

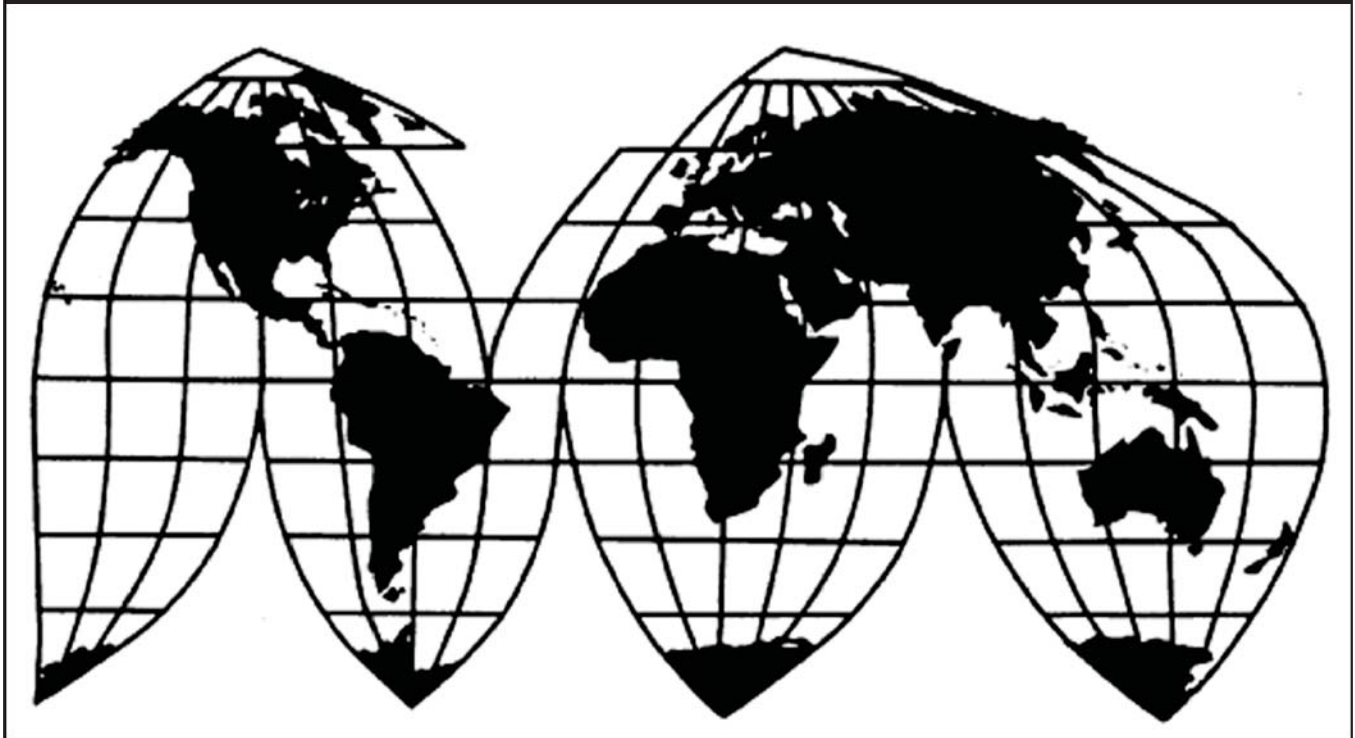
Calcium Hypochlorite from China

Investigation Nos. 701-TA-510 and 731-TA-1245 (Final)

Publication 4515

January 2015

U.S. International Trade Commission



Washington, DC 20436

U.S. International Trade Commission

COMMISSIONERS

Meredith M. Broadbent, Chairman

Dean A. Pinkert, Vice Chairman

Irving A. Williamson

David S. Johanson

F. Scott Kieff

Rhonda K. Schmidlein

Karen Laney

Acting Director of Operations

Staff assigned

Fred Ruggles, Investigator

Christopher Robinson, Industry Analyst

John Benedetto, Economist

David Boyland, Accountant

Lita David-Harris, Statistician

Darlene Smith, Statistical Assistant

David Goldfine, Attorney

Elizabeth Haines, Supervisory Investigator

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

U.S. International Trade Commission

Washington, DC 20436
www.usitc.gov

Calcium Hypochlorite from China

Investigation Nos. 701-TA-510 and 731-TA-1245 (Final)

Publication 4515



January 2015

CONTENTS

	<i>Page</i>
Determinations	1
Views of the Commission	3
Part I: Introduction	I-1
Background	I-1
Statutory criteria and organization of the report.....	I-2
Statutory criteria	I-2
Organization of the report.....	I-3
Market summary	I-3
Summary data and data sources	I-3
Previous and related investigations.....	I-4
Nature and extent of alleged subsidies and sales at LTFV	I-5
Nature of the subsidies.....	I-5
Sales at LTFV	I-5
The subject merchandise.....	I-6
Commerce’s scope	I-6
Tariff treatment	I-6
The product	I-7
Description and applications	I-7
Manufacturing process.....	I-8
The domestic industry	I-9
Domestic like product issue.....	I-10
Physical characteristics and uses.....	I-10
Interchangeability.....	I-11
Manufacturing process.....	I-12
Channels of distribution	I-13
Customer and producer perceptions	I-13
Price	I-13

	Page
Part II: Supply and demand information	II-1
U.S. market characteristics	II-1
U.S. purchasers	II-1
Channels of distribution	II-2
Geographic distribution	II-3
Supply and demand considerations	II-4
U.S. supply	II-4
U.S. demand	II-8
Substitutability issues	II-12
Lead times	II-12
Knowledge of country sources	II-12
Factors affecting purchasing decisions.....	II-13
Comparison of U.S. produced and imported product.....	II-18
Elasticity estimates.....	II-20
U.S. supply elasticity.....	II-20
U.S. demand elasticity.....	II-21
Substitution elasticity.....	II-21
 Part III: U.S. producers' production, shipments, and employment	 III-1
U.S. producers.....	III-1
U.S. production, capacity, and capacity utilization.....	III-2
U.S. producers' U.S. shipments and exports	III-3
U.S. producers' inventories	III-6
U.S. producers' imports and purchases.....	III-7
U.S. employment, wages, and productivity.....	III-7
 Part IV: U.S. imports, apparent consumption, and market shares	 IV-1
U.S. importers	IV-1
U.S. imports	IV-2
Negligibility	IV-3
Apparent U.S. consumption.....	IV-4
U.S. market shares.....	IV-5
Ratio of imports to U.S. production.....	IV-6

	Page
Part V: Pricing data	V-1
Factors affecting prices	V-1
Raw material costs	V-1
Transportation costs to the U.S. market	V-3
U.S. inland transportation costs	V-3
Pricing practices	V-3
Pricing methods	V-3
Sales terms and discounts	V-4
Price leadership	V-5
Price data	V-5
Price trends	V-6
Price comparisons	V-7
Lost sales and lost revenues	V-8
Final phase	V-8
Preliminary phase	V-8
 Part VI: Financial experience of U.S. producers	 VI-1
Background	VI-1
Operations on calhypo	VI-2
Revenue	VI-3
Cost of goods sold and gross profit	VI-3
SG&A expenses and operation income or loss	VI-5
Capital expenditures and research and development expenses	VI-5
Capital and investment	VI-6
Actual negative effects	VI-6
Anticipated negative effects	VI-6

	<i>Page</i>
Part VII: Threat considerations and information on nonsubject countries	VII-1
The industry in China	VII-3
U.S. inventories of imported merchandise.....	VII-4
U.S. importers' outstanding orders	VII-4
Antidumping or countervailing duty orders in third-country markets.....	VII-4
Information on nonsubject sources.....	VII-4
 Appendixes	
A. <i>Federal Register</i> notices	A-1
B. Calendar of the public hearing.....	B-1
C. Summary data	C-1
D. The U.S. industry's financial results with input for related party profit or loss.....	D-1

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

UNITED STATES INTERNATIONAL TRADE COMMISSION

Investigation Nos. 701-TA-510 and 731-TA-1245 (Final)

CALCIUM HYPOCHLORITE FROM CHINA

DETERMINATIONS

On the basis of the record¹ developed in the subject investigations, the United States International Trade Commission (“Commission”) determines, pursuant to sections 705(b) and 735(b) of the Tariff Act of 1930 (19 U.S.C. § 1671d(b) and 19 U.S.C. § 1673d(b)) (“the Act”), that an industry in the United States is materially injured by reason of imports of calcium hypochlorite from China, provided for in subheadings 2828.10.00, 3808.94.50, or 3808.99.95 of the Harmonized Tariff Schedule of the United States, that have been found by the Department of Commerce to be sold in the United States at less than fair value (“LTFV”), and to be subsidized by the government(s) of China.²

BACKGROUND

The Commission instituted these investigations effective December 18, 2013, following receipt of a petition filed with the Commission and Commerce by Arch Chemicals, Inc., a Lonza Company, Atlanta, GA. The final phase of the investigations was scheduled by the Commission following notification of preliminary determinations by Commerce that imports of calcium hypochlorite from China were subsidized within the meaning of section 703(b) of the Act (19 U.S.C. § 1671b(b)) and dumped 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 August 29, 2014 (79 FR 51605). The hearing was held in Washington, DC, on November 25, 2014, and all persons who requested the opportunity were permitted to appear in person or by counsel.

The Commission completed and filed its determinations in these investigations on January 21, 2015. The views of the Commission are contained in USITC Publication 4515 (January 2015), entitled *Calcium Hypochlorite from China: Investigation Nos. 701-TA-510 and 731-TA-1245 (Final)*.

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

² All six Commissioners voted in the affirmative.

PART I: INTRODUCTION

BACKGROUND

These investigations result from a petition filed with the U.S. Department of Commerce (“Commerce”) and the U.S. International Trade Commission (“USITC” or “Commission”) by Arch Chemicals, Inc. (“Arch”), a Lonza Company, Atlanta, GA, on December 18, 2013, 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 calcium hypochlorite (“calhypo”):¹ from China. The following tabulation provides information relating to the background of these investigations.^{2 3}

Effective date	Action
December 18, 2013	Petition filed with Commerce and the Commission; institution of Commission investigations (78 FR 77712, December 24, 2013)
January 14, 2014	Commerce’s notice of AD initiation (79 FR 2410); Commerce’s notice of CVD initiation (79 FR 2417)
February 3, 2014	Commission’s preliminary determinations (79 FR 16054, March 24, 2014)
May 27, 2014	Commerce’s preliminary CVD determination (79 FR 30082, May 27, 2015)
July 25, 2014	Commerce’s preliminary AD determination (79 FR 43393, July 25, 2014)
July 25, 2014	Scheduling of final phase of Commission investigation (79 FR 51605, August 29, 2014)
November 25, 2014	Commission’s hearing
December 15, 2014	Commerce’s final AD determination (79 FR 74064, December 15, 2014) and final CVD determination (79 FR 74065, December 15, 2014)
January 8, 2015	Scheduled date for the Commission’s vote
January 21, 2015	Scheduled date for Commission’s views

¹ See the section entitled “The Subject Merchandise” in *Part I* of this report for a complete description of the merchandise subject to this/these investigation(s).

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

³ App. B presents a list of Hearing witnesses.

STATUTORY CRITERIA AND ORGANIZATION OF THE REPORT

Statutory criteria

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

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

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

In evaluating the volume of imports of merchandise, the Commission shall consider whether the volume of imports of the merchandise, or any increase in that volume, either in absolute terms or relative to production or consumption in the United States is significant.

. . .

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

. . .

In examining the impact required to be considered under subparagraph (B)(i)(III), the Commission shall evaluate (within the context of the business cycle and conditions of competition that are distinctive to the affected industry) all relevant economic factors which have a bearing on the state of the industry in the United States, including, but not limited to . . . (I) actual and potential decline in output, sales, market share, profits, productivity, return on investments, 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.

Organization of report

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

MARKET SUMMARY

Calhypo is generally used as a sanitizing agent for swimming pools, spas, and municipal water treatment systems. The only two known U.S. producers of calhypo are Arch and Axiall Corporation ("Axiall"), while leading producers of calhypo outside the United States include Arch affiliates in Brazil (Arch Quimica Brasil Ltda.) and South Africa (Arch Water Products of South Africa PTY). India and Japan are also known to have production of calhypo.⁴ The top U.S. importers of calhypo from China are: ***.

. Calhypo is also imported from nonsubject countries, primarily India and Japan, but imports from China account for the vast majority () percent of imported calhypo from 2011 to June 2014. The Commission received questionnaires from 25 purchasers of calhypo. Most purchasers were distributors, but some responding purchasers were retailers or repackers of calhypo. The largest purchasers include ***.

Apparent U.S. consumption of calhypo totaled approximately *** in 2013. Currently, two firms (and a toller) are known to produce calhypo in the United States. U.S. producers' U.S. shipments of all forms of calhypo totaled *** in 2013, and accounted for *** percent of apparent U.S. consumption by quantity and *** percent by value. U.S. imports from subject sources totaled 13.2 million pounds (\$9.2 million) in 2013 and accounted for *** percent of apparent U.S. consumption by quantity and *** percent by value. U.S. imports from nonsubject sources totaled 1.1 million pounds (\$729,000) in 2013 and accounted for *** percent of apparent U.S. consumption by quantity and *** percent by value.

SUMMARY DATA AND DATA SOURCES

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

⁴ Conference transcript, p. 90-91 (Walden).

accounted for all U.S. production of calhypo during 2013. U.S. imports are based on official Commerce statistics. No data were provided by producers or exporters in China in the final phase.

PREVIOUS AND RELATED INVESTIGATIONS

Calhypo has been the subject of one prior antidumping duty investigation in the United States. On April 25, 1984, Olin Corp., of Stamford, CT filed a petition with the Commission and Commerce, alleging that an industry in the United States was being materially injured or threatened with injury by reason of LTFV imports of calcium hypochlorite from Japan. In April 1985, the Commission made an affirmative final determination,⁵ and Commerce issued an antidumping duty order on calhypo from Japan.⁶ Commerce initiated a sunset review of the order on December 2, 1998, but no domestic interested party responded to the notice of initiation by the applicable deadline, and Commerce accordingly revoked the order, effective January 1, 2000.⁷

A related product, chlorinated isocyanurates (“chlorinated isos”), also used primarily for swimming pool sanitation, has been the subject of several antidumping and countervailing duty investigations. On May 14, 2004, a petition was filed by Clearon Corp. (“Clearon”), South Charleston, WV, and Occidental Chemical Corporation (“Oxy”), Dallas, TX with Commerce and the Commission alleging that an industry in the United States was materially injured by reason of LTFV imports of chlorinated isocyanurates from China and Spain. On June 3, 2005, the Commission made affirmative final determinations,⁸ and Commerce subsequently issued antidumping duty orders on chlorinated isos from China and Spain.⁹ In 2010, the Commission made affirmative determinations in its five-year reviews regarding imports of chlorinated isos from China and Spain¹⁰ and Commerce issued continuation of antidumping orders of chlorinated isos from China and Spain.¹¹ On August 29, 2013, Clearon and Oxy filed another petition alleging that an industry in the United States is materially injured and threatened with material injury by reason of subsidized imports of chlorinated isos from China and LTFV imports of chlorinated isos from Japan. On November 3, 2014, the Commission determined that an industry in the United States is threatened with material injury by reason of imports from China

⁵ *Calcium Hypochlorite from Japan*, 731-TA-189 (Final), USITC Publication 1672 (April 1985) (Vice Chairman Liebler and Commissioner Lodwick dissenting).

