	***	***
Mexico	Value	***	***	***	***	***
All other sources	Value	***	***	***	***	***
Nonsubject sources	Value	***	***	***	***	***
Nonsubject sources plus Brazil	Value	***	***	***	***	***
All import sources	Value	322,984	272,593	306,797	146,952	152,526

Table continued.

Table 4.2 (Continued) HECs: Share of U.S. imports by source and period

Unit value in dollars per 1,000 units; shares in percent; interim is January through June

Source	Measure	2022	2023	2024	Interim 2024	Interim 2025
Brazil	Unit value	***	***	***	***	***
China	Unit value	***	***	***	***	***
India	Unit value	***	***	***	***	***
Vietnam	Unit value	***	***	***	***	***
Subject sources	Unit value	***	***	***	***	***
Subject sources less Brazil	Unit value	***	***	***	***	***
Mexico	Unit value	***	***	***	***	***
All other sources	Unit value	***	***	***	***	***
Nonsubject sources	Unit value	***	***	***	***	***
Nonsubject sources plus Brazil	Unit value	***	***	***	***	***
All import sources	Unit value	3.27	3.38	3.13	3.20	3.30
Brazil	Share of quantity	***	***	***	***	***
China	Share of quantity	***	***	***	***	***
India	Share of quantity	***	***	***	***	***
Vietnam	Share of quantity	***	***	***	***	***
Subject sources	Share of quantity	***	***	***	***	***
Subject sources less Brazil	Share of quantity	***	***	***	***	***
Mexico	Share of quantity	***	***	***	***	***
All other sources	Share of quantity	***	***	***	***	***
Nonsubject sources	Share of quantity	***	***	***	***	***
Nonsubject sources plus Brazil	Share of quantity	***	***	***	***	***
All import sources	Share of quantity	100.0	100.0	100.0	100.0	100.0

Table continued.

Table 4.2 (Continued) HECs: Share of U.S. imports by source and period

Share and ratio in percent; ratio represents the ratio to U.S. production; interim is January through June

Source	Measure	2022	2023	2024	Interim 2024	Interim 2025
Brazil	Share of value	***	***	***	***	***
China	Share of value	***	***	***	***	***
India	Share of value	***	***	***	***	***
Vietnam	Share of value	***	***	***	***	***
Subject sources	Share of value	***	***	***	***	***
Subject sources less Brazil	Share of value	***	***	***	***	***
Mexico	Share of value	***	***	***	***	***
All other sources	Share of value	***	***	***	***	***
Nonsubject sources	Share of value	***	***	***	***	***
Nonsubject sources plus Brazil	Share of value	***	***	***	***	***
All import sources	Share of value	100.0	100.0	100.0	100.0	100.0
Brazil	Ratio	***	***	***	***	***
China	Ratio	***	***	***	***	***
India	Ratio	***	***	***	***	***
Vietnam	Ratio	***	***	***	***	***
Subject sources	Ratio	***	***	***	***	***
Subject sources less Brazil	Ratio	***	***	***	***	***
Mexico	Ratio	***	***	***	***	***
All other sources	Ratio	***	***	***	***	***
Nonsubject sources	Ratio	***	***	***	***	***
Nonsubject sources plus Brazil	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. 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 4.3 HECs: Changes in U.S. imports, by source and period

Changes (Δ) in percent (%) or percentage point (ppt); interim is January through June

Source	Measure	2022 to 2024	2022 to 2023	2023 to 2024	Interim 2024 to 2025
Brazil	% Δ Quantity	▲***	▲***	▲***	▼***
China	% Δ Quantity	▼***	▼***	▲***	▲***
India	% Δ Quantity	▲***	▼***	▲***	▲***
Vietnam	% Δ Quantity	▲***	▼***	▲***	▼***
Subject sources	% Δ Quantity	▲***	▼***	▲***	▼***
Subject sources less Brazil	% Δ Quantity	▲***	▼***	▲***	▼***
Mexico	% Δ Quantity	▼***	▼***	▲***	▲***
All other sources	% Δ Quantity	▲***	▼***	▲***	▲***
Nonsubject sources	% Δ Quantity	▼***	▼***	▲***	▲***
Nonsubject sources plus Brazil	% Δ Quantity	▼***	▼***	▲***	▲***
All import sources	% Δ Quantity	▼(0.6)	▼(18.2)	▲21.5	▲0.5
Brazil	% Δ Value	▲***	▲***	▲***	▼***
China	% Δ Value	▲***	▼***	▲***	▲***
India	% Δ Value	▼***	▲***	▼***	▲***
Vietnam	% Δ Value	▼***	▼***	▲***	▼***
Subject sources	% Δ Value	▼***	▼***	▲***	▲***
Subject sources less Brazil	% Δ Value	▼***	▼***	▲***	▲***
Mexico	% Δ Value	▼***	▼***	▲***	▲***
All other sources	% Δ Value	▼***	▼***	▲***	▲***
Nonsubject sources	% Δ Value	▼***	▼***	▲***	▲***
Nonsubject sources plus Brazil	% Δ Value	▼***	▼***	▲***	▲***
All import sources	% Δ Value	▼(5.0)	▼(15.6)	▲12.5	▲3.8
Brazil	% Δ Unit value	▼***	▼***	▼***	▲***
China	% Δ Unit value	▲***	▲***	▼***	▲***
India	% Δ Unit value	▼***	▲***	▼***	▲***
Vietnam	% Δ Unit value	▼***	▼***	▼***	▼***
Subject sources	% Δ Unit value	▼***	▲***	▼***	▲***
Subject sources less Brazil	% Δ Unit value	▼***	▲***	▼***	▲***
Mexico	% Δ Unit value	▲***	▲***	▲***	▲***
All other sources	% Δ Unit value	▼***	▼***	▼***	▼***
Nonsubject sources	% Δ Unit value	▲***	▲***	▼***	▲***
Nonsubject sources plus Brazil	% Δ Unit value	▼***	▲***	▼***	▲***
All import sources	% Δ Unit value	▼(4.4)	▲3.1	▼(7.3)	▲3.3

Table continued.

Table 4.3 (Continued) HECs: Changes in U.S. imports, by source and period

Changes (Δ) in percent (%) or percentage point (ppt); interim is January through June

Source	Measure	2022 to 2024	2022 to 2023	2023 to 2024	Interim 2024 to 2025
Brazil	ppt Δ Quantity	▲***	▲***	▲***	▼***
China	ppt Δ Quantity	▼***	▼***	▲***	▲***
India	ppt Δ Quantity	▲***	▲***	▼***	▲***
Vietnam	ppt Δ Quantity	▲***	▲***	▲***	▼***
Subject sources	ppt Δ Quantity	▲***	▲***	▲***	▼***
Subject sources less Brazil	ppt Δ Quantity	▲***	▲***	▲***	▼***
Mexico	ppt Δ Quantity	▼***	▼***	▼***	▲***
All other sources	ppt Δ Quantity	▲***	▼***	▲***	▲***
Nonsubject sources	ppt Δ Quantity	▼***	▼***	▼***	▲***
Nonsubject sources plus Brazil	ppt Δ Quantity	▼***	▼***	▼***	▲***
All import sources	ppt Δ Quantity	***	***	***	***
Brazil	ppt Δ Value	▲***	▲***	▲***	▼***
China	ppt Δ Value	▲***	▼***	▲***	▲***
India	ppt Δ Value	▼***	▲***	▼***	▲***
Vietnam	ppt Δ Value	▲***	▼***	▲***	▼***
Subject sources	ppt Δ Value	▲***	▲***	▼***	▼***
Subject sources less Brazil	ppt Δ Value	▲***	▲***	▼***	▼***
Mexico	ppt Δ Value	▼***	▲***	▼***	▲***
All other sources	ppt Δ Value	▼***	▼***	▲***	▲***
Nonsubject sources	ppt Δ Value	▼***	▼***	▲***	▲***
Nonsubject sources plus Brazil	ppt Δ Value	▼***	▼***	▲***	▲***
All import sources	ppt Δ Value	***	***	***	***
Brazil	ppt Δ Ratio	▲***	▲***	▲***	▼***
China	ppt Δ Ratio	▲***	▼***	▲***	▼***
India	ppt Δ Ratio	▲***	▲***	▲***	▼***
Vietnam	ppt Δ Ratio	▲***	▲***	▲***	▼***
Subject sources	ppt Δ Ratio	▲***	▼***	▲***	▼***
Subject sources less Brazil	ppt Δ Ratio	▲***	▼***	▲***	▼***
Mexico	ppt Δ Ratio	▲***	▼***	▲***	▼***
All other sources	ppt Δ Ratio	▲***	▼***	▲***	▼***
Nonsubject sources	ppt Δ Ratio	▲***	▼***	▲***	▼***
Nonsubject sources plus Brazil	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.

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

* * * * *

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

Table 4.4 presents U.S. imports of HECs by U.S. producers and/or their affiliates. Such imports declined overall from 2022 to 2024, but were higher in interim 2025 compared with interim 2024. During the period for which data were collected, U.S. producer Lonza accounted for *** imports of HECs from Mexico, which represented between *** and *** of total U.S. imports of HECs, both in terms of quantity and in terms of value.⁵

Table 4.4 HECs: U.S. producers' and/or their affiliates' U.S. imports, by source and period

Quantity in 1,000 units; shares in percent; interim is January through June

Source	Measure	2022	2023	2024	Interim 2024	Interim 2025
Brazil	Quantity	***	***	***	***	***
China	Quantity	***	***	***	***	***
India	Quantity	***	***	***	***	***
Vietnam	Quantity	***	***	***	***	***
Subject sources	Quantity	***	***	***	***	***
Subject sources less Brazil	Quantity	***	***	***	***	***
Mexico	Quantity	***	***	***	***	***
All other sources	Quantity	***	***	***	***	***
Nonsubject sources	Quantity	***	***	***	***	***
Nonsubject sources plus Brazil	Quantity	***	***	***	***	***
All import sources	Quantity	***	***	***	***	***
Brazil	Share	***	***	***	***	***
China	Share	***	***	***	***	***
India	Share	***	***	***	***	***
Vietnam	Share	***	***	***	***	***
Subject sources	Share	***	***	***	***	***
Subject sources less Brazil	Share	***	***	***	***	***
Mexico	Share	***	***	***	***	***
All other sources	Share	***	***	***	***	***
Nonsubject sources	Share	***	***	***	***	***
Nonsubject sources plus Brazil	Share	***	***	***	***	***
All import sources	Share	***	***	***	***	***

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

Note: Shares represent the share of U.S. producers' and/or their affiliates' U.S. imports out of all importers' U.S. imports. Shares 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 "—".

⁵ As previously noted in Part 3 of this report, Lonza indicated that both the United States and Mexico produce both gelatin and plant-based HECs and that it has begun shifting production of HPMC HECs from Puebla to Greenwood so that it can “turn back on the lines” that were “shut down as a result of subject imports.” Lonza’s posthearing brief, pp. 21 to 22.

Negligibility

The statute requires that an investigation be terminated without an injury determination if imports of the subject merchandise are found to be negligible.⁶ 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.⁷

Table 4.5 presents information on imports from the subject countries in the most recent 12-month period prior to the filing of the petitions (i.e., October 2023 through September 2024). Imports from China,⁸ India, and Vietnam individually accounted for over 3 percent of total imports of HECs by quantity from October 2023 through September 2024, while imports from Brazil accounted for less than 3 percent of total imports of HECs by quantity from October 2023 through September 2024.

⁶ 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)).

⁷ Section 771 (24) of the Act (19 U.S.C § 1677(24)).

⁸ In Commerce's final determinations, producer/exporter JC Biological Technology Co., Ltd. in China received an individual subsidy rate of 8.81 percent but received an individual 0.00 percent dumping margin (90 FR 60623 and 60628, December 29, 2025). Total imports from China subject to Commerce's final subsidy margins (i.e., imports produced by all firms in China), as well as total imports from China subject to Commerce's final dumping margins (i.e., excluding those imports produced by and exported from Shanxi JC Biological Technology Co., Ltd.), accounted for more than 3 percent of total imports of HECs by quantity from October 2023 through September 2024.

Table 4.5 HECs: U.S. imports in the twelve-month period preceding the filing of the petitions, October 2023 through September 2024

Quantity in 1,000 units; share in percent

Source of imports	Questionnaire quantity	Share of questionnaire quantity	Adjusted official statistics quantity	Share of adjusted official statistics quantity
Brazil	***	***	***	***
China, CVD	***	***	***	***
China, AD	***	***	***	***
India	***	***	***	***
Vietnam	***	***	***	***
Mexico	***	***	***	***
All other sources	***	***	***	***
All import sources	***	100.0	***	100.0

Source: Compiled from data submitted in response to Commission questionnaires and from official U.S. import statistics of the U.S. Department of Commerce using HTS statistical reporting numbers 9602.00.1040 and 9602.00.5010, accessed August 11, 2025, adjusted to add in-scope HECs imported under other HTS numbers as reported by U.S. importers in Commission questionnaires. No responding U.S. importer reported any out-of-scope products under the primary HTS numbers and none of the certified “No” questionnaire responses were importers identified under the primary HTS numbers within the proprietary, Census-edited Customs records. Data presented for “China, CVD” are for imports from all suppliers in China. Data presented for “China, AD” exclude U.S. imports of HECs produced by Shanxi JC Biological Technology Co., Ltd. for which Commerce has found a 0.00 percent final dumping margin.

Table 4.6 and figure 4.2 provide additional data on U.S. imports from Brazil for various 12-month periods leading up to and following the October 2024 filing of the petitions. Subject imports from Brazil did not meet or exceed the 3-percent negligibility threshold in any of the various 12-month periods examined that led up to or followed the filing of the petitions.

Table 4.6 HECs: U.S. imports from Brazil and all sources in various 12-month periods leading up to and following the filing of the petitions

Quantity in 1,000 units; share of quantity in percent

12-month period ending in	Brazil quantity	All other sources quantity	All import sources quantity	Brazil share	All other sources share	All import sources share
2023: January	***	***	***	***	***	100.0
2023: February	***	***	***	***	***	100.0
2023: March	***	***	***	***	***	100.0
2023: April	***	***	***	***	***	100.0
2023: May	***	***	***	***	***	100.0
2023: June	***	***	***	***	***	100.0
2023: July	***	***	***	***	***	100.0
2023: August	***	***	***	***	***	100.0
2023: September	***	***	***	***	***	100.0
2023: October	***	***	***	***	***	100.0
2023: November	***	***	***	***	***	100.0
2023: December	***	***	***	***	***	100.0
2024: January	***	***	***	***	***	100.0
2024: February	***	***	***	***	***	100.0
2024: March	***	***	***	***	***	100.0
2024: April	***	***	***	***	***	100.0
2024: May	***	***	***	***	***	100.0
2024: June	***	***	***	***	***	100.0
2024: July	***	***	***	***	***	100.0
2024: August	***	***	***	***	***	100.0
2024: September	***	***	***	***	***	100.0
2024: October	***	***	***	***	***	100.0
2024: November	***	***	***	***	***	100.0
2024: December	***	***	***	***	***	100.0
2025: January	***	***	***	***	***	100.0
2025: February	***	***	***	***	***	100.0
2025: March	***	***	***	***	***	100.0
2025: April	***	***	***	***	***	100.0
2025: May	***	***	***	***	***	100.0
2025: June	***	***	***	***	***	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: Given the high degree of importer questionnaire response coverage in the final phase of these investigations, and the relatively imprecise nature of adjusting official import statistics that not only may include out-of-scope HEC data in some months for some countries, but also may exclude in-scope HEC data reported under other HTS numbers in some months for some countries, the data presented in this table are from responses to the Commission's importer questionnaires.

Figure 4.2 HECs: Share of U.S. imports from Brazil out of total imports in various 12-month periods leading up to and following the filing of the petitions

* * * * *

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

Petitioner Lonza argues that global ACG-affiliated entities with HEC production facilities in Brazil, India, Croatia, and Thailand have “demonstrated intent and ability to shift their HEC supply among their production sites as market conditions warrant.”⁹ It also argues that imports from Brazil have the potential to imminently exceed three percent of total imports given ACG’s ability to shift production and the excess capacity of ACG Brazil with *** in interim 2025 of the countries subject to these investigations and that if an order was imposed on imports from India without a corresponding order on imports from Brazil, ACG would have the ability to divert its sourcing from India to Brazil.¹⁰

⁹ For example, in the fall of 2024, ACG Brazil supplied U.S. customers of ACG’s Indian production as the Indian producers experienced longer lead times. ACG’s posthearing brief, pp. 8 to 9; hearing transcript, p. 129 (Sideris). Also, in July 2025, ACG Brazil experienced an operational disruption and communicated to its customers that it would shift the source of its HEC supply to India while working to restore Brazilian production and “leverag[e] ACG’s global infrastructure” to “ensure continued supply” of HECs from “other group facilities located in India.” Lonza’s prehearing brief, pp. 14 and 70; Lonza’s posthearing brief, pp. 5 to 7; hearing transcript, pp. 34, 44, and 100 (Romanski), and 212 to 213 (Pal).

¹⁰ Lonza’s prehearing brief, p. 70; hearing transcript, pp. 20 to 21 (Pal).

As indicated previously in table 4.1, importer ACG North America accounted for *** percent of U.S. imports of HECs from Brazil in 2024, *** percent of U.S. imports from India, and *** percent of U.S. imports from nonsubject sources. The U.S. importer reported that *** are ACG-affiliated producers.¹¹

Table 4.7 and figure 4.3 present U.S. imports of HECs from Brazil and India reported by ACG North America in various 12-month periods preceding and following the filing of the petitions. Also presented is the excess production capacity reported by ACG Brazil for the same various 12-month periods.¹² For the 12-month negligibility period ending in September 2024, the share of total U.S. imports held by ACG’s imports from Brazil and India combined was *** percent (i.e., the sum of Brazil (*** percent) and India (*** percent) based on unrounded data). As indicated in this analysis, ACG Brazil had sufficient excess capacity in Brazil to have increased its share of U.S. imports from Brazil to a level above the 3-percent negligibility threshold. ACG Brazil’s excess capacity to produce HECs in Brazil was *** units, or *** percent of total U.S. imports during the annual negligibility period ending in September 2024, and the combined share of ACG Brazil’s excess capacity and ACG’s imports from Brazil was *** percent (see figure 4.3). The producer’s excess capacity in Brazil alone accounted for more than 3 percent of total imports of HECs during every 12-month period from that ending in February 2024 to that ending in January 2025.

¹¹ U.S. importer ACG North America is *** by the following ACG firms in India: ACG Associated Capsules Pvt. Ltd. (***), ACG PAM Pharma Technologies Private Limited (***), and ACG Pharmapack Private Limited (***). The importer is also related to the following ACG-affiliated producers of HECs in Brazil, India, Croatia, and Thailand: ACG Associated Capsules Private Limited (India), ACG Universal Capsules Private Limited (India), ACG Do Brasil S.A. (“ACG Brazil”) (Brazil), ACG Capsules Thailand Company Limited (Thailand), and ACG Europe d.o.o. (Croatia).

¹² Commerce determined that Indian HEC producer Custom Capsules Private Limited (“Customs Capsules”) is also related to ACG Associated Capsules Private Limited and ACG Universal Capsules Private Limited in India given the high level of common ownership, shared management, and intertwined operations. Issues and Decision Memorandum for the Final Affirmative Determination in the Less-Than-Fair-Value Investigation of Hard Empty Capsules from India, December 18, 2025; Less Than Fair Value Investigation of Hard Empty Capsules from India: Preliminary Affiliation and Collapsing Analysis Memorandum, April 21, 2025.

Torpac, the *** U.S. importer of Custom Capsules’ HECs from India, accounted for *** percent of U.S. imports from India in 2024, *** of which are large animal capsules in sizes larger than 000 (ACG’s prehearing brief, p. 63; Torpac’s posthearing brief, p. 1). ***.

The U.S. import data of HECs from Brazil and India presented in table 4.7 and figure 4.3 include only those data reported by ACG North America and do not include the U.S. imports from India reported by Torpac.

Table 4.7 HECs: U.S. imports by ACG-related entities and excess capacity of ACG Brazil in 12-month periods preceding and following the filing of the petitions

Quantity in 1,000 units

12-month period ending in	ACG Brazil quantity	ACG India quantity	ACG Brazil and India quantity	Rolling average annual excess ACG Brazil capacity quantity
2023: January	***	***	***	***
2023: February	***	***	***	***
2023: March	***	***	***	***
2023: April	***	***	***	***
2023: May	***	***	***	***
2023: June	***	***	***	***
2023: July	***	***	***	***
2023: August	***	***	***	***
2023: September	***	***	***	***
2023: October	***	***	***	***
2023: November	***	***	***	***
2023: December	***	***	***	***
2024: January	***	***	***	***
2024: February	***	***	***	***
2024: March	***	***	***	***
2024: April	***	***	***	***
2024: May	***	***	***	***
2024: June	***	***	***	***
2024: July	***	***	***	***
2024: August	***	***	***	***
2024: September	***	***	***	***
2024: October	***	***	***	***
2024: November	***	***	***	***
2024: December	***	***	***	***
2025: January	***	***	***	***
2025: February	***	***	***	***
2025: March	***	***	***	***
2025: April	***	***	***	***
2025: May	***	***	***	***
2025: June	***	***	***	***

Table continued.

Table 4.7 (Continued) HECs: U.S. imports by ACG-related entities and excess capacity of ACG Brazil in 12-month periods preceding and following the filing of the petitions

Share of quantity in percent

12-month period ending in	ACG Brazil share	ACG India share	ACG Brazil and India share	Rolling average annual excess ACG Brazil capacity ratio
2023: January	***	***	***	***
2023: February	***	***	***	***
2023: March	***	***	***	***
2023: April	***	***	***	***
2023: May	***	***	***	***
2023: June	***	***	***	***
2023: July	***	***	***	***
2023: August	***	***	***	***
2023: September	***	***	***	***
2023: October	***	***	***	***
2023: November	***	***	***	***
2023: December	***	***	***	***
2024: January	***	***	***	***
2024: February	***	***	***	***
2024: March	***	***	***	***
2024: April	***	***	***	***
2024: May	***	***	***	***
2024: June	***	***	***	***
2024: July	***	***	***	***
2024: August	***	***	***	***
2024: September	***	***	***	***
2024: October	***	***	***	***
2024: November	***	***	***	***
2024: December	***	***	***	***
2025: January	***	***	***	***
2025: February	***	***	***	***
2025: March	***	***	***	***
2025: April	***	***	***	***
2025: May	***	***	***	***
2025: June	***	***	***	***

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 "—". The excess capacity numbers presented in this table are the annual, or interim excess capacity reported by ACG, allocated equally based on the number of months from each period. For example, excess capacity ending in February 2024 is based on allocating 10 out of 12 months for the 2023 excess capacity plus 2 out of 12 months for the 2024 excess capacity.

Figure 4.3 HECs: Share of U.S. imports by ACG-related entities and excess capacity of ACG Brazil in 12-month periods preceding and following the filing of the petitions

* * * * *

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

Cumulation considerations

In assessing whether imports should be cumulated, the Commission determines whether U.S. imports from the subject countries compete with each other and with the domestic like product and has generally considered four factors: (1) fungibility, (2) presence of sales or offers to sell in the same geographical markets, (3) common or similar channels of distribution, and (4) simultaneous presence in the market. Information regarding channels of distribution, market areas, and interchangeability appear in Part 2. Additional information concerning fungibility, geographical markets, and simultaneous presence in the market is presented below.

Fungibility

Table 4.8 and figure 4.4 present U.S. producers' and U.S. importers' 2024 U.S. shipments by size. In 2024, sizes 0 and 00 were the most common sizes shipped, accounting for the majority of shipments. *** reported U.S. shipments of HECs larger than size 000 in 2024.¹³ *** U.S. shipments of imports of HECs larger than size 000 in 2024 were reported by ***.¹⁴

Table 4.9 and figure 4.5 present U.S. producers' and U.S. importers' 2024 U.S. shipments by material type (gelatin and non-gelatin). U.S. producers and U.S. importers from all sources, except Brazil, reported shipments of both gelatin and non-gelatin HECs while U.S. importers from Brazil only reported U.S. shipments of gelatin HECs.¹⁵ Most of the U.S. producers' U.S. shipments and a majority of the U.S. shipments of imports from India and Vietnam were gelatin-based HECs, whereas a majority of the U.S. shipments of imports from China, Mexico, and all other countries were non-gelatin HECs.