⁶ 50 FR 15470, April 18, 1985.

⁷ *December 1998 Sunset Reviews: Final Results and Revocations*, 64 FR 9473, February 26, 1999.

⁸ *Chlorinated Isocyanurates From China and Spain: Investigation Nos. 731-TA-1082 and 1083 (Final)*, USITC Publication 3782, June 2005 and *Chlorinated Isocyanurates From China and Spain: Determinations*, 70 FR 36205, June 22, 2005.

⁹ *Notice of Antidumping Duty Order: Chlorinated Isocyanurates from the People’s Republic of China*, 70 FR 36561, June 24, 2005 and *Notice of Antidumping Duty Order: Chlorinated Isocyanurates from Spain*, 70 FR 36562, June 24, 2005.

¹⁰ *Chlorinated Isocyanurates From China and Spain: Determinations*, 75 FR 61772, October 6, 2010.

¹¹ *Chlorinated Isocyanurates from Spain and the People’s Republic of China: Final Results of the Expedited Sunset Reviews of the Antidumping Duty Orders*, 75 FR 49464, August 13, 2010.

of chlorinated isos that have been found by Commerce to be subsidized by the government of China. The Commission further determined that an industry in the United States is not materially retarded by reason of imports of chlorinated isos from Japan that have been found by Commerce to be sold in the United States at less than fair value.¹²

NATURE AND EXTENT OF SUBSIDIES AND SALES AT LTFV

Nature of the subsidies

On December 15, 2014, Commerce published a notice in the *Federal Register* of its final determination of countervailable subsidies for producers and exporters of calhypo from China.¹³ Table I-1 presents Commerce’s findings of subsidization of calhypo in China.

Table I-1
Calhypo: Commerce’s final subsidy determination with respect to imports from China

Entity	Final countervailable subsidy margin (percent)
Hubei Dinglong Chemical Co., Ltd.	65.85
W&W Marketing Corporation	65.85
Tianjin Jinbin International Trade Co., Ltd.	65.85
All Others	65.85

Source: *Calcium Hypochlorite From the People’s Republic of China: Final Affirmative Countervailing Duty Determination*, 79 FR 74064, December 15, 2014.

Sales at LTFV

On December 15, 2014, Commerce published a notice in the *Federal Register* of its final determination of sales at LTFV with respect to imports from China.¹⁴ Table I-2 presents Commerce’s dumping margins with respect to imports of product from China.

¹² *Calcium Hypochlorite from China: Determinations*, 79 FR 66404, November 7, 2014.

¹³ *Calcium Hypochlorite From the People’s Republic of China: Final Affirmative Countervailing Duty Determination*, 79 FR 74064, December 15, 2014.

¹⁴ *Calcium Hypochlorite From the People’s Republic of China: Final Determination of Sales at Less Than Fair Value*, 79 FR 74065, December 15, 2014.

Table I-2

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

Producers/Exporter	Final dumping margin (percent)
PRC-Wide Entity	210.52

Source: Calcium Hypochlorite From the People’s Republic of China: Final Determination of Sales at Less Than Fair Value, 79 FR 74065, December 15, 2014.

THE SUBJECT MERCHANDISE

Commerce’s scope

Commerce has defined the scope of these investigations as follows:

Calcium hypochlorite, regardless of form (e.g., powder, tablet (compressed), crystalline (granular), or in liquid solution), whether or not blended with other materials, containing at least 10% available chlorine measured by actual weight. The scope also includes bleaching powder and hemibasic calcium hypochlorite.

Calcium hypochlorite has the general chemical formulation $\text{Ca}(\text{OCl})_2$, but may also be sold in a more dilute form as bleaching powder with the chemical formulation, $\text{Ca}(\text{OCl})_2 \cdot \text{CaCl}_2 \cdot \text{Ca}(\text{OH})_2 \cdot 2\text{H}_2\text{O}$ or hemibasic calcium hypochlorite with the chemical formula of $2\text{Ca}(\text{OCl})_2 \cdot \text{Ca}(\text{OH})_2$ or $\text{Ca}(\text{OCl})_2 \cdot 0.5\text{Ca}(\text{OH})_2$. Calcium hypochlorite has a Chemical Abstract Service (“CAS”) registry number of 7778–54–3, and a U.S. Environmental Protection Agency (“EPA”) Pesticide Code (“PC”) Number of 014701. The subject calcium hypochlorite has an International Maritime Dangerous Goods (“IMDG”) code of Class 5.1 UN 1748, 2880, or 2208 or Class 5.1/8 UN 3485, 3486, or 3487.¹⁵

Tariff treatment

Based upon the scope set forth by the Department of Commerce, information available to the Commission indicates that the merchandise subject to these investigations is classified under subheadings 2828.10.00, 3808.94.50, or 3808.99.95 of the Harmonized Tariff Schedule of the United States (2013). These subheadings have general rates of duty of 2.4 percent ad valorem (for the separate chemically identifiable compound of chapter 28) and 5 percent ad valorem (for disinfectants containing the compound).

¹⁵ *Calcium Hypochlorite From the People’s Republic of China: Final Determination of Sales at Less Than Fair Value, 79 FR 74065, December 15, 2014.*

THE PRODUCT

Description and applications

Calhypo is a chemical compound used primarily as a sanitizing agent for swimming pools, spas, and municipal water treatment systems. It is typically sold as a white solid in powder, crystalline, or tablet¹⁶ form.¹⁷ The active ingredient is chlorine, which acts as a biocide, killing algae and other microbes. Calhypo can be sold as a pure product, with available chlorine concentrations of 65-80 percent¹⁸ or as a product blended with other ingredients. Blended products typically include algacides and/or flocculants to clarify water and are most commonly sold with available chlorine content of 45-60 percent. Included in the scope for these investigations are bleaching powder and hemibasic calcium hypochlorite, which are calhypo mixtures with lower percentages of available chlorine.¹⁹ The petitioner states that there are no differences between domestic and subject imports. The petitioner cites test results indicating no significant differences between petitioner and Chinese product in solubility and dissolution²⁰ and hearing testimony that customers are unable to differentiate between U.S. and Chinese product.²¹

Calhypo's effectiveness in sanitizing water is due to chlorine's properties as a strong oxidizing agent, disrupting the cellular activity of a broad range of microorganisms.²² For these biocidal applications, calhypo is subject to regulation by the U.S. Environmental Protection Agency (EPA) under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA). EPA registrations apply to specific concentrations of active chlorine, and so a producer selling multiple concentrations requires multiple EPA registrations. The petitioner states that the EPA registration process is not a barrier to importing calhypo.²³

Calhypo's oxidizing properties also make it effective in degrading non-living material, a desirable quality in applications such as pool and spa maintenance. However, oxidizers can enhance or cause the combustion of other materials, posing fire hazards in transportation and storage. Domestically, the transportation of calhypo is regulated by the U.S. Department of Transportation, which classifies products containing more than 39 percent chlorine content by weight as a hazardous material whose transportation requires special handling. The National Fire Protection Association (NFPA) classifies calhypo as a class I, II, or III oxidizer depending on

¹⁶ Tablets are used often in industrial applications that involve specialized feeding systems (Walden p. 43).

¹⁷ Petition, p. 10.

¹⁸ Petition. P. 5.

¹⁹ Hearing transcript, p. 34 (Clarke).

²⁰ Petitioner post-hearing brief, p. v.

²¹ Hearing transcript, p. 51 (Calais).

²² McDonnell and Russell, "Antiseptics and Disinfectants: Activity, Action, and Resistance" *American Society for Microbiology. Clinical Microbiology Reviews* retrieved at <http://cmr.asm.org/content/12/1/147.full> on December 9, 2013.

²³ Petitioner post-hearing brief, p. xxi.

chlorine concentration. NFPA's guidelines for storage at retail facilities include requirements for sprinklers and recommended maximum quantities.

The principal application of calhypo in the United States is in water treatment at commercial and residential pools and spas. Calhypo is used both to maintain regular chlorine levels and/or to deliver quick, remedial increases in chlorine. Calhypo for pool and spa applications typically contains 45, 68, or 75 percent available chlorine. Other applications as a biocide include disinfection of drinking water and waste water clearing, laundry, sanitizing food and non-food contact surfaces, and washing fruits and vegetables. Calhypo also has applications other than as a biocide, including treating cyanide in wastewater.²⁴

Municipal purification of water for drinking, which requires precise control of calhypo levels, typically uses a feeder certified by NSF International (an independent standards and certification organization) for usage with a specific manufacturer's tablet.²⁵ The petitioner asserts, however, that these specifications do not significantly reduce imports as they cover only one municipal application (treatment of wastewater does not require as much precision and can be performed with calhypo, in granular or tablet form, without a specification determining the manufacturer²⁶). Furthermore, the petitioner notes that some customers view these specifications as recommendations, not requirements, when purchasing tablets.²⁷

Calhypo is sold by manufacturers to end users, repackers, distributors, dealers, and other retailers. Manufacturers may also engage contract and toll packagers to formulate, tablet, or package products. In the retail market, repackers transfer bulk chemical into smaller packages, in some cases with a private brand, and may tablet calhypo and/or blend it with other components. Wholesale distributors market to commercial pools, retailers, and pool-service companies. Both specialty stores and large discount stores sell to retail consumers. Providers of pool maintenance services and commercial pools and spas themselves are also part of the retail distribution channel. In the institutional and industrial channel of distribution, manufacturers may sell directly to end-users or product may move through distributors and repackers.

Manufacturing processes

Calhypo is produced by combining chlorine and calcium hydroxide (lime). There are two main production processes: one using sodium, and the other using calcium. The sodium process yields higher available chlorine content and, with some variations, is used for all domestic product and the majority of imported Chinese product. In the sodium process, caustic (NaOH) and chlorine (Cl₂) are combined in a reactor, yielding sodium hypochlorite (NaOCl), sodium chloride (NaCl), and water. The sodium hypochlorite is then combined with hydrated lime and chlorine to create calcium hypochlorite paste (Ca(OCl)₂). Calcium hypochlorite paste is filtered to produce a cake which is dried to a granular or powder form. This material is cooled,

²⁴ Petition, pp. 11-12.

²⁵ Axiall post-hearing brief, Appendix A, p. 2.

²⁶ Axiall post-hearing brief, Appendix A, p. 2.

²⁷ Petitioner post-hearing brief, pp. xx-xxi.

compacted, and crushed, then screened for size. Under- and over-sized material is recycled. The resulting product typically has an available chlorine content of approximately 68 percent and can be packaged for sale, blended with other materials, and/or tableted. Variations in the sodium process include approaches that yield calhypo with different percentages of available chlorine, both higher purity product (with 78 percent available chlorine) and lower purity products, including bleaching powder (approximately 35 percent chlorine).

In the calcium process, lime is blended with chlorine to produce hemibasic calcium hypochlorite crystals. After removal of calcium chloride by filtering or centrifuging, the crystals are dried to make a final product with approximately 60 percent available chloride content. The calcium process is believed to be used by some manufacturers in China, although not for export to the United States.

THE DOMESTIC INDUSTRY

The petitioner proposes that the domestic industry should include the two producers of calhypo, Arch and Axiall, but not companies who are solely repackers and tableters of calhypo.²⁸ The petitioner asserts that tableters and repackers should not be considered as part of the U.S. industry, stating that tableting requires a “small” investment²⁹ and a “minimal” technical expertise.³⁰ It also states that the value-added from tableting calhypo is about *** percent.³¹ In the preliminary phase of these investigations, respondent F2 stated that repackers and tableters should be considered as part of the domestic industry given that they perform some of the same production activities as the petitioner.³² Also, in the preliminary phase of these investigations respondent JSCC also proposed that the Commission consider including repackers and tableters as part of the domestic industry.³³ Petitioners disagree, and presented arguments in the preliminary and final phases of this case that it would be inappropriate to include independent tableters, who do not produce calhypo, as part of the relevant domestic industry.³⁴

²⁸ Petition, p. 3 and petitioners’ postconference brief, p. 6.

²⁹ The petitioners added that establishing a single line calhypo production facility costs *** while a tableting press costs ***. Petition, p. 3 and petitioner’s postconference brief, p. 7.

³⁰ Petitioner’s postconference brief, pp. 7-8.

³¹ The petitioner asserts that the vast majority (more than 95 percent) of tableted calhypo sold in the United States are produced by the two domestic producers, Arch and Axiall. Petition, p. 3. Arch notes that at least two other companies, ***, may be toll processing calhypo. Conference transcript, p. 50 (Clarke) and E-mail from Peggy Clarke, counsel for Arch, December 20, 2013.

³² F2 noted that the petitioner “has its own tableting operations (either in-house or through a tolling arrangement) and that the petitioner competes with the same repackers to which it has sold granular calhypo. Respondent F2’s postconference brief, p. 6. The petitioner noted that the two U.S. producers, *** E-mail from Peggy Clarke, counsel to petitioner, December 19, 2013. F2 chose to not participate in the final phase of these investigations.

³³ JSCC’s postconference brief, pp. 1-2. JSCC did not participate in the final phase of these investigations.

³⁴ Petitioner’s Prehearing brief at Annex C.

According to the petitioner, a tableting operator would receive a much more basic level of training and ***. In addition, petitioner stated that the main plant employees work year round, even during the annual shutdown, while the workers in the tableting facility are seasonal workers ***.³⁵

Petitioner stated that the equipment and chemical reaction for granular production is highly specialized and requires significant expertise in its operators. In contrast, petitioner stated that for tableting operations, the equipment is neither specialized³⁶ nor, as noted, do the operators require extensive training. Granular operations require more workers as well. During the POI, Arch employed between *** persons in its granular operations and between *** persons in its tableting operations.³⁷

Domestic like product issues

The petitioner proposes a single domestic like product of all calcium hypochlorite regardless of the method of manufacture, including any blended product containing available chlorine of 10 percent or more, coterminous with the scope.³⁸ In the preliminary phase, Importer F2 stated that the Commission should define the domestic like product to include also trichloroisocyanuric acid (trichlor), sodium dichloroisocyanuric in both its anhydrous and dihydrate forms (dichlor), and sodium hypochlorite, commonly known as liquid bleach.³⁹ Also, in the preliminary phase, subject producer Sinopec Jiangnan Salt & Chemical Company (“JSCC”) noted that the proposed scope includes products with a lower than typical concentration of available chlorine, such as bleaching powder and hemibasic calcium hypochlorite, and high purity products, with at least 70 percent available chlorine. JSCC goes on to suggest these two classes of products raise separate like product issues under the Commission’s traditional six-factor analysis.⁴⁰

Physical Characteristics and Uses

The petitioner stated that all calhypo has similar physical characteristics with all forms of calhypo, including bleaching powder and hemibasic calcium hypochlorite based on the same reaction, lime with chlorine, and having similar chemical composition.⁴¹ The petitioner stated that sodium hypochlorite differs from calhypo in that sodium hypochlorite ships with a relatively high quantity of water, generally has a relatively low level of available chlorine, requires a relatively large quantity in application, and degrades quickly, producing

³⁵ Petitioner, postconference brief, pps.7-8.

³⁶ Although once used for tableting calhypo it is not commercially feasible to use the *same pieces* of equipment to tablet other chemicals, the *same type* of equipment is used to tablet other chemicals. Arch Producer questionnaire, question II-15.

³⁷ Arch, Producer questionnaire, questions II-9 and II-11.

³⁸ Petition, pp. 5-6.

³⁹ F2 postconference brief, p.1.

⁴⁰ JSSC post conference brief, p.2.

⁴¹ Petitioner post conference brief, p. 4.

perchlorates.⁴² At the molecular level, calhypo features two hypochlorite ions (OCl^-) bound to a single calcium ion (Ca^{2+}). Sodium hypochlorite has a related, but distinct, structure, with a single hypochlorite ion bound to a single sodium ion (Na^+).⁴³ In contrast, trichlor ($\text{Cl}_3(\text{NCO})_3$), dichlor dihydrate ($\text{NaCl}_2(\text{NCO})_3 \cdot 2\text{H}_2\text{O}$), and anhydrous dichlor ($\text{NaCl}_2(\text{NCO})_3$) do not contain hypochlorite ions and are instead characterized by the presence of cyanuric acid ($\text{CNOH})_3$ ⁴⁴ a cyclic compound, bound with either chlorine or sodium chloride.⁴⁵ The petitioner asserts that cyanuric acid can, over time, build up and reduce the effectiveness of chlorine as a biocide.⁴⁶

F2 stated that calhypo, dichlor, trichlor, and sodium hypochlorite share similar physical characteristics and uses with all of these compounds used primarily for sanitation of swimming pools, spas, and industrial water treatment. F2 noted similar ranges of available chlorine among these compounds, with calhypo having available chlorine ranging from 10-78 percent, sodium hypochlorite at least 12.5 percent, trichlor 90 percent, anhydrous dichlor 56 percent, and dihydrate dichlor 63 percent. F2 further noted similarity in the physical form and swimming pool application among several of these compounds. Trichlor, typically used to maintain routine chlorine levels, is commonly sold in a tablet form, while dichlor, typically used as shock treatment to raise the chlorine concentration in pool water quickly, is commonly sold in a granular form. Calhypo is sold in tablet or granular powder form, and can be used for shock treatment or maintenance of chlorine level. In addition to the above uses, calhypo can also, F2 stated, be used to disinfect water and waste water as well as cleaning and sanitizing applications.⁴⁷

JSCC noted that diluted products such as bleaching powder and hemibasic calcium hypochlorite have different chemical formulations from calhypo.⁴⁸ The empirical formula for bleaching powder ($\text{Ca}(\text{OCl})_2 \cdot \text{CaCl}_2 \cdot \text{Ca}(\text{OH})_2 \cdot 2\text{H}_2\text{O}$) represents a crystalline structure with calhypo bonded to calcium chloride, slaked lime, and water.⁴⁹ The empirical formula for hemibasic calcium hypochlorite ($\text{Ca}(\text{OCl})_2 \cdot 0.5\text{Ca}(\text{OH})_2$) represents a crystalline structures with calhypo bonded to slaked lime.⁵⁰ After further processing to purer forms of calhypo, water, calcium chloride, and slaked lime remain present in the product, although at lower concentrations.⁵¹

Interchangeability

The petitioner stated that calhypo is preferred over sodium hypochlorite, dichlor, and trichlor as a backup sanitizer for drinking water. The petitioner continued that, due to build-up

⁴² Conference transcript, p. 45 (Walden).

⁴³ Kirk-Othmer, *Encyclopedia of Chemical Technology*, vol 4, pp. 682.

⁴⁴ *Chlorinated Isocyanurates From China and Japan*, Investigation Nos. 701-TA-501 and 1226 (Preliminary), USITC Publication 4431, November 2013, p I-5.

⁴⁵ Kirk-Othmer, *Encyclopedia of Chemical Technology*, vol 4, pp. 681-682.

⁴⁶ Conference transcript, p. 45 (Walden).

⁴⁷ F2 post conference brief, pp. 2-3.

⁴⁸ JSCC post conference brief, p. 2.

⁴⁹ Petition, Exhibit GEN-5, p. 958

⁵⁰ Petition, Exhibit GEN-5, p. 957.

⁵¹ Petition, Exhibit GEN-5, p. 956.

of perchlorates, sodium hypochlorite poses issues in sanitizing drinking water that calhypo does not, while dichlor and trichlor cannot be used due to the presence of cyanuric acid.⁵²

F2 states that trichlor and dichlor are interchangeable with calhypo in most common applications such as sanitation of pools and water. F2 further states that customers may prefer one over the other due to differences in solubility, available chlorine, degree of storage hazard, and residue. F2 asserts that trichlor and dichlor have been taking market share from calhypo, noting this shift as a sign of interchangeability.

Bleaching powder is generally used in sanitation activities that are not sensitive to the volume of insoluble chemicals, including disinfecting seawater and drainage ditches.⁵³ Hemibasic calcium hypochlorite has limited use in sanitation and is generally used as an alternative to bleaching powder.⁵⁴

Manufacturing Processes

The petitioner stated that all calhypo shares common manufacturing facilities with differentiation between calcium hypochlorite, bleaching powder, and hemibasic calcium hypochlorite depending on the point at which one takes product from the production line. The petitioner further states that both the calcium and sodium calhypo production processes use the same reaction.⁵⁵

However, the petitioner characterized the calhypo production processes as different from those of sodium hypochlorite, dichlor, and trichlor.⁵⁶ The petitioner stated that the sodium hypochlorite production process is simpler than that of calhypo and notes that dichlor and trichlor cannot be produced in the same facilities as calhypo for safety reasons.⁵⁷

In the preliminary phase, F2 stated that calhypo, sodium hypochlorite, dichlor, and trichlor use common manufacturing facilities, production processes, and production employees. F2 noted common features in the feedstocks used in the production processes of calhypo (either chlorine, caustic soda, and lime; or chloride and lime), sodium hypochlorite (caustic soda and liquid or gaseous chlorine), and trichlor and dichlor (caustic soda, chlorine gas, and cyanuric acid).⁵⁸ While all three processes include caustic soda and chlorine, there are differences in the feedstocks, most notably the usage of cyanuric acid in production of trichlor and dichlor. During production, nitrogen present in cyanuric acid forms nitrogen gas and other nitrogen-containing compounds that require further processing before disposal to comply with environmental regulations.⁵⁹

⁵² Conference transcript, p. 46 (Walden).

⁵³ Petition, Exhibit GEN-5, p. 958.

⁵⁴ Petition, Exhibit GEN-5, p. 957.

⁵⁵ Petitioner post conference brief, p. 4.

⁵⁶ Conference transcript, p. 45 (Walden).

⁵⁷ Petitioner post conference brief at "Staff Questions Not Answered Elsewhere." Responding to Henderson, conference transcript pp. 43-44.

⁵⁸ F2 post conference brief, pp. 4-5.

⁵⁹ *Chlorinated Isocyanurates From China and Spain*, Investigation Nos. 731-TA-1082 and 1083 (Final), USITC Publication 4184, April 20, 2005, p I-7.

Channels of Distribution

The petitioner stated that in the United States all calhypo is sold through the same channels of distribution. In the preliminary phase, F2 stated that sodium hypochlorite, dichlor, trichlor, and calhypo are all sold through the same channels of distribution. F2 stated that trichlor is generally tableted and repackaged whereas dichlor is generally repackaged without tableting before they, like sodium hypochlorite, are sold directly to retailers (mass market retailers, pool supply stores, pool maintenance services, pool service companies and smaller retailers) or to distributors who then sell to retailers. F2 noted that calhypo is similarly sold to retailers and distributors and is also sold to repackers/private label marketers and manufacturers of bulk chemicals.⁶⁰

Customer and Producer Perceptions

The petitioner stated that all calhypo share similar customer and producer perceptions. The petitioners noted that all calhypo is used as a sanitizer (swimming pool, drinking water, wastewater, or other industrial uses). Municipal water supplies typically use calhypo tablets, swimming pools use the granular form, and industrial applications use hemibasic calcium hypochlorite.⁶¹

F2 stated that there is overlap in customer perceptions of dichlor, trichlor sodium hypochlorite and calhypo due to common applications in pool and water sanitation. To support this statement, F2 cited conference witness Walden who stated, "The average pool user is not going to know one from the other."⁶² However the context of this quote appears to suggest that users would not know the difference between calhypo produced via sodium process versus calhypo produced via calcium process, rather than between calhypo and other products. F2 also cites the same witness for petitioners who identified only "convenience factors" differentiating consumer perceptions of calhypo and trichlor. However, the context of this comment appears to indicate a difference in consumer perception, suggesting that using quick-dissolving calhypo in feeder systems designed for trichlor creates "a mess" and has a negative impact on consumer perceptions.⁶³

Price

The petitioner stated that calhypo pricing is consistent with a single like product, varying on the level of available chlorine and the amount of processing. As an example, petitioners noted that tablets are likely to be priced higher than granular calhypo.⁶⁴ JSCC asserts that

⁶⁰ F2 post conference brief, pp. 3-4.

⁶¹ Petitioner post conference brief, p. 5.

⁶² Conference transcript, p. 34 (Walden).

⁶³ Conference transcript, pp. 47-48 (Walden).

⁶⁴ Petitioner post conference brief, p. 5.

cal hypo products with at least 70 percent available chlorine content are sold with price premiums and branded separately by domestic producers.⁶⁵

⁶⁵ JSCC post conference brief, p. 2.

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

U.S. MARKET CHARACTERISTICS

Calhypo is largely used in swimming pool and spa applications, but can also be used for home septic/wastewater treatment and industrial applications, such as industrial water treatment, and used in cleansers, detergents, etc. Petitioner estimated that U.S. consumption was approximately 75 percent for the residential swimming pool market, 15 percent for municipal markets (including wastewater treatment and public pools), and 10 percent for industrial markets.¹

Calhypo can be sold directly to retailers, or through distributors or repackers, and may be sold under branded labels.² Arch reported that Chinese imports first competed in the repacker/private label channel of the U.S. market in recent years and then began to compete in other channels of the market. It indicated that suppliers typically sell granular or powder calhypo in bulk 100-pound packages in the repacker/private label channel and granular or tablet form in 1- to 100-pound packages in the remainder of the pool and spa market.³

Apparent U.S. consumption of calhypo was fairly steady during 2011-13, rising *** percent over the period. Apparent U.S. consumption in January-June 2014 was *** percent lower than in January-June 2013.

U.S. PURCHASERS

The Commission received 26 usable questionnaire responses from firms that bought calhypo during January 2011-June 2014.⁴ Nineteen responding purchasers are distributors, three are repackers, four are retailers, two are distributors and retailers, one (***) is an end user, and one (***) is a ***). The largest purchasers responding to Commission questionnaires were ***, which collectively represented over *** percent of 2013 purchases reported by all responding purchasers.⁵ *** explained that it does not sell directly to consumers, but mostly to construction, service, and retail firms active in the pool and spa industry.

¹ Petitioner's posthearing brief, responses to Commission questions, p. xii.

² Arch introduced the "HTH" brand of calhypo in 1928, and the success of the brand name has led it to be sometimes synonymous with "calhypo" in the U.S. market. Arch also stated that it has seen Chinese product marketed on the internet as HTH, in violation of its trademark. Hearing transcript, pp. 13, 27.

³ Petition, pp. 15-16.

⁴ No purchaser reported being related to any U.S. producer or importer of calhypo that responded to Commission questionnaires. ***.

⁵ ***.

*** responding purchasers reported purchasing calhypo from U.S. producers over at least two years of 2011-2013. *** purchasers reported purchasing calhypo from U.S. importers of Chinese product, and *** reported purchasing calhypo from all other countries.⁶

Among suppliers, *** largest customer in 2013 was ***, which accounted for *** percent of its 2013 sales, with *** its second-largest customer at *** percent of 2013 sales. No other customer exceeded *** percent of *** 2013 sales. *** largest customer was ***, accounting for *** percent of its 2013 sales, followed by ***, accounting for *** percent of its 2013 sales. Among importers, *** largest customer in 2013 was ***, and its second largest purchaser was ***, together accounting for *** percent of *** 2013 sales of calhypo. *** largest customers were ***, together accounting for *** percent of *** 2013 sales. *** sold only to ***, a water treatment chemical supplier.

CHANNELS OF DISTRIBUTION

U.S. producers and importers sold primarily to distributors and retailers in the pool market, rather than the industrial market (table II-1). U.S. producers sold powder calhypo mostly to repackers, distributors,⁷ and retailers, while importers were more likely to sell powder calhypo to distributors and commercial pools, as shown in table II-1. Data for importers is based on questionnaire responses, which represent a very small fraction of total U.S. imports of calhypo from China.⁸ (See part I and part IV.) Arch indicated that there are over 10,000 retail pool stores in the United States.⁹

Table II-1
Calhypo: U.S. producers' and importers' U.S. shipments, by sources and channels of distribution, 2011-2013, January-June 2013, and January-June 2014

* * * * *

***¹⁰ ***¹¹

⁶ Some purchasers may have indicated they purchased from U.S. suppliers when the supplier they purchased from was actually importing U.S. product. For example, ***. See also petitioner's prehearing brief at p. 20, fn 50.

⁷ Arch described the distinction in Commission questionnaires between distributors and repackers as "unclear," and stated that ***. Prehearing brief of Arch, p. 7 at fn. 15. Repackers and distributors take powdered calhypo and then sell it under their own label. Hearing transcript, pp. 67-68 (Heard).

⁸ Due to an error in Commission questionnaires, the importer questionnaire contained a category of "distributor" under "industrial" users, but not a category of "distributor" under "retail" uses. *** used this category (distributor under industrial); staff has reclassified its data as distributor under retail. ***.

⁹ Hearing transcript, p. 68 (Walden).

¹⁰ See prehearing brief of Axiall, pp. 2-3, and posthearing brief of Axiall, p. 2.

¹¹ Prehearing brief of Arch, p. 13.

Axiall described the easiest channel for Chinese imports to sell into the U.S. market as 100-pound drums sold to pool service companies. However, it added that ***.¹² Arch *** described imports from China as entering the unbranded repacker and distributor channels, taking a “significant” market share of that channel as well as putting pressure on all calhypo sold into that channel, whether branded or not.¹³ Arch added that in 2013, it also observed competition from Chinese calhypo in the retail channel,¹⁴ and Allchem (a purchaser and distributor of calhypo) stated that Chinese suppliers had contacted some of its customers directly, bypassing the traditional distribution routes for calhypo.¹⁵

Among purchasers, ten indicated that they did not compete for sales to their customers with their suppliers of calhypo, but thirteen indicated that they did. *** described such competition as rare, but *** stated that it happens frequently. *** stated that *** sell into the same channels that it sells to, and the *** target its customer base. Two purchasers (***) described competition between downstream suppliers (i.e. distributors or private labels) and other downstream distributors, rather than between producers/ importers and distributors.

GEOGRAPHIC DISTRIBUTION

U.S. producers reported selling calhypo to *** (table II-2). At least three importers reported selling calhypo imported from China to at least four U.S. regions, but *** reported selling only in ***. For U.S. producers, a little over *** of sales were 101 to 1,000 miles from their production facility, a little under *** were over 1,000 miles, and a *** of sales were within 100 miles. Almost *** of sales of imports of calhypo from China were made within 100 miles of their U.S. point of shipment, with most of the remainder shipped between 101 and 1,000 miles of the U.S. point of shipment.

¹² ***. Prehearing brief of Axiall, pp. 5-6, and posthearing brief of Arch, pp. 4-5.

¹³ Prehearing brief of Arch, pp. 7-8, 10, and exhibit 3. See also hearing transcript, p. 7 (Clark).

¹⁴ Hearing transcript, p. 17 (Walden).

¹⁵ Hearing transcript, p. 19 (Calais).