Table 4.10 and figure 4.6 present U.S. producers' and U.S. importers' 2024 U.S. shipments by end use. In 2024, a *** of U.S. producers' U.S. shipments were for pharmaceutical end uses, whereas an ***. U.S. producers' and U.S. importers' U.S. shipments by end use for annual periods 2022 to 2024, and for interim 2024 and interim 2025, are presented in appendix D. These data show that subject import volumes and shares of U.S. consumption for the pharmaceutical end use increased from 2022 to 2024, but were lower in interim 2025 following the filing of the petitions compared with interim 2024. Conversely, the U.S. producers' U.S. shipment volumes and shares of consumption fell from 2022 to 2024, and were higher in interim 2025 compared with interim 2024.¹⁶ The data for the nutraceutical end uses

¹³ Lonza explained that it can and has produced HECs as large as ***. It further argued that "if the market demands, it can produce even larger HECs" and that it "can produce any size requested by a customer . . . from its facility in Greenwood, South Carolina." Lonza's posthearing brief, pp. 3 and 11; exh. 2, p. 16; and exh. 3, p. 3.

¹⁴ Torpac contends that it is the only known supply source for large animal capsules in sizes larger than 000. ACG's prehearing brief, p. 64; Torpac's posthearing brief, p. 1.

¹⁵ U.S. shipments of imports from Brazil that were solely gelatin HECs were predominantly sold for *** end uses (compare tables 4.9 and 4.10). Lonza testified that "in the market both the pharmaceutical and nutraceutical industry utilize gelatin as well as HPMC capsules." Hearing transcript, pp. 55 to 56 (Romanski) and 214 (Pal).

¹⁶ Lonza indicated that it "experienced some improvement in the pharmaceutical segment after the filing of the petitions because pharmaceutical customers were quicker than nutraceutical customers to switch to domestic suppliers due to pharmaceutical customers' concerns over the uncertain effects of trade measures on their supply of HECs." Lonza's prehearing brief, p. 37.

indicate that subject import volumes and shares of consumption increased from 2022 to 2024 and were higher in interim 2025 than in interim 2024, whereas the U.S. producers' U.S. shipments fell from 2022 to 2024 and were lower in interim 2025 than in interim 2024.

Table 4.8 HECs: U.S. producers' and U.S. importers' U.S. shipments, by source and size, 2024

Quantity in 1,000 units

Source	Sizes larger than 000	Size 000	Size 00E	Size 00	Size 0E	Size 0
U.S. producers	***	***	***	***	***	***
Brazil	***	***	***	***	***	***
China	***	***	***	***	***	***
India	***	***	***	***	***	***
Vietnam	***	***	***	***	***	***
Subject sources	***	***	***	***	***	***
Subject sources less Brazil	***	***	***	***	***	***
Mexico	***	***	***	***	***	***
All other sources	***	***	***	***	***	***
Nonsubject sources	***	***	***	***	***	***
Nonsubject sources plus Brazil	***	***	***	***	***	***
All import sources	***	***	***	***	***	***
All sources	***	***	***	***	***	***

Table continued.

Table 4.8 (Continued) HECs: U.S. producers' and U.S. importers' U.S. shipments, by source and size, 2024

Quantity in 1,000 units

Source	Size 1	Size 2	Size 3	Size 4	Sizes smaller than 4	All sizes
U.S. producers	***	***	***	***	***	***
Brazil	***	***	***	***	***	***
China	***	***	***	***	***	***
India	***	***	***	***	***	***
Vietnam	***	***	***	***	***	***
Subject sources	***	***	***	***	***	***
Subject sources less Brazil	***	***	***	***	***	***
Mexico	***	***	***	***	***	***
All other sources	***	***	***	***	***	***
Nonsubject sources	***	***	***	***	***	***
Nonsubject sources plus Brazil	***	***	***	***	***	***
All import sources	***	***	***	***	***	***
All sources	***	***	***	***	***	***

Table continued.

Table 4.8 (Continued) HECs: U.S. producers' and U.S. importers' U.S. shipments, by source and size, 2024

Share across in percent

Source	Sizes larger than 000	Size 000	Size 00E	Size 00	Size 00E	Size 0
U.S. producers	***	***	***	***	***	***
Brazil	***	***	***	***	***	***
China	***	***	***	***	***	***
India	***	***	***	***	***	***
Vietnam	***	***	***	***	***	***
Subject sources	***	***	***	***	***	***
Subject sources less Brazil	***	***	***	***	***	***
Mexico	***	***	***	***	***	***
All other sources	***	***	***	***	***	***
Nonsubject sources	***	***	***	***	***	***
Nonsubject sources plus Brazil	***	***	***	***	***	***
All import sources	***	***	***	***	***	***
All sources	***	***	***	***	***	***

Table continued.

Table 4.8 (Continued) HECs: U.S. producers' and U.S. importers' U.S. shipments, by source and size, 2024

Share across in percent

Source	Size 1	Size 2	Size 3	Size 4	Sizes smaller than 4	All sizes
U.S. producers	***	***	***	***	***	100.0
Brazil	***	***	***	***	***	100.0
China	***	***	***	***	***	100.0
India	***	***	***	***	***	100.0
Vietnam	***	***	***	***	***	100.0
Subject sources	***	***	***	***	***	100.0
Subject sources less Brazil	***	***	***	***	***	100.0
Mexico	***	***	***	***	***	100.0
All other sources	***	***	***	***	***	100.0
Nonsubject sources	***	***	***	***	***	100.0
Nonsubject sources plus Brazil	***	***	***	***	***	100.0
All import sources	***	***	***	***	***	100.0
All sources	***	***	***	***	***	100.0

Table continued.

Table 4.8 (Continued) HECs: U.S. producers' and U.S. importers' U.S. shipments, by source and size, 2024

Share down in percent

Source	Sizes larger than 000	Size 000	Size 00E	Size 00	Size 00E	Size 0
U.S. producers	***	***	***	***	***	***
Brazil	***	***	***	***	***	***
China	***	***	***	***	***	***
India	***	***	***	***	***	***
Vietnam	***	***	***	***	***	***
Subject sources	***	***	***	***	***	***
Subject sources less Brazil	***	***	***	***	***	***
Mexico	***	***	***	***	***	***
All other sources	***	***	***	***	***	***
Nonsubject sources	***	***	***	***	***	***
Nonsubject sources plus Brazil	***	***	***	***	***	***
All import sources	***	***	***	***	***	***
All sources	100.0	100.0	100.0	100.0	100.0	100.0

Table continued.

Table 4.8 (Continued) HECs: U.S. producers' and U.S. importers' U.S. shipments, by source and size, 2024

Share down in percent

Source	Size 1	Size 2	Size 3	Size 4	Sizes smaller than 4	All sizes
U.S. producers	***	***	***	***	***	***
Brazil	***	***	***	***	***	***
China	***	***	***	***	***	***
India	***	***	***	***	***	***
Vietnam	***	***	***	***	***	***
Subject sources	***	***	***	***	***	***
Subject sources less Brazil	***	***	***	***	***	***
Mexico	***	***	***	***	***	***
All other sources	***	***	***	***	***	***
Nonsubject sources	***	***	***	***	***	***
Nonsubject sources plus Brazil	***	***	***	***	***	***
All import sources	***	***	***	***	***	***
All sources	100.0	100.0	100.0	100.0	100.0	100.0

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

Note: Shares 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 "—".

Figure 4.4 HECs: U.S. producers' and U.S. importers' U.S. shipments, by source and size, 2024

* * * * *

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

Table 4.9 HECs: U.S. producers' and U.S. importers' U.S. shipments, by source and material input type, 2024

Quantity in 1,000 units

Source	Gelatin	Non-gelatin	All input types
U.S. producers	***	***	***
Brazil	***	***	***
China	***	***	***
India	***	***	***
Vietnam	***	***	***
Subject sources	***	***	***
Subject sources less Brazil	***	***	***
Mexico	***	***	***
All other sources	***	***	***
Nonsubject sources	***	***	***
Nonsubject sources plus Brazil	***	***	***
All import sources	32,840,847	53,793,001	86,633,848
All sources	***	***	***

Table continued.

Table 4.9 (Continued) HECs: U.S. producers' and U.S. importers' U.S. shipments, by source and material input type, 2024

Share across in percent

Source	Gelatin	Non-gelatin	All input types
U.S. producers	***	***	100.0
Brazil	***	***	100.0
China	***	***	100.0
India	***	***	100.0
Vietnam	***	***	100.0
Subject sources	***	***	100.0
Subject sources less Brazil	***	***	100.0
Mexico	***	***	100.0
All other sources	***	***	100.0
Nonsubject sources	***	***	100.0
Nonsubject sources plus Brazil	***	***	100.0
All import sources	37.9	62.1	100.0
All sources	***	***	100.0

Table continued.

Table 4.9 HECs: U.S. producers' and U.S. importers' U.S. shipments, by source and material input type, 2024

Share down in percent

Source	Gelatin	Non-gelatin	All input types
U.S. producers	***	***	***
Brazil	***	***	***
China	***	***	***
India	***	***	***
Vietnam	***	***	***
Subject sources	***	***	***
Subject sources less Brazil	***	***	***
Mexico	***	***	***
All other sources	***	***	***
Nonsubject sources	***	***	***
Nonsubject sources plus Brazil	***	***	***
All import sources	***	***	***
All sources	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 "—".

Figure 4.5 HECs: U.S. producers' and U.S. importers' U.S. shipments, by source and material input type, 2024

* * * * *

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

Table 4.10 HECs: U.S. producers' and U.S. importers' U.S. shipments, by source and by ultimate end use type, 2024

Quantity in 1,000 units

Source	Pharmaceutical	Nutraceutical	Other or unknown	All end uses
U.S. producers	***	***	***	***
Brazil	***	***	***	***
China	***	***	***	***
India	***	***	***	***
Vietnam	***	***	***	***
Subject sources	***	***	***	***
Subject sources less Brazil	***	***	***	***
Mexico	***	***	***	***
All other sources	***	***	***	***
Nonsubject sources	***	***	***	***
Nonsubject sources plus Brazil	***	***	***	***
All import sources	***	***	***	***
All sources	***	***	***	***

Table continued.

Table 4.10 (Continued) HECs: U.S. producers' and U.S. importers' U.S. shipments, by source and by ultimate end use type, 2024

Share across in percent

Source	Pharmaceutical	Nutraceutical	Other or unknown	All end uses
U.S. producers	***	***	***	100.0
Brazil	***	***	***	100.0
China	***	***	***	100.0
India	***	***	***	100.0
Vietnam	***	***	***	100.0
Subject sources	***	***	***	100.0
Subject sources less Brazil	***	***	***	100.0
Mexico	***	***	***	100.0
All other sources	***	***	***	100.0
Nonsubject sources	***	***	***	100.0
Nonsubject sources plus Brazil	***	***	***	100.0
All import sources	***	***	***	100.0
All sources	***	***	***	100.0

Table continued.

Table 4.10 (Continued) HECs: U.S. producers' and U.S. importers' U.S. shipments, by source and by ultimate end use type, 2024

Share down in percent

Source	Pharmaceutical	Nutraceutical	Other or unknown	All end uses
U.S. producers	***	***	***	***
Brazil	***	***	***	***
China	***	***	***	***
India	***	***	***	***
Vietnam	***	***	***	***
Subject sources	***	***	***	***
Subject sources less Brazil	***	***	***	***
Mexico	***	***	***	***
All other sources	***	***	***	***
Nonsubject sources	***	***	***	***
Nonsubject sources plus Brazil	***	***	***	***
All import sources	***	***	***	***
All sources	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 "—".

Figure 4.6 HECs: U.S. producers' and U.S. importers' U.S. shipments, by source and by ultimate end use type, 2024

* * * * *

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

Geographical markets

Table 4.11 presents data on U.S. imports by source and border of entry in 2024. Imports from all sources entered through all borders of entry in 2024, except that no imports from Brazil and Vietnam entered through Northern borders of entry. The majority of U.S. imports from subject and nonsubject sources combined entered through the Eastern border of entry in 2024. Entries of U.S. imports through the Eastern border accounted for the largest share of U.S. imports from Brazil, India, and nonsubject sources, whereas entries through the Western border accounted for the largest share of U.S. imports from China and Vietnam and entries through the Southern border accounted for the largest share of U.S. imports from Mexico.

Table 4.11 HECs: U.S. imports by source and border of entry, 2024

Quantity in 1,000 units

Source	East	North	South	West	All borders
Brazil	725,075	—	521,650	379,075	1,625,800
China	3,728,511	27,678	3,396,453	8,539,172	15,691,814
India	15,689,248	20,700	1,134,781	2,091,782	18,936,511
Vietnam	5,902,682	—	522,110	7,157,076	13,581,868
Subject sources	26,045,516	48,378	5,574,994	18,167,105	49,835,993
Subject sources less Brazil	25,320,441	48,378	5,053,344	17,788,030	48,210,193
Mexico	—	—	485,727	—	485,727
All other sources	1,368,860	4,115	261,437	413,607	2,048,019
Nonsubject sources	1,368,860	4,115	747,164	413,607	2,533,746
Nonsubject sources plus Brazil	2,093,935	4,115	1,268,814	792,682	4,159,546
All import sources	27,414,376	52,493	6,322,158	18,580,712	52,369,739

Table continued.

Table 4.11 (Continued) HECs: U.S. imports by source and border of entry, 2024

Share in percent

Source	East	North	South	West	All borders
Brazil	44.6	—	32.1	23.3	100.0
China	23.8	0.2	21.6	54.4	100.0
India	82.9	0.1	6.0	11.0	100.0
Vietnam	43.5	—	3.8	52.7	100.0
Subject sources	52.3	0.1	11.2	36.5	100.0
Subject sources less Brazil	52.5	0.1	10.5	36.9	100.0
Mexico	—	—	100.0	—	100.0
All other sources	66.8	0.2	12.8	20.2	100.0
Nonsubject sources	54.0	0.2	29.5	16.3	100.0
Nonsubject sources plus Brazil	50.3	0.1	30.5	19.1	100.0
All import sources	52.3	0.1	12.1	35.5	100.0

Table continued.

Table 4.11 (Continued) HECs: U.S. imports by source and border of entry, 2024

Share in percent

Source	East	North	South	West	All borders
Brazil	2.6	—	8.3	2.0	3.1
China	13.6	52.7	53.7	46.0	30.0
India	57.2	39.4	17.9	11.3	36.2
Vietnam	21.5	—	8.3	38.5	25.9
Subject sources	95.0	92.2	88.2	97.8	95.2
Subject sources less Brazil	92.4	92.2	79.9	95.7	92.1
Mexico	—	—	7.7	—	0.9
All other sources	5.0	7.8	4.1	2.2	3.9
Nonsubject sources	5.0	7.8	11.8	2.2	4.8
Nonsubject sources plus Brazil	7.6	7.8	20.1	4.3	7.9
All import sources	100.0	100.0	100.0	100.0	100.0

Source: Compiled from official U.S. import statistics of the U.S. Department of Commerce Census Bureau using HTS statistical reporting numbers 9602.00.1040 and 9602.00.5010, accessed August 11, 2025. Imports are based on the imports for consumption data series.

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 "—". HECs imported from Mexico are understated because most are classified under other HTS numbers.

Presence in the market

Table 4.12 and figures 4.7 and 4.8 present data on U.S. imports by source and month from January 2022 to June 2025. Imports from both aggregate subject sources and nonsubject sources were present in every month from January 2022 to June 2025. Imports from China, India, Vietnam, and nonsubject sources were present in all 42 months in this period, whereas imports from Brazil were present in 28 of the 42 months in this period.

Table 4.12 HECs: Quantity of U.S. imports, by source and month

Quantity in 1,000 units

Year	Month	Brazil	China	India	Vietnam	Subject sources	Subject sources less Brazil
2022	January	***	***	***	***	***	***
2022	February	***	***	***	***	***	***
2022	March	***	***	***	***	***	***
2022	April	***	***	***	***	***	***
2022	May	***	***	***	***	***	***
2022	June	***	***	***	***	***	***
2022	July	***	***	***	***	***	***
2022	August	***	***	***	***	***	***
2022	September	***	***	***	***	***	***
2022	October	***	***	***	***	***	***
2022	November	***	***	***	***	***	***
2022	December	***	***	***	***	***	***
2023	January	***	***	***	***	***	***
2023	February	***	***	***	***	***	***
2023	March	***	***	***	***	***	***
2023	April	***	***	***	***	***	***
2023	May	***	***	***	***	***	***
2023	June	***	***	***	***	***	***
2023	July	***	***	***	***	***	***
2023	August	***	***	***	***	***	***
2023	September	***	***	***	***	***	***
2023	October	***	***	***	***	***	***
2023	November	***	***	***	***	***	***
2023	December	***	***	***	***	***	***

Table continued.

Table 4.12 (Continued) HECs: Quantity of U.S. imports, by source and month

Quantity in 1,000 units

Year	Month	Brazil	China	India	Vietnam	Subject sources	Subject sources less Brazil
2024	January	***	***	***	***	***	***
2024	February	***	***	***	***	***	***
2024	March	***	***	***	***	***	***
2024	April	***	***	***	***	***	***
2024	May	***	***	***	***	***	***
2024	June	***	***	***	***	***	***
2024	July	***	***	***	***	***	***
2024	August	***	***	***	***	***	***
2024	September	***	***	***	***	***	***
2024	October	***	***	***	***	***	***
2024	November	***	***	***	***	***	***
2024	December	***	***	***	***	***	***
2025	January	***	***	***	***	***	***
2025	February	***	***	***	***	***	***
2025	March	***	***	***	***	***	***
2025	April	***	***	***	***	***	***
2025	May	***	***	***	***	***	***
2025	June	***	***	***	***	***	***

Table continued.

Table 4.12 (Continued) HECs: Quantity of U.S. imports, by source and month

Quantity in 1,000 units

Year	Month	Mexico	All other sources	Nonsubject sources	Nonsubject sources plus Brazil	All import sources
2022	January	***	***	***	***	8,614,563
2022	February	***	***	***	***	8,730,082
2022	March	***	***	***	***	9,621,949
2022	April	***	***	***	***	8,404,260
2022	May	***	***	***	***	8,765,996
2022	June	***	***	***	***	9,503,884
2022	July	***	***	***	***	7,180,455
2022	August	***	***	***	***	8,120,458
2022	September	***	***	***	***	8,479,096
2022	October	***	***	***	***	7,453,905
2022	November	***	***	***	***	7,342,299
2022	December	***	***	***	***	6,438,651
2023	January	***	***	***	***	6,056,597
2023	February	***	***	***	***	5,833,876
2023	March	***	***	***	***	6,475,938
2023	April	***	***	***	***	5,468,702
2023	May	***	***	***	***	5,441,170
2023	June	***	***	***	***	6,797,631
2023	July	***	***	***	***	6,034,121
2023	August	***	***	***	***	8,519,359
2023	September	***	***	***	***	7,478,823
2023	October	***	***	***	***	7,354,491
2023	November	***	***	***	***	8,844,426
2023	December	***	***	***	***	6,429,668

Table continued.

Table 4.12 (Continued) HECs: Quantity of U.S. imports, by source and month

Quantity in 1,000 units

Year	Month	Mexico	All other sources	Nonsubject sources	Nonsubject sources plus Brazil	All import sources
2024	January	***	***	***	***	7,253,038
2024	February	***	***	***	***	7,773,393
2024	March	***	***	***	***	8,122,989
2024	April	***	***	***	***	8,196,535
2024	May	***	***	***	***	7,469,206
2024	June	***	***	***	***	7,112,533
2024	July	***	***	***	***	9,775,978
2024	August	***	***	***	***	9,027,128
2024	September	***	***	***	***	7,737,540
2024	October	***	***	***	***	9,050,006
2024	November	***	***	***	***	8,131,441
2024	December	***	***	***	***	8,421,819
2025	January	***	***	***	***	8,694,697
2025	February	***	***	***	***	7,369,444
2025	March	***	***	***	***	8,462,672
2025	April	***	***	***	***	6,959,431
2025	May	***	***	***	***	7,956,817
2025	June	***	***	***	***	6,722,182

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

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

Figure 4.7 HECs: U.S. imports from individual subject sources, by month

* * * * *

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

Figure 4.8 HECs: U.S. imports from aggregated subject and nonsubject sources, by month

* * * * *

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

Apparent U.S. consumption and market shares

Quantity

Table 4.13 and figure 4.9 present data on apparent U.S. consumption and U.S. market shares by quantity for HECs. Overall, apparent U.S. consumption was approximately the same in 2022 and 2023 then increased *** in 2024. Apparent U.S. consumption was higher in interim 2025 compared to interim 2024. From 2022 to 2024, U.S. producers accounted for a decreasing share of apparent U.S. consumption while U.S. shipments of imports from Brazil, China, India, Vietnam, and nonsubject sources accounted for an increasing share. The share of apparent U.S. consumption accounted for by U.S. producers and U.S. shipments of imports from China and India was higher in interim 2025 compared to interim 2024 while the share of apparent U.S. consumption accounted for by U.S. shipments of imports from Brazil, Vietnam, and nonsubject sources were lower in interim 2025 compared to interim 2024.

Table 4.13 HECs: Apparent U.S. consumption and market shares based on quantity, by source and period

Quantity in 1,000 units; shares in percent; interim is January through June

Source	Measure	2022	2023	2024	Interim 2024	Interim 2025
U.S. producers: Lonza	Quantity	***	***	***	***	***
U.S. producers: Qualicaps	Quantity	***	***	***	***	***
U.S. producers: All	Quantity	***	***	***	***	***
Brazil	Quantity	***	***	***	***	***
China	Quantity	***	***	***	***	***
India	Quantity	***	***	***	***	***
Vietnam	Quantity	***	***	***	***	***
Subject sources	Quantity	***	***	***	***	***
Subject sources less Brazil	Quantity	***	***	***	***	***
Mexico	Quantity	***	***	***	***	***
All other sources	Quantity	***	***	***	***	***
Nonsubject sources	Quantity	***	***	***	***	***
Nonsubject sources plus Brazil	Quantity	***	***	***	***	***
All import sources	Quantity	74,031,227	77,002,294	86,633,847	44,030,988	45,469,830
All sources	Quantity	***	***	***	***	***
U.S. producers: Lonza	Share	***	***	***	***	***
U.S. producers: Qualicaps	Share	***	***	***	***	***
U.S. producers: All	Share	***	***	***	***	***
Brazil	Share	***	***	***	***	***
China	Share	***	***	***	***	***
India	Share	***	***	***	***	***
Vietnam	Share	***	***	***	***	***
Subject sources	Share	***	***	***	***	***
Subject sources less Brazil	Share	***	***	***	***	***
Mexico	Share	***	***	***	***	***
All other sources	Share	***	***	***	***	***
Nonsubject sources	Share	***	***	***	***	***
Nonsubject sources plus Brazil	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.

Note: Data for import sources are U.S. importers' U.S. shipments of imports.

Figure 4.9 HECs: Apparent U.S. consumption based on quantity, by source and period

* * * * *

Source: Compiled from data submitted in response to Commission questionnaires

Value

Table 4.14 and figure 4.10 present data on apparent U.S. consumption and U.S. market shares by value for HECs. Apparent U.S. consumption decreased annually from 2022 to 2024, but was higher in interim 2025 compared to interim 2024. From 2022 to 2024, U.S. producers accounted for a decreasing share of apparent U.S. consumption while U.S. shipments of imports from Brazil, China, India, Vietnam, and nonsubject sources accounted for an increasing share. The share of apparent U.S. consumption accounted for by U.S. producers and U.S. shipments of imports from China and India was higher in interim 2025 compared to interim 2024, while the share of apparent U.S. consumption accounted for by U.S. shipments of imports from Brazil, Vietnam, and nonsubject sources were lower in interim 2025 compared to interim 2024.

Table 4.14 HECs: Apparent U.S. consumption and market shares based on value, by source and period

Value in 1,000 dollars; shares in percent; interim is January through June

Source	Measure	2022	2023	2024	Interim 2024	Interim 2025
U.S. producers: Lonza	Value	***	***	***	***	***
U.S. producers: Qualicaps	Value	***	***	***	***	***
U.S. producers: All	Value	***	***	***	***	***
Brazil	Value	***	***	***	***	***
China	Value	***	***	***	***	***
India	Value	***	***	***	***	***
Vietnam	Value	***	***	***	***	***
Subject sources	Value	***	***	***	***	***
Subject sources less Brazil	Value	***	***	***	***	***
Mexico	Value	***	***	***	***	***
All other sources	Value	***	***	***	***	***
Nonsubject sources	Value	***	***	***	***	***
Nonsubject sources plus Brazil	Value	***	***	***	***	***
All import sources	Value	363,753	345,694	366,623	190,791	200,994
All sources	Value	***	***	***	***	***
U.S. producers: Lonza	Share	***	***	***	***	***
U.S. producers: Qualicaps	Share	***	***	***	***	***
U.S. producers: All	Share	***	***	***	***	***
Brazil	Share	***	***	***	***	***
China	Share	***	***	***	***	***
India	Share	***	***	***	***	***
Vietnam	Share	***	***	***	***	***
Subject sources	Share	***	***	***	***	***
Subject sources less Brazil	Share	***	***	***	***	***
Mexico	Share	***	***	***	***	***
All other sources	Share	***	***	***	***	***
Nonsubject sources	Share	***	***	***	***	***
Nonsubject sources plus Brazil	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.

Note: Data for import sources are U.S. importers' U.S. shipments of imports.

Figure 4.10 HECs: Apparent U.S. consumption 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

The major raw materials for HECs are the gelatin or plant-based polymers used in their production. U.S. producers reported that raw materials accounted for between approximately *** of their cost of goods sold (“COGS”) throughout the period. In 2022, 2023, and interim 2025 raw materials accounted for the largest portion of COGS, while in 2024 direct labor accounted for the largest portion (*** percent). Gelatin accounted for the largest share of these raw materials costs throughout the period, and was *** percent in 2024, followed by *** percent for HPMC, *** percent for pullulan, and *** percent for other raw material input costs).

Most (30 of 39) responding purchasers are not familiar with raw material costs used to manufacture HECs. Six of 16 responding purchasers indicated that raw material costs affect their contracts for HECs. Three of these purchasers specifically mentioned being aware of the cost of raw gelatin and its impact on pricing/negotiation with suppliers, and two, while not specifically noting gelatin, did note the impact of raw material prices in their negotiations with vendors.

Transportation costs to the U.S. market

Transportation costs for HECs shipped from subject countries to the United States averaged 2.4 percent for Brazil, 7.9 percent for China, 9.7 percent for India, and 10.9 percent for Vietnam during 2024. These estimates were derived from official import data and represent the transportation and other charges on imports.¹

U.S. inland transportation costs

*** responding U.S. producers and 14 of 15 responding importers reported that they typically arrange transportation to their customers. U.S. producers reported that their U.S. inland transportation costs ranged from *** to *** percent while most importers reported costs of 0.5 to 10.0 percent.

¹ The estimated transportation costs were obtained by subtracting the customs value from the c.i.f. value of the imports for 2024 and then dividing by the customs value based on the HTS statistical reporting numbers 9602.00.1040 and 9602.00.5010.

Pricing practices

Pricing methods

*** and importers reported setting prices using transaction-by-transaction negotiations, contracts, and price lists (table 5.1). *** two importers reported other methods including: pricing based on customer-by-customer negotiation according to their required specifications; price guidelines used in negotiations; and set a price floor based on gross or variable margin.

Table 5.1 HECs: Count of U.S. producers' and importers' reported price setting methods

Method	U.S. producers	Importers
Transaction-by-transaction	***	9
Contract	***	7
Set price list	***	11
Other	***	2
Responding firms	2	15

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. producers reported selling most of their HECs *** (table 5.2). Importers reported selling most of their HECs under short-term contracts or in the spot market, with most of the remainder under annual contracts.

Table 5.2 HECs: U.S. producers' and importers' shares of commercial U.S. shipments by type of sale, 2024

Share in percent

Type of sale	U.S. producers	Subject importers
Long-term contracts	***	8.0
Annual contracts	***	28.2
Short-term contracts	***	33.3
Spot sales	***	30.5
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 ***. ***. Importers reported using short-term, annual, and long-term contracts

and a variety of contract characteristics. At least one of four responding importers that use contracts noted either renegotiating contracts during the contract period or not doing so, fixing either price or both price and quantity, and either indexing prices to raw material costs or not, for each of these contract types.

One purchaser reported that it purchases HECs daily, 1 purchases every other day, 13 purchase weekly, 17 purchase monthly, 1 purchases bi-monthly, 4 purchase quarterly, 1 purchases semi-annually, 1 purchases annually, and 4 purchase on a customer-need basis. Thirty-four of 40 responding purchasers reported that their purchasing frequency had not changed since 2022. Most (23 of 39) responding purchasers contact up to two or three suppliers before making a purchase. Eight purchasers reported only contacting one vendor, six reported contacting up to six, and the remaining two contact up to eight or ten vendors.

Sales terms and discounts

*** 8 of 15 responding importers typically quote prices on a delivered basis. Producers reported ***. Five importers reported offering quantity discounts and three offered total volume discounts, while 10 of 15 importers reported no discount policy.

Price leadership

A majority of purchasers reported that they did not know of any price leaders in the HEC market. Among those that did, three reported that Lonza was a leader and two each reported that ACG and Alfacaps were price leaders, and one each noted ACB Pharma and Biocaps were price leaders. Purchasers indicating the presence of price leaders reported that named importers led the industry by offering good credit terms, providing customer service, supplying HECs with short lead times, offering volume rebates and setting prices (with one purchaser noting that the importer does so by “leveraging efficient sourcing, bulk purchasing, and competitive market strategies”), offering to supply a sufficient quantity of capsules, and providing technical assistance. One purchaser noted that Lonza is a price leader by increasing or setting higher prices which other firms follow. Another purchaser stated that prior to the COVID-19 pandemic, Lonza was always the highest priced, but it “lost so much business” during the pandemic because “they were not able to support their customers that they were forced to reduce their costs to become competitive.”

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 HECs products shipped to unrelated U.S. customers during January 2022 to June 2025.

Product 1.-- Hard empty gelatin capsules (including cap and body) for human consumption, in all sizes between 00 to 0 (whether regular, elongated, or enrobing), imprinted, and sold in per 1,000 unit increments.

Product 2.-- Hard empty gelatin capsules (including cap and body) for human consumption, in all sizes between 00 to 0 (whether regular, elongated, or enrobing), NOT imprinted, and sold in per 1,000 unit increments.

Product 3.-- Hard empty hydroxypropyl methylcellulose ("HPMC") capsules (including cap and body) for human consumption, in all sizes between 00 to 0 (whether regular, elongated, or enrobing), imprinted, and sold in per 1,000 unit increments.

Product 4.-- Hard empty hydroxypropyl methylcellulose ("HPMC") capsules (including cap and body) for human consumption, in all sizes between 00 to 0 (whether regular, elongated, or enrobing), NOT imprinted, and sold in per 1,000 unit increments.

Product 5.-- Hard empty gelatin capsules (including cap and body) for human consumption, in all sizes between 1 to 3 (whether regular, elongated, or enrobing), imprinted, and sold in per 1,000 unit increments.

Product 6.-- Hard empty gelatin capsules (including cap and body) for human consumption, in all sizes between 1 to 3 (whether regular, elongated, or enrobing), NOT imprinted, and sold in per 1,000 unit increments.

Product 7.-- Hard empty hydroxypropyl methylcellulose ("HPMC") capsules (including cap and body) for human consumption, in all sizes between 1 to 3 (whether regular, elongated, or enrobing), imprinted, and sold in per 1,000 unit increments.

Product 8.-- Hard empty hydroxypropyl methylcellulose ("HPMC") capsules (including cap and body) for human consumption, in all sizes between 1 to 3 (whether regular, elongated, or enrobing), NOT imprinted, and sold in per 1,000 unit increments.

Two U.S. producers and 11 importers provided usable pricing data for sales of the requested products, although not all firms reported pricing for all products for all quarters.² Pricing data reported by these firms accounted for approximately *** percent of U.S. producers' U.S. commercial shipments of HECs and *** percent of U.S. commercial shipments of subject imports from Brazil, *** percent from China, *** percent from India, and *** percent from Vietnam in 2023.³

Price data for domestically produced products 1 to 8 and those imported from subject sources are presented in tables 5.3 to 5.10 and figures 5.1 to 5.8. Price and quantity data for sales of these products imported from Mexico are presented in appendix E.

² 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.

³ Pricing coverage is based on U.S. commercial shipments reported in questionnaires.

Table 5.3 HECs: 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 1,000 units, quantity in 1,000 units, margin in percent.

Period	U.S. price	U.S. quantity	China price	China quantity	China margin
2022 Q1	***	***	***	***	***
2022 Q2	***	***	***	***	***
2022 Q3	***	***	***	***	***
2022 Q4	***	***	***	***	***
2023 Q1	***	***	***	***	***
2023 Q2	***	***	***	***	***
2023 Q3	***	***	***	***	***
2023 Q4	***	***	***	***	***
2024 Q1	***	***	***	***	***
2024 Q2	***	***	***	***	***
2024 Q3	***	***	***	***	***
2024 Q4	***	***	***	***	***
2025 Q1	***	***	***	***	***
2025 Q2	***	***	***	***	***

Table continued.

Table 5.3 HECs (Continued)

Period	India price	India quantity	India margin	Vietnam price	Vietnam quantity	Vietnam margin
2022 Q1	***	***	***	***	***	***
2022 Q2	***	***	***	***	***	***
2022 Q3	***	***	***	***	***	***
2022 Q4	***	***	***	***	***	***
2023 Q1	***	***	***	***	***	***
2023 Q2	***	***	***	***	***	***
2023 Q3	***	***	***	***	***	***
2023 Q4	***	***	***	***	***	***
2024 Q1	***	***	***	***	***	***
2024 Q2	***	***	***	***	***	***
2024 Q3	***	***	***	***	***	***
2024 Q4	***	***	***	***	***	***
2025 Q1	***	***	***	***	***	***
2025 Q2	***	***	***	***	***	***

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

Note: Product 1: Hard empty gelatin capsules (including cap and body) for human consumption, in all sizes between 00 to 0 (whether regular, elongated, or enrobing), imprinted, and sold in per 1,000 unit increments.

Table 5.4 HECs: 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 1,000 units, quantity in 1,000 units, margin in percent.

Period	U.S. price	U.S. quantity	Brazil price	Brazil quantity	Brazil margin	China price	China quantity	China margin
2022 Q1	***	***	***	***	***	***	***	***
2022 Q2	***	***	***	***	***	***	***	***
2022 Q3	***	***	***	***	***	***	***	***
2022 Q4	***	***	***	***	***	3.32	668,965	***
2023 Q1	***	***	***	***	***	2.72	811,080	***
2023 Q2	***	***	***	***	***	2.69	740,425	***
2023 Q3	***	***	***	***	***	2.64	726,690	***
2023 Q4	***	***	***	***	***	2.58	743,800	***
2024 Q1	***	***	***	***	***	2.61	913,800	***
2024 Q2	***	***	***	***	***	2.78	823,450	***
2024 Q3	***	***	***	***	***	2.51	804,479	***
2024 Q4	***	***	***	***	***	***	***	***
2025 Q1	***	***	***	***	***	***	***	***
2025 Q2	***	***	***	***	***	2.53	601,191	***

Table continued.

Table 5.4 HECs (Continued)

Period	India price	India quantity	India margin	Vietnam price	Vietnam quantity	Vietnam margin
2022 Q1	***	***	***	***	***	***
2022 Q2	***	***	***	***	***	***
2022 Q3	***	***	***	***	***	***
2022 Q4	***	***	***	***	***	***
2023 Q1	***	***	***	***	***	***
2023 Q2	***	***	***	***	***	***
2023 Q3	***	***	***	***	***	***
2023 Q4	***	***	***	***	***	***
2024 Q1	***	***	***	***	***	***
2024 Q2	***	***	***	***	***	***
2024 Q3	***	***	***	***	***	***
2024 Q4	***	***	***	***	***	***
2025 Q1	***	***	***	***	***	***
2025 Q2	***	***	***	***	***	***

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

Note: Product 2: Hard empty gelatin capsules (including cap and body) for human consumption, in all sizes between 00 to 0 (whether regular, elongated, or enrobing), NOT imprinted, and sold in per 1,000 unit increments.

Table 5.5 HECs: 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 1,000 units, quantity in 1,000 units, margin in percent.

Period	U.S. price	U.S. quantity	China price	China quantity	China margin	India price	India quantity	India margin
2022 Q1	***	***	***	***	***	***	***	***
2022 Q2	***	***	***	***	***	***	***	***
2022 Q3	***	***	***	***	***	***	***	***
2022 Q4	***	***	***	***	***	***	***	***
2023 Q1	***	***	***	***	***	***	***	***
2023 Q2	***	***	***	***	***	***	***	***
2023 Q3	***	***	***	***	***	***	***	***
2023 Q4	***	***	***	***	***	***	***	***
2024 Q1	***	***	***	***	***	***	***	***
2024 Q2	***	***	***	***	***	***	***	***
2024 Q3	***	***	***	***	***	***	***	***
2024 Q4	***	***	***	***	***	***	***	***
2025 Q1	***	***	***	***	***	***	***	***
2025 Q2	***	***	***	***	***	***	***	***

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

Note: Product 3: Hard empty hydroxypropyl methylcellulose (“HPMC”) capsules (including cap and body) for human consumption, in all sizes between 00 to 0 (whether regular, elongated, or enrobing), imprinted, and sold in per 1,000 unit increments.

Table 5.6 HECs: Weighted-average f.o.b. prices and quantities of domestic and imported product 4 and margins of underselling/(overselling), by source and quarter

Price in dollars per 1,000 units, quantity in 1,000 units, margin in percent.

Period	U.S. price	U.S. quantity	China price	China quantity	China margin
2022 Q1	***	***	5.62	3,541,744	***
2022 Q2	***	***	5.58	3,548,456	***
2022 Q3	***	***	4.86	1,582,365	***
2022 Q4	***	***	5.15	1,472,636	***
2023 Q1	***	***	4.64	2,512,370	***
2023 Q2	***	***	4.52	2,707,640	***
2023 Q3	***	***	***	***	***
2023 Q4	***	***	4.56	2,912,420	***
2024 Q1	***	***	4.60	3,092,865	***
2024 Q2	***	***	4.45	3,412,450	***
2024 Q3	***	***	4.45	3,583,650	***
2024 Q4	***	***	4.30	3,662,808	***
2025 Q1	***	***	4.41	4,131,904	***
2025 Q2	***	***	4.46	3,987,562	***

Table continued.

Table 5.6 HECs (Continued)

Period	India price	India quantity	India margin	Vietnam price	Vietnam quantity	Vietnam margin
2022 Q1	***	***	***	***	***	***
2022 Q2	***	***	***	***	***	***
2022 Q3	***	***	***	***	***	***
2022 Q4	***	***	***	***	***	***
2023 Q1	***	***	***	***	***	***
2023 Q2	***	***	***	***	***	***
2023 Q3	***	***	***	***	***	***
2023 Q4	***	***	***	***	***	***
2024 Q1	***	***	***	***	***	***
2024 Q2	***	***	***	***	***	***
2024 Q3	***	***	***	***	***	***
2024 Q4	***	***	***	***	***	***
2025 Q1	***	***	***	***	***	***
2025 Q2	***	***	***	***	***	***

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

Note: Product 4: Hard empty hydroxypropyl methylcellulose (“HPMC”) capsules (including cap and body) for human consumption, in all sizes between 00 to 0 (whether regular, elongated, or enrobing), NOT imprinted, and sold in per 1,000 unit increments.

Table 5.7 HECs: Weighted-average f.o.b. prices and quantities of domestic and imported product 5 and margins of underselling/(overselling), by source and quarter

Price in dollars per 1,000 units, quantity in 1,000 units, margin in percent.

Period	U.S. price	U.S. quantity	China price	China quantity	China margin
2022 Q1	***	***	***	***	***
2022 Q2	***	***	***	***	***
2022 Q3	***	***	***	***	***
2022 Q4	***	***	—	0	—
2023 Q1	***	***	—	0	—
2023 Q2	***	***	***	***	***
2023 Q3	***	***	—	0	—
2023 Q4	***	***	—	0	—
2024 Q1	***	***	—	0	—
2024 Q2	***	***	***	***	***
2024 Q3	***	***	—	0	—
2024 Q4	***	***	—	0	—
2025 Q1	***	***	—	0	—
2025 Q2	***	***	—	0	—

Table continued.

Table 5.7 HECs (Continued)

Period	India price	India quantity	India margin	Vietnam price	Vietnam quantity	Vietnam margin
2022 Q1	***	***	***	***	***	***
2022 Q2	***	***	***	***	***	***
2022 Q3	***	***	***	***	***	***
2022 Q4	***	***	***	***	***	***
2023 Q1	***	***	***	***	***	***
2023 Q2	***	***	***	—	0	—
2023 Q3	***	***	***	***	***	***
2023 Q4	***	***	***	***	***	***
2024 Q1	***	***	***	***	***	***
2024 Q2	***	***	***	***	***	***
2024 Q3	***	***	***	***	***	***
2024 Q4	***	***	***	***	***	***
2025 Q1	***	***	***	***	***	***
2025 Q2	***	***	***	***	***	***

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

Note: Product 5: Hard empty gelatin capsules (including cap and body) for human consumption, in all sizes between 1 to 3 (whether regular, elongated, or enrobing), imprinted, and sold in per 1,000 unit increments.

Table 5.8 HECs: Weighted-average f.o.b. prices and quantities of domestic and imported product 6 and margins of underselling/(overselling), by source and quarter

Price in dollars per 1,000 units, quantity in 1,000 units, margin in percent.

Period	U.S. price	U.S. quantity	Brazil price	Brazil quantity	Brazil margin	China price	China quantity	China margin
2022 Q1	***	***	***	***	***	3.07	35,820	***
2022 Q2	***	***	***	***	***	2.32	111,285	***
2022 Q3	***	***	—	0	—	***	***	***
2022 Q4	***	***	—	0	—	***	***	***
2023 Q1	***	***	—	0	—	***	***	***
2023 Q2	***	***	—	0	—	2.44	15,935	***
2023 Q3	***	***	—	0	—	***	***	***
2023 Q4	***	***	***	***	***	***	***	***
2024 Q1	***	***	***	***	***	***	***	***
2024 Q2	***	***	***	***	***	***	***	***
2024 Q3	***	***	***	***	***	2.32	28,165	***
2024 Q4	***	***	***	***	***	2.46	34,980	***
2025 Q1	***	***	***	***	***	2.37	39,643	***
2025 Q2	***	***	***	***	***	***	***	***

Table continued.

Table 5.8 HECs (Continued)

Period	India price	India quantity	India margin	Vietnam price	Vietnam quantity	Vietnam margin
2022 Q1	***	***	***	***	***	***
2022 Q2	***	***	***	***	***	***
2022 Q3	***	***	***	***	***	***
2022 Q4	***	***	***	***	***	***
2023 Q1	***	***	***	***	***	***
2023 Q2	***	***	***	***	***	***
2023 Q3	***	***	***	***	***	***
2023 Q4	***	***	***	***	***	***
2024 Q1	***	***	***	***	***	***
2024 Q2	***	***	***	***	***	***
2024 Q3	***	***	***	***	***	***
2024 Q4	***	***	***	***	***	***
2025 Q1	***	***	***	***	***	***
2025 Q2	***	***	***	***	***	***

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

Note: Product 6: Hard empty gelatin capsules (including cap and body) for human consumption, in all sizes between 1 to 3 (whether regular, elongated, or enrobing), NOT imprinted, and sold in per 1,000 unit increments.

Table 5.9 HECs: Weighted-average f.o.b. prices and quantities of domestic and imported product 7 and margins of underselling/(overselling), by source and quarter

Price in dollars per 1,000 units, quantity in 1,000 units, margin in percent.

Period	U.S. price	U.S. quantity	China price	China quantity	China margin	India price	India quantity	India margin
2022 Q1	***	***	—	0	—	***	***	***
2022 Q2	***	***	—	0	—	***	***	***
2022 Q3	***	***	—	0	—	***	***	***
2022 Q4	***	***	—	0	—	***	***	***
2023 Q1	***	***	—	0	—	***	***	***
2023 Q2	***	***	***	***	***	***	***	***
2023 Q3	***	***	—	0	—	***	***	***
2023 Q4	***	***	—	0	—	***	***	***
2024 Q1	***	***	—	0	—	***	***	***
2024 Q2	***	***	—	0	—	***	***	***
2024 Q3	***	***	—	0	—	***	***	***
2024 Q4	***	***	—	0	—	***	***	***
2025 Q1	***	***	—	0	—	***	***	***
2025 Q2	***	***	—	0	—	***	***	***

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

Note: Product 7: Hard empty hydroxypropyl methylcellulose (“HPMC”) capsules (including cap and body) for human consumption, in all sizes between 1 to 3 (whether regular, elongated, or enrobing), imprinted, and sold in per 1,000 unit increments.

Table 5.10 HECs: Weighted-average f.o.b. prices and quantities of domestic and imported product 8 and margins of underselling/(overselling), by source and quarter

Price in dollars per 1,000 units, quantity in 1,000 units, margin in percent.

Period	U.S. price	U.S. quantity	China price	China quantity	China margin
2022 Q1	***	***	***	***	***
2022 Q2	***	***	***	***	***
2022 Q3	***	***	***	***	***
2022 Q4	***	***	***	***	***
2023 Q1	***	***	***	***	***
2023 Q2	***	***	***	***	***
2023 Q3	***	***	***	***	***
2023 Q4	***	***	***	***	***
2024 Q1	***	***	***	***	***
2024 Q2	***	***	***	***	***
2024 Q3	***	***	***	***	***
2024 Q4	***	***	***	***	***
2025 Q1	***	***	***	***	***
2025 Q2	***	***	***	***	***

Table continued.

Table 5.10 HECs (Continued)

Period	India price	India quantity	India margin	Vietnam price	Vietnam quantity	Vietnam margin
2022 Q1	***	***	***	***	***	***
2022 Q2	***	***	***	***	***	***
2022 Q3	***	***	***	***	***	***
2022 Q4	***	***	***	***	***	***
2023 Q1	***	***	***	***	***	***
2023 Q2	***	***	***	***	***	***
2023 Q3	***	***	***	***	***	***
2023 Q4	***	***	***	***	***	***
2024 Q1	***	***	***	***	***	***
2024 Q2	***	***	***	***	***	***
2024 Q3	***	***	***	***	***	***
2024 Q4	***	***	***	***	***	***
2025 Q1	***	***	***	***	***	***
2025 Q2	***	***	***	***	***	***

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

Note: Product 8: Hard empty hydroxypropyl methylcellulose (“HPMC”) capsules (including cap and body) for human consumption, in all sizes between 1 to 3 (whether regular, elongated, or enrobing), NOT imprinted, and sold in per 1,000 unit increments.

Figure 5.1 HECs: 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: Hard empty gelatin capsules (including cap and body) for human consumption, in all sizes between 00 to 0 (whether regular, elongated, or enrobing), imprinted, and sold in per 1,000 unit increments.

Figure 5.2 HECs: 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: Hard empty gelatin capsules (including cap and body) for human consumption, in all sizes between 00 to 0 (whether regular, elongated, or enrobing), NOT imprinted, and sold in per 1,000 unit increments.

Figure 5.3 HECs: 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: Hard empty hydroxypropyl methylcellulose (“HPMC”) capsules (including cap and body) for human consumption, in all sizes between 00 to 0 (whether regular, elongated, or enrobing), imprinted, and sold in per 1,000 unit increments.

Figure 5.4 HECs: Weighted-average f.o.b. prices and quantities of domestic and imported product 4, by source and quarter

Price of product 4

* * * * *

Volume of product 4

* * * * *

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

Note: Product 4: Hard empty hydroxypropyl methylcellulose (“HPMC”) capsules (including cap and body) for human consumption, in all sizes between 00 to 0 (whether regular, elongated, or enrobing), NOT imprinted, and sold in per 1,000 unit increments.

Figure 5.5 HECs: Weighted-average f.o.b. prices and quantities of domestic and imported product 5, by source and quarter

Price of product 5

* * * * *

Volume of product 5

* * * * *

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

Note: Product 5: Hard empty gelatin capsules (including cap and body) for human consumption, in all sizes between 1 to 3 (whether regular, elongated, or enrobing), imprinted, and sold in per 1,000 unit increments.

Figure 5.6 HECs: Weighted-average f.o.b. prices and quantities of domestic and imported product 6, by source and quarter

Price of product 6

* * * * *

Volume of product 6

* * * * *

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

Note: Product 6: Hard empty gelatin capsules (including cap and body) for human consumption, in all sizes between 1 to 3 (whether regular, elongated, or enrobing), NOT imprinted, and sold in per 1,000 unit increments.

Figure 5.7 HECs: Weighted-average f.o.b. prices and quantities of domestic and imported product 7, by source and quarter

Price of product 7

* * * * *

Volume of product 7

* * * * *

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

Note: Product 7: Hard empty hydroxypropyl methylcellulose (“HPMC”) capsules (including cap and body) for human consumption, in all sizes between 1 to 3 (whether regular, elongated, or enrobing), imprinted, and sold in per 1,000 unit increments.

Figure 5.8 HECs: Weighted-average f.o.b. prices and quantities of domestic and imported product 8, by source and quarter

Price of product 8

* * * * *

Volume of product 8

* * * * *

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

Note: Product 8: Hard empty hydroxypropyl methylcellulose (“HPMC”) capsules (including cap and body) for human consumption, in all sizes between 1 to 3 (whether regular, elongated, or enrobing), NOT imprinted, and sold in per 1,000 unit increments.