Table II-2

Calhypo: Geographic market areas in the United States served by U.S. producers and importers, by number of responding firms

Region	U.S. producers	Importers
Northeast	***	3
Midwest	***	3
Southeast	***	3
Central Southwest	***	3
Mountain	***	2
Pacific Coast	***	2
Other ¹	***	1
All regions (except Other)	***	1
Reporting firms	***	4

¹ All other U.S. markets, including AK, HI, PR, and VI, among others.

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

SUPPLY AND DEMAND CONSIDERATIONS

U.S. supply

Domestic production

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

Industry capacity

Domestic capacity utilization decreased to just over *** percent in 2013. However, capacity utilization in the first half of 2014 was *** percent, up from *** percent in the first half of 2013. This level of capacity utilization suggests that U.S. producers may have some available capacity to increase production of product, at least on an annual basis, in response to an increase in prices. Overall capacity rose over *** percent from 2011 to 2012, but declined slightly in 2013.

Arch described itself as wanting to operate its plant at full capacity year-round (except for maintenance) in order to ***. It added that, due to imports from China, it had needed to ***.¹⁶

¹⁶ Prehearing brief of Arch, p. 8, and posthearing brief of Arch, responses to Commission questions, p. xix.

Alternative markets

U.S. producers' exports of powder calhypo, as a percentage of total shipments, fluctuated between *** and *** percent since January 1, 2011, and U.S. producers exports of tablet calhypo, as a percent of total shipments, fluctuated between *** and *** percent of total shipments. These percentages indicate that U.S. producers may have an ability to shift shipments between the U.S. market and other markets in response to price changes. However, Arch stated that it faces substantially higher international freight rates than Chinese producers.¹⁷ Arch also described its U.S., Brazilian, and South African plants as backing each other up in case of supply problems. It also described exporting its U.S.-produced product mostly to Europe but also to the Caribbean, Andean region, and North Africa.¹⁸

Inventory levels

U.S. producers' inventories of powder calhypo as a share of total shipments fell from *** to *** percent of total shipments from 2011 to 2013. This level of inventories suggests that U.S. producers may have an ability to respond to changes in demand with small changes in the quantity shipped from inventories.

Production alternatives

No U.S. producer stated that it could switch production from calhypo to other products using the same equipment and labor.

Supply constraints

No U.S. producer reported it had refused, declined, or was unable to supply calhypo since January 1, 2011. However, purchaser *** stated that some domestic suppliers had had difficulty meeting deadlines, and purchaser *** stated that ***.

Subject imports from China¹⁹

Based on available information, producers of calhypo from China have the ability to respond to changes in demand with large changes in the quantity of shipments of calhypo to

¹⁷ Petition, pp. 21-22.

¹⁸ However, Arch also described the EU market for calhypo as a "tough market" that does not have a huge effect on Arch's bottom line. Hearing transcript, pp. 65-66 (Walden).

¹⁹ The Commission received no questionnaire response(s) from Chinese producers in the final phase of these investigations.

the U.S. market. The main contributing factors to this degree of responsiveness of supply are the existence of alternative markets, likely growing capacity, and inventories.

Industry capacity

Staff did not receive information on Chinese capacity for producing calhypo. U.S. imports of Chinese calhypo rose more than 39 percent from 2011 to 2013, perhaps indicating an ability to increase shipments in response to changes in price. Arch reported that at a recent trade show in Florida, Chinese producers including Haixing Eno and Tianjin Kaifeng (both of which Arch characterized as having capacities of 30,000 MT per year) attended and displayed calhypo products in multiple forms.²⁰

Alternative markets

In the preliminary phase, Chinese producers' exports to markets other than the United States, as a percentage of total shipments, were greater than *** percent during the period of investigation. This level indicates that Chinese producers may have an ability to shift shipments between the U.S. market and other markets in response to price changes.

Inventory levels

In the preliminary phase, Chinese producers' inventories, as a share of total shipments, increased from about *** percent of total shipments in 2010 to *** percent of total shipments in 2012. These inventory levels suggest that Chinese producers may have some ability to respond to changes in demand with changes in the quantity shipped from inventories.

Production alternatives

In the preliminary phase, no Chinese producer stated that it could switch production from calhypo to other products.

Supply constraints

Only one of four responding importers of Chinese product reported that it had refused, declined, or was unable to supply calhypo since January 1, 2011. *** reported that it had stopped importing due to these investigations. Among purchasers, *** stated that its Chinese suppliers had had some difficulty with timely shipping, and *** stated that some importers did not wish to supply Chinese calhypo anymore due to these investigations.

²⁰ Posthearing brief of Arch, p. 5 and exhibit 5.

Nonsubject imports

In addition to U.S. and Chinese production, Arch described calhypo as being produced in Brazil and South Africa (at plants owned by Arch) and in India, although it described the Indian producer's production process as resulting in a somewhat lower quality product.²¹

The largest source of nonsubject imports during 2011 to 2013 was India, which accounted for the majority of nonsubject imports in 2013. Nonsubject imports fell from *** percent of U.S. consumption in 2011 to *** percent in 2013. In the preliminary phase, the petitioner indicated that nonsubject imports are commercially insignificant, except for imports from India which are becoming increasingly significant and may be improving in quality.²²

New suppliers

Twenty-three of 26 purchasers indicated they were not aware of any new calhypo suppliers since January 1, 2011. However, three cited Chinese producers *** as new suppliers.

Changes in product range or mix

Producers and importers were asked if there had been any significant changes in the product mix or marketing of calhypo since January 1, 2011. *** reported that there were no significant changes in the product range, mix, or marketing of calhypo since January 1, 2011. However, *** stated that, as a result of competition with Chinese imports, ***. *** described Axiall entering the wastewater treatment market segment as a supply change since 2011.

Twenty purchasers stated that no firm had refused, declined, or been unable to supply calhypo since January 1, 2011, but six did. The more detailed responses of those purchasers (if provided), are discussed above under U.S. or Chinese import supply, as appropriate.

Chlorine content

*** reported that a majority of their U.S. shipments of calhypo had a chlorine content of *** percent. *** reported that the remainder of its material offered was ***. *** reported that most of the rest of its product had a chlorine content of ***, although ***. The reported chlorine content *** varied more widely, with *** reporting that *** percent of its U.S. commercial shipments had a chlorine content of 65-68 percent, while *** reported that *** percent of its shipments had a chlorine content of 70 percent and above, and *** reported that most of its shipments had chlorine contents of ***. Weighted by volume, over *** percent of responding importers' shipments had a chlorine content of *** percent.

²¹ Hearing transcript, p. 48 (Walden).

²² Petition, p. 18. Conference transcript pp. 52-53 (Walden).

U.S. demand

Based on available information, the overall demand for calhypo is likely to experience moderate to high changes in response to changes in price. The main contributing factors are the existence of substitute products constrained by the large cost share of calhypo in most of its end-use products.

End uses

U.S. demand for calhypo depends on the demand for U.S.-produced downstream products. The most prevalent application for calhypo is the chlorination of water in residential and commercial swimming pools. In swimming pools, calhypo is used to kill pathogens and algae, as well as oxidize other non-living contaminants.²³ Other EPA-registered uses for calhypo include the disinfection of water and waste water, as well as cleaning and sanitizing applications, including laundry, food-and-non-food contact surfaces, and the washing of fruits and vegetables. Because it is a strong oxidizer, calhypo may also be used in a variety of other applications registered with the EPA, including treating cyanide in wastewater.²⁴

*** reported that calhypo's end uses include pool water disinfection, municipal water disinfection, and industrial water treatment. It added that calhypo accounted for *** percent of the cost of these end uses. *** also named industrial water treatment as an end use, and also described calhypo as accounting for *** percent of the cost of this end use. Among other importers, *** named swimming pool applications as the end use, and indicated that calhypo was *** percent of the cost of this end use.

Among purchasers, 19 reported that the end use of the calhypo they purchased was swimming pools and spas, 10 reported it was industrial water treatment, five reported it was home septic/wastewater treatment, and one reported it was cleansers/detergents. Purchasers reported a wide variety of customers for their own sales of calhypo. Among purchasers that sold calhypo for use in swimming pools, reported customers included pool owners, pool supply retailers, and pool service companies.²⁵

²³ Arch stated that because calhypo dissolves quickly, consumers typically use it to "shock," or rapidly sanitize, a pool. Arch continued that some consumers may like to use calhypo in tablet form because they are accustomed to using chlorinated isocyanurates in tablet form. Arch added that calhypo tablets dissolve quickly, so there is little other advantage to tableted calhypo over granulated calhypo. Hearing transcript, pp. 22-23, 71 (Walden). Axiall elaborated that very large pools at water parks might prefer tablets because tablets make it easier to use a precise but large volume of product. Hearing transcript, p. 23 (Hoops).

²⁴ Petition, pp. 11-12.

²⁵ Purchasers generally did not report making other products with the calhypo that they purchased. *** did state that calhypo accounted for *** percent of the cost of its ***, and stated that ***.

Business cycles

Most market participants described the U.S. calhypo market as having a seasonal business cycle in which demand increases during summer and other warm months in which outdoor pools are used. Arch stated that production for the pool and spa segment of the market must generate operating income in the first half of each year, as sales later in the year are substantially lower. It added that Chinese imports are also more prevalent in the market in the first half of the year.²⁶

Both responding U.S. producers and two of four responding importers indicated that the calhypo market was subject to business cycles or distinctive conditions of competition. Specifically, *** described demand as higher from March or Memorial Day to July or Labor Day, as part of the calhypo market is dependent on weather conditions more ideal for outdoor pools. *** also indicated that the market for calhypo is seasonal (with demand lower in the winter months) and that weather conditions can affect the calhypo market. On the other hand, two importers stated that the calhypo market was not subject to business cycles or distinctive conditions of competition.

Among purchasers, 9 stated that the calhypo market was not subject to business cycles, but 17 did, usually describing the same seasonal pattern (i.e., more demand in summer during outdoor pool season), and also adding that cooler or rainier summer weather could lead to lower demand. Five purchasers also described the calhypo market as subject to distinctive conditions of competition, citing competition with substitute products (four purchasers) and low prices of imported product (one purchaser, ***).

*** indicated that there had not been any changes to the calhypo business cycle and conditions of competition since January 1, 2011. However, nine purchasers stated that there had been. *** described recent summers as cooler, reducing demand. *** also described reduced demand due to increased use of alternative sanitization methods. *** described competition with low-priced Chinese and/or imported product as hurting their sales. *** indicated that it had begun purchasing Chinese product for reasons of price. However, *** described having difficulty obtaining supply from Axiall, which they described as low on inventory and raising its prices.

Demand trends

All U.S. producers and importers, as well as most purchasers, reported either that U.S. demand for calhypo has fluctuated or not changed since January 1, 2011 (table II-3). U.S. producer Axiall reported that demand was based on an installed base of about 5 million pools, with growth of about 50,000 pools (1 percent) per year. It added that water sanitation use perhaps tracks growth in gross domestic product (GDP).²⁷ Similarly, Arch described calhypo

²⁶ Prehearing brief of Arch, p. 6. See also hearing transcript, pp. 13-14 (Walden).

²⁷ Hearing transcript, p. 74 (Hoops). The Blue Chip forecast is for U.S. GDP to rise *** percent in 2015. *Blue Chip Economic Indicators*, Vol. 39, No.12, December 10, 2014.

demand as typical of that for a mature industry, growing with GDP and/or population, and potentially affected by regional weather differences.²⁸ It added that with economic recovery still weak, few new pools are being added, and those that are being added are smaller.²⁹

No importers offered any additional comments on U.S. demand. Purchasers describing no change in U.S. demand cited the maturity of the calhypo market and demand from the housing market as reasons for the lack of change. Purchasers describing decreased demand cited increasing use of salt systems (a substitute; see below), and substitution away from “dangerous” calhypo.³⁰ Those describing fluctuating U.S. demand most often cited the weather as the cause of the fluctuations.

In terms of demand outside the United States, U.S. producers reported ***. At the hearing, Arch stated that it had seen some increase in global demand for calhypo, primarily in feeder systems and for wastewater treatment.³¹ It added that other countries with high demand for calhypo include Brazil, Spain, France, and South Africa.³²

Table II-3
Calhypo: Firms’ responses regarding U.S. demand, by number of responding firms

Item	Increase	No change	Decrease	Fluctuate
Demand in the United States				
U.S. producers	***	***	***	***
Importers	***	***	***	***
Purchasers	1	8	5	10
Demand outside the United States				
U.S. producers	***	***	***	***
Importers	***	***	***	***
Purchasers	1	3	0	1

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

Substitute products

Market participants described many substitutes for calhypo.³³ *** named chlorinated isos, liquid bleach, and gas chlorine as substitutes. Generally, U.S. producers described changes in the price of substitutes as not having affected the price of calhypo, although *** stated that the price of dichlor (a type of chlorinated isos used in residential pool shocking) and calhypo were correlated, albeit with substitution limited by water chemistry. Arch stated that long-time

²⁸ Posthearing brief of Arch, responses to Commission questions, p. xiii.

²⁹ Hearing transcript, p. 62 (Walden).

³⁰ *** added that Axiall’s prices are higher than those of Arch and foreign suppliers.

³¹ Hearing transcript, p. 61 (Walden).

³² Ibid.

³³ In its prehearing brief, petitioner described eight substitute products, including the ones described in the paragraph. It often noted that substitution can be somewhat limited by substitutes not performing as well as calhypo in pool and spa sanitization. Petitioner’s prehearing brief at annex B.

use of chlorinated isos can lead to “chlorine lock” in which draining the pool will be necessary to clear excess chlorine.³⁴

Importers also named chlorinated isos (for pool sanitization and water treatment) and chlorine gas (for water treatment) as substitutes, and added bromine tablets (for pool sanitization) and ultraviolet disinfection (for water treatment). *** described chlorinated isos, ultraviolet disinfection, and chlorine gas as substitutes that compete with calhypo in water treatment end uses, and of which price changes can affect the price of calhypo. *** indicated that there were no substitutes for calhypo.

Seven purchasers stated that there were no substitutes for calhypo, but 17 indicated that there were, listing chlorinated isos (12 purchasers) and sodium hypochlorite (12 purchasers) most often. These substitutes were described as used for pool sanitization and water treatment. Purchasers often described the prices of these substitutes as affecting the prices of calhypo, with three purchasers stating that decreased prices of chlorinated isos had decreased the prices of calhypo. However, other purchasers described ease of use as the primary factor in deciding whether to substitute for calhypo. Purchasers also listed bromine, salt systems, liquid bleach, lithium hypochlorite, chlorine gas, and potassium monopersulphate as substitutes. Two purchasers stated that the increasing use of salt systems (an alternative method of disinfecting a pool) had reduced demand for calhypo, with *** indicating (in response to another question) that two-thirds of new pools used a salt sanitization system rather than a sanitization method that could use calhypo.

Substitution among calhypo products by chlorine content

Producers, importers, and purchasers were asked if calhypo products that differ only in their available chlorine levels serve as commercial substitutes with little or no reprocessing by the seller. *** answered that they could, with *** adding that a seller can blend in magnesium salts to reduce reactivity of the finished product. *** stated that dosage levels may be adjusted to different chlorine levels. *** answered that such calhypo products could not serve as commercial substitutes. Among purchasers, eight answered that calhypo products that differed only in their chlorine level could not serve as commercial substitutes, while 14 answered that they could. Among those 14, five noted that such substitution would require only a change in dosage. *** stated that such commercial substitution could only take place among products with at least 65 percent chlorine content. *** stated that products with different chlorine levels are not “drop-in” substitutes, and that there would need to be an effort made to establish a different product as a substitute.