Price trends

Table 5.11 summarizes the price trends, by country and by product. U.S. producer prices fluctuated over the period and overall price trends declined during January 2022 to June 2025, with prices of seven products decreasing and one increasing. As shown in the table, domestic price decreases ranged from 0.9 to 39.5 percent and the increase was 6.0 percent for product 2. Prices for the two products imported from Brazil increased by 8.7 and 17.7 percent. Prices for product imported from China decreased across all six possible instances – by 9.0 to 60.0 percent. Five of eight pricing products imported from India increased in price, with increases ranging from 4.9 to 34.1 percent; three pricing products imported from India declined in price (by 15.6 to 18.1 percent). Prices for five of six pricing products imported from Vietnam decreased (4.7 to 36.8 percent); pricing product 5 imported from Vietnam increased 14.6 percent.

Table 5.11 HECs: Summary of price data, by product and source, January 2022 to June 2024

Quantity in 1,000 units, price in dollars per 1,000 units

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	14	***	***	***	***	***	(9.8)
Product 1	Brazil	0	—	—	—	—	—	—
Product 1	China	13	***	***	***	***	***	(60.0)
Product 1	India	14	***	***	***	***	***	8.1
Product 1	Vietnam	14	***	***	***	***	***	(4.7)
Product 2	United States	14	***	***	***	***	***	6.0
Product 2	Brazil	14	***	***	***	***	***	8.7
Product 2	China	14	***	***	***	***	***	(19.1)
Product 2	India	14	***	***	***	***	***	(15.6)
Product 2	Vietnam	14	***	***	***	***	***	(14.8)
Product 3	United States	14	***	***	***	***	***	(19.1)
Product 3	Brazil	0	—	—	—	—	—	—
Product 3	China	14	***	***	***	***	***	(47.1)
Product 3	India	14	***	***	***	***	***	4.9
Product 3	Vietnam	0	—	—	—	—	—	—
Product 4	United States	14	***	***	***	***	***	(39.5)
Product 4	Brazil	0	—	—	—	—	—	—
Product 4	China	14	***	***	***	***	***	(20.6)
Product 4	India	14	***	***	***	***	***	(15.9)
Product 4	Vietnam	14	***	***	***	***	***	(36.8)

Table continued.

Table 5.11 (Continued) HECs: Summary of price data, by product and source, January 2022 to June 2024

Quantity in 1,000 units, price in dollars per 1,000 units

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 5	United States	14	***	***	***	***	***	(0.9)
Product 5	Brazil	0	—	—	—	—	—	—
Product 5	China	5	***	***	***	***	—	—
Product 5	India	14	***	***	***	***	***	31.5
Product 5	Vietnam	13	***	***	***	***	***	14.6
Product 6	United States	14	***	***	***	***	***	(21.2)
Product 6	Brazil	9	***	***	***	***	***	17.7
Product 6	China	14	***	***	***	***	***	(22.8)
Product 6	India	14	***	***	***	***	***	11.4
Product 6	Vietnam	14	***	***	***	***	***	(24.2)
Product 7	United States	14	***	***	***	***	***	(18.2)
Product 7	Brazil	0	—	—	—	—	—	—
Product 7	China	1	***	***	***	***	***	***
Product 7	India	14	***	***	***	***	***	34.1
Product 7	Vietnam	0	—	—	—	—	—	—
Product 8	United States	14	***	***	***	***	***	(23.9)
Product 8	Brazil	0	—	—	—	—	—	—
Product 8	China	14	***	***	***	***	***	(9.0)
Product 8	India	14	***	***	***	***	***	(18.1)
Product 8	Vietnam	14	***	***	***	***	***	(31.4)

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

Note: Percent change column is percentage change from the first quarter 2022 to the second quarter in 2025.

Price comparisons

As shown in tables 5.12 to 5.14, prices for product imported from subject countries were below those for U.S.-produced product in 299 of 307 instances: for Brazil, in all 23 instances (***) units), for China 86 of 89 instances (***) units), for India 111 of 112 instances (***) units), and for Vietnam 79 of 83 instances (***) units). Margins of underselling ranged from *** percent for Brazil, *** percent for China, *** percent for India, and *** percent for Vietnam. In the eight instances of overselling (***) units), prices for product from China were *** percent higher, *** percent higher for product from India, and *** percent for products imported from Vietnam. Six of the eight quarters of overselling occurred in 2022 and two in 2024 (table 5.14). Comparisons for imported gelatin-based HEC pricing products (products 1, 2, 5, and 6) undersold U.S. gelatin-based products in 172 of 180 instances (149 of 157 instances if comparisons with Brazil are excluded⁴). For HPMC-based products (products 3, 4, 7, and 8), imported HPMC pricing products undersold domestic pricing products in all 127 quarters of comparison.⁵

⁴ Product imported from Brazil was only available for products 2 and 6, both gelatin-based HECs.

⁵ *** for domestic HPMC-based products were supplied by Lonza and *** contain data for second-generation VCAPS Plus HECs. Underselling and overselling comparison summaries excluding second-generation VCAPS Plus HEC data comparable to tables 5.13 and 5.14 are presented in appendix F. Lonza holds a process patent for its VCAPS Plus product, which is a product that is made from HPMC without the use of gelling agents. Petitioner states that respondent ACG has a product, ACGCaps H+, which also “eliminates the need for traditional gelling agents.” Petitioner’s posthearing brief, exh. 2, p. 1. Respondent ACG reported that of the quarterly pricing data it submitted, H+ accounted for *** percent of its HPMC-based products (products 3, 4, 7, and 8) in 2022, *** in 2023, *** percent in 2024, and *** percent in the first half of 2025. Email from ***, December 31, 2025.

Table 5.12 HECs: Instances of underselling and overselling and the range and average of margins, by product

Quantity in 1,000 units; margin in percent

Product	Type	Aggregation	Number of quarters	Quantity	Average margin	Min margin	Max margin
Product 1	Underselling	All subject sources	40	6,586,501	42.9	1.3	74.6
Product 2	Underselling	All subject sources	49	39,550,607	16.1	0.4	34.8
Product 2	Underselling	All subject sources excluding Brazil	35	***	***	***	***
Product 5	Underselling	All subject sources	32	13,273,431	40.4	9.3	70.3
Product 6	Underselling	All subject sources	51	7,239,943	56.2	32.5	67.9
Product 6	Underselling	All subject sources excluding Brazil	42	***	***	***	***
All gelatin	Underselling	All subject sources	172	66,650,482	38.8	0.4	74.6
All gelatin	Underselling	All subject sources excluding Brazil	149	62,195,866	39.8	0.4	74.6
Product 3	Underselling	All subject sources	28	456,642	60.7	33.7	80.5
Product 4	Underselling	All subject sources	42	76,835,846	44.1	10.0	63.8
Product 7	Underselling	All subject sources	15	413,747	43.4	6.1	62.7
Product 8	Underselling	All subject sources	42	11,054,439	33.3	6.2	58.2
ALL HPMC	Underselling	All subject sources	127	88,760,674	44.1	6.1	80.5
All products	Underselling	All subject sources	299	155,411,156	41.0	0.4	80.5
All products	Underselling	All subject sources excluding Brazil	276	***	***	***	***
Product 1	Overselling	All subject sources	1	35,980	(26.6)	(26.6)	(26.6)
Product 2	Overselling	All subject sources	7	6,907,997	(12.3)	(3.6)	(27.0)
Product 2	Overselling	All subject sources excluding Brazil	7	***	***	***	***
Product 5	Overselling	All subject sources	0	0	—	—	—
Product 6	Overselling	All subject sources	0	0	—	—	—
Product 6	Overselling	All subject sources excluding Brazil	0	0	—	—	—
All gelatin	Overselling	All subject sources	8	6,943,977	(14.1)	(3.6)	(27.0)
All gelatin	Overselling	All subject sources excluding Brazil	8	***	***	***	***
All HPMC	Overselling	All subject sources	0	0	—	—	—
All products	Overselling	All subject sources	8	6,943,977	(14.1)	(3.6)	(27.0)
All products	Overselling	All subject sources excluding Brazil	8	***	***	***	***

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

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

Table 5.13 HECs: Instances of underselling and overselling and the range and average of margins, by source

Quantity in 1,000 units; margin in percent

Source	Type	Number of quarters	Quantity	Average margin	Min margin	Max margin
Brazil	Underselling	23	***	***	***	***
China	Underselling	86	***	***	***	***
India	Underselling	111	***	***	***	***
Vietnam	Underselling	79	***	***	***	***
All subject sources	Underselling	299	155,411,156	41.0	0.4	80.5
Subject less Brazil	Underselling	276	***	***	***	***
Brazil	Overselling	0	—	—	—	—
China	Overselling	3	***	***	***	***
India	Overselling	1	***	***	***	***
Vietnam	Overselling	4	***	***	***	***
All subject sources	Overselling	8	6,943,977	(14.1)	(3.6)	(27.0)
Subject less Brazil	Overselling	8	***	***	***	***

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

Note: Margins shown as "0.0" represent values greater than zero, but less than "0.05" percent. Null values and undefined calculations are suppressed and shown as "—". These data include only quarters in which there is a comparison between the U.S. and subject product.

Table 5.14 HECs: Instances of underselling and overselling and the range and average of margins, by period

Quantity in 1,000 units; margin in percent

Period	Type	Aggregation	Number of quarters	Quantity	Average margin	Min margin	Max margin
2022	Underselling	All subject sources	83	35,402,306	38.6	1.3	80.5
2023	Underselling	All subject sources	86	45,120,408	46.8	1.7	77.4
2024	Underselling	All subject sources	87	49,092,798	41.0	0.4	75.5
2025	Underselling	All subject sources	43	25,795,644	34.2	4.4	72.5
All periods	Underselling	All subject sources	299	155,411,156	41.0	0.4	80.5
2022	Overselling	All subject sources	6	6,427,133	(9.9)	(3.6)	(19.0)
2023	Overselling	All subject sources	0	—	—	—	—
2024	Overselling	All subject sources	2	516,844	(26.8)	(26.6)	(27.0)
2025	Overselling	All subject sources	0	—	—	—	—
All periods	Overselling	All subject sources	8	6,943,977	(14.1)	(3.6)	(27.0)
2022	Underselling	Subject less Brazil	77	***	***	***	***
2023	Underselling	Subject less Brazil	81	***	***	***	***
2024	Underselling	Subject less Brazil	79	***	***	***	***
2025	Underselling	Subject less Brazil	39	***	***	***	***
All periods	Underselling	Subject less Brazil	276	***	***	***	***
2022	Overselling	Subject less Brazil	6	***	***	***	***
2023	Overselling	Subject less Brazil	0	***	***	***	***
2024	Overselling	Subject less Brazil	2	***	***	***	***
2025	Overselling	Subject less Brazil	0	***	***	***	***
All periods	Overselling	Subject less Brazil	8	***	***	***	***

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

Note: Margins shown as "0.0" represent values greater than zero, but less than "0.05" percent. Null values and undefined calculations are suppressed and shown as "—". These data include only quarters in which there is a comparison between the U.S. and subject product.

Lost sales and lost revenue

In the preliminary phase of the investigation, the Commission requested that U.S. producers of HECs report purchasers with which they experienced instances of lost sales or revenue due to competition from imports of HECs from Brazil, China, India, and/or Vietnam during January 2022 to June 2024. *** U.S. producers (***) submitted lost sales and lost revenue allegations, identifying 17 firms with which they lost sales or revenue (4 consisting of lost sales allegations, 2 consisting of lost revenue allegations, and 11 consisting of both types of allegations). Fifteen allegations involved Brazil, 1 involved China, 13 involved India, and 4 involved Vietnam. The allegations covered the entire period of investigation. In the final phase of the investigations, *** responding U.S. producers reported that they had lost sales, *** reported that they had to reduce prices, and *** reported that they had to roll back announced price increases.

Staff contacted 79 purchasers and received responses from 40 purchasers. Responding purchasers reported purchasing or importing 110.8 billion units of HECs during January 2022 to June 2025 (table 5.15). With purchases of HEC imports from Brazil excluded,⁶ the subject quantity presented in table 5.15 is lower by slightly less than 1 billion units, or less than 2 percent of subject imports of HECs with no changes in share increases/decreases to those presented.

Table 5.15
HECs: Purchasers' reported purchases and imports, by firm and source

Quantity in 1,000 units, Change in shares in percentage points

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

Table continued.

⁶ There were no imports of Brazilian HECs by responding purchasers.

Of the 40 responding purchasers, 30 reported that, since 2022, they had purchased imported HECs from at least one subject country instead of U.S.-produced product (3 for Brazil, 20 for China, 24 for India, and 3 for Vietnam) (tables 5.16 and 5.17). Seventeen of these purchasers reported that subject import prices were lower than U.S.-produced product, and 9 of these purchasers reported that price was a primary reason for the decision to purchase imported product rather than U.S.-produced product. Nineteen purchasers indicated that they purchased imported HECs instead of domestic product for reasons other than price, and 22 purchasers provided reasons why they did not purchase domestic product. Of these 22 purchasers, 8 noted issues with domestic quality or performance on their machinery, 6 noted issues with availability, domestic capacity, or a lack of range of domestic producers, 3 indicated extended lead times were the issue, 3 wanted supply security through multiple sources, 2 noted customer service reasons, 1 bought based on its customer’s preference, and 1 did not know there was domestic manufacturing of HECs.

Table 5.16 HECs: Purchasers’ responses to purchasing subject imports instead of domestic product, by firm

Quantity in 1,000 units

Purchaser	Purchased subject imports instead of domestic	Imports priced lower	Choice based on price	Quantity	Explanation
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***

Table continued.

Table 5.17 HECs: Purchasers' responses to purchasing subject imports instead of domestic product, by source

Quantity in 1,000 units

Source	Count of purchasers reporting subject instead of domestic	Count of purchasers reported that imports were priced lower	Count of purchasers reporting that price was a primary reason for shift	Quantity
Brazil	3	1	0	***
China	20	11	5	***
India	24	14	8	***
Vietnam	3	3	0	***
Subject source	30	17	9	***
Subject source less Brazil	30	17	9	***

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

Of the 16 responding purchasers, two reported that U.S. producers had reduced prices in order to compete with lower-priced imports from subject countries (table 5.18).⁷ The two reported estimated price reductions were *** percent and *** percent, with both purchasers referencing producer prices reacting to those from imports of HECs from India. No purchasers reported price reductions because of imports from other subject countries.

Table 5.18 HECs: Purchasers' responses to U.S. producer price reductions, by firm

Purchaser	Reported producers lowered prices	Estimated percent of U.S. price reduction	Explanation
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***

Table continued.

⁷ Twenty-four reported that they did not know.

Part 6: Financial experience of U.S. producers

Background¹

Two U.S. producers, Lonza and Qualicaps provided usable financial results on their HEC operations.² *** reported financial data for a fiscal year ending December 31 and ***.^{3 4} *** provided its financial data on the basis of IFRS and *** provided its data on the basis of GAAP.

*** accounted for *** percent of sales by quantity and sales value from 2022 to June 2025. Figure 6.1 presents each responding firm’s share of the total reported net sales quantity in 2024.

¹ The following abbreviations are used in the tables and/or text of this section: generally accepted accounting principles (“GAAP”), international financial reporting standards (“IFRS”), 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 Staff conducted a verification of ***’s questionnaire data and incorporated revisions resulting from verification within the report. ***’s questionnaire data was revised as follows: ***. *** verification report, December 29, 2025.

³ ***. U.S. producers’ questionnaire response, section 2.2a

⁴ ***. U.S. producers’ questionnaire response sections 3.2 A.1 and A.2.

Figure 6.1 HECs: U.S. producers' share of net sales quantity in 2024, by firm

* * * * *

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

Operations on HECs

Table 6.1 presents aggregated data on U.S. producers' operations in relation to HECs, while table 6.2 presents corresponding changes in AUVs, table 6.3 presents U.S. producers' total net sales, by input type and period, and table 6.4 presents selected company-specific financial data. Appendix G presents information on the domestic industry's domestic and export sales of HECs.

Table 6.1 HECs: U.S. producers' results of operations, by item and period

Quantity in 1,000 units; value in 1,000 dollars; ratios in percent; interim period is January through June

Item	Measure	2022	2023	2024	Interim 2024	Interim 2025
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) HECs: U.S. producers' results of operations, by item and period

Shares in percent; unit values in dollars per 1,000 units; count in number of firms reporting; interim period is January through June

Item	Measure	2022	2023	2024	Interim 2024	Interim 2025
COGS: Raw materials	Share	***	***	***	***	***
COGS: Direct labor	Share	***	***	***	***	***
COGS: Other factory	Share	***	***	***	***	***
COGS: Total	Share	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: Shares represent the share of COGS. 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 6.2 HECs: Changes in AUVs between comparison periods

Changes in percent; interim period is January through June

Item	2022–24	2022–23	2023–24	Interim 2024–25
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) HECs: Changes in AUVs between comparison periods

Changes in dollars per 1,000 units; interim period is January through June

Item	2022–24	2022–23	2023–24	Interim 2024–25
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: 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.

Table 6.3 HECs: U.S. producers' total net sales and operating income or (loss), by input type and period

Quantity in 1,000 units; value in 1,000 dollars, unit values in dollars per 1,000 units; shares in percent; interim period is January through June

Input type	Measure	2022	2023	2024	Interim 2024	Interim 2025
Gelatin	Quantity	***	***	***	***	***
HPMC	Quantity	***	***	***	***	***
Pullulan	Quantity	***	***	***	***	***
All input types	Quantity	***	***	***	***	***
Gelatin	Value	***	***	***	***	***
HPMC	Value	***	***	***	***	***
Pullulan	Value	***	***	***	***	***
All input types	Value	***	***	***	***	***
Gelatin	Unit value	***	***	***	***	***
HPMC	Unit value	***	***	***	***	***
Pullulan	Unit value	***	***	***	***	***
All input types	Unit value	***	***	***	***	***
Gelatin	Share of quantity	***	***	***	***	***
HPMC	Share of quantity	***	***	***	***	***
Pullulan	Share of quantity	***	***	***	***	***
All input types	Share of quantity	100.0	100.0	100.0	100.0	100.0
Gelatin	Share of value	***	***	***	***	***
HPMC	Share of value	***	***	***	***	***
Pullulan	Share of value	***	***	***	***	***
All input types	Share of value	100.0	100.0	100.0	100.0	100.0
Gelatin	Operating income or (loss)	***	***	***	***	***
HPMC	Operating income or (loss)	***	***	***	***	***
Pullulan	Operating income or (loss)	***	***	***	***	***
All input types	Operating income or (loss)	***	***	***	***	***
Gelatin	Ratio	***	***	***	***	***
HPMC	Ratio	***	***	***	***	***
Pullulan	Ratio	***	***	***	***	***
All input types	Ratio	***	***	***	***	***

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

Note: Ratio represents the ratio of operating income to net sales value. Shares represent the share of COGS. 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 6.4 HECs: U.S. producers' sales, costs/expenses, and profitability, by firm and period

Net sales quantity

Quantity in 1,000 units; interim period is January through June

Firm	2022	2023	2024	Interim 2024	Interim 2025
Lonza	***	***	***	***	***
Qualicaps	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table 6.4 (Continued) HECs: U.S. producers' sales, costs/expenses, and profitability, by firm and period

Net sales value

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

Firm	2022	2023	2024	Interim 2024	Interim 2025
Lonza	***	***	***	***	***
Qualicaps	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table 6.4 (Continued) HECs: U.S. producers' sales, costs/expenses, and profitability, by firm and period

COGS

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

Firm	2022	2023	2024	Interim 2024	Interim 2025
Lonza	***	***	***	***	***
Qualicaps	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table 6.4 (Continued) HECs: U.S. producers' sales, costs/expenses, and profitability, by firm and period

Gross profit or (loss)

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

Firm	2022	2023	2024	Interim 2024	Interim 2025
Lonza	***	***	***	***	***
Qualicaps	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table 6.4 (Continued) HECs: U.S. producers' sales, costs/expenses, and profitability, by firm and period

SG&A expenses

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

Firm	2022	2023	2024	Interim 2024	Interim 2025
Lonza	***	***	***	***	***
Qualicaps	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table 6.4 (Continued) HECs: U.S. producers' sales, costs/expenses, and profitability, by firm and period

Operating income or (loss)

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

Firm	2022	2023	2024	Interim 2024	Interim 2025
Lonza	***	***	***	***	***
Qualicaps	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table 6.4 (Continued) HECs: U.S. producers' sales, costs/expenses, and profitability, by firm and period

Net income or (loss)

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

Firm	2022	2023	2024	Interim 2024	Interim 2025
Lonza	***	***	***	***	***
Qualicaps	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table 6.4 (Continued) HECs: U.S. producers' sales, costs/expenses, and profitability, by firm and period

COGS to net sales ratio

Ratios in percent; interim period is January through June

Firm	2022	2023	2024	Interim 2024	Interim 2025
Lonza	***	***	***	***	***
Qualicaps	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table 6.4 (Continued) HECs: U.S. producers' sales, costs/expenses, and profitability, by firm and period

Gross profit or (loss) to net sales ratio

Ratios in percent; interim period is January through June

Firm	2022	2023	2024	Interim 2024	Interim 2025
Lonza	***	***	***	***	***
Qualicaps	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table 6.4 (Continued) HECs: U.S. producers' sales, costs/expenses, and profitability, by firm and period

SG&A expenses to net sales ratio

Ratios in percent; interim period is January through June

Firm	2022	2023	2024	Interim 2024	Interim 2025
Lonza	***	***	***	***	***
Qualicaps	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table 6.4 (Continued) HECs: U.S. producers' sales, costs/expenses, and profitability, by firm and period

Operating income or (loss) to net sales ratio

Ratios in percent; interim period is January through June

Firm	2022	2023	2024	Interim 2024	Interim 2025
Lonza	***	***	***	***	***
Qualicaps	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table 6.4 (Continued) HECs: U.S. producers' sales, costs/expenses, and profitability, by firm and period

Net income or (loss) to net sales ratio

Ratios in percent; interim period is January through June

Firm	2022	2023	2024	Interim 2024	Interim 2025
Lonza	***	***	***	***	***
Qualicaps	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table 6.4 (Continued) HECs: U.S. producers' sales, costs/expenses, and profitability, by firm and period

Unit net sales value

Unit values in dollars per 1,000 units; interim period is January through June

Firm	2022	2023	2024	Interim 2024	Interim 2025
Lonza	***	***	***	***	***
Qualicaps	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table 6.4 (Continued) HECs: U.S. producers' sales, costs/expenses, and profitability, by firm and period

Unit raw material costs

Unit values in dollars per 1,000 units; interim period is January through June

Firm	2022	2023	2024	Interim 2024	Interim 2025
Lonza	***	***	***	***	***
Qualicaps	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table 6.4 (Continued) HECs: U.S. producers' sales, costs/expenses, and profitability, by firm and period

Unit direct labor costs

Unit values in dollars per 1,000 units; interim period is January through June

Firm	2022	2023	2024	Interim 2024	Interim 2025
Lonza	***	***	***	***	***
Qualicaps	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table 6.4 (Continued) HECs: U.S. producers' sales, costs/expenses, and profitability, by firm and period

Unit other factory costs

Unit values in dollars per 1,000 units; interim period is January through June

Firm	2022	2023	2024	Interim 2024	Interim 2025
Lonza	***	***	***	***	***
Qualicaps	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table 6.4 (Continued) HECs: U.S. producers' sales, costs/expenses, and profitability, by firm and period

Unit COGS

Unit values in dollars per 1,000 units; interim period is January through June

Firm	2022	2023	2024	Interim 2024	Interim 2025
Lonza	***	***	***	***	***
Qualicaps	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table 6.4 (Continued) HECs: U.S. producers' sales, costs/expenses, and profitability, by firm and period

Unit gross profit or (loss)

Unit values in dollars per 1,000 units; interim period is January through June

Firm	2022	2023	2024	Interim 2024	Interim 2025
Lonza	***	***	***	***	***
Qualicaps	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table 6.4 (Continued) HECs: U.S. producers' sales, costs/expenses, and profitability, by firm and period

Unit SG&A expenses

Unit values in dollars per 1,000 units; interim period is January through June

Firm	2022	2023	2024	Interim 2024	Interim 2025
Lonza	***	***	***	***	***
Qualicaps	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table 6.4 (Continued) HECs: U.S. producers' sales, costs/expenses, and profitability, by firm and period

Unit operating income or (loss)

Unit values in dollars per 1,000 units; interim period is January through June

Firm	2022	2023	2024	Interim 2024	Interim 2025
Lonza	***	***	***	***	***
Qualicaps	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table 6.4 (Continued) HECs: U.S. producers' sales, costs/expenses, and profitability, by firm and period

Unit net income or (loss)

Unit values in dollars per 1,000 units; interim period is January through June

Firm	2022	2023	2024	Interim 2024	Interim 2025
Lonza	***	***	***	***	***
Qualicaps	***	***	***	***	***
All firms	***	***	***	***	***

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 "—".

Net sales

Total net sales are composed of commercial sales and transfers to related firms with a small amount of internal consumption.^{5 6 7} Total net sales quantity decreased from 2022 to 2024 but was higher in interim 2025 compared to interim 2024.⁸ Gelatin HECs accounted for the *** of net sales in all periods in which data were collected.⁹ *** U.S. producers showed the same trend for the full years, decreasing from 2022 to 2024, but *** reported a higher net sales quantity in interim 2025 compared to interim 2024, whereas *** reported a lower net sales quantity.

⁵ ***. Email from ***, December 31, 2025.

⁶ ***. Email from ***, August 28, 2025.

⁷ ***. Email from ***, August 28, 2025 and December 31, 2025.

⁸ ***. Email from ***, September 16, 2025.

⁹ ***. U.S. producers' questionnaire response, section 3.9b.

Total net sales value decreased irregularly during the full year periods but was higher in interim 2025 compared to interim 2024. *** reported a decrease in net sales value from 2022 to 2024 and lower net sales value in interim 2025 compared to interim 2024. *** reported an irregular decrease during the full year periods but a higher net sales value in interim 2025 compared to interim 2024. ***.¹⁰ Net sales AUVs, on a per 1,000 unit basis, increased irregularly during the full year periods and was higher in interim 2025 compared to interim 2024.

Cost of goods sold and gross profit or loss

Raw materials, direct labor and other factory costs accounted for *** percent, *** percent and *** percent of total COGS, respectively, in 2024. Raw material costs decreased during the full year periods but were higher in interim 2025 compared to interim 2024. Raw material cost AUVs, on a per 1,000 unit basis, decreased irregularly during the full year periods but were higher in interim 2025 compared to interim 2024. *** raw material cost AUVs increased during the full years but was lower in interim 2025 compared to interim 2024, while *** AUVs decreased irregularly during the full years but was higher in interim 2025 compared to interim 2024. ***.¹¹

Table 6.5 presents raw materials, by type. Gelatin accounted for the largest share of raw material costs both by polymer type and by all raw material costs in 2024.

¹⁰ U.S. producers' questionnaire response, section 3.9c.

¹¹ U.S. producers' questionnaire response, section 3.9c.

Table 6.5 HECs: U.S. producers' raw material costs, by major raw material input type and period

Value in 1,000 dollars; shares in percent; unit values in dollars per 1,000 units; interim period is January through June

Input type	Measure	2022	2023	2024	Interim 2024	Interim 2025
Gelatin costs	Value	***	***	***	***	***
HPMC costs	Value	***	***	***	***	***
Pullulan costs	Value	***	***	***	***	***
Polymer costs	Value	***	***	***	***	***
Other material input costs	Value	***	***	***	***	***
Raw material costs	Value	***	***	***	***	***
Gelatin costs	Share 1	***	***	***	***	***
HPMC costs	Share 1	***	***	***	***	***
Pullulan costs	Share 1	***	***	***	***	***
Polymer costs	Share 1	100.0	100.0	100.0	100.0	100.0
Gelatin costs	Share 2	***	***	***	***	***
HPMC costs	Share 2	***	***	***	***	***
Pullulan costs	Share 2	***	***	***	***	***
Polymer costs	Share 2	***	***	***	***	***
Other material input costs	Share 2	***	***	***	***	***
Raw material costs	Share 2	100.0	100.0	100.0	100.0	100.0
Gelatin costs	Unit value	***	***	***	***	***
HPMC costs	Unit value	***	***	***	***	***
Pullulan costs	Unit value	***	***	***	***	***
Polymer costs	Unit value	***	***	***	***	***
Other material input costs	Unit value	***	***	***	***	***
Raw material costs	Unit value	***	***	***	***	***

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 "—". Polymer costs are the subtotal of gelatin costs, HPMC costs, and pullulan costs. Share 1 is the distribution of polymer raw material costs and Share 2 is the distribution of the total raw materials costs.

Direct labor costs increased irregularly from 2022 to 2024 but were lower in interim 2025 compared to interim 2024. On a per 1,000 unit basis (AUV), direct labor costs increased during the full year periods but were lower in interim 2025 compared to interim 2024. As shown in table 6.4, *** U.S. producers' direct labor cost AUVs followed the same trend during the full year periods, increasing from 2022 to 2024, but differed between the interim periods. *** direct labor cost AUV was higher in interim 2025 compared to interim 2024 while *** was lower.¹²

Other factory costs decreased irregularly during the full year periods and were lower in interim 2025 compared to interim 2024. Other factory cost AUVs increased from 2022 to 2024 but were lower in interim 2025 compared to interim 2024. As shown in table 6.4, *** other factory cost AUVs increased from 2022 to 2024 and were higher in interim 2025 compared to interim 2024. *** other factory cost AUVs increased from 2022 to 2024 but were lower in interim 2025 compared to interim 2024.^{13 14}

Total COGS decreased during the full year periods and was lower in interim 2025 compared to interim 2024. Total COGS AUVs increased during the full year periods but was lower in interim 2025 compared to interim 2024. As shown in table 6.4, *** U.S. producers' total COGS AUVs increased during the full year periods, but had opposite directional trends in the interim periods, with *** reporting a lower total COGS AUV and *** reporting a higher total COGS AUV in interim 2025 compared to interim 2024.

As shown in table 6.3, gross profit irregularly decreased from 2022 to 2024 but was higher in interim 2025 compared to interim 2024. The increase in gross profit in 2023 was due to an increase in net sales value compared to a decrease in total COGS, while the decline in 2024 was due to a greater decrease in net sales value compared to a smaller decrease in total COGS. During the interim periods, net sales value was greater in interim 2025, while total COGS was lower, resulting in a higher gross profit in interim 2025. The gross profit margin decreased irregularly from 2022 to 2024 but was higher in interim 2025 compared to interim 2024. ***.

¹² ***. U.S. producers' questionnaire response, section 3.9c.

¹³ ***. U.S. producer's questionnaire response, section 3.9c.

¹⁴ ***. U.S. producers' questionnaire response, sections 2.2 and 3.9c, and email from ***, August 28, 2025.

SG&A expenses and operating income or loss

SG&A expenses decreased irregularly during the full year periods but were higher in interim 2025 compared to interim 2024. As shown in table 6.4, *** reported decreasing SG&A expenses each year and somewhat lower SG&A expenses in interim 2025, while *** reported an irregular decrease in SG&A expenses during the full year periods and a higher SG&A expense in interim 2025.¹⁵ As a ratio to net sales, SG&A expenses increased irregularly from 2022 to 2024 but were lower in interim 2025 compared to interim 2024.

Operating income and the operating income margin decreased irregularly from 2022 to 2024 but were higher in interim 2025 compared to interim 2024. ***.

All other expenses and net income or loss

Interest expenses, other expenses, and other income are classified below the operating income level. Interest expense increased from 2022 to 2024 but was lower in interim 2025 compared to interim 2024.¹⁶ Other expenses and other income both increased irregularly in the full year periods and were higher in interim 2025 compared to interim 2024.¹⁷

Net income and the net income margin followed similar trends to operating income and the operating income margin, decreasing irregularly from 2022 to 2024 but was higher in interim 2025 compared to interim 2024. The absolute difference between net income and operating income is the result of the effects of net all other expenses/income. ***.

¹⁵ ***. U.S. producers' questionnaire response, section 3.9c.

¹⁶ ***. Email from ***, August 28, 2025.

¹⁷ ***. U.S. producers' questionnaire response, section 3.10.

Variance analysis

A variance analysis for the operations of U.S. producers of HECs is presented in table 6.6.¹⁸ The information for this variance analysis is derived from table 6.1. The decline in domestic sales from 2022 to 2024 was due to unfavorable price and volume variance, of which the volume variance was greater. Export sales from 2022 to 2024 declined irregularly but had a greater favorable price variance that outweighed a smaller unfavorable volume variance.

The decrease in operating income from 2022 to 2024 was due to greater unfavorable cost and volume variances that outweighed a smaller favorable price variance, indicating that the negative effects of the increase in costs and expenses and lower sales volume outweighed the positive effects of the increase in net sales AUVs. The higher operating income in interim 2025 was due to favorable price, cost, and volume variances.

¹⁸ The Commission's variance analysis is calculated in three parts: Net sales variance, COGS variance, and SG&A expense variance. Each part consists of a price variance (in the case of the net 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 variances are calculated as the change in unit price or per-unit cost/expense, respectively, 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 operating income price variance is from sales; the operating income cost/expense variance is the sum of the cost components in the COGS and SG&A expense variances, and the operating income volume variance is the sum of the volume components of the net sales, COGS, and SG&A expense variances.

Table 6.6 HECs: Variance analysis on the operations of U.S. producers between comparison periods

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

Item	2022-24	2022-23	2023-24	Interim 2024-25
Domestic sales price variance	***	***	***	***
Domestic sales volume variance	***	***	***	***
Domestic sales total variance	***	***	***	***
Export sales price variance	***	***	***	***
Export sales volume variance	***	***	***	***
Export sales total variance	***	***	***	***
Net sales price variance	***	***	***	***
Net sales volume variance	***	***	***	***
Net sales total 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 variance	***	***	***	***
Operating income volume variance	***	***	***	***
Operating income total variance	***	***	***	***

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

Note: These data are derived from the data in table 6.1. Unfavorable variances (which are negative) are shown in parentheses, all others are favorable (positive).

Capital expenditures and research and development expenses

Table 6.7 presents capital expenditures, by firm, and table 6.8 presents the firms' narrative explanations of the nature, focus, and significance of their capital expenditures. Capital expenditures increased during the full year periods and were higher in interim 2025 compared to interim 2024. ***. ***.¹⁹

Table 6.7 HECs: U.S. producers' capital expenditures, by firm and period

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

Firm	2022	2023	2024	Interim 2024	Interim 2025
Lonza	***	***	***	***	***
Qualicaps	***	***	***	***	***
All firms	***	***	***	***	***

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

Table 6.8 HECs: U.S. producers' narrative descriptions of their capital expenditures, by firm

Firm	Narrative on capital expenditures
Lonza	***
Qualicaps	***

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

¹⁹ U.S. producers' questionnaire response, section 3.13c.

Assets and return on assets

Table 6.9 presents data on the U.S. producers' total assets while table 6.10 presents their operating ROA.²⁰ Operating ROA decreased irregularly from 2022 to 2024. Table 6.11 presents U.S. producers' narrative responses explaining their major asset categories and any significant changes in asset levels over time.

Table 6.9 HECs: U.S. producers' total net assets, by firm and period

Value in 1,000 dollars

Firm	2022	2023	2024
Lonza	***	***	***
Qualicaps	***	***	***
All firms	***	***	***

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

Table 6.10 HECs: U.S. producers' ROA, by firm and period

Ratio in percent

Firm	2022	2023	2024
Lonza	***	***	***
Qualicaps	***	***	***
All firms	***	***	***

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

Table 6.11 HECs: U.S. producers' narrative descriptions of their total net assets, by firm

Firm	Narrative on assets
Lonza	***
Qualicaps	***

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

²⁰ 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.

Capital and investment

The Commission requested U.S. producers of HECs to describe any actual or potential negative effects of imports of HECs from Brazil, China, India, and Vietnam on their firms' growth, investment, ability to raise capital, development and production efforts, or the scale of capital investments. Table 6.12 presents the number of firms reporting an impact in each category and table 6.13 provides the U.S. producers' narrative responses.

Table 6.12 HECs: Count of firms indicating actual and anticipated negative effects of imports from subject sources on investment, growth, and development since January 1, 2022, 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 6.13 HECs: U.S. producers' narratives relating to actual and anticipated negative effects of imports on investment, growth, and development, since January 1, 2022, by firm and effect

Item	Firm name and narrative on impact of imports
Cancellation, postponement, or rejection of expansion projects	***
Cancellation, postponement, or rejection of expansion projects	***
Denial or rejection of investment proposal	***
Reduction in the size of capital investments	***
Other negative effects on investments	***
Other negative effects on investments	***
Other effects on growth and development	***
Other effects on growth and development	***
Anticipated effects of imports	***
Anticipated effects 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 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."

Subject countries

The Commission issued foreign producers' or exporters' questionnaires to 45 firms believed to produce and/or export HECs from Brazil, China, India, and Vietnam.³ Usable responses to the Commission's questionnaire were received from 20 firms in total.

Table 7.1 presents the number of producers/exporters that responded to the Commission's questionnaire, their estimated share of total production of HECs in each subject country, and their exports to the United States as a share of U.S. imports from each subject country in 2024.

Table 7.1 HECs: Number of responding producers/exporters, approximate share of production, and exports to the United States as a share of U.S. imports, by subject foreign industry, 2024

Subject foreign industry	Number of responding firms	Approximate share of production (percent)	Exports as a share of U.S. imports from subject country (percent)
Brazil	2	***	***
China	11	***	***
India	6	***	***
Vietnam	1	***	***

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

Note: "Approximate share of production" reflects the responding firms' estimates of their production as a share of total country production of HECs in 2024. Since not all firms have perfect knowledge of the industry in their home market, different firms might use different denominators in estimating their firm's share of the total requested. For countries in which more than one firm responded, the average denominator for reasonably reported estimates is used in the share presented. Approximate shares are rounded to the nearest whole number.

Note: "Exports as a share of U.S. imports" reflects a comparison of export data reported by firms in response to the Commission's foreign producer/exporter questionnaire and imports reported by firms in response to the Commission's importer questionnaire.

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 "—".

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

Table 7.2 presents information on the HECs operations of the responding producers in Brazil, China, India, and Vietnam and table 7.3 presents summary information on responding resellers of subject HECs. Table 7.4 presents summary data by subject foreign industry.

Table 7.2 HECs: Summary data on responding subject foreign producers in 2024, by firm

Subject foreign industry: Producer	Production (million units)	Share of reported production (percent)	Exports to the United States (million units)	Share of reported exports to the United States (percent)	Total shipments (million units)	Share of firm's total shipments exported to the United States (percent)
Brazil: ACG Brazil	***	***	***	***	***	***
Brazil: Genix	***	***	***	***	***	***
China: Anhui	***	***	***	***	***	***
China: Chongqing	***	***	***	***	***	***
China: Hebei	***	***	***	***	***	***
China: Jiangsu	***	***	***	***	***	***
China: Shandong	***	***	***	***	***	***
China: Shanghai	***	***	***	***	***	***
China: Suzhou	***	***	***	***	***	***
China: XinChang	***	***	***	***	***	***
China: Yantai	***	***	***	***	***	***
China: Zhejiang	***	***	***	***	***	***
China: Zhejiang	***	***	***	***	***	***
India: ACG Associated	***	***	***	***	***	***
India: ACG Universal	***	***	***	***	***	***
India: Capsugel	***	***	***	***	***	***
India: Custom	***	***	***	***	***	***
India: HealthCaps	***	***	***	***	***	***
India: Sunil	***	***	***	***	***	***
Vietnam: Suheung	***	***	***	***	***	***
All individual producers	335,668	100.0	56,521	100.0	333,610	16.9

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 7.3 HECs: Summary data on subject foreign resellers in 2024, by source

Subject foreign industry: Reseller	Resales exported to the United States (million units)	Share of resales exported to the United States (percent)
India: Custom	***	***
India: HealthCaps	***	***
All individual resellers	***	100.0

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

Table 7.4 HECs: Summary data for subject foreign producers, by subject foreign industry, 2024

Subject foreign industry	Production (million units)	Share of reported production (percent)	Exports to the United States (million units)	Share of reported exports to the United States (percent)	Total shipments (million units)	Share of firm's total shipments exported to the United States (percent)
Brazil	***	***	***	***	***	***
China	***	***	***	***	***	***
India	***	***	***	***	***	***
Vietnam	***	***	***	***	***	***
All subject foreign industries	335,668	100.0	56,521	100.0	333,610	16.9
All subject foreign industries except Brazil	***	***	***	***	***	***

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

Table 7.5 presents events in the subject countries' industries since January 1, 2022.

Table 7.5 HECs: Important industry events in the subject foreign industries since January 1, 2022

Item	Event
Expansion	In 2021, Switzerland-based Lonza expanded its capsule manufacturing at 8 sites in China and India increasing capacity by 30 million capsules per year.
Expansion	In 2022, South Korea-based Suheung Co. expanded its facility in Long Thanh, Vietnam.
Expansion	In 2022, China-based Yantai Oriental Pharmacap Co., Ltd. started the second phase of production investing over \$21 million in 26,000 square meters of manufacturing space and increasing production to 30 billion plant-based capsules annually.
Expansion	In 2024, ACG Brazil Brasil S.A. announced the expansion of their production facility by 3,000 square meters with an investment of over \$15 million.
Plant Opening	In 2024, India-based ACG Universal Capsules Private Ltd. opened a new plant with a capacity of 40 billion capsules a year.
Plant Opening	In 2025, Cuu Long Pharmaceutical Joint Stock Company completed the construction of the Benovas Medical Equipment Manufacturing Plant, a \$26 million investment in the Vinh Long Province of Vietnam.
Acquisition	In 2023, India-based Kumar Organic Products, Ltd. acquired gelatin capsule manufacturer and India-based Fortcaps Healthcare Ltd.
Acquisition	In 2024, Baotou Dongbao Bio-Tech Co.,Ltd acquired a 40 percent stake in China-based Qingdao Yiqing Biotechnology Co., Ltd.
Operational Delays	In 2025, ACG's Brazil operations were stalled for three weeks due to electrical issues and issues with the supply of purified water.

Source: Capsugel, "Lonza Expands Its Capsule Manufacturing Capacity," March 11, 2021, <https://t2.capsugel.com/news-events/news/lonza-expands-its-capsule-manufacturing-capacity>; The Korean Economic Daily, "Korea top capsule maker expands Vietnam plant in global push," May 31, 2022, <https://www.kedglobal.com/korean-smes/newsView/ked202205310006>; YOPC Capsules, "The second phase project of Yantai Oriental Pharmacap Co., Ltd.," August 15, 2022, <https://www.yopccapsules.com/The-second-phase-project-of-Yantai-Oriental-Pharmacap-Co-Ltd-id46555967.html>; PROJX News, "800 Crore Milestone: ACG Vegetarian Capsule Production in Maharashtra," March 20, 2024, <https://www.projxnews.com/blog/800-crore-milestone-acg-vegetarian-capsule-production-in-maharashtra>; Ferro, César, "ACG expansion receives an investment of R\$ 80 million," February 10, 2024, <https://panoramafarmaceutico.com.br/expansao-da-acg/>; Happi, "Kumar Organic Products Acquires Fortcaps Healthcare," November 9, 2023, <https://www.happi.com/breaking-news/kumar-organic-products-acquires-fortcaps-healthcar/#:%7E:text=In%20a%20recently%20concluded%20all%2Dcash%20deal%2C%20KOPL,capsules%20with%20a%20manufacturing%20facility%20in%20India>; FIT Group, "Benovas Inaugurates Medical Devices Factory with a Total Investment of 26 Million USD", March 17, 2025, <https://fitgroup.com.vn/benovas-inaugurates-medical-equipment-factory-with-a-total-investment-of-26-million-usd/>; S&P Capital IQ, "Baotou Dongbao Bio-Tech Co.,Ltd agreed to acquire remaining 40% stake in Qingdao Yiqing Biotechnology Co., Ltd. from Qingdao Gon Technology Co., Ltd. and Qingdao Deyu Biological Investment Partnership (limited partnership) for approximately CNY 230 million," September 11, 2024, <https://www.marketscreener.com/quote/stock/QINGDAO-GON-TECHNOLOGY-CO-119082477/news/Baotou-Dongbao-Bio-Tech-Co-Ltd-agreed-to-acquire-remaining-40-stake-in-Qingdao-Yiqing-Biotechnolog-47890785/>.

Changes in operations

Subject producers were asked to report any change in the character of their operations or organization relating to the production of HECs since 2022. Fifteen of 20 producers indicated in their questionnaires that they had experienced such changes and 12 of those producers reported expansions (table 7.6). Table 7.7 presents the changes identified by these producers and their accompanying narrative responses.

Table 7.6 HECs: Count of reported changes in operations since January 1, 2022, by change and subject foreign industry

Count in number of firms reporting

Item	Brazil	China	India	Vietnam	Subject producers
Plant openings	***	0	1	***	2
Plant closings	***	0	0	***	0
Prolonged shutdowns	***	1	0	***	2
Production curtailments	***	2	0	***	3
Relocations	***	0	0	***	0
Expansions	***	5	5	***	12
Acquisitions	***	0	0	***	1
Consolidations	***	0	0	***	0
Weather-related or force majeure events	***	0	0	***	0
Other	***	1	2	***	3
Any change	***	7	5	***	15

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

Table 7.7 HECs: Reported changes in operations in the subject countries since January 1, 2022, by change, subject foreign industry, and firm

Item	Subject foreign industry, firm name and accompanying narrative response regarding changes in operations
Plant openings	***
Plant openings	***
Prolonged shutdowns	***
Prolonged shutdowns	***
Production curtailments	***
Production curtailments	***
Production curtailments	***
Expansions	***
Expansions	***
Expansions	***
Expansions	***
Expansions	***
Expansions	***
Expansions	***
Expansions	***

Table continued.

Item	Subject foreign industry, firm name and accompanying narrative response regarding changes in operations
Expansions	***
Expansions	***
Expansions	***
Acquisitions	***
Other	***
Other	***
Other	***

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

Table 7.8 presents anticipated changes in operations identified by subject producers.

Table 7.8 HECs: Reported anticipated changes in operations in the subject countries since January 1, 2022, by change, subject foreign industry, and firm

Subject foreign industry: producer	Narrative regarding anticipated changes in operations
***	***
***	***
***	***
***	***
***	***

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

Installed and practical overall capacity

Table 7.9 presents data on subject producers' installed capacity, practical overall capacity, and practical HECs capacity and production on the same equipment. As no foreign producer reported out-of-scope production on the same equipment and capacity used to produce HECs, practical overall and practical HECs production, capacity, and capacity utilization were the same throughout the period for which data were collected. From 2022 to 2024, installed overall capacity increased annually and was higher in interim 2025 compared to interim 2024. Capacity utilization was lower in 2024 than in 2022 and was slightly higher in interim 2025 than in interim 2024.

Table 7.9 HECs: Subject producers' installed and practical capacity and production on the same equipment as in-scope production, by period

Capacity and production in million units; utilization in percent

Item	Measure	2022	2023	2024	Interim 2024	Interim 2025
Installed overall	Capacity	380,446	397,079	421,277	205,306	217,171
Installed overall	Production	317,541	312,660	335,668	162,782	173,758
Installed overall	Utilization	83.5	78.7	79.7	79.3	80.0
Practical overall	Capacity	342,635	354,599	371,844	181,400	190,976
Practical overall	Production	317,541	312,660	335,668	162,782	173,758
Practical overall	Utilization	92.7	88.2	90.3	89.7	91.0
Practical HECs	Capacity	342,635	354,599	371,844	181,400	190,976
Practical HECs	Production	317,541	312,660	335,668	162,782	173,758
Practical HECs	Utilization	92.7	88.2	90.3	89.7	91.0

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

Constraints on capacity

Tables 7.10 and 7.11 present information on subject producers' reported production and capacity constraints since January 1, 2022.

Table 7.10 HECs: Count of reported constraints on practical overall capacity, by subject foreign industry

Count in number of firms reporting

Type of constraint	Brazil	China	India	Vietnam	Subject producers
Production bottlenecks	***	5	4	***	10
Existing labor force	***	3	1	***	4
Supply of material inputs	***	2	1	***	3
Fuel or energy	***	3	1	***	4
Storage capacity	***	1	1	***	2
Logistics/transportation	***	1	1	***	2
Other constraints	***	3	2	***	7

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

Table 7.11 HECs: Subject producers' reported practical overall capacity constraints since January 1, 2022, by constraint and firm

Type of constraint	Subject foreign industry, firm name, and narrative response on constraints to practical overall capacity
Production bottlenecks	***
Production bottlenecks	***
Production bottlenecks	***
Production bottlenecks	***
Production bottlenecks	***
Production bottlenecks	***

Table continued.

Type of constraint	Subject foreign industry, firm name, and narrative response on constraints to practical overall capacity
Production bottlenecks	***
Production bottlenecks	***
Production bottlenecks	***
Production bottlenecks	***
Existing labor force	***
Existing labor force	***
Existing labor force	***
Existing labor force	***
Supply of material inputs	***
Supply of material inputs	***

Table continued.