³⁴ Hearing transcript, p. 29 (Walden). Additionally, Arch stated that in water treatment, bleach (sodium hypochlorite) is much less expensive to use than calhypo. Hearing transcript, p. 63 (Walden).

SUBSTITUTABILITY ISSUES

The degree of substitution between domestic and imported calhypo depends upon such factors as relative prices, quality (e.g., grade standards, reliability of supply, defect rates, etc.), and conditions of sale (e.g., price discounts/rebates, lead times between order and delivery dates, payment terms, product services, etc.). Based on available data, staff believes that there is a high degree of substitutability between domestically-produced calhypo and calhypo imported from China.

Lead times

Calhypo is primarily sold from inventory. Both U.S. producers reported that at least *** percent of their 2013 sales were from inventory, with lead times averaging 3 to 10 days. The remaining 2013 sales were produced to order, with lead times averaging 14 to 21 days. Among importers, *** reported that all of its sales were produced to order with lead times of *** days while *** reported that all of its sales were from U.S. inventory with lead times of *** days. Another importer (***) reported that two-thirds of its sales were from its U.S. inventory and the rest were from foreign inventory, both with lead times of *** days.

Knowledge of country sources

Twenty-five³⁵ purchasers indicated they had marketing/pricing knowledge of domestic product and ten of Chinese product. None reported knowledge of product from nonsubject countries.³⁶

As shown in table II-4, most purchasers always or usually make purchasing decisions based on the producer, but their customers do not. Both purchasers and their customers only sometimes or never make purchasing decisions based on country of origin.

Table II-4

Calhypo: Purchasing decisions based on producer and country of origin, by number of reporting firms

Purchaser/Customer Decision	Always	Usually	Sometimes	Never
Purchaser makes decision based on producer	11	6	3	5
Purchaser's customers make decision based on producer	2	5	5	10
Purchaser makes decision based on country	6	4	3	13
Purchaser's customers make decision based on country	1	3	6	11

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

³⁵ The one purchaser that did not indicate familiarity with U.S. calhypo, ***, also indicated purchases of over *** pounds of U.S.-produced calhypo each year over 2011-2013. Some purchasers may not have been aware of the country source of their product purchased; for example, ***. Additionally, *** did not indicate knowledge of Chinese product, but had purchased it.

³⁶ In response to another question, five purchasers indicated that they purchase only U.S. product, and four added that they have no knowledge of any other country's product.

Of the purchasers that reported that they always make decisions based the manufacturer, *** stated that brand recognition is an important factor in their purchases.³⁷ Other purchasers described service, annual contracts, pricing, and quality as reasons to purchase based on supplier.³⁸ *** stated that it bases its purchasing decisions on availability and price, while *** stated that when it buys imported product, price is the most important factor. *** stated that it purchased only from Norweco because it liked Norweco's product. Three purchasers stated that their customers base purchases on brand, two stated that they purchase on price, and *** stated that customers buying blended product care about the producer, but other customers do not care.

In comments by purchasers on the relevance of country of origin, *** stated that its customers prefer U.S.-origin product, but that it weighs that preference against issues of price, availability, and transportation costs. *** stated that it would prefer to buy domestic product due to greater availability. *** stated that its retail customer competes against other retailers that carry imported product. *** noted that quality is important in its decisions among product from different countries, while *** stated that it was concerned with a competitive price environment. Four purchasers described their customers as focused on price, and *** described U.S. and imported product as looking the same (based on chlorine content) to its customers.

Factors affecting purchasing decisions

Arch and Axiall described calhypo as trading mostly on price, and especially so in the distributor channel. Axiall indicated that in the distributor channel, a lot of the product ends up being sold to pool service companies, and that the ultimate consumer (the pool owner) is not aware of what type of calhypo is used in his or her pool.³⁹

The most often cited top three factors firms consider in their purchasing decisions for calhypo were price/cost (20 firms), quality (18 firms), and availability (15 firms), as shown in table II-5. Quality was the most frequently cited first most important factor (cited by eight

³⁷ On the other hand, Arch described Chinese imports as having eroded the value of brands, and stated that U.S. producers' brands were not a deterrent to sales of Chinese imports. Posthearing brief of Arch, responses to Commission questions, p. iii. See also hearing transcript, p. 7 (Clark) and p. 16 (Walden).

³⁸ Distributor Allchem stated that while its customers would prefer to purchase calhypo from it due to its service and reliability, the lower price of Chinese calhypo made it preferable. Hearing transcript, p. 19 (Calais). Arch reported offering an information hotline as one of its services, but Allchem added that it is not sure whether callers are calling about Arch's product or other firms' product, and that customers were not willing to pay more for access to the hotline. Hearing transcript, p. 28 (Walden) and p. 30 (Olcese). Similarly, an Axial representative stated that marketing support is not a factor in calhypo sales because "the guy driving around in the Sun Belt taking care of 6 pools in a day or 50 in a week, he's buying on price." Hearing transcript, p. 35 (Hoops).

³⁹ Hearing transcript, p. 16 (Walden). Allchem offered similar testimony. Hearing transcript, p. 19 (Calais). See also hearing transcript, p. 67 (Hoops) and p. 68 (Walden).

firms), followed by traditional supplier (six firms) and price/cost (five firms). Firms described the quality of calhypo as determined by color, purity, chlorine content, solubility rate, consistent granulation, meeting industry standards, and lack of gassing.

Table II-5
Calhypo: Ranking of factors used in purchasing decisions as reported by U.S. purchasers, by number of reporting firms

Factor	First	Second	Third	Total
Quality	8	7	3	18
Traditional supplier/relationship	6	0	1	7
Price/cost	5	7	8	20
Availability	4	5	6	15
Range	1	0	0	1
Service	1	0	0	1
Contract length	1	0	0	1
Brand/customer preference	0	3	0	3
Technical expertise	0	1	0	1
Sales terms	0	0	1	1
Other ¹	0	2	2	4

¹ Other factors include logistics, percent chlorine, reliability, credit, ease of use, marketing, and ability to continue to create new products.

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

The majority of purchasers (15 of 26) reported that they sometimes purchase the lowest-priced calhypo offered. Six stated that they usually do, and five stated that they never do.

When purchasers were asked why their firm had only purchased calhypo from only one country, most purchasers cited a wide variety of reasons for only purchasing U.S. product. Such reasons included satisfaction with the supplier, *** providing ***, brand recognition, delivery, service, an existing contract, the expense of importing a hazardous product, availability, price, and quality. *** cited price as its reason. *** described *** as the “best vendor” for its *** products.

Purchasers were also asked if they or their customers ever ordered calhypo from one country in particular over other sources of supply. Fourteen purchasers responded that they did not, but eleven did, mostly citing U.S. product for its availability, quality, technical support, and customer demand. *** stated that usually, price is the dominant factor in its purchasing decision. *** stated that occasionally, its customers request Chinese material because they regard it as superior to U.S. product in terms of solubility.

When asked if they purchased calhypo from one source even though a comparable product was available at a lower price from another source, twelve purchasers reported reasons including brand, customer demand, supplier reliability, ability to meet government regulations, lead times, product range, and product consistency. When asked if certain types of calhypo are only available from certain country sources, thirteen answered no, but five described calhypo with a 73 percent chlorine content (or other high strength calhypo) as only available from U.S. producers.

Importance of specified purchase factors

Purchasers were asked to rate the importance of 21 factors in their purchasing decisions (table II-6). The factors rated as “very important” by at least 20 responding purchasers were availability, delivery time, price, product consistency, quality meets industry standards, and reliability of supply.⁴⁰

Table II-6
Calhypo: Importance of purchase factors, as reported by U.S. purchasers, by number of responding firms

Factor	Very important	Somewhat important	Not important
Around-the-clock customer service	6	4	16
Availability	25	0	1
Branding	11	7	8
Color quality	9	10	7
Customer rewards program	2	0	24
Delivery terms	16	8	2
Delivery time	21	4	1
Discounts offered	12	12	2
Extension of credit	11	10	5
Minimum quantity requirements	12	10	4
Packaging	18	6	2
Price	23	3	0
Product consistency	22	4	0
Product range	8	14	4
Quality exceeds industry standards	10	13	4
Quality meets industry standards	23	3	0
Reliability of supply	23	3	0
Solubility	17	9	0
“Takebacks” of unsold product	5	6	15
Technical support/service	11	11	3
U.S. transportation costs	13	10	3

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

Supplier certification

Thirteen of 26 responding purchasers require that the product they purchase be certified. Six purchasers reported that the time to qualify a new supplier ranged from 7 to 30 days, and three purchasers reported the time was 60 to 90 days. Qualification was based on many factors, including product meeting EPA regulations, solubility, percent chlorine, consistency of supply, price, and/or lead time. Twenty-three purchasers reported that no

⁴⁰ Regarding one factor in the table, packaging, Arch described the packaging for calhypo as describing its hazardous nature and being child-resistant. It added that Chinese imports had similar packaging to Arch’s calhypo, to the point of potentially infringing Arch’s intellectual property. Hearing transcript, pp. 39-40 (Walden, Heard).

domestic or foreign supplier had failed in its attempt to qualify product, or had lost its approved status since January 1, 2011.

Purchasers were also asked if tablets comprised of Chinese calhypo can be used in tablet feeders designed by U.S. calhypo producers. Of the responding purchasers, seven indicated that they could, but seven indicated that they could not. Those indicating that such tablets could not be used usually cited NSF⁴¹ ratings on the feeders that often specify a particular brand of calhypo. *** stated that the end users of the feeders are “controlled” by calhypo producers and have agreements with the producers only to use a particular producer’s material.

Arch described purchaser-specific certification requirements as “easily met” and based mostly on meeting EPA regulations. It added that customers can and do use Chinese calhypo tablets in feeder systems that specify U.S. brands of calhypo, and ***.⁴² Axiall also stated that customers can use Chinese tablets in other feeder systems, and added that producing feeder systems is not difficult and is done by importer Allchem. It also indicated that feeders for wastewater treatment (which it described as accounting for *** percent of all tablet usage) are not certified for particular tablets.⁴³

Changes in purchasing patterns

Purchasers were asked about changes in their purchasing patterns from different sources since January 1, 2011 (table II-7). Reasons cited for decreased purchases of U.S. product included “competitive” pricing from other sources (four purchasers), obtaining a second source of supply, and customers looking for alternative, less hazardous materials. Reasons reported for increased U.S. purchases included increased customer demand, and increased demand for 73 percent calhypo and smaller-size calhypo. Reasons cited for increased purchases of Chinese product included competing on price in the U.S. market and delivery. Reasons cited for decreased purchases of Chinese product included issues of availability and lead times.

Table II-7
Calhypo: Changes in purchase patterns from U.S., subject, and nonsubject countries

Source of purchases	Did not purchase	Decreased	Increased	Constant	Fluctuated
United States	0	8	7	10	2
China	14	4	6	1	1
Other	20	0	0	0	0

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

⁴¹ NSF International is a public health and safety organization that provides certification for products, including sanitation products. “NSF” used to stand for National Sanitation Foundation, but no longer represents any specific words. See www.nsf.org/about-nsf, downloaded October 29, 2014.

⁴² Posthearing brief of Arch, responses to Commission questions, pp. xx and xxi. See also hearing transcript, pp. 41-43, 73 (Walden, Olcese, Hoops).

⁴³ Posthearing brief of Axiall, p. 6.

Fifteen of 26 responding purchasers reported that they had not changed suppliers since January 1, 2011, but 11 indicated that they had. Specifically, firms reported increased or reduced purchases from ***, as well as various Chinese producers. Firms that elaborated on why they did so cited availability, lead times, chlorine content, and price.

Importance of purchasing domestic product

Fifteen purchasers reported that purchasing U.S.-produced product was not an important factor for at least 90 percent of their 2013 purchases. Two reported that some of their purchases of domestic product were required by law, five reported that some of their purchases of domestic product were required by their customers, and eight (representing 44 percent of purchasers' 2013 reported purchases) described other preferences for domestic product. Reasons cited for preferring domestic product included: the purchaser advertising U.S.-made product to its own customers; the purchaser having a contract with domestic suppliers; and the availability and price of U.S. product.

Comparisons of domestic products, subject imports, and nonsubject imports

Purchasers were asked a number of questions comparing calhypo 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 (table II-8) for which they were asked to rate the importance.

Most purchasers reported that U.S. product was superior or comparable to Chinese product in all factors except price, in which most purchasers reported that U.S. product was inferior (i.e., higher priced).^{44 45}

⁴⁴ ***.

⁴⁵ Additionally, Arch and distributor Allchem described U.S. and Chinese calhypo as having no significant physical differences. Posthearing brief of Arch, responses to Commission questions, p. v, and hearing transcript, p. 34 (Olcese).

Table II-8

Product: Purchasers' comparisons between U.S.-produced and imported product

Factor	U.S. vs. China			U.S. vs. nonsubject			China vs. nonsubject		
	S	C	I	S	C	I	S	C	I
Around-the-clock customer service	9	5	0	1	0	0	0	1	0
Availability	10	3	1	1	0	0	0	1	0
Branding	8	4	0	1	0	0	0	1	0
Color quality	6	7	1	1	0	0	0	1	0
Customer rewards program	6	4	0	1	0	0	0	1	0
Delivery terms	10	4	0	1	0	0	0	1	0
Delivery time	12	2	0	1	0	0	0	1	0
Discounts offered	6	6	0	1	0	0	0	1	0
Extension of credit	9	5	0	1	0	0	0	1	0
Minimum quantity requirements	4	9	0	1	0	0	0	1	0
Packaging	4	9	0	1	0	0	0	1	0
Price ¹	1	3	10	1	0	0	0	1	0
Product consistency	5	8	1	1	0	0	0	1	0
Product range	5	6	2	1	0	0	0	1	0
Quality exceeds industry standards	5	7	1	1	0	0	0	1	0
Quality meets industry standards	5	8	0	1	0	0	0	1	0
Reliability of supply	8	5	1	1	0	0	0	1	0
Solubility	4	8	1	1	0	0	0	1	0
"Takebacks" of unsold product	5	4	1	1	0	0	0	1	0
Technical support/service	8	5	1	1	0	0	0	1	0
U.S. transportation costs ¹	6	6	2	1	0	0	0	1	0

¹ A rating of superior means that price/U.S. transportation costs is generally lower. For example, if a firm reported "U.S. superior," it meant that the U.S. product was generally priced lower than the imported product.

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

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

Comparison of U.S.-produced and imported product

In order to determine whether U.S.-produced calhypo can generally be used in the same applications as imports from China, U.S. producers, importers, and purchasers were asked whether the products can "always," "frequently," "sometimes," or "never" be used interchangeably. As shown in table II-9, most producers, importers, and purchasers indicated that calhypo imported from China is either "always" or "frequently" interchangeable with U.S.-produced calhypo.

Table II-9**Calhypo: Interchangeability between product produced in the United States and in other countries, by country pairs**

Country pair	Number of U.S. producers reporting				Number of U.S. importers reporting				Number of purchasers reporting			
	A	F	S	N	A	F	S	N	A	F	S	N
U.S. vs. subject countries: U.S. vs. China	***	***	***	***	1	1	0	0	8	5	2	0
Nonsubject countries comparisons: U.S. vs. nonsubject	***	***	***	***	1	0	0	0	1	0	0	0
China vs. nonsubject	***	***	***	***	1	0	0	0	2	0	0	0

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

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

In further comments, purchaser *** stated that it only purchases calhypo from China if the color and quality match those of U.S. product. Purchaser *** added that certain commercial pools need to buy particular tablets that match the “feeder” that they used to obtain third-party approval.