Type of constraint	Subject foreign industry, firm name, and narrative response on constraints to practical overall capacity
Supply of material inputs	***
Fuel or energy	***
Fuel or energy	***
Fuel or energy	***
Fuel or energy	***
Storage capacity	***
Storage capacity	***
Logistics/transportation	***
Logistics/transportation	***
Other constraints	***
Other constraints	***
Other constraints	***
Other constraints	***
Other constraints	***
Other constraints	***
Other constraints	***

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

Operations on HECs

Aggregate HEC operations in the subject countries

Table 7.12 presents information on the HEC operations of the responding producers/exporters (aggregate data for all subject foreign industries). Table 7.13 presents information on the HEC operations of responding producers/exports excluding Brazil. During 2022 to 2024, foreign producers' production and capacity increased overall and were higher in interim 2025 compared to interim 2024 as multiple firms in the subject countries expanded their capacity to produce HECs with the opening of facilities and the installation of additional production lines. As foreign producers' capacity increased, capacity utilization decreased slightly from 2022 to 2024 and was at somewhat similar levels in interim 2025 compared to interim 2024. Foreign producers project production and capacity to increase in calendar year 2025 and again in 2026. Subject producers' exports to the United States overall increased during 2022 to 2024 but were lower in interim 2025 compared to interim 2024. Subject foreign producers project exports to the United States to decrease from 2024 to 2025 and reach their lowest level in 2026. Exports to other markets decreased from 2022 to 2024 while foreign producers project exports to other markets to increase in 2025 and 2026.⁴ Home markets accounted for the majority of total shipments from 2022 to 2024 and are projected to remain so in 2025 and 2026.

⁴ Non-U.S. export markets include *** for producers in Brazil, *** for producers in China, *** for producers in India, and *** for the responding producer in Vietnam.

Table 7.12 HECs: Data on subject foreign industries, by item and period

Quantity in million units; interim period is January through June

Item	2022	2023	2024	Interim 2024	Interim 2025	Projection 2025	Projection 2026
Capacity	342,635	354,599	371,844	181,400	190,976	395,347	412,138
Production	317,541	312,660	335,668	162,782	173,758	358,902	378,898
End-of-period inventories	25,815	30,909	32,535	31,797	36,134	31,320	31,255
Internal consumption	***	***	***	***	***	***	***
Commercial home market shipments	***	***	***	***	***	***	***
Home market shipments	200,306	209,263	216,594	105,387	111,261	244,262	250,297
Exports to the United States	47,277	43,394	56,521	26,976	22,012	42,726	38,973
Exports to all other markets	66,370	54,113	60,496	29,508	37,127	73,102	89,619
Export shipments	113,647	97,507	117,016	56,484	59,139	115,828	128,592
Total shipments	313,953	306,770	333,610	161,871	170,399	360,090	378,889
Resales exported to the United States	***	***	***	***	***	***	***
Total exports to the United States	***	***	***	***	***	***	***

Table continued.

Table 7.12 (Continued) HECs: Data on subject foreign industries, by period

Ratio and share in percent; interim period is January through June

Item	2022	2023	2024	Interim 2024	Interim 2025	Projection 2025	Projection 2026
Capacity utilization ratio	92.7	88.2	90.3	89.7	91.0	90.8	91.9
Inventory ratio to production	8.1	9.9	9.7	9.8	10.4	8.7	8.2
Inventory ratio to total shipments	8.2	10.1	9.8	9.8	10.6	8.7	8.2
Internal consumption share	***	***	***	***	***	***	***
Commercial home market shipments share	***	***	***	***	***	***	***
Home market shipments share	63.8	68.2	64.9	65.1	65.3	67.8	66.1
Exports to the United States share	15.1	14.1	16.9	16.7	12.9	11.9	10.3
Exports to all other markets share	21.1	17.6	18.1	18.2	21.8	20.3	23.7
Export shipments share	36.2	31.8	35.1	34.9	34.7	32.2	33.9
Total shipments share	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Share of total exports to the United States exported by producers	***	***	***	***	***	***	***
Share of total exports to the United States exported by resellers	***	***	***	***	***	***	***
Adjusted share of total shipments exported to the United States	***	***	***	***	***	***	***

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 7.13 HECs: Data on subject foreign industries except Brazil, by item and period

Quantity in million units; interim period is January through June

Item	2022	2023	2024	Interim 2024	Interim 2025	Projection 2025	Projection 2026
Capacity	***	***	***	***	***	***	***
Production	***	***	***	***	***	***	***
End-of-period inventories	***	***	***	***	***	***	***
Internal consumption	***	***	***	***	***	***	***
Commercial home market shipments	***	***	***	***	***	***	***
Home market shipments	***	***	***	***	***	***	***
Exports to the United States	***	***	***	***	***	***	***
Exports to all other markets	***	***	***	***	***	***	***
Export shipments	***	***	***	***	***	***	***
Total shipments	***	***	***	***	***	***	***
Resales exported to the United States	***	***	***	***	***	***	***
Total exports to the United States	***	***	***	***	***	***	***

Table continued.

Table 7.13 (Continued) HECs: Data on subject foreign industries except Brazil, by item and period

Shares and ratios in percent; interim period is January through June

Item	2022	2023	2024	Interim 2024	Interim 2025	Projection 2025	Projection 2026
Capacity utilization ratio	***	***	***	***	***	***	***
Inventory ratio to production	***	***	***	***	***	***	***
Inventory ratio to total shipments	***	***	***	***	***	***	***
Internal consumption share	***	***	***	***	***	***	***
Commercial home market shipments share	***	***	***	***	***	***	***
Home market shipments share	***	***	***	***	***	***	***
Exports to the United States share	***	***	***	***	***	***	***
Exports to all other markets share	***	***	***	***	***	***	***
Export shipments share	***	***	***	***	***	***	***
Total shipments share	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Share of total exports to the United States exported by producers	***	***	***	***	***	***	***
Share of total exports to the United States exported by resellers	***	***	***	***	***	***	***
Adjusted share of total shipments exported to the United States	***	***	***	***	***	***	***

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 "—".

Practical HEC capacity and production by subject foreign industry

Table 7.14 presents information on subject producers’ production, capacity, and capacity utilization by subject country.⁵ During 2022 to 2024, each subject foreign industry reported overall increases in producers’ production and capacity. Subject foreign industries in China and India reported higher capacity and production in interim 2025 compared to interim 2024, whereas the producers in Brazil and Vietnam reported lower capacity in those interim periods. Capacity utilization rates for the subject foreign producers in 2024 ranged from *** percent for Brazil, *** percent for China, *** percent for India, and *** percent for Vietnam in 2024. Among the subject foreign industries, producers in Brazil reporting the lowest capacity utilization rate of *** percent in interim 2025.

Table 7.14 HECs: Subject producers’ output: Practical capacity, by source and period

Practical capacity

Capacity in million units; interim period is January through June

Subject foreign industry	2022	2023	2024	Interim 2024	Interim 2025	Projection 2025	Projection 2026
Brazil	***	***	***	***	***	***	***
China	***	***	***	***	***	***	***
India	***	***	***	***	***	***	***
Vietnam	***	***	***	***	***	***	***
All subject foreign industries	342,635	354,599	371,844	181,400	190,976	395,347	412,138
All subject foreign industries except Brazil	***	***	***	***	***	***	***

Table continued.

⁵ Petitioner Lonza contends that the capacity figures collected in response to Commission questionnaires are understated. It provided a summary of company market intelligence that includes 2025 capacity estimates and expansion plans for 22 producers in China (totaling *** units of annual capacity), two producers in India (totaling *** units of annual capacity), and one producer in Vietnam (totaling *** units of annual capacity). It noted in particular that the Commission’s data do not include that of Shanxi JC Biological Technology Co., Ltd (“Shanxi JC”), a significant producer in China with an estimated *** units of annual capacity in 2025 that is a mandatory respondent in Commerce’s investigations. Lonza’s posthearing brief, p. 14, att. 3, and exh. 4.

Table 7.14 (Continued) HECs: Subject producers' output: Production, by source and period

Production

Production in million units; interim period is January through June

Subject foreign industry	2022	2023	2024	Interim 2024	Interim 2025	Projection 2025	Projection 2026
Brazil	***	***	***	***	***	***	***
China	***	***	***	***	***	***	***
India	***	***	***	***	***	***	***
Vietnam	***	***	***	***	***	***	***
All subject foreign industries	317,541	312,660	335,668	162,782	173,758	358,902	378,898
All subject foreign industries except Brazil	***	***	***	***	***	***	***

Table continued.

Table 7.14 (Continued) HECs: Subject producers' output: Capacity utilization, by source and period

Capacity utilization

Capacity utilization in percent; interim period is January through June

Subject foreign industry	2022	2023	2024	Interim 2024	Interim 2025	Projection 2025	Projection 2026
Brazil	***	***	***	***	***	***	***
China	***	***	***	***	***	***	***
India	***	***	***	***	***	***	***
Vietnam	***	***	***	***	***	***	***
All subject foreign industries	92.7	88.2	90.3	89.7	91.0	90.8	91.9
All subject foreign industries except Brazil	***	***	***	***	***	***	***

Table continued.

Note: Capacity utilization ratio represents the ratio of the subject producer's production to its production capacity.

Table 7.14 (Continued) HECs: Subject producers' output: Share of production, by source and period

Share of production

Share in percent; interim period is January through June

Subject foreign industry	2022	2023	2024	Interim 2024	Interim 2025	Projection 2025	Projection 2026
Brazil	***	***	***	***	***	***	***
China	***	***	***	***	***	***	***
India	***	***	***	***	***	***	***
Vietnam	***	***	***	***	***	***	***
All subject foreign industries	100.0	100.0	100.0	100.0	100.0	100.0	100.0
All subject foreign industries except Brazil	***	***	***	***	***	***	***

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

HEC exports, by subject country

Table 7.15 presents information on subject producers' (and resellers) exports of HECs by subject country. Overall, during 2022 to 2024, exports to the United States by foreign producers in Brazil, China, India, and Vietnam increased. Exports to the United States by foreign producers in each subject country were lower in interim 2025 compared to interim 2024. Foreign producers in each subject country project exports to the United States to decrease from 2024 to 2026.

Table 7.15 HECs: Subject producers' (and resellers') exports: Exports to the United States, by source and period

Exports to the United States

Quantity in million units; interim period is January through June

Subject foreign industry	2022	2023	2024	Interim 2024	Interim 2025	Projection 2025	Projection 2026
Brazil	***	***	***	***	***	***	***
China	***	***	***	***	***	***	***
India	***	***	***	***	***	***	***
Vietnam	***	***	***	***	***	***	***
All subject foreign industries	47,277	43,394	56,521	26,976	22,012	42,726	38,973
All subject foreign industries except Brazil	***	***	***	***	***	***	***

Table continued.

Table 7.15 (Continued) HECs: Subject producers' (and resellers') exports: Share of total shipments exported to the United States, by source and period

Share of total shipments exported to the United States

Share in percent; interim period is January through June

Subject foreign industry	2022	2023	2024	Interim 2024	Interim 2025	Projection 2025	Projection 2026
Brazil	***	***	***	***	***	***	***
China	***	***	***	***	***	***	***
India	***	***	***	***	***	***	***
Vietnam	***	***	***	***	***	***	***
All subject foreign industries	15.1	14.1	16.9	16.7	12.9	11.9	10.3
All subject foreign industries except Brazil	***	***	***	***	***	***	***

Table continued.

Table 7.15 (Continued) HECs: Subject producers' (and resellers') exports: Exports to all destination markets, by source and period

Total exports

Quantity in million units; interim period is January through June

Subject foreign industry	2022	2023	2024	Interim 2024	Interim 2025	Projection 2025	Projection 2026
Brazil	***	***	***	***	***	***	***
China	***	***	***	***	***	***	***
India	***	***	***	***	***	***	***
Vietnam	***	***	***	***	***	***	***
All subject foreign industries	113,647	97,507	117,016	56,484	59,139	115,828	128,592
All subject foreign industries except Brazil	***	***	***	***	***	***	***

Table continued.

Table 7.15 (Continued) HECs: Subject producers' (and resellers') exports: Share of total shipments exported, by source and period

Share of total shipments exported

Quantity in million units; interim period is January through June

Subject foreign industry	2022	2023	2024	Interim 2024	Interim 2025	Projection 2025	Projection 2026
Brazil	***	***	***	***	***	***	***
China	***	***	***	***	***	***	***
India	***	***	***	***	***	***	***
Vietnam	***	***	***	***	***	***	***
All subject foreign industries	36.2	31.8	35.1	34.9	34.7	32.2	33.9
All subject foreign industries except Brazil	***	***	***	***	***	***	***

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

HEC inventories, by subject foreign industry

Table 7.16 presents information on ending inventory of the responding producers by subject foreign country. Combined foreign producers' inventories increased annually from 2022 to 2024 and are projected to decrease slightly in 2025 and 2026. Combined foreign producers' inventories were higher in interim 2025 compared to interim 2024. The ratio of inventories to total shipments was higher in 2024 than in 2022 but is projected to be lower in 2025 and 2026. From 2022 to 2024, inventories from China, India, and Vietnam increased while inventories from Brazil decreased. Inventories from Brazil, India, and Vietnam here higher in interim 2025 compared to interim 2024 while inventories from China were lower in interim 2025 compared to interim 2024.

Table 7.16 HECs: Subject foreign industries' ending inventories: Ending inventories, by source and period

Quantity in million units; interim period is January through June

Subject foreign industry	2022	2023	2024	Interim 2024	Interim 2025	Projection 2025	Projection 2026
Brazil	***	***	***	***	***	***	***
China	***	***	***	***	***	***	***
India	***	***	***	***	***	***	***
Vietnam	***	***	***	***	***	***	***
All subject foreign industries	25,815	30,909	32,535	31,797	36,134	31,320	31,255
All subject foreign industries except Brazil	***	***	***	***	***	***	***

Table continued.

Table 7.16 (Continued) HECs: Subject foreign industries' ending inventories: Ratio of ending inventories to total shipments, by source and period

Ratio in percent; interim period is January through June

Subject foreign industry	2022	2023	2024	Interim 2024	Interim 2025	Projection 2025	Projection 2026
Brazil	***	***	***	***	***	***	***
China	***	***	***	***	***	***	***
India	***	***	***	***	***	***	***
Vietnam	***	***	***	***	***	***	***
All subject foreign industries	8.2	10.1	9.8	9.8	10.6	8.7	8.2
All subject foreign industries except Brazil	***	***	***	***	***	***	***

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

HEC sizes

Producers in the subject countries were asked to specify the HEC sizes their firms are currently able to produce using the same equipment and/or labor. They were also asked to describe the amount of time, effort, and cost that is required to switch production between different sizes of HECs. Their responses to these questions are presented in appendix H. Producers in both China and India indicated that they are able to produce HECs in all sizes (including sizes larger than 000 and smaller than 5), producers in Brazil reported that they are able to produce HECs in sizes ***,⁶ and the responding producer in Vietnam indicated that it is able to produce HECs in sizes ***. Most producers in the subject countries reported the average change over time for production lines to accommodate size changes ranged from ***.⁷ They noted that there was a cost to switching the production runs between HEC sizes, including increased labor costs, clean material consumption costs, and electricity, fuel, and raw material costs for testing the operation. One producer in China and one producer in India reported that there is a minimal cost to switching between sizes and that they operate their facilities with an average of five size changes per week.

Gelatin and non-gelatin HECs

Producers in the subject countries were asked if they are able to switch production capacity on the same equipment and machinery between gelatin HECs and non-gelatin HECs. They were also asked to describe the amount of time, effort, and cost that is required to switch from gelatin HECs and non-gelatin HECs production runs. Their responses to these questions are presented in appendix H. Seven producers (three in China and four in India) reported that they are able to switch production between gelatin and non-gelatin HECs on the same equipment and machinery; eleven producers reported that they are not able to switch production between gelatin and non-gelatin HECs. Most producers in China and India reported the average change over time for production lines between gelatin and non-gelatin HECs

⁶ Non-standard sizes include AAA to E and 1000 to 250.

⁷ Three producers in China reported average change over time to be less than 12 hours (i.e., ***). One producer in India reported average change over time to be *** and another producer in India reported average change over time to be ***.

ranged from ***.⁸ Similar to responses for switching runs between sizes, most producers noted that there was a cost to switching the production runs between gelatin and non-gelatin HECs, including increased labor costs, clean material consumption costs, and electricity, fuel, and raw material costs for testing the operation. One producer in China and one producer in India reported that the impact of such a change is ***.

Alternative products

The responding producers in Brazil, China, India, and Vietnam did not report any production of alternative products using the same equipment and/or labor as those used to produce HECs during the period of investigation.

Exports

Table 7.17 presents Global Trade Atlas (“GTA”) data for exports of worked vegetable or mineral carving materials and articles, a category which includes HECs, from subject countries to the United States and to all destination markets.⁹ From 2022 to 2024, exports of these items from Brazil and China increased overall, while exports from India and Vietnam decreased. Of the four subject countries, exports to the United States from India as a share of the individual country’s total exports held the largest share in 2024, while such exports from Vietnam held the largest share in 2022 and 2023.

Table 7.17 Worked vegetable or mineral carving materials and articles: Global exports from subject foreign industries: Exports to the United States, by subject foreign country and period

Value in 1,000 dollars

Exporter	Measure	2022	2023	2024
Brazil	Value	1,896	4,133	3,008
China	Value	81,129	59,360	96,131
India	Value	70,956	66,981	68,593
Vietnam	Value	34,726	39,270	26,641
Subject exporters	Value	188,706	169,744	194,373
Subject exporters except Brazil	Value	186,810	165,611	191,365

Table continued.

⁸ One producer in China reported average change over time to be ***, one producer in India reported average change over time to be ***, and one producer in India reported average change over time to be ***.

⁹ The presentation of GTA export data in this report is for “worked vegetable of mineral carving materials and articles” reported at the 6-digit HS level, which includes not only in-scope HECs, but also other out-of-scope items.

Table 7.17 (Continued) Worked vegetable or mineral carving materials and articles: Global exports from subject foreign industries: Exports to all destination markets, by subject foreign country and period

Value in 1,000 dollars

Exporter	Measure	2022	2023	2024
Brazil	Value	9,157	10,472	11,285
China	Value	220,881	211,563	273,186
India	Value	174,787	148,217	156,674
Vietnam	Value	69,474	57,443	61,932
Subject exporters	Value	474,299	427,695	503,077
Subject exporters except Brazil	Value	465,142	417,223	491,792

Table continued.

Table 7.17 (Continued) Worked vegetable or mineral carving materials and articles: Global exports from subject foreign industries: Share of exports exported to the United States, by subject foreign country and period

Share in percent

Exporter	Measure	2022	2023	2024
Brazil	Share	20.7	39.5	26.7
China	Share	36.7	28.1	35.2
India	Share	40.6	45.2	43.8
Vietnam	Share	50.0	68.4	43.0
Subject exporters	Share	39.8	39.7	38.6
Subject exporters except Brazil	Value	40.2	39.7	38.9

Source: Official exports statistics and official global imports statistics from Vietnam (constructed exports) under HS subheading 9602.00 as reported by various national statistical authorities in the Global Trade Atlas Suite database, accessed August 11, 2025.

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

Petitioner Lonza testified that “both domestic producers and subject importers serve the U.S. market largely from inventory held in the United States, so customers can easily replenish HECs without disruption to their normal production schedules.”¹⁰

Table 7.18 presents data on U.S. importers’ reported inventories of HECs. U.S. importers’ inventories from Brazil, China, and Vietnam increased from 2022 to 2024, while U.S. importers’ inventories from India and nonsubject sources decreased. Inventories from individual subject sources and nonsubject sources were higher in interim 2025 compared to interim 2024. In 2024, subject sources accounted for approximately two-thirds of total inventories of HECs from all import sources and were more than *** times larger than inventories of HECs held by U.S. producers. Of the subject import sources, China held the largest amount of inventories in the United States, followed by Vietnam, India, and Brazil. U.S. inventories of imports from all subject sources combined represented *** percent and *** percent of U.S. production and U.S. consumption in 2024, respectively, and *** percent and *** percent of U.S. production and U.S. consumption in interim 2025.

¹⁰ Hearing transcript, p. 37 (Romanski).

Table 7.18 HECs: U.S. importers' inventories and their ratio to select items, by source and period

Quantity in 1,000 units; ratio in percent; interim period is January through June

Measure	Source	2022	2023	2024	Interim 2024	Interim 2025
Inventories quantity	Brazil	***	***	***	***	***
Ratio to imports	Brazil	***	***	***	***	***
Ratio to U.S. shipments of imports	Brazil	***	***	***	***	***
Ratio to total shipments of imports	Brazil	***	***	***	***	***
Inventories quantity	China	***	***	***	***	***
Ratio to imports	China	***	***	***	***	***
Ratio to U.S. shipments of imports	China	***	***	***	***	***
Ratio to total shipments of imports	China	***	***	***	***	***
Inventories quantity	India	***	***	***	***	***
Ratio to imports	India	***	***	***	***	***
Ratio to U.S. shipments of imports	India	***	***	***	***	***
Ratio to total shipments of imports	India	***	***	***	***	***
Inventories quantity	Vietnam	***	***	***	***	***
Ratio to imports	Vietnam	***	***	***	***	***
Ratio to U.S. shipments of imports	Vietnam	***	***	***	***	***
Ratio to total shipments of imports	Vietnam	***	***	***	***	***
Inventories quantity	Subject sources	***	***	***	***	***
Ratio to imports	Subject sources	***	***	***	***	***
Ratio to U.S. shipments of imports	Subject sources	***	***	***	***	***
Ratio to total shipments of imports	Subject sources	***	***	***	***	***
Inventories quantity	Subject sources less Brazil	***	***	***	***	***
Ratio to imports	Subject sources less Brazil	***	***	***	***	***
Ratio to U.S. shipments of imports	Subject sources less Brazil	***	***	***	***	***
Ratio to total shipments of imports	Subject sources less Brazil	***	***	***	***	***

Table continued.

Table 7.18 (Continued) HECs: U.S. importers' inventories and their ratio to select items, by source and period

Quantity in 1,000 units; ratio in percent; interim period is January through June

Measure	Source	2022	2023	2024	Interim 2024	Interim 2025
Inventories quantity	Mexico	***	***	***	***	***
Ratio to imports	Mexico	***	***	***	***	***
Ratio to U.S. shipments of imports	Mexico	***	***	***	***	***
Ratio to total shipments of imports	Mexico	***	***	***	***	***
Inventories quantity	All other import sources	***	***	***	***	***
Ratio to imports	All other import sources	***	***	***	***	***
Ratio to U.S. shipments of imports	All other import sources	***	***	***	***	***
Ratio to total shipments of imports	All other import sources	***	***	***	***	***
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	Nonsubject sources plus Brazil	***	***	***	***	***
Ratio to imports	Nonsubject sources plus Brazil	***	***	***	***	***
Ratio to U.S. shipments of imports	Nonsubject sources plus Brazil	***	***	***	***	***
Ratio to total shipments of imports	Nonsubject sources plus Brazil	***	***	***	***	***
Inventories quantity	All import sources	33,725,034	31,213,359	36,239,261	30,010,198	33,038,571
Ratio to imports	All import sources	34.2	38.7	37.0	32.7	35.8
Ratio to U.S. shipments of imports	All import sources	45.6	40.5	41.8	34.1	36.3
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 HECs from Brazil, China, India, and Vietnam after June 30, 2025. Nine of the 16 importers responding to the Commission's questionnaire reported that they had imported or arranged such imports, seven of which reported arranged imports from subject sources. Their reported data are presented in table 7.19. While there were no arranged imports from Brazil reported, arranged imports from China, India, and Vietnam together accounted for about *** of arranged imports from all sources during the annual period from July 1, 2025 to June 30, 2026.

Table 7.19 HECs: U.S. importers' arranged imports, by source and period

Quantity in 1,000 units

Source	Q3 2025	Q4 2025	Q1 2026	Q2 2026	Total
Brazil	***	***	***	***	***
China	***	***	***	***	***
India	***	***	***	***	***
Vietnam	***	***	***	***	***
Subject sources	***	***	***	***	***
Subject sources less Brazil	***	***	***	***	***
Mexico	***	***	***	***	***
All other sources	***	***	***	***	***
Nonsubject sources	***	***	***	***	***
Nonsubject sources plus Brazil	***	***	***	***	***
All import sources	9,855,514	7,699,774	2,834,668	2,000,000	22,389,956
Brazil	***	***	***	***	***
China	***	***	***	***	***
India	***	***	***	***	***
Vietnam	***	***	***	***	***
Subject sources	***	***	***	***	***
Subject sources less Brazil	***	***	***	***	***
Mexico	***	***	***	***	***
All other sources	***	***	***	***	***
Nonsubject sources	***	***	***	***	***
Nonsubject sources plus Brazil	***	***	***	***	***
All import sources	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 "—".

Third-country trade actions

In November 2021, Brazil initiated an antidumping investigation on imports of empty hard gelatin capsules (HS 9602.00.10) from Mexico and the United States.¹¹ In May 2023, a definitive antidumping duty was imposed on imports of the subject goods from Mexico and the United States. The rate of duty on imports from Mexico ranges from \$0.67 per thousand to \$1.67 per thousand depending on the company. The rate of duty on imports from the United States ranges from \$0.12 per thousand to \$2.13 per thousand depending on the company.¹²

Information on nonsubject countries

Table 7.20 presents global export data for worked vegetable or mineral carving materials and articles, including in-scope hard empty capsules as well as out-of-scope items. The largest global exporter in 2024 was China, representing 22.8 percent of global export values, with exports of more than \$273 million. The largest nonsubject global exporter was Belgium, representing 18.2 percent of global export values in 2024, with exports of more than \$217 million. Subject exporters (China, India, Brazil, and Vietnam) together accounted for 42.1 percent of global exports in 2024 at more than \$503 million.

¹¹ World Trade Organization, "Semi-annual report under article 16.4 of the Agreement," Brazil, March 18, 2022, <https://docs.wto.org/dol2fe/Pages/SS/directdoc.aspx?filename=q:/G/ADP/N364BRA.pdf>.

¹² Official Diary of the Union, GECEX RESOLUTION NO. 470, MAY 9, 2023, May 10, 2023, [RESOLUÇÃO GECEX Nº 470, DE 9 DE MAIO DE 2023 - RESOLUÇÃO GECEX Nº 470, DE 9 DE MAIO DE 2023 - DOU - Imprensa Nacional.](#)

Table 7.20 Worked vegetable or mineral carving materials and articles: Global exports by exporter and period

Value in 1,000 dollars

Exporting country	Measure	2022	2023	2024
United States	Value	93,338	99,991	72,974
Brazil	Value	9,157	10,472	11,285
China	Value	220,881	211,563	273,186
India	Value	174,787	148,217	156,674
Vietnam	Value	69,474	57,443	61,932
Subject exporters	Value	474,299	427,695	503,077
Subject exporters except Brazil	Value	465,142	417,223	491,792
Belgium	Value	216,914	252,657	217,473
Mexico	Value	69,369	82,092	90,857
Croatia	Value	32,922	38,554	45,252
Romania	Value	21,660	29,667	33,107
Canada	Value	31,156	30,810	32,839
All other exporters	Value	358,649	318,914	273,514
Nonsubject exporters	Value	730,670	752,693	693,042
Nonsubject exporters plus Brazil	Value	739,827	763,165	704,326
All reporting exporters	Value	1,204,969	1,180,388	1,196,118
United States	Share	7.7	8.5	6.1
Brazil	Share	0.8	0.9	0.9
China	Share	18.3	17.9	22.8
India	Share	14.5	12.6	13.1
Vietnam	Share	5.8	4.9	5.2
Subject exporters	Share	39.4	36.2	42.1
Subject exporters except Brazil	Share	38.6	35.3	41.1
Belgium	Share	18.0	21.4	18.2
Mexico	Share	5.8	7.0	7.6
Croatia	Share	2.7	3.3	3.8
Romania	Share	1.8	2.5	2.8
Canada	Share	2.6	2.6	2.7
All other exporters	Share	29.8	27.0	22.9
Nonsubject exporters	Share	60.6	63.8	57.9
Nonsubject exporters plus Brazil	Share	61.4	64.7	58.9
All reporting exporters	Share	100.0	100.0	100.0

Source: Official exports statistics and official global imports statistics from Vietnam and Mexico (constructed exports) under HS subheading 9602.00 as reported by various national statistical authorities in the Global Trade Atlas Suite database, accessed August 11, 2025.

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 86370, October 30, 2024	Hard Empty Capsules From Brazil, China, India, and Vietnam; Institution of Antidumping and Countervailing Duty Investigations and Scheduling of Preliminary Phase Investigations	https://www.govinfo.gov/content/pkg/FR-2024-10-30/pdf/2024-25161.pdf
89 FR 91680, November 20, 2024	Hard Empty Capsules From Brazil, the People's Republic of China, India, and the Socialist Republic of Vietnam: Initiation of Countervailing Duty Investigations	https://www.govinfo.gov/content/pkg/FR-2024-11-20/pdf/2024-27008.pdf
89 FR 91684, November 20, 2024	Hard Empty Capsules From Brazil, the People's Republic of China, India, and the Socialist Republic of Vietnam: Initiation of Less-Than-Fair-Value Investigations	https://www.govinfo.gov/content/pkg/FR-2024-11-20/pdf/2024-27009.pdf
90 FR 3788, January 15, 2025	Hard Empty Capsules From Brazil, the People's Republic of China, India, and the Socialist Republic of Vietnam: Postponement of Preliminary Determinations in the Countervailing Duty Investigations	https://www.govinfo.gov/content/pkg/FR-2025-01-15/pdf/2025-00658.pdf
90 FR 11257, March 5, 2025	Hard Empty Capsules From Brazil, the People's Republic of China, India, and the Socialist Republic of Vietnam: Postponement of Preliminary Determinations in the Less-Than-Fair-Value Investigations	https://www.govinfo.gov/content/pkg/FR-2025-03-05/pdf/2025-03559.pdf
90 FR 14240, March 31, 2025	Hard Empty Capsules From the Socialist Republic of Vietnam: Preliminary Affirmative Countervailing Duty Determination and Alignment of Final Determination With Final Antidumping Duty Determination	https://www.govinfo.gov/content/pkg/FR-2025-03-31/pdf/2025-05424.pdf
90 FR 14237, March 31, 2025	Hard Empty Capsules From India: Preliminary Affirmative Countervailing Duty Determination and Alignment of Final Determination With Final Antidumping Duty Determination	https://www.govinfo.gov/content/pkg/FR-2025-03-31/pdf/2025-05423.pdf
90 FR 14244, March 31, 2025	Hard Empty Capsules From the People's Republic of China: Preliminary Affirmative Countervailing Duty Determination and Alignment of Final Determination With Final Antidumping Duty Determination	https://www.govinfo.gov/content/pkg/FR-2025-03-31/pdf/2025-05422.pdf
90 FR 14235, March 31, 2025	Hard Empty Capsules From Brazil: Preliminary Affirmative Countervailing Duty Determination and Alignment of Final Determination With Final Antidumping Duty Determination	https://www.govinfo.gov/content/pkg/FR-2025-03-31/pdf/2025-05421.pdf
90 FR 22688, May 29, 2025	Hard Empty Capsules From Brazil: Preliminary Affirmative Determination of Sales at Less Than Fair Value, Postponement of Final Determination, and Extension of Provisional Measures	https://www.govinfo.gov/content/pkg/FR-2025-05-29/pdf/2025-09698.pdf

Citation	Title	Link
90 FR 22708, May 29, 2025	Hard Empty Capsules From the Socialist Republic of Vietnam: Preliminary Affirmative Determination of Sales at Less Than Fair Value, Postponement of Final Determination, and Extension of Provisional Measures	https://www.govinfo.gov/content/pkg/FR-2025-05-29/pdf/2025-09702.pdf
90 FR 22699, May 29, 2025	Hard Empty Capsules From India: Preliminary Affirmative Determination of Sales at Less Than Fair Value, Postponement of Final Determination and Extension of Provisional Measures	https://www.govinfo.gov/content/pkg/FR-2025-05-29/pdf/2025-09700.pdf
90 FR 22704, May 29, 2025	Hard Empty Capsules From the People's Republic of China: Preliminary Affirmative Determination of Sales at Less Than Fair Value, Postponement of Final Determination, and Extension of Provisional Measures	https://www.govinfo.gov/content/pkg/FR-2025-05-29/pdf/2025-09699.pdf
90 FR 27052, June 25, 2025	Hard Empty Capsules From Brazil, China, India, and Vietnam; Scheduling of the Final Phase of Countervailing Duty and Antidumping Duty Investigations	https://www.govinfo.gov/content/pkg/FR-2025-06-25/pdf/2025-11708.pdf
90 FR 52999, November 24, 2025	Hard Empty Capsules From Brazil, China, India, and Vietnam; Revised Schedule for the Subject Proceeding	https://www.govinfo.gov/content/pkg/FR-2025-11-24/pdf/2025-20757.pdf
90 FR 58054, December 15, 2025	Hard Empty Capsules From Brazil, China, India, and Vietnam; Revised Schedule for the Subject Proceeding	https://www.govinfo.gov/content/pkg/FR-2025-12-15/pdf/2025-22747.pdf
90 FR 60607, December 29, 2025	Hard Empty Capsules From Brazil: Final Affirmative Countervailing Duty Determination	https://www.govinfo.gov/content/pkg/FR-2025-12-29/pdf/2025-23823.pdf
90 FR 60610, December 29, 2025	Hard Empty Capsules From Brazil: Final Affirmative Determination of Sales at Less Than Fair Value	https://www.govinfo.gov/content/pkg/FR-2025-12-29/pdf/2025-23822.pdf
90 FR 60613, December 29, 2025	Hard Empty Capsules From India: Final Affirmative Determination of Sales at Less Than Fair Value	https://www.govinfo.gov/content/pkg/FR-2025-12-29/pdf/2025-23826.pdf
90 FR 60618, December 29, 2025	Hard Empty Capsules From India: Final Affirmative Countervailing Duty Determination	https://www.govinfo.gov/content/pkg/FR-2025-12-29/pdf/2025-23827.pdf
90 FR 60620, December 29, 2025	Hard Empty Capsules From the Socialist Republic of Vietnam: Final Affirmative Countervailing Duty Determination	https://www.govinfo.gov/content/pkg/FR-2025-12-29/pdf/2025-23829.pdf
90 FR 60623, December 29, 2025	Hard Empty Capsules From the People's Republic of China: Final Affirmative Determination of Sales at Less Than Fair Value	https://www.govinfo.gov/content/pkg/FR-2025-12-29/pdf/2025-23824.pdf
90 FR 60626, December 29, 2025	Hard Empty Capsules From the Socialist Republic of Vietnam: Final Affirmative Determination of Sales at Less Than Fair Value	https://www.govinfo.gov/content/pkg/FR-2025-12-29/pdf/2025-23828.pdf
90 FR 60628, December 29, 2025	Hard Empty Capsules From the People's Republic of China: Final Affirmative Countervailing Duty Determination	https://www.govinfo.gov/content/pkg/FR-2025-12-29/pdf/2025-23825.pdf

APPENDIX B

LIST OF HEARING WITNESSES

CALENDAR OF PUBLIC HEARING

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

Subject: Hard Empty Capsules from Brazil, China, India, and Vietnam
Inv. Nos.: 701-TA-742-745 and 731-TA-1720-1723 (Final)
Date and Time: December 2, 2025 - 9:30 a.m.

Sessions were held in connection with these investigations in the Main Hearing Room (Room 101), 500 E Street, SW., Washington, DC.

OPENING REMARKS:

In Support of Imposition (**Shawn M. Higgins**, Sidley Austin LLP)
In Opposition to Imposition (**Brittney R. Powell**, Fox Rothschild LLP)

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

Sidley Austin LLP
Washington, DC
on behalf of

Lonza Greenwood LLC ("Lonza")

Frank Romanski, Vice President, Strategic Growth & Revenue Management,
Head of Global Pharma Solutions, Capsules & Health Ingredients, Lonza
Group Ltd.

Ty James Corallo, Director, Head of Finance Operations, Capsules & Health
Ingredients, Lonza Group Ltd.

Gabriel McCutcheon, Vice President, Greenwood Site Head, Lonza

Jennifer Lutz, Partner, ION Economics, LLC

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

Rebecca Tuzel, Economic Consultant II, ION Economics, LLC

Cara Groden, Senior Economic Consultant, ION Economics, LLC

Shawn M. Higgins)
Rajib Pal)
) – OF COUNSEL
Allison V. Reading)
Ashlande Gelin)

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

Fox Rothschild LLP
Washington, DC
on behalf of

Associated Capsules Group (“ACG”)
Torpac Inc.

Karan Singh, Director, ACG

Raphael Sideris, (**remote witness**) Sales Director for Latin American Region, ACG

Raj Tahil, President, Torpac Inc.

Trushant Shah, Head of SCM, ACG

Lizbeth R. Levinson)
) – OF COUNSEL
Brittney R. Powell)

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

Craven Trade Law LLC
Chicago, IL
On behalf of

Ad Hoc Coalition of Hard Capsule Manufacturers (“AHCHCM”)

Tongjie Li, General Manager, Qingdao Yiqing Biotechnology Co., Ltd.

Shenghui Cao, President, Jiangsu Lefan Capsule Co., Ltd.

Yan Hai, Senior Partner, Beijing Guangsheng Law Office

Han Xiao, Secretary-General, China National Pharmaceutical Packaging
Association

Fred Cao, Supplemental Translator, Diaz Trade Law

David J. Craven) – OF COUNSEL

REBUTTAL/CLOSING REMARKS:

In Support of Imposition (**Rajib Pal**, Sidley Austin LLP)

In Opposition to Imposition

(**David J. Craven**, Craven Trade Law LLC *and* **Lizbeth R. Levinson**, Fox Rothschild LLP)

APPENDIX C
SUMMARY DATA

Table C.1

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

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

Item	Reported data					Period change comparisons				
	Calendar year		2024	Interim		Calendar year		Interim		
	2022	2023		2024	2025	2022-24	2022-23	2023-24	2024-25	
U.S. consumption quantity:										
Amount.....	***	***	***	***	***	▲***	▼***	▲***	▲***	▲***
Producers' share (fn1).....	***	***	***	***	***	▼***	▼***	▼***	▲***	▲***
Importers' share (fn1):										
Brazil.....	***	***	***	***	***	▲***	▲***	▲***	▲***	▼***
China.....	***	***	***	***	***	▲***	▲***	▲***	▲***	▲***
India.....	***	***	***	***	***	▲***	▲***	▲***	▲***	▲***
Vietnam.....	***	***	***	***	***	▲***	▲***	▲***	▲***	▼***
Subject sources.....	***	***	***	***	***	▲***	▲***	▲***	▲***	▲***
Subject sources less Brazil.....	***	***	***	***	***	▲***	▲***	▲***	▲***	▲***
Mexico.....	***	***	***	***	***	▼***	▼***	▼***	▼***	▼***
All other sources.....	***	***	***	***	***	▲***	▼***	▲***	▲***	▼***
Nonsubject sources.....	***	***	***	***	***	▲***	▼***	▲***	▲***	▼***
Nonsubject sources plus Brazil.....	***	***	***	***	***	▲***	▼***	▲***	▲***	▼***
All import sources.....	***	***	***	***	***	▲***	▲***	▲***	▲***	▼***
U.S. consumption value:										
Amount.....	***	***	***	***	***	▼***	▼***	▼***	▲***	▲***
Producers' share (fn1).....	***	***	***	***	***	▼***	▼***	▼***	▲***	▲***
Importers' share (fn1):										
Brazil.....	***	***	***	***	***	▲***	▲***	▲***	▲***	▼***
China.....	***	***	***	***	***	▲***	▼***	▲***	▲***	▲***
India.....	***	***	***	***	***	▲***	▲***	▲***	▲***	▲***
Vietnam.....	***	***	***	***	***	▲***	▲***	▲***	▲***	▼***
Subject sources.....	***	***	***	***	***	▲***	▲***	▲***	▲***	▲***
Subject sources less Brazil.....	***	***	***	***	***	▲***	▲***	▲***	▲***	▲***
Mexico.....	***	***	***	***	***	▲***	▲***	▲***	▲***	▼***
All other sources.....	***	***	***	***	***	▲***	▼***	▲***	▲***	▲***
Nonsubject sources.....	***	***	***	***	***	▲***	▼***	▲***	▲***	▼***
Nonsubject sources plus Brazil.....	***	***	***	***	***	▲***	▼***	▲***	▲***	▼***
All import sources.....	***	***	***	***	***	▲***	▲***	▲***	▲***	▼***
U.S. importers' U.S. shipments of imports from:										
Brazil:										
Quantity.....	***	***	***	***	***	▲***	▲***	▲***	▲***	▼***
Value.....	***	***	***	***	***	▲***	▲***	▲***	▲***	▼***
Unit value.....	***	***	***	***	***	▼***	▼***	▼***	▲***	▲***
Ending inventory quantity.....	***	***	***	***	***	▲***	▲***	▼***	▲***	▲***
China:										
Quantity.....	***	***	***	***	***	▲***	▲***	▲***	▲***	▲***
Value.....	***	***	***	***	***	▲***	▼***	▲***	▲***	▲***
Unit value.....	***	***	***	***	***	▼***	▼***	▼***	▲***	▲***
Ending inventory quantity.....	***	***	***	***	***	▲***	▼***	▲***	▲***	▲***
India:										
Quantity.....	***	***	***	***	***	▲***	▲***	▲***	▲***	▲***
Value.....	***	***	***	***	***	▲***	▲***	▲***	▲***	▲***
Unit value.....	***	***	***	***	***	▼***	▼***	▼***	▲***	▲***
Ending inventory quantity.....	***	***	***	***	***	▼***	▼***	▼***	▲***	▲***
Vietnam:										
Quantity.....	***	***	***	***	***	▲***	▲***	▲***	▲***	▼***
Value.....	***	***	***	***	***	▲***	▲***	▲***	▲***	▼***
Unit value.....	***	***	***	***	***	▼***	▼***	▼***	▲***	▼***
Ending inventory quantity.....	***	***	***	***	***	▲***	▲***	▲***	▲***	▲***
Subject sources:										
Quantity.....	***	***	***	***	***	▲***	▲***	▲***	▲***	▲***
Value.....	***	***	***	***	***	▲***	▼***	▲***	▲***	▲***
Unit value.....	***	***	***	***	***	▼***	▼***	▼***	▲***	▲***
Ending inventory quantity.....	***	***	***	***	***	▲***	▼***	▲***	▲***	▲***
Subject sources less Brazil:										
Quantity.....	***	***	***	***	***	▲***	▲***	▲***	▲***	▲***
Value.....	***	***	***	***	***	▲***	▼***	▲***	▲***	▲***
Unit value.....	***	***	***	***	***	▼***	▼***	▼***	▲***	▲***
Ending inventory quantity.....	***	***	***	***	***	▲***	▼***	▲***	▲***	▲***

Table continued.

Table C.1 Continued

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

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

Item	Reported data					Period change comparisons				
	Calendar year		2024	Interim		Calendar year		Interim		
	2022	2023		2024	2025	2022-24	2022-23	2023-24	2024-25	
U.S. importers' U.S. shipments of imports from: Continued										
Mexico:										
Quantity.....	***	***	***	***	***	▼***	▼***	▲***	▼***	▼***
Value.....	***	***	***	***	***	▼***	▼***	▼***	▼***	▼***
Unit value.....	***	***	***	***	***	▼***	▼***	▼***	▼***	▼***
Ending inventory quantity.....	***	***	***	***	***	▼***	▼***	▼***	▲***	▲***
All other sources:										
Quantity.....	***	***	***	***	***	▲***	▼***	▲***	▲***	▲***
Value.....	***	***	***	***	***	▼***	▼***	▲***	▲***	▲***
Unit value.....	***	***	***	***	***	▼***	▼***	▼***	▲***	▲***
Ending inventory quantity.....	***	***	***	***	***	▲***	▼***	▲***	▲***	▲***
Nonsubject sources:										
Quantity.....	***	***	***	***	***	▲***	▼***	▲***	▼***	▼***
Value.....	***	***	***	***	***	▼***	▼***	▲***	▼***	▼***
Unit value.....	***	***	***	***	***	▼***	▼***	▼***	▼***	▼***
Ending inventory quantity.....	***	***	***	***	***	▼***	▼***	▲***	▲***	▲***
Nonsubject sources plus Brazil:										
Quantity.....	***	***	***	***	***	▲***	▼***	▲***	▼***	▼***
Value.....	***	***	***	***	***	▼***	▼***	▲***	▼***	▼***
Unit value.....	***	***	***	***	***	▼***	▼***	▼***	▲***	▲***
Ending inventory quantity.....	***	***	***	***	***	▼***	▼***	▲***	▲***	▲***
All import sources:										
Quantity.....	74,031,227	77,002,294	86,633,847	44,030,988	45,469,830	▲17.0	▲4.0	▲12.5	▲3.3	▲3.3
Value.....	363,753	345,694	366,623	190,791	200,994	▲0.8	▼(5.0)	▲6.1	▲5.3	▲5.3
Unit value.....	\$4.91	\$4.49	\$4.23	\$4.33	\$4.42	▼(13.9)	▼(8.6)	▼(5.7)	▲2.0	▲2.0
Ending inventory quantity.....	33,725,034	31,213,359	36,239,261	30,010,198	33,038,571	▲7.5	▼(7.4)	▲16.1	▲10.1	▲10.1
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 (1,000 units per hour).....	***	***	***	***	***	▼***	▼***	▼***	▲***	▲***
Unit labor costs.....	***	***	***	***	***	▲***	▲***	▲***	▼***	▼***

Table continued.

Table C.1 Continued

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

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

Item	Reported data					Period change comparisons				
	Calendar year			Interim		Calendar year			Interim	
	2022	2023	2024	2024	2025	2022-24	2022-23	2023-24	2024-25	
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.

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.

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.

APPENDIX D

U.S. PRODUCERS' AND U.S. IMPORTERS' U.S. SHIPMENTS BY END USER TYPE

Table D.1 HECs: U.S. producers' and U.S. importers' U.S. shipments to pharmaceutical end users, by source and period

Quantity in 1,000 units; share in percent; Interim period is January through June

Source	Measure	2022	2023	2024	Interim 2024	Interim 2025
U.S. producers	Quantity	***	***	***	***	***
Brazil	Quantity	***	***	***	***	***
China	Quantity	***	***	***	***	***
India	Quantity	***	***	***	***	***
Vietnam	Quantity	***	***	***	***	***
Subject sources	Quantity	***	***	***	***	***
Subject sources less Brazil	Quantity	***	***	***	***	***
Mexico	Quantity	***	***	***	***	***
All other sources	Quantity	***	***	***	***	***
Nonsubject sources	Quantity	***	***	***	***	***
Nonsubject sources plus Brazil	Quantity	***	***	***	***	***
All import sources	Quantity	***	***	***	***	***
All sources	Quantity	***	***	***	***	***
U.S. producers	Share	***	***	***	***	***
Brazil	Share	***	***	***	***	***
China	Share	***	***	***	***	***
India	Share	***	***	***	***	***
Vietnam	Share	***	***	***	***	***
Subject sources	Share	***	***	***	***	***
Subject sources less Brazil	Share	***	***	***	***	***
Mexico	Share	***	***	***	***	***
All other sources	Share	***	***	***	***	***
Nonsubject sources	Share	***	***	***	***	***
Nonsubject sources plus Brazil	Share	***	***	***	***	***
All import sources	Share	***	***	***	***	***
All sources	Share	100.0	100.0	100.0	100.0	100.0

Table continued.

Table D.1 (Continued) HECs: U.S. producers' and U.S. importers' U.S. shipments to pharmaceutical end users, by source and period

Ratio in percent; ratios represent the ratio to overall apparent U.S. consumption; interim period is January through June

Source	Measure	2022	2023	2024	Interim 2024	Interim 2025
U.S. producers	Ratio	***	***	***	***	***
Brazil	Ratio	***	***	***	***	***
China	Ratio	***	***	***	***	***
India	Ratio	***	***	***	***	***
Vietnam	Ratio	***	***	***	***	***
Subject sources	Ratio	***	***	***	***	***
Subject sources less Brazil	Ratio	***	***	***	***	***
Mexico	Ratio	***	***	***	***	***
All other sources	Ratio	***	***	***	***	***
Nonsubject sources	Ratio	***	***	***	***	***
Nonsubject sources plus Brazil	Ratio	***	***	***	***	***
All import sources	Ratio	***	***	***	***	***
All sources	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 D.2 HECs: U.S. producers' and U.S. importers' U.S. shipments to nutraceutical end users, by source and period

Quantity in 1,000 units; Share in percent; Interim period is January through June

Source	Measure	2022	2023	2024	Interim 2024	Interim 2025
U.S. producers	Quantity	***	***	***	***	***
Brazil	Quantity	***	***	***	***	***
China	Quantity	***	***	***	***	***
India	Quantity	***	***	***	***	***
Vietnam	Quantity	***	***	***	***	***
Subject sources	Quantity	***	***	***	***	***
Subject sources less Brazil	Quantity	***	***	***	***	***
Mexico	Quantity	***	***	***	***	***
All other sources	Quantity	***	***	***	***	***
Nonsubject sources	Quantity	***	***	***	***	***
Nonsubject sources plus Brazil	Quantity	***	***	***	***	***
All import sources	Quantity	***	***	***	***	***
All sources	Quantity	***	***	***	***	***
U.S. producers	Share	***	***	***	***	***
Brazil	Share	***	***	***	***	***
China	Share	***	***	***	***	***
India	Share	***	***	***	***	***
Vietnam	Share	***	***	***	***	***
Subject sources	Share	***	***	***	***	***
Subject sources less Brazil	Share	***	***	***	***	***
Mexico	Share	***	***	***	***	***
All other sources	Share	***	***	***	***	***
Nonsubject sources	Share	***	***	***	***	***
Nonsubject sources plus Brazil	Share	***	***	***	***	***
All import sources	Share	***	***	***	***	***
All sources	Share	100.0	100.0	100.0	100.0	100.0

Table continued.