As can be seen from table II-10, 21 responding purchasers reported that domestically-produced product “always” or “usually” met minimum quality specifications. Twelve responding purchasers reported that the Chinese calhypo “always” or “usually” met minimum quality specifications.

Table II-10**Calhypo: Ability to meet minimum quality specifications, by source and number of reporting firms¹**

Source	Always	Usually	Sometimes	Rarely or never
United States	18	3	2	0
China	7	5	2	0
Other	0	0	0	0

¹ Purchasers were asked how often domestically produced or imported product meets minimum quality specifications for their own or their customers’ uses.

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

In addition, producers, importers, and purchasers were asked to assess how often differences other than price were significant in sales of product from the United States, subject, or nonsubject countries. As seen in table II-11, producers and importers offered varied responses, but over half of purchasers indicated that differences other than price are sometimes or never significant in comparing U.S. and Chinese product.

Table II-11

Calhypo: Significance of differences other than price between product produced in the United States and in other countries, by country pairs

Country pair	Number of U.S. producers reporting				Number of U.S. importers reporting				Number of purchasers reporting				
	A	F	S	N	A	F	S	N	A	F	S	N	
U.S. vs. subject countries: U.S. vs. China	***	***	***	***	***	***	***	***	***	4	2	7	1
Nonsubject countries comparisons: U.S. vs. nonsubject	***	***	***	***	***	***	***	***	***	0	0	0	1
China vs. nonsubject	***	***	***	***	***	***	***	***	***	0	1	0	1

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

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

In further comments, ***. *** stated that the only difference between nonsubject countries as compared to the United States and China is that nonsubject country producers do not have regular ocean transportation to the United States for calhypo. It added that Chinese producers can ship calhypo to the United States via a Chinese-government-owned shipping company, COSCO, which ***. *** stated that the solubility of Chinese material must be equivalent to that of U.S. material before it will buy Chinese material. *** stated that product availability, technical support, and product range to meet a variety of state and local codes are important factors other than price.

ELASTICITY ESTIMATES

This section discusses elasticity estimates; parties were encouraged to comment on these estimates and as an attachment to their prehearing or posthearing brief. None did so.

U.S. supply elasticity

The domestic supply elasticity⁴⁶ for calhypo measures the sensitivity of the quantity supplied by U.S. producers to changes in the U.S. market price of calhypo. 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 calhypo. Analysis of these factors earlier indicates that the U.S. industry has the ability to increase or decrease shipments to the U.S. market; an estimate in the range of 2 to 5 is suggested.

⁴⁶ A supply function is not defined in the case of a non-competitive market.

U.S. demand elasticity

The U.S. demand elasticity for calhypo measures the sensitivity of the overall quantity demanded to a change in the U.S. market price of calhypo. This estimate depends on factors discussed earlier such as the existence, availability, and commercial viability of substitute products, as well as the component share of the calhypo in the production of any downstream products. Based on the available information, the aggregate demand for calhypo is likely to be moderately elastic; a range of -0.5 to -0.75 is suggested.

Substitution elasticity

The elasticity of substitution depends upon the extent of product differentiation between the domestic and imported products.⁴⁷ 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 calhypo and imported calhypo is likely to be in the range of 4 to 8.

⁴⁷ 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 III: U.S. PRODUCERS' PRODUCTION, SHIPMENTS, AND EMPLOYMENT

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

U.S. PRODUCERS

The Commission sent U.S. producer questionnaires to four firms based on information contained in the petition. Three firms provided usable data on their productive operations. Staff believes that these responses represent all U.S. production of calhypo. The petitioner, Arch, was formed in 1999 when Olin¹ sold its specialty chemicals division. In 2011, Arch was acquired by the Lonza Group. The other U.S. producer of calhypo is Axiall. Axiall was formed on January 28, 2013 when PPG Industries, Inc.'s commodity chemicals division merged with Georgia Gulf Corp.

Table III-1 lists U.S. producers of calhypo, their headquarters, positions on the petition, total production, and shares of total production.

Table III-1

Calhypo: U.S. producers of calhypo, their positions on the petition, headquarters, production, and shares of reported production, Jan. 2011 – June 2014

Firm	Position on the petition	Headquarters	Share of powder production (<i>percent</i>)	Share of tablet production (<i>percent</i>)
Arch Chemicals, Inc. ¹	Petitioner	Atlanta, GA	***	***
Axiall Corp.	***	Pittsburgh, PA	***	***
Stellar Manufacturing Co.	***	Sauget, IL	***	***
Total			100.0	100.0

¹ Arch is wholly owned by LG Acquisition Parent Corp., Allendale, NJ and is affiliated with ***.

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

¹ Olin filed the 1984 antidumping petition with respect to calhypo from Japan. See Part I for more details.

U.S. PRODUCTION, CAPACITY, AND CAPACITY UTILIZATION

Table III-2 presents U.S. producers' production, capacity, and capacity utilization.²

Table III-2

Calhypo: U.S. producers' production, capacity, and capacity utilization, 2011-13, January - June 2013, and January - June 2014

Item	Calendar year			January - June	
	2011	2012	2013	2013	2014
Quantity (1,000 pounds)					
Granular and powder form:					
Capacity	***	***	***	***	***
Production	***	***	***	***	***
Capacity utilization (percent)					
Capacity utilization	***	***	***	***	***
Quantity (1,000 pounds)					
Tableting operations:					
Capacity	***	***	***	***	***
Production.-- from internally produced powder	***	***	***	***	***
from purchases of domestically produced powder	***	***	***	***	***
from imports of powder	***	***	***	***	***
from transfers of powder under toll arrangement	***	***	***	***	***
Total: Production of tablets	***	***	***	***	***
Capacity utilization (percent)					
Capacity utilization	***	***	***	***	***

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

² Arch reported in its questionnaire response (II-2) that "***".

Figure III-1

Calhypo: U.S. producers' capacity, production, and capacity utilization for granular/powder form calhypo, 2011-13, January to June 2013, and January to June 2014

* * * * *

Figure III-2

Calhypo: U.S. producers' capacity, production, and capacity utilization for tablet form calhypo, 2011-13, January - June 2013, and January - June 2014

* * * * *

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

Table III-3 presents U.S. producers' U.S. shipments, export shipments, and total shipments of granulated/powder-form calhypo. ***.

Table III-4 presents U.S. producers' U.S. shipments, export shipments, and total shipments of tableted calhypo.

Table III-3

Calhypo: U.S. producers' U.S. shipments, export shipments, and total shipments of granulated/powder-form calhypo, 2011-13, January - June 2013, and January - June 2014

Item	Calendar year			January - June	
	2011	2012	2013	2013	2014
Quantity (1,000 pounds)					
Commercial U.S. shipments	***	***	***	***	***
Internal consumption	***	***	***	***	***
Transfers to related firms	***	***	***	***	***
Shipments sent for toll processing	***	***	***	***	***
Subtotal, U.S. shipments	***	***	***	***	***
Export shipments	***	***	***	***	***
Total shipments	***	***	***	***	***
Value (1,000 dollars)					
Commercial U.S. shipments	***	***	***	***	***
Internal consumption	***	***	***	***	***
Transfers to related firms	***	***	***	***	***
Shipments sent for toll processing	***	***	***	***	***
Fees paid/contracted for toll processing	***	***	***	***	***
Subtotal, U.S. shipments	***	***	***	***	***
Export shipments	***	***	***	***	***
Total shipments	***	***	***	***	***
Unit value (dollars per pound)					
Commercial U.S. shipments	\$***	\$***	\$***	\$***	\$***
Internal consumption	***	***	***	***	***
Transfers to related firms	***	***	***	***	***
Shipments sent for toll processing	***	***	***	***	***
Fees paid/contracted for toll processing	***	***	***	***	***
Subtotal, U.S. shipments	***	***	***	***	***
Export shipments	***	***	***	***	***
Total shipments	***	***	***	***	***
Share of quantity (percent)					
Commercial U.S. shipments	***	***	***	***	***
Internal consumption	***	***	***	***	***
Transfers to related firms	***	***	***	***	***
Shipments sent for toll processing	***	***	***	***	***
Subtotal, U.S. shipments	***	***	***	***	***
Export shipments	***	***	***	***	***
Total shipments	100.0	100.0	100.0	100.0	100.0

Table continued on next page.

Table III-3--Continued

Calhypo: U.S. producers' U.S. shipments, export shipments, and total shipments of granulated/powder-form calhypo, 2011-13, January - June 2013, and January - June 2014

Item	Calendar year			January - June	
	2011	2012	2013	2013	2014
Share of value (percent)					
Commercial U.S. shipments	***	***	***	***	***
Internal consumption	***	***	***	***	***
Transfers to related firms	***	***	***	***	***
Shipments sent for toll processing	***	***	***	***	***
Fees paid/contracted for toll processing	***	***	***	***	***
Subtotal, U.S. shipments	***	***	***	***	***
Export shipments	***	***	***	***	***
Total shipments	100.0	100.0	100.0	100.0	100.0

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

Table III-4

Calhypo: U.S. producers' U.S. shipments, export shipments, and total shipments of tableted calhypo, 2011-13, January - June 2013, and January - June 2014

Item	Calendar year			January - June	
	2011	2012	2013	2013	2014
Quantity (1,000 pounds)					
Commercial U.S. shipments	***	***	***	***	***
Internal consumption	***	***	***	***	***
Transfers to related firms	***	***	***	***	***
Subtotal, U.S. shipments	***	***	***	***	***
Export shipments	***	***	***	***	***
Total shipments	***	***	***	***	***
Value (1,000 dollars)					
Commercial U.S. shipments	***	***	***	***	***
Internal consumption	***	***	***	***	***
Transfers to related firms	***	***	***	***	***
Subtotal, U.S. shipments	***	***	***	***	***
Export shipments	***	***	***	***	***
Total shipments	***	***	***	***	***
Unit value (dollars per pound)					
Commercial U.S. shipments	\$***	\$***	\$***	\$***	\$***
Internal consumption	***	***	***	***	***
Transfers to related firms	***	***	***	***	***
Subtotal, U.S. shipments	***	***	***	***	***
Export shipments	***	***	***	***	***
Total shipments	***	***	***	***	***

Table continued on next page.

Table III-4--Continued

Calhypo: U.S. producers' U.S. shipments, export shipments, and total shipments of tableted calhypo, 2011-13, January - June 2013, and January - June 2014

Item	Calendar year			January - June	
	2011	2012	2013	2013	2014
Share of quantity (percent)					
Commercial U.S. shipments	***	***	***	***	***
Internal consumption	***	***	***	***	***
Transfers to related firms	***	***	***	***	***
Subtotal, U.S. shipments	***	***	***	***	***
Export shipments	***	***	***	***	***
Total shipments	100.0	100.0	100.0	100.0	100.0
Share of value (percent)					
Commercial U.S. shipments	***	***	***	***	***
Internal consumption	***	***	***	***	***
Transfers to related firms	***	***	***	***	***
Subtotal, U.S. shipments	***	***	***	***	***
Export shipments	***	***	***	***	***
Total shipments	100.0	100.0	100.0	100.0	100.0

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

U.S. PRODUCERS' INVENTORIES

Table III-5 presents U.S. producers' end-of-period inventories and the ratio of these inventories to U.S. producers' production, U.S. shipments, and total shipments over the period examined.

Table III-5
Calhypo: U.S. producers' inventories, 2011-13, January - June 2013, and January - June 2014

Item	Calendar year			January - June	
	2011	2012	2013	2013	2014
Quantity (1,000 pounds)					
U.S. producers' end-of-period inventories of powder	***	***	***	***	***
Ratio (percent)					
Ratio of inventories to-- U.S. Production	***	***	***	***	***
U.S. shipments	***	***	***	***	***
Total shipments	***	***	***	***	***
Quantity (1,000 pounds)					
U.S. producers' end-of-period inventories of tablets	***	***	***	***	***
Ratio (percent)					
Ratio to production	***	***	***	***	***
Ratio to U.S. shipments	***	***	***	***	***
Ratio to total shipments	***	***	***	***	***

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

U.S. PRODUCERS' IMPORTS AND PURCHASES

*** reported purchases from ***.³ No U.S. producer reported imports of calhypo during January 2011- June 2014.

U.S. EMPLOYMENT, WAGES, AND PRODUCTIVITY

Table III-6 shows U.S. producers' employment-related data during the period examined.

³ As reported on *** questionnaire response to question II-14, "****".

Table III-6

Calhypo: Average number of production and related workers, hours worked, wages paid to such employees, hourly wages, productivity, and unit labor costs, 2011-13, January - June 2013, and January - June 2014

Item	Calendar year			January - June	
	2011	2012	2013	2013	2014
In relation to US producers' powder operations.--					
Production-Related Workers (PRWs) (number)	***	***	***	***	***
Total hours worked (1,000 hours)	***	***	***	***	***
Hours worked per PRW (hours)	***	***	***	***	***
Wages paid (\$1,000)	***	***	***	***	***
Hourly wages (dollars per hour)	***	***	***	***	***
Productivity (pounds per hour)	***	***	***	***	***
Unit labor costs (dollars per pound)	***	***	***	***	***
In relation to US producers' tablet operations.--					
Production-Related Workers (PRWs) (number)	***	***	***	***	***
Total hours worked (1,000 hours)	***	***	***	***	***
Hours worked per PRW (hours)	***	***	***	***	***
Wages paid (\$1,000)	***	***	***	***	***
Hourly wages (dollars per hour)	***	***	***	***	***
Productivity (pounds per hour)	***	***	***	***	***
Unit labor costs (dollars per pound)	***	***	***	***	***

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

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

U.S. IMPORTERS

The Commission issued importer questionnaires to 15 firms believed to be importers of subject calhypo, as well as to all U.S. producers of calhypo.¹ Usable questionnaire responses were received from four companies, representing 15.8 percent of U.S. imports from China between January 2011 – June 2014 under HTS subheading 2828.10.00. Table IV-1 lists all responding U.S. importers of calhypo from China and other sources, their locations, and their shares of U.S. imports, from January 2011 to June 2014.

The top ***,² *** firm provided the Commission with questionnaire responses.

**Table IV-1
Calhypo: U.S. importers by source from January 2011 – June 2014**

Firm	Headquarters	Share of imports by source and type (percent)		
		China	AOS	Total
U.S. imports of powder.--				
Norweco, Inc.	Norwalk, OH	***	***	***
Ponda International	Pala Alto, CA	***	***	***
Qualco, Inc.	Passaic, NJ	***	***	***
Wego Chemical & Mineral Corp.	Great Neck, NY	***	***	***
Total Imports of powder-calhypo		100.0	100.0	100.0
U.S. imports of tablets.--				
Norweco, Inc.	Norwalk, OH	***	***	***
Ponda International	Pala Alto, CA	***	***	***
Qualco, Inc.	Passaic, NJ	***	***	***
Wego Chemical & Mineral Corp.	Great Neck, NY	***	***	***
Total Imports of tableted Calhypo		100.0	100.0	100.0
U.S. imports of powder and tablets.--				
Norweco, Inc.	Norwalk, OH	***	***	***
Ponda International	Pala Alto, CA	***	***	***
Qualco, Inc.	Passaic, NJ	***	***	***
Wego Chemical & Mineral Corp.	Great Neck, NY	***	***	***
Total Imports of Calhypo, all forms		100.0	100.0	100.0

Note.--Norweco ***.

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

¹ The Commission issued questionnaires to those firms identified in the petition, along with firms that, based on a review of data provided by U.S. Customs and Border Protection (“Customs”), may have accounted for more than *** percent of total imports under HTS subheading 2828.10.00 from January 2011 to June 2014.

² ***.

U.S. IMPORTS

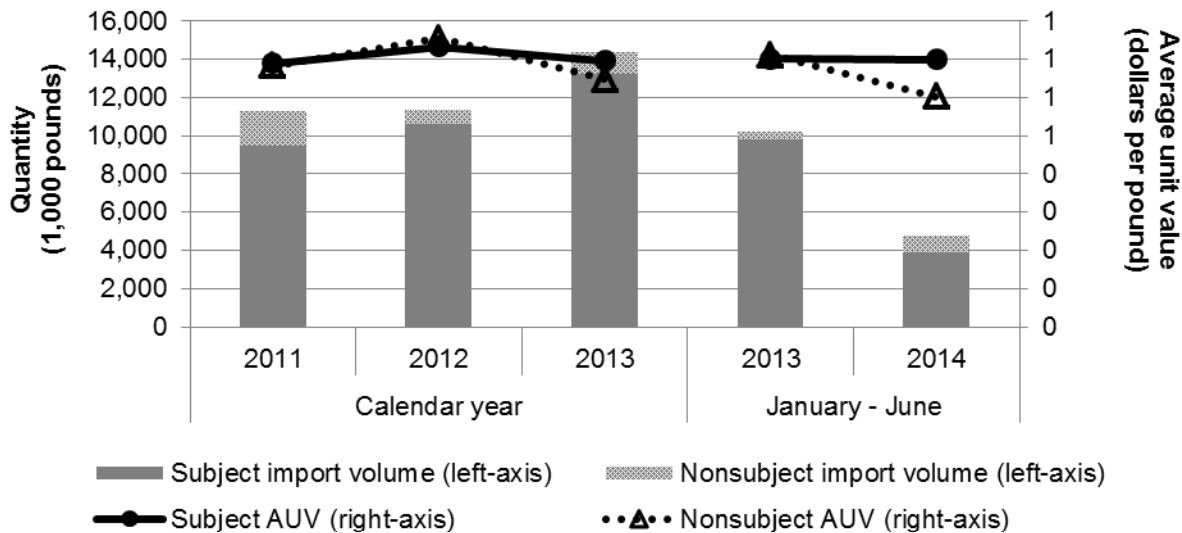
Table IV-2 presents data for U.S. imports of calhypo from China and all other sources.

Table IV-2
Calhypo: U.S. imports by source, 2011-2013, January-June 2013, and January-June 2014

Item	Calendar year			January - June	
	2011	2012	2013	2013	2014
Quantity (1,000 pounds)					
U.S. imports from.-- China	9,481	10,626	13,247	9,834	3,910
All other sources	1,790	741	1,124	378	859
Total U.S. imports	11,271	11,367	14,372	10,212	4,769
Value (1,000 dollars)					
U.S. imports from.-- China	6,532	7,798	9,233	6,896	2,736
All other sources	1,223	559	729	269	518
Total U.S. imports	7,754	8,357	9,961	7,165	3,254
Unit value (dollars per pound)					
U.S. imports from.-- China	\$0.69	\$0.73	\$0.70	\$0.70	\$0.70
All other sources	0.68	0.76	0.65	0.71	0.60
Average U.S. imports	0.69	0.74	0.69	0.70	0.68
Share of quantity (percent)					
U.S. imports from.-- China	84.1	93.5	92.2	96.3	82.0
All other sources	15.9	6.5	7.8	3.7	18.0
Total U.S. imports	100.0	100.0	100.0	100.0	100.0
Share of value (percent)					
U.S. imports from.-- China	84.2	93.3	92.7	96.2	84.1
All other sources	15.8	6.7	7.3	3.8	15.9
Total U.S. imports	100.0	100.0	100.0	100.0	100.0

Source: Official import statistics, using HTS statistical reporting number 2828.10.0000.

Figure IV-1
Calhypo: U.S. import volumes and prices, 2011-13, January - June 2013, and January - June 2014



Source: Table IV-2.

NEGLIGENCE

The statute requires that an investigation be terminated without an injury determination if imports of the subject merchandise are found to be negligible.³ Negligible imports are generally defined in the Tariff Act of 1930, as amended, as imports from a country of merchandise corresponding to a domestic like product where such imports account for less than 3 percent of the volume of all such merchandise imported into the United States in the most recent 12-month period for which data are available that precedes the filing of the petition or the initiation of the investigation. However, if there are imports of such merchandise from a number of countries subject to investigations initiated on the same day that individually account for less than 3 percent of the total volume of the subject merchandise, and if the 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.⁴ Imports from China accounted for 81.3 percent of total imports of calhypo by quantity during the period of July 2013 – June 2014.

³ 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)).

⁴ Section 771 (24) of the Act (19 U.S.C § 1677(24)).

APPARENT U.S. CONSUMPTION

Table IV-3 presents data on apparent U.S. consumption and U.S. market shares for calhypo.

Table IV-3
Calhypo: U.S. shipments of domestic product, U.S. imports, and apparent U.S. consumption, 2011-2013, January-June 2013, and January-June 2014

Item	Calendar year			January - June	
	2011	2012	2013	2013	2014
Quantity (1,000 pounds)					
U.S. producers' U.S. shipments	***	***	***	***	***
U.S. imports from.-- China	9,481	10,626	13,247	9,834	3,910
All other sources	1,790	741	1,124	378	859
Total U.S. imports	11,271	11,367	14,372	10,212	4,769
Apparent U.S. consumption	***	***	***	***	***
Value (1,000 dollars)					
U.S. producers' U.S. shipments	***	***	***	***	***
U.S. imports from.-- China	6,532	7,798	9,233	6,896	2,736
All other sources	1,223	559	729	269	518
Total U.S. imports	7,754	8,357	9,961	7,165	3,254
Apparent U.S. consumption	***	***	***	***	***

Note.-- U.S. producers' U.S. shipments combine powder and tablet form calhypo eliminating the doublecounting of data between Stellar and Axiall (i.e., toll arrangement) and Arch's internal consumption of powder form calhypo used in the production of tablets. Additional steps to remove the doublecounting of commercially sold powder form calhypo used by standalone tableters was not needed in this case due the lack of the business model in the U.S. market according to the firms that provided the Commission with data. Likewise, no U.S. tablet producer reported using imported powder form calhypo in their tableting operations and so there was no need to eliminate the double counting for imported powder form calhypo from the data reported by firms with tableting operations for the purposes of calculating U.S. apparent consumption.

Source: Compiled from data submitted in response to Commission questionnaires and official U.S. import statistics.

Figure IV-2
Calhypo: Apparent U.S. consumption, 2011-13, January - June 2013, and January - June 2014

* * * * *

U.S. MARKET SHARES

U.S. market share data are presented in table IV-4.

Table IV-4

Calhypo: U.S. consumption and market shares, 2011-13, January - June 2013, and January - June 2014

Item	Calendar year			January - June	
	2011	2012	2013	2013	2014
Quantity (1,000 pounds)					
Apparent U.S. consumption	***	***	***	***	***
Value (1,000 dollars)					
Apparent U.S. consumption	***	***	***	***	***
Share of quantity (percent)					
U.S. producers' shipments	***	***	***	***	***
Imports from— China	***	***	***	***	***
All other sources	***	***	***	***	***
Total imports	***	***	***	***	***
Share of value (percent)					
U.S. producers' shipments	***	***	***	***	***
Imports from— China	***	***	***	***	***
All other sources	***	***	***	***	***
Total imports	***	***	***	***	***

Note.--U.S. producers' U.S. shipments combine powder and tablet form calhypo eliminating the doublecounting of data between Stellar and Axiall (i.e., toll arrangement) and Arch's internal consumption of powder form calhypo used in the production of tablets. Additional steps to remove the doublecounting of commercially sold powder form calhypo used by standalone tableters was not needed in this case due the lack of the business model in the U.S. market according to the firms that provided the Commission with data. Likewise, no U.S. tablet producer reported using imported powder form calhypo in their tableting operations and so there was no need to eliminate the double counting for imported powder form calhypo from the data reported by firms with tableting operations for the purposes of calculating U.S. apparent consumption.

Source: Compiled from data submitted in response to Commission questionnaires and official U.S. import statistics.

RATIO OF IMPORTS TO U.S. PRODUCTION

Table IV-5 presents data on the ratio of U.S. imports to U.S. production.

Table IV-5
Calhypo: Ratio of U.S. imports to U.S. production, 2011-2013 and January-June 2013 and January-June 2014

Item	Calendar year			January - June	
	2011	2012	2013	2013	2014
Quantity (1,000 pounds)					
U.S. producer's production	***	***	***	***	***
U.S. imports from--					
China	9,481	10,626	13,247	9,834	3,910
All other sources	1,790	741	1,124	378	859
Total imports	11,271	11,367	14,372	10,212	4,769
Ratio of imports to production					
U.S. imports from--					
China	***	***	***	***	***
All other sources	***	***	***	***	***
Total imports	***	***	***	***	***

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

PART V: PRICING DATA

FACTORS AFFECTING PRICES

Raw material costs

The major raw materials used to produce cal hypo are chlorine and lime. Additionally, electricity is an important input. Raw materials accounted for approximately *** percent of the cost of goods sold during 2011 to 2013. According to publicly available data, the prices of industrial electricity and lime both increased by about 11 percent between January 2011 and June 2014 (figure V-1). However, electricity prices are highly seasonal, and from June 2011 to June 2014, electricity prices were nearly flat. *** reported that ***.¹ *** reported rising raw material costs, but *** reported no change in raw material costs since January 1, 2011.

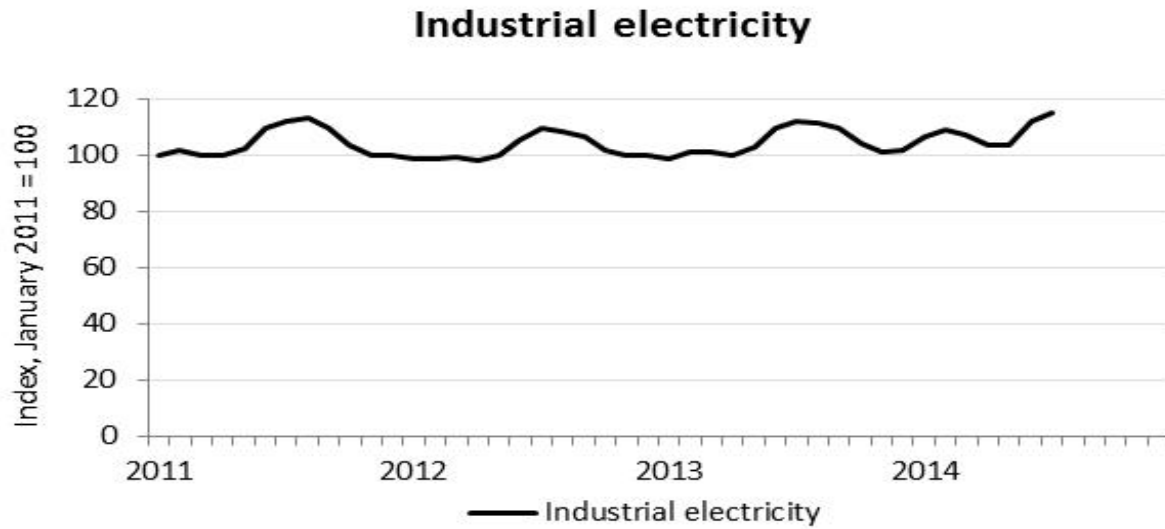
At the hearing, Arch noted that the Department of Commerce found that Chinese producers were receiving a subsidy for their electricity costs and stated that the Chinese producers' costs of purchasing caustic chlorine from state-owned Chinese suppliers was less expensive than the cost of caustic chlorine in the United States.²

¹ Another importer also reported increased raw material costs, ***.

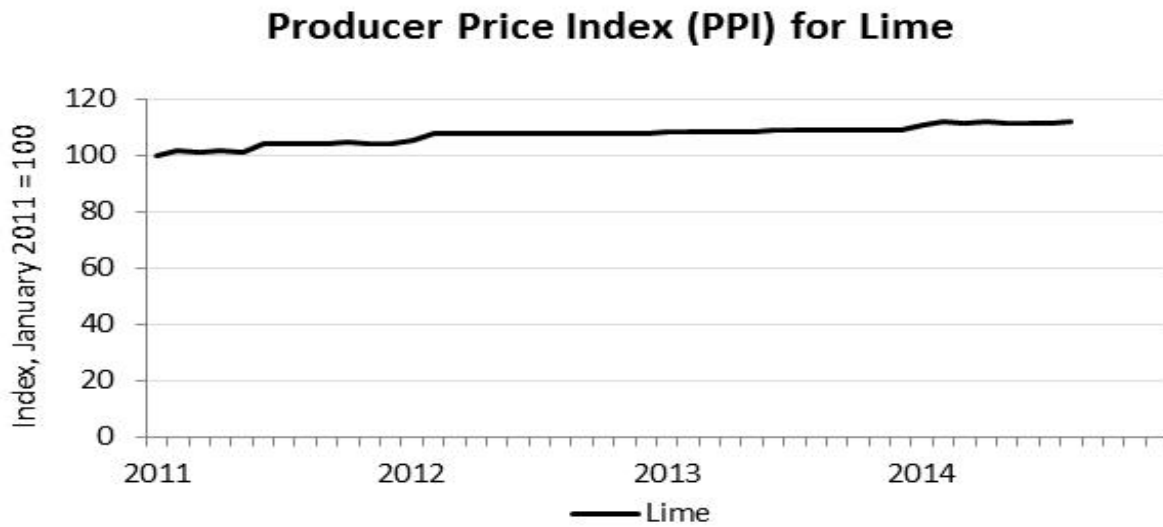
² Hearing transcript, pp. 82-83 (Walden, Clark).

Figure V-1

Input prices: Average price of electricity and price index for lime, by month, January 2011-August 2014



Source: Energy Information Administration and staff calculations.



Source: Bureau of Labor Statistics (PPI for lime) and staff calculations.

Transportation costs to the U.S. market

Transportation costs to the U.S. market from China are estimated to be 4.2 percent of the customs value of imports.³ The petitioner indicates that the relatively low value to weight ratio of calhypo means that international freight costs are a significant share of total delivered costs. It also supplied evidence that Chinese producers have access to subsidized shipping from COSCO, a Chinese state-owned shipping line. It characterized this advantage as two-fold: first, that Chinese product is not subject to the restrictions that private shippers place on a hazardous product like calhypo; and second, that COSCO likely charges less for shipping Chinese calhypo than private shippers do.⁴

U.S. inland transportation costs

*** responding U.S. producers and two importers reported that they typically arrange transportation to their customers. *** reported that *** arrange transportation. U.S. producers reported that their U.S. inland transportation costs ranged from *** to *** percent, while importers reported costs of *** to *** percent. Two importers reported shipping calhypo from a storage facility while one indicated it did so from its point of importation.

PRICING PRACTICES

Pricing methods

Arch stated that it typically enters into negotiations with its purchasers in the fourth quarter of each year, for sales in the following year.⁵ As shown in table V-1, *** used transaction-by-transaction negotiations and contracts to determine prices. *** also used set price lists and ***.⁶ *** uses price lists, *** uses contracts, and *** uses transaction-by-transaction negotiations.