Table D.2 (Continued) HECs: U.S. producers' and U.S. importers' U.S. shipments to nutraceutical end users, by source and period

Ratio in percent; ratios represent the ratio to overall apparent U.S. consumption; interim period is January through June

Source	Measure	2022	2023	2024	Interim 2024	Interim 2025
U.S. producers	Ratio	***	***	***	***	***
Brazil	Ratio	***	***	***	***	***
China	Ratio	***	***	***	***	***
India	Ratio	***	***	***	***	***
Vietnam	Ratio	***	***	***	***	***
Subject sources	Ratio	***	***	***	***	***
Subject sources less Brazil	Ratio	***	***	***	***	***
Mexico	Ratio	***	***	***	***	***
All other sources	Ratio	***	***	***	***	***
Nonsubject sources	Ratio	***	***	***	***	***
Nonsubject sources plus Brazil	Ratio	***	***	***	***	***
All import sources	Ratio	***	***	***	***	***
All sources	Ratio	***	***	***	***	***

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

Table D.3 HECs: U.S. producers' and U.S. importers' U.S. shipments to other end users, by source and period

Quantity in 1,000 units; Share in percent; Interim period is January through June

Source	Measure	2022	2023	2024	Interim 2024	Interim 2025
U.S. producers	Quantity	***	***	***	***	***
Brazil	Quantity	***	***	***	***	***
China	Quantity	***	***	***	***	***
India	Quantity	***	***	***	***	***
Vietnam	Quantity	***	***	***	***	***
Subject sources	Quantity	***	***	***	***	***
Subject sources less Brazil	Quantity	***	***	***	***	***
Mexico	Quantity	***	***	***	***	***
All other sources	Quantity	***	***	***	***	***
Nonsubject sources	Quantity	***	***	***	***	***
Nonsubject sources plus Brazil	Quantity	***	***	***	***	***
All import sources	Quantity	***	***	***	***	***
All sources	Quantity	***	***	***	***	***
U.S. producers	Share	***	***	***	***	***
Brazil	Share	***	***	***	***	***
China	Share	***	***	***	***	***
India	Share	***	***	***	***	***
Vietnam	Share	***	***	***	***	***
Subject sources	Share	***	***	***	***	***
Subject sources less Brazil	Share	***	***	***	***	***
Mexico	Share	***	***	***	***	***
All other sources	Share	***	***	***	***	***
Nonsubject sources	Share	***	***	***	***	***
Nonsubject sources plus Brazil	Share	***	***	***	***	***
All import sources	Share	***	***	***	***	***
All sources	Share	100.0	100.0	100.0	100.0	100.0

Table continued.

Table D.3 (Continued) HECs: U.S. producers' and U.S. importers' U.S. shipments to other end users, by source and period

Ratio in percent; ratios represent the ratio to overall apparent U.S. consumption; interim period is January through June

Source	Measure	2022	2023	2024	Interim 2024	Interim 2025
U.S. producers	Ratio	***	***	***	***	***
Brazil	Ratio	***	***	***	***	***
China	Ratio	***	***	***	***	***
India	Ratio	***	***	***	***	***
Vietnam	Ratio	***	***	***	***	***
Subject sources	Ratio	***	***	***	***	***
Subject sources less Brazil	Ratio	***	***	***	***	***
Mexico	Ratio	***	***	***	***	***
All other sources	Ratio	***	***	***	***	***
Nonsubject sources	Ratio	***	***	***	***	***
Nonsubject sources plus Brazil	Ratio	***	***	***	***	***
All import sources	Ratio	***	***	***	***	***
All sources	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 "—".

APPENDIX E

NONSUBJECT COUNTRY PRICE DATA

One importer (***) reported price data for imports from Mexico for products 2, 4, 6, and 8, that is, the four pricing products that were not imprinted. Price data reported by this firm accounted for *** percent of U.S. commercial shipments of HECs imported from Mexico in 2024. These price items and accompanying data are comparable to those presented in tables 5.4, 5.6, 5.8, and 5.10. Price and quantity data for Mexico, along with domestic prices and quantity data, are shown in tables E.1 to E.4 and in figures E.1 to E.4 (with domestic and subject sources). Whereas *** the HPMC pricing products produced by Lonza in the United States were second-generation VCAPS Plus products, the HPMC pricing products (products 4 and 8) imported from Mexico were *** second-generation HPMC products. Both first- and second-generation HPMC pricing products are presented in the tables in this appendix.

Generally, pricing for HECs imported from Mexico were lower than domestic prices but higher than subject import prices. In comparing pricing data for commercial shipments of imports of HECs from Mexico with U.S. producer pricing data, prices for product imported from Mexico were lower than prices for U.S.-produced product in *** instances and higher in *** instances. In comparing nonsubject country pricing data with subject country pricing data, prices for product imported from Mexico were lower than prices for product imported from subject countries in 34 instances and higher in 157 instances. Excluding comparisons with Brazil, these counts change to 30 and 138, respectively. Prices for product imported from Mexico were the lowest among subject and nonsubject sources in 4 quarters, were highest in 37 quarters, and between subject source prices in 150 quarters, whether or not Brazil was excluded from the comparisons. A summary of price differentials is presented in table E.5.

Table E.6 presents comparisons of gelatin-based and HPMC-based HEC products and provides further details regarding prices of first- and second-generation VCAPS Plus HPMC products. In both HPMC-based products (products 4 and 8) the price for second-generation VCAPS Plus versions of the products imported from Mexico were priced lower than the first-generation HPMC-based products imported from Mexico. In these comparisons, VCAPS Plus HECs imported from Mexico were priced lower than VCAPS Plus product produced in the United States in *** quarters. For the first-generation HPMC product, HECs imported from Mexico were priced higher than product from China, India, and Vietnam in *** quarters. For gelatin-based HECs, imported HECs from Mexico were priced lower than domestic gelatin-based HECs in 19 of 28 quarters, but higher than gelatin-based HECs imported from subject countries in 80 of 107 quarters (*** quarters if excluding Brazil).

Table E.1 HECs: Weighted-average f.o.b. prices and quantities of domestic and imported Mexican product 2, by quarter

Price in dollars per 1,000 units, quantity in 1,000 units

Period	U.S. price	U.S. quantity	Mexico price	Mexico quantity
2022 Q1	***	***	***	***
2022 Q2	***	***	***	***
2022 Q3	***	***	***	***
2022 Q4	***	***	***	***
2023 Q1	***	***	***	***
2023 Q2	***	***	***	***
2023 Q3	***	***	***	***
2023 Q4	***	***	***	***
2024 Q1	***	***	***	***
2024 Q2	***	***	***	***
2024 Q3	***	***	***	***
2024 Q4	***	***	***	***
2025 Q1	***	***	***	***
2025 Q2	***	***	***	***

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

Note: Product 2: Hard empty gelatin capsules (including cap and body) for human consumption, in all sizes between 00 to 0 (whether regular, elongated, or enrobing), NOT imprinted, and sold in per 1,000 unit increments.

Table E.2 HECs: Weighted-average f.o.b. prices and quantities of domestic and imported Mexican product 4, by quarter

Price in dollars per 1,000 units, quantity in 1,000 units

Period	U.S. VCAPS Plus price	U.S. VCAPS Plus quantity	Mexico VCAPS Plus price	Mexico VCAPS Plus quantity	Mexico non-VCAPS Plus price	Mexico non-VCAPS Plus quantity
2022 Q1	***	***	***	***	***	***
2022 Q2	***	***	***	***	***	***
2022 Q3	***	***	***	***	***	***
2022 Q4	***	***	***	***	***	***
2023 Q1	***	***	***	***	***	***
2023 Q2	***	***	***	***	***	***
2023 Q3	***	***	***	***	***	***
2023 Q4	***	***	***	***	***	***
2024 Q1	***	***	***	***	***	***
2024 Q2	***	***	***	***	***	***
2024 Q3	***	***	***	***	***	***
2024 Q4	***	***	***	***	***	***
2025 Q1	***	***	***	***	***	***
2025 Q2	***	***	***	***	***	***

Table continued

Period	Mexico total price	Mexico total quantity
2022 Q1	***	***
2022 Q2	***	***
2022 Q3	***	***
2022 Q4	***	***
2023 Q1	***	***
2023 Q2	***	***
2023 Q3	***	***
2023 Q4	***	***
2024 Q1	***	***
2024 Q2	***	***
2024 Q3	***	***
2024 Q4	***	***
2025 Q1	***	***
2025 Q2	***	***

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

Note: Product 4: Hard empty hydroxypropyl methylcellulose (“HPMC”) capsules (including cap and body) for human consumption, in all sizes between 00 to 0 (whether regular, elongated, or enrobing), NOT imprinted, and sold in per 1,000 unit increments.

Table E.3 HECs: Weighted-average f.o.b. prices and quantities of domestic and imported Mexican product 6, by quarter

Price in dollars per 1,000 units, quantity in 1,000 units

Period	U.S. price	U.S. quantity	Mexico price	Mexico quantity
2022 Q1	***	***	***	***
2022 Q2	***	***	***	***
2022 Q3	***	***	***	***
2022 Q4	***	***	***	***
2023 Q1	***	***	***	***
2023 Q2	***	***	***	***
2023 Q3	***	***	***	***
2023 Q4	***	***	***	***
2024 Q1	***	***	***	***
2024 Q2	***	***	***	***
2024 Q3	***	***	***	***
2024 Q4	***	***	***	***
2025 Q1	***	***	***	***
2025 Q2	***	***	***	***

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

Note: Product 6: Hard empty gelatin capsules (including cap and body) for human consumption, in all sizes between 1 to 3 (whether regular, elongated, or enrobing), NOT imprinted, and sold in per 1,000 unit increments.

Table E.4 HECs: Weighted-average f.o.b. prices and quantities of domestic and imported Mexican product 8, by quarter

Price in dollars per 1,000 units, quantity in 1,000 units

Period	U.S. VCAPS Plus price	U.S. VCAPS Plus quantity	Mexico VCAPS Plus price	Mexico VCAPS Plus quantity	Mexico non-VCAPS Plus price	Mexico non-VCAPS Plus quantity
2022 Q1	***	***	***	***	***	***
2022 Q2	***	***	***	***	***	***
2022 Q3	***	***	***	***	***	***
2022 Q4	***	***	***	***	***	***
2023 Q1	***	***	***	***	***	***
2023 Q2	***	***	***	***	***	***
2023 Q3	***	***	***	***	***	***
2023 Q4	***	***	***	***	***	***
2024 Q1	***	***	***	***	***	***
2024 Q2	***	***	***	***	***	***
2024 Q3	***	***	***	***	***	***
2024 Q4	***	***	***	***	***	***
2025 Q1	***	***	***	***	***	***
2025 Q2	***	***	***	***	***	***

Table continued

Period	Mexico total price	Mexico total quantity
2022 Q1	***	***
2022 Q2	***	***
2022 Q3	***	***
2022 Q4	***	***
2023 Q1	***	***
2023 Q2	***	***
2023 Q3	***	***
2023 Q4	***	***
2024 Q1	***	***
2024 Q2	***	***
2024 Q3	***	***
2024 Q4	***	***
2025 Q1	***	***
2025 Q2	***	***

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

Note: Product 8: Hard empty hydroxypropyl methylcellulose (“HPMC”) capsules (including cap and body) for human consumption, in all sizes between 1 to 3 (whether regular, elongated, or enrobing), NOT imprinted, and sold in per 1,000 unit increments.

Figure E.1 HECs: Weighted-average prices and quantities of domestic and imported product 2, by quarter

Price of product 2

* * * * *

Volume of product 2

* * * * *

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

Note: Product 2: Hard empty gelatin capsules (including cap and body) for human consumption, in all sizes between 00 to 0 (whether regular, elongated, or enrobing), NOT imprinted, and sold in per 1,000 unit increments.

Figure E.2 HECs: Weighted-average prices and quantities of domestic and imported product 4, by quarter

Price of product 4

* * * * *

Volume of product 4

* * * * *

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

Note: Product 4: Hard empty hydroxypropyl methylcellulose (“HPMC”) capsules (including cap and body) for human consumption, in all sizes between 00 to 0 (whether regular, elongated, or enrobing), NOT imprinted, and sold in per 1,000 unit increments.

Figure E.3 HECs: Weighted-average prices and quantities of domestic and imported product 6, by quarter

Price of product 6

* * * * *

Volume of product 6

* * * * *

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

Note: Product 6: Hard empty gelatin capsules (including cap and body) for human consumption, in all sizes between 1 to 3 (whether regular, elongated, or enrobing), NOT imprinted, and sold in per 1,000 unit increments.

Figure E.4 HECs: Weighted-average prices and quantities of domestic and imported product 8, by quarter

Price of product 8

* * * * *

Volume of product 8

* * * * *

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

Note: Product 8: Hard empty hydroxypropyl methylcellulose (“HPMC”) capsules (including cap and body) for human consumption, in all sizes between 1 to 3 (whether regular, elongated, or enrobing), NOT imprinted, and sold in per 1,000 unit increments.

Table E.5 HECs: Instances of underselling and overselling and the range and average of margins,

Price in dollars per 1,000 units, quantity in 1,000 units

Comparison source	Benchmark source	Number of quarters lower	Quantity lower	Number of quarters higher	Quantity higher
Mexico	United States	***	***	***	***
Mexico	Brazil	***	***	***	***
Mexico	China	***	***	***	***
Mexico	India	***	***	***	***
Mexico	Vietnam	***	***	***	***

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. or subject product and the nonsubject product.

Table E.6 HECs: Instances of underselling and overselling and the range and average of margins,

Price in dollars per 1,000 units, quantity in 1,000 units

Comparison source	Benchmark source	Number of quarters lower	Quantity lower	Number of quarters higher	Quantity higher
Mexico (gelatin)	United States	***	***	***	***
Mexico (gelatin)	Brazil	***	***	***	***
Mexico (gelatin)	China	***	***	***	***
Mexico (gelatin)	India	***	***	***	***
Mexico (gelatin)	Vietnam	***	***	***	***
Mexico (VCAPS Plus)	United States	***	***	***	***
Mexico (non-VCAPS Plus)	United States	***	***	***	***
Mexico (non-VCAPS Plus)	Brazil	***	***	***	***
Mexico (non-VCAPS Plus)	China	***	***	***	***
Mexico (non-VCAPS Plus)	India	***	***	***	***
Mexico (non-VCAPS Plus)	Vietnam	***	***	***	***

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. or subject product and the nonsubject product.

APPENDIX F

PRICE COMPARISON TABLES EXCLUDING PROPRIETARY

VCAPS PLUS PRICE DATA

Underselling and overselling pricing comparisons by product type (gelatin, HPMC, both including and excluding second-generation VCAPS Plus HPMC product, and overall) were presented in table 5.12 in Part 5, along with overall underselling pricing comparisons by subject country and by year. This appendix presents the underselling and overselling data by subject country and by year (tables F.1 and F.2) excluding instances where VCAPS Plus domestic HPMC pricing data are compared with non-VCAPS Plus subject import HPMC pricing data.¹ These tables are comparable to tables 5.13 and 5.14.

In addition, table F.3 provides some comparisons of the outcomes of underselling and overselling data depending on whether the VCAPS Plus pricing data were included in or excluded from the pricing data. As seen in table F.3, differences were small in shares of underselling or overselling between the two pricing datasets.

¹ As noted in Part 5, *** for domestic HPMC-based products were supplied by Lonza and *** contain data for second-generation VCAPS Plus HECs.

Table F.1 HECs: Instances of underselling and overselling and the range and average of margins excluding second-generation VCAPS Plus HECs, by source

Quantity in 1,000 units; margin in percent

Source	Type	Number of quarters	Quantity	Average margin	Min margin	Max margin
Brazil	Underselling	23	***	***	***	***
China	Underselling	43	***	***	***	***
India	Underselling	55	***	***	***	***
Vietnam	Underselling	51	***	***	***	***
All subject sources	Underselling	172	***	***	***	***
Subject excl. Brazil	Underselling	149	***	***	***	***
Brazil	Overselling	0	***	***	***	***
China	Overselling	3	***	***	***	***
India	Overselling	1	***	***	***	***
Vietnam	Overselling	4	***	***	***	***
All subject sources	Overselling	8	***	***	***	***
Subject excl. Brazil	Overselling	8	***	***	***	***

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

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

Table F.2 HECs: Instances of underselling and overselling and the range and average of margins, excluding second-generation VCAPS Plus HECs, by year

Quantity in 1,000 units; margin in percent

Period	Type	Aggregation	Number of quarters	Quantity	Average margin	Min margin	Max margin
2022	Underselling	All subject sources	47	***	***	***	***
2023	Underselling	All subject sources	49	***	***	***	***
2024	Underselling	All subject sources	51	***	***	***	***
2025	Underselling	All subject sources	25	***	***	***	***
All periods	Underselling	All subject sources	172	***	***	***	***
2022	Overselling	All subject sources	6	***	***	***	***
2023	Overselling	All subject sources	0	***	***	***	***
2024	Overselling	All subject sources	2	***	***	***	***
2025	Overselling	All subject sources	0	***	***	***	***
All periods	Overselling	All subject sources	8	***	***	***	***
2022	Underselling	Subject excl. Brazil	41	***	***	***	***
2023	Underselling	Subject excl. Brazil	44	***	***	***	***
2024	Underselling	Subject excl. Brazil	43	***	***	***	***
2025	Underselling	Subject excl. Brazil	21	***	***	***	***
All periods	Underselling	Subject excl. Brazil	149	***	***	***	***
2022	Overselling	Subject excl. Brazil	6	***	***	***	***
2023	Overselling	Subject excl. Brazil	0	***	***	***	***
2024	Overselling	Subject excl. Brazil	2	***	***	***	***
2025	Overselling	Subject excl. Brazil	0	***	***	***	***
All periods	Overselling	Subject excl. Brazil	8	***	***	***	***

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

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

Table F.3 HECs: Comparison of shares of underselling and overselling instances including and excluding second-generation VCAPS Plus HPMC product,

Comparison item	Scenario	Including VCAPS Plus comparisons	Excluding VCAPS Plus comparisons
Share of instances underselling	All subject	***	***
Share of instances overselling	All subject	***	***
Share of quantity underselling	All subject	***	***
Share of quantity overselling	All subject	***	***
Number of comparisons	All subject	***	***
Average underselling margins	All subject	***	***
Average overselling margins	All subject	***	***
Share of instances underselling	Subject less Brazil	***	***
Share of instances overselling	Subject less Brazil	***	***
Share of quantity underselling	Subject less Brazil	***	***
Share of quantity overselling	Subject less Brazil	***	***
Number of comparisons	Subject less Brazil	***	***
Average underselling margins	Subject less Brazil	***	***
Average overselling margins	Subject less Brazil	***	***

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

APPENDIX G

U.S. PRODUCERS' NET SALES BY SALES TYPE

Table G.1 HECs: U.S. producers' total net sales, by sales type and period

Quantity in 1,000 units; value in 1,000 dollars; shares in percent; interim period is January through June

Sales type	Measure	2022	2023	2024	Interim 2024	Interim 2025
Domestic sales	Quantity	***	***	***	***	***
Export sales	Quantity	***	***	***	***	***
Total net sales	Quantity	***	***	***	***	***
Domestic sales	Share of quantity	***	***	***	***	***
Export sales	Share of quantity	***	***	***	***	***
Total net sales	Share of quantity	100.0	100.0	100.0	100.0	100.0
Domestic sales	Value	***	***	***	***	***
Export sales	Value	***	***	***	***	***
Total net sales	Value	***	***	***	***	***
Domestic sales	Share of value	***	***	***	***	***
Export sales	Share of value	***	***	***	***	***
Total net sales	Share of value	100.0	100.0	100.0	100.0	100.0

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

Table G.2 HECs: Changes in total net sales, by sales type and period

% change in percent; ppt change in percentage points

Sales type	Measure	2022–24	2022–23	2023–24	Interim 2024–25
Domestic sales	%Δ Quantity	▼***	▼***	▼***	▲***
Export sales	%Δ Quantity	▼***	▲***	▼***	▲***
Total net sales	%Δ Quantity	▼***	▼***	▼***	▲***
Domestic sales	ppt Δ Quantity	▼***	▼***	▼***	▲***
Export sales	ppt Δ Quantity	▲***	▲***	▲***	▼***
Total net sales	ppt Δ Quantity	***	***	***	***
Domestic sales	%Δ Value	▼***	▼***	▼***	▲***
Export sales	%Δ Value	▲***	▲***	▼***	▲***
Total net sales	%Δ Value	▼***	▲***	▼***	▲***
Domestic sales	ppt Δ Value	▼***	▼***	▼***	▼***
Export sales	ppt Δ Value	▲***	▲***	▲***	▲***
Total net sales	ppt Δ Value	***	***	***	***

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

Note: Zeroes, no changes, 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.

Figure G.1 HECs: U.S. producers' total net sales, by sales type and period

* * * * *

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

APPENDIX H

INFORMATION FROM U.S. AND FOREIGN PRODUCERS ON HEC SIZES AND TYPES

Table H.1 HECs: Count of U.S. producers' capability to produce different capsules sizes, by firm

Size	Lonza	Qualicaps	All U.S. producers
Sizes larger than 000	***	***	***
Size 000	***	***	***
Size 00	***	***	***
Size 0	***	***	***
Size 1	***	***	***
Size 2	***	***	***
Size 3	***	***	***
Size 4	***	***	***
Size 5	***	***	***
Sizes smaller than 5	***	***	***
Non-standard sizes	***	***	***

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

Table H.2 HECs: U.S. producers' narrative responses regarding time and effort to switch between capsule sizes, by item and firm

Item	Firm name and narrative response on item
Average hours	***
Steps involved	***
Impact of switching	***
Average hours	***
Steps involved	***
Impact of switching	***

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

Table H.3 HECs: U.S. producers' narrative responses regarding ability to switch production between gelatin and non-gelatin, by type

Item	Firm name and narrative response on item
Average hours	***
Steps involved	***
Impact of switching	***

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

Note: The data in this table relate to U.S producer ***.

Note: Lonza ***. Lonza notes, ***. Lonza's posthearing brief, p. 37.

Table H.4 HECs: Count of foreign producers' capability to produce different capsules sizes, by subject foreign industry

Size	Brazil	China	India	Vietnam	Subject foreign industries
Sizes larger than 000	***	1	1	***	2
Size 000	***	4	2	***	8
Size 00	***	11	5	***	19
Size 0	***	11	5	***	19
Size 1	***	10	5	***	18
Size 2	***	9	5	***	17
Size 3	***	9	5	***	17
Size 4	***	6	5	***	14
Size 5	***	4	3	***	7
Sizes smaller than 5	***	1	1	***	2
Non-standard sizes	***	4	2	***	8

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

Table H.5 HECs: Foreign producers' narrative responses regarding time and effort to switch between capsule sizes, by item and firm

Item	Firm name and narrative response on item
Average hours	***
Steps involved	***
Impact of switching	***
Average hours	***
Steps involved	***
Impact of switching	***
Average hours	***
Steps involved	***
Impact of switching	***
Average hours	***
Steps involved	***
Impact of switching	***
Average hours	***
Steps involved	***
Impact of switching	***
Average hours	***

Item	Firm name and narrative response on item
Steps involved	***
Impact of switching	***
Average hours	***
Steps involved	***
Impact of switching	***
Average hours	***
Steps involved	***
Impact of switching	***
Average hours	***
Steps involved	***
Impact of switching	***
Average hours	***
Steps involved	***
Impact of switching	***
Average hours	***
Steps involved	***
Impact of switching	***
Average hours	***
Steps involved	***
Impact of switching	***
Average hours	***
Steps involved	***
Impact of switching	***
Average hours	***
Steps involved	***
Impact of switching	***
Average hours	***
Steps involved	***

Item	Firm name and narrative response on item
Impact of switching	***
Average hours	***
Steps involved	***
Impact of switching	***
Average hours	***
Steps involved	***
Impact of switching	***
Average hours	***
Steps involved	***
Impact of switching	***
Average hours	***
Steps involved	***
Impact of switching	***

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

Table H.6 HECs: Foreign producers' narrative responses regarding switching between gelatin and non-gelatin, by type

Item	Firm name and narrative response on item
Average hours	***
Steps involved	***
Impact of switching	***
Average hours	***
Steps involved	***
Impact of switching	***
Average hours	***
Steps involved	***
Impact of switching	***
Average hours	***

Item	Firm name and narrative response on item
Steps involved	***
Impact of switching	***
Average hours	***
Steps involved	***
Impact of switching	***
Average hours	***
Steps involved	***
Impact of switching	***
Average hours	***
Steps involved	***
Impact of switching	***

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

Note: ***. Lonza's posthearing brief, p. 36.

Table H.7 HECs: Count of production types, by subject foreign industries

Subject foreign industry	Gelatin	Non-gelatin
Brazil	***	***
China	8	9
India	5	5
Vietnam	***	***
All subject foreign industries	16	15

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