Seven purchasers stated that purchases of calhypo do not usually involve negotiations with their supplier, but 19 stated that they did. Among those 19, four indicated that they do not share competing prices. *** stated that they discuss the prices at which their competitors sell calhypo, with ***. *** stated that it only negotiates with suppliers when one of its customers indicates that it has seen competitor's product for a lower price. Purchasers reported negotiating on price, quality, availability, sales terms, and lead time, among other factors.

³ This is measured as import charges as a share of the customs value of imports for HTS 2828.10.0000. USITC Dataweb, retrieved October 29, 2014.

⁴ Posthearing brief of Arch, responses to Commission questions, p. xv.

⁵ Hearing transcript, p. 13 (Walden)

⁶ In the preliminary phase of these investigations, ***. Email from ***, January 21, 2014. ***.

Table V-1

Calhypo: U.S. producers and importers reported price setting methods, by number of responding firms¹

* * * * *

As shown in table V-2, U.S. producers and importers reported selling the majority of their calhypo using short term contracts (contracts of up to and including 12 months). However, ***, among importers, ***.

Table V-2

Calhypo: U.S. producers' and importers' shares of U.S. commercial shipments by type of sale, 2013

* * * * *

*** reported that its typical sales contracts had a duration of ***, *** price renegotiation, ***, and *** have a meet or release provision. *** indicated that its typical *** sales contracts had a duration of ***, ***, *** allow price renegotiation, and *** a meet or release provision. However, its *** contracts ***, fixed ***, and *** allow price renegotiation.

Among importers, *** stated that its typical short-term contract had a duration of ***, fixed ***, *** allow price renegotiation, and *** a meet or release provision. ***, described its short-term contracts as ***.

Two purchasers reported that they purchase calhypo daily, nine purchase weekly, eight purchase monthly, two purchase quarterly, and one purchases annually. Other purchasers reported purchasing as needed or during the summer season. Twenty-five of 26 responding purchasers reported that their purchasing patterns had not changed in since January 1, 2011. (***) reported increased purchases). Most purchasers contact one to five suppliers before making a purchase, with four purchasers contacting only one supplier. *** indicated that ***, it does so under ***, and does not ***.

Sales terms and discounts

*** typical sales terms are ***. *** typical sales terms are ***. *** typical sales terms are ***, while *** offers ***.

U.S. producers and importers quote prices on both f.o.b. and delivered bases. Both U.S. producers⁷ and two of four importers reported selling on an f.o.b. basis, while one U.S. producer and two importers reported making at least some of their sales on a delivered basis.

Both U.S. producers offer quantity and total volume discounts. *** reported offering other discounts, such as ***. Among importers, only *** offered *** while no other importer reported offering quantity or total volume discounts.

⁷ ***.

*** reported offering a customer rewards program for products including calhypo, and indicated that its program could have affected about *** percent of its sales of calhypo, and would have cost about ***. *** reported not offering such a program.

Price leadership

When asked to name price leaders in the U.S. calhypo market since January 1, 2011, four purchasers named both Arch and Axiall, seven named only Arch, and two named only Axiall. The only other firms named as price leaders were Norweco (described as offering consistent pricing) and Wal-Mart (***), which ***. Purchasers described Arch and Axiall as leading prices by initiating price increases or maintaining current price levels, behavior which purchasers described as usually copied by other market participants. *** stated that Arch and Axiall “control the market,” and several other purchasers also made reference to the large volumes supplied by Arch and Axiall. *** stated that Arch and Axiall sell above the price of imported calhypo, but *** stated that Arch is the source of the lowest-priced product in the market.

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 calhypo products shipped to unrelated U.S. customers during January 2011 to June 2014.

Product 1. -- Calcium Hypochlorite, 65%-73% available chlorine, granular, 100 lbs., however packaged, sold into the repacker/private label/tableter channel.

Product 2.-- Calcium Hypochlorite, 65%-73% available chlorine, granular, 100 lbs., however packaged, sold directly to distributors or dealers that serve the private residential or commercial swimming pool channels.

Product 3. -- Calcium Hypochlorite, 65%-73% available chlorine, granular, 100 lbs., however packaged, sold to retailers/big box stores.

Product 4. -- Calcium Hypochlorite, 65%-73% available chlorine, granular, 25 lbs., however packaged, sold into the repacker/private label/tableter channel.

Product 5.-- Calcium Hypochlorite, 65%-73% available chlorine, granular, 25 lbs., however packaged, sold directly to distributors or dealers that serve the private residential or commercial swimming pool channels.

Product 6. -- Calcium Hypochlorite, 65%-73% available chlorine, granular, 25 lbs., however packaged, sold to retailers/big box stores.

*** and *** provided usable pricing data for sales of the requested products, although not all firms reported pricing for all products for all quarters.⁸ These firms provided data only for products 1, 2, 4, and 5. Pricing data reported by these firms accounted for approximately 24.9 percent of U.S. producers' shipments of calhypo and 21.3 percent of subject imports from China in 2013.⁹

Price data for products 1, 2, 4, and 5 are presented in tables V-3 to V-6 and figure V-2.

Table V-3

Calhypo: Weighted-average f.o.b. prices and quantities of domestic and imported product 1¹ and margins of underselling/(overselling), by quarters, January 2011-June 2014

* * * * *

Table V-4

Calhypo: Weighted-average f.o.b. prices and quantities of domestic and imported product 2¹ and margins of underselling/(overselling), by quarters, January 2011-June 2014

* * * * *

Table V-5

Calhypo: Weighted-average f.o.b. prices and quantities of domestic and imported product 4¹ and margins of underselling/(overselling), by quarters, January 2011-June 2014

* * * * *

Table V-6

Calhypo: Weighted-average f.o.b. prices and quantities of domestic and imported product 5¹ and margins of underselling/(overselling), by quarters, January 2011-June 2014

* * * * *

Figure V-2

Calhypo: Weighted-average prices and quantities of domestic and imported product, by quarters, January 2011-June 2014

* * * * *

Price trends

Overall, prices decreased during January-March 2011 to April-June 2014. Table V-7 summarizes the price trends, by country and by product. As shown in the table, domestic price decreases ranged from *** to *** percent during the period, while domestic prices for product *** rose *** percent. Import prices for product *** decreased *** percent. Axiall noted that its

⁸ Overall, ***. ***. ***.

⁹ In other years, the pricing data represent a substantially smaller share of imports from China.

prices for product *** (which ***) fell from *** per pound in 2011 to *** per pound in the first half of 2014, while its prices for product *** , which faced “minimal” import competition ***.¹⁰

At the hearing, Arch described being able to raise prices back to sustainable levels since the preliminary phase of these investigations.¹¹

Table V-7

Calhypo: Summary of weighted-average f.o.b. prices for products 1-5 from the United States and China

* * * * *

Price comparisons

As shown in table V-8, prices for calhypo imported from China were below those for U.S.-produced product in 6 of 6 instances; margins of underselling ranged from 11.7 to 23.2 percent. The underselling took place on a total volume of *** pounds of Chinese calhypo.

Table V-8

Calhypo: Instances of underselling/overselling and the range and average of margins, by country, January 2011-June 2014

Source	Number of quarters of underselling	Number of quarters of (overselling)	Margins of underselling			Margins of (overselling)		
			Average (percent)	Range (percent)		Average (percent)	Range (percent)	
				Min	Max		Min	Max
China	6	0	19.5	11.7	23.2	--	--	--
Total	6	0	19.5	11.7	23.2	--	--	--

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

Additionally, purchasers were asked if U.S. produced calhypo is sold at a price premium over calhypo imported from China. Fifteen stated that it was, and five stated that it was not. *** stated that U.S. product usually sold for \$0.25 more than Chinese product, and added that for many years, U.S. producers did not compete for the small volumes sold by suppliers of Chinese product. *** estimated that Arch’s prices were \$1.40 per pound, whereas Chinese product sold for \$0.79 per pound. *** stated that the U.S. price premium that it needs to pay is about \$0.15 for its purchases from U.S. producers, but added that ***. *** described the U.S. product as perceived as higher quality, and commanding a price premium of \$0.05 to \$0.10 per pound. *** described Chinese product quality as increasing to the point that the “large cost difference” with U.S. material was no longer compensated by higher U.S. quality. Six other purchasers estimated the premium as 10-30 percent. *** described the price premium as large enough that its cost of buying U.S. product is lower than the sales price of Chinese product.

¹⁰ Prehearing brief of Axiall, pp. 3-4.

¹¹ Hearing transcript, p. 15 (Walden).

LOST SALES AND LOST REVENUE

Final phase

The Commission requested U.S. producers of calhypo to report any instances of lost sales or revenue they experienced due to competition from imports of calhypo from China during January 2011 through June 2014. Of the *** responding U.S. producers, *** reported that *** had to either reduce prices or roll back announced price increases. *** allegations totaled \$*** and involved *** pounds of calhypo. *** added that ***.

On the other hand, *** submitted a list of *** customers at which it had ***.¹²

Staff attempted to contact *** purchasers *** and a summary of the information obtained follows.

Table V-9
Calhypo: U.S. producers' lost revenue allegations

* * * * *

Preliminary phase

In the preliminary phase of these investigations, the Commission requested U.S. producers of calhypo to report any instances of lost sales or revenue they experienced due to competition from imports of calhypo from China since 2010. Both responding U.S. producers reported that they had to reduce prices and one of two producers reported rolling back announced price increases. The seven lost sales allegations totaled \$*** million and involved *** million pounds of calhypo and the five lost revenue allegations totaled \$*** million and involved *** million pounds of calhypo. Staff contacted eight purchasers and a summary of the information obtained follows.

Five of six responding purchasers reported that they had shifted purchases of calhypo from U.S. producers to subject imports since 2010; all five of these purchasers reported that price was the reason for the shift. Four of six responding purchasers reported that the U.S. producers had reduced their prices in order to compete with the prices of subject imports since 2010. One of these purchasers (***) indicated that suppliers raised prices in 2012 and reduced prices in 2013. It also indicated that another scheduled price increase in 2012 did not occur. However, this purchaser wasn't sure if this was because of imports of calhypo from China. Purchaser *** indicated that ***.

Table V-10
Calhypo: U.S. producers' preliminary-phase lost sales allegations

* * * * *

¹² See also prehearing brief of ***.

Table V-11
Calhypo: U.S. producers' preliminary-phase lost revenue allegations

* * * * *

PART VI: FINANCIAL EXPERIENCE OF U.S. PRODUCERS

BACKGROUND

Part VI of this report presents the calhypo financial results of the two U.S. producers of calhypo: Arch (**% percent of total sales volume over the period) and Axiall (**% percent of total sales volume over the period).¹ Stellar, which **, is not included directly in the U.S. industry's financial results.² All U.S. producers reported their financial results for calendar-year periods and on the basis of generally accepted accounting principles (GAAP). On November 18-19, 2014, staff conducted an on-site verification of Arch's U.S. producer questionnaire. Changes pursuant to verification are incorporated into this report.

In addition to its commercial sales, **,³ while Axiall **% commercial sales of calhypo.⁴ Stellar's revenue, which is not directly reflected in the U.S. industry's financial results, primarily represents **%.

As noted in Part I of this report, Arch and Axiall appear to use the same basic calhypo production process. As discussed below with respect to the pattern of company-specific raw material costs, at least one distinguishing characteristic is that **%.⁵ **. The financial results presented in this section of the report and in Appendix C reflect the costs recognized by **% in its own accounting books and records.⁶

The following events occurred during the period with regard to U.S. calhypo operations: Arch was acquired by Lonza in 2011.⁷

**%.⁸

¹ **. October 14, 2014 e-mail with attachment from counsel for **% to USITC auditor.

² **. October 15, 2014 e-mail with attachment from counsel for **% to USITC auditor. **. Ibid.

³ **. Petitioner's postconference brief, p. 49. Verification report (Arch), p. 7.

⁴ **. January 13, 2014 e-mail with attachment from counsel to Axiall to USITC auditor. **. October 15, 2014 e-mail with attachment from counsel for **% to USITC auditor.

⁵ Arch's supplier of chlorine and caustic soda **. Petitioner's postconference brief, p. 24. Axiall's chlorine and caustic soda inputs are produced at its New Martinsville, West Virginia facility where the company's calhypo is produced. Axiall 2012 10-K, p. 7.

⁶ In a recent case, the Commission determined that prospectively it will no longer require an adjustment to eliminate profit and/or loss included in inputs purchased from related suppliers. Instead and notwithstanding unusual circumstances, relevant cost information associated with purchases from related suppliers should correspond to the manner in which this information is reported in the U.S. producer's own accounting books and records. *1,1,1,2-Tetrafluoroethane from China*, Inv. Nos. 701-TA-509 and 731-TA-1244 (Final), USITC Publication 4503 (December 2014), p. 23 and p. 37. Primarily because this information was included in the prehearing staff report, Appendix D presents the U.S. industry's financial results using the Commission's previous "input at cost" methodology.

⁷ Lonza is headquartered in Switzerland and is divided into the Specialty Ingredients segment and the Pharm & Biotech segment. Arch's domestic and international water treatment operations make up the Water Treatment component of Lonza's Specialty Ingredients segment. Arch's immediate parent is LG Acquisition Parent Corporation which was established pursuant to the Lonza acquisition of Arch in 2011. Verification report (Arch), p. 3.

⁸ **. Verification report (Arch), p. 7.

***.
***.⁹

The merger of PPG Industries Inc. Commodity Chemicals (PPG) and Georgica Gulf Corporation (GGC) to form Axiall in late January 2013.

With respect to the PPG and GGC merger, Axiall stated that its ***.¹⁰ The manner in which the other above-referenced events impacted calhyo operations and corresponding financial results is discussed below.

OPERATIONS ON CALHYPO

Income-and-loss data for the U.S. industry's calhyo operations are presented in table VI-1.¹¹ Selected company-specific financial information is presented in table VI-2. A variance analysis of these financial results is presented in table VI-3.¹²

Table VI-1

Calhyo: Results of operations of U.S. firms, 2011-13 January-June 2013, and January-June 2014

* * * * *

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

Table VI-2

Calhyo: Results of operations of U.S. firms, by firm, 2011-13 January-June 2013, and January-September

* * * * *

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

⁹ ***. October 23, 2014 e-mail with attachment from counsel to *** to USITC auditor.

¹⁰ January 13, 2014 e-mail with attachment from counsel to Axiall to USITC auditor. ***. Ibid. Axiall's overall operations reflect three reportable business segments: Chlorvinyls (which includes calhyo operations), Building Products, and Aromatics. Axiall 2013 10-Q (Q3), pp. 30-31.

¹¹ ***.

¹² The Commission's variance analysis is calculated in three parts: sales variance, COGS variance, and SG&A expenses variance. Each part consists of a price variance (in the case of the sales variance) or a cost variance (in the case of the COGS and SG&A expenses variances) and a volume (quantity) variance. The sales or cost variance is calculated as the change in unit price/cost times the new volume, while the volume variance is calculated as the change in volume times the old unit price/cost. Summarized at the bottom of table VI-3, the price variance is from sales, the cost/expense variance is the sum of those items from COGS and SG&A, respectively, and the net volume variance is the sum of the price, COGS, and SG&A volume variances. A stable overall product mix generally enhances the utility of the Commission's variance analysis. Both Arch and Axiall indicated that product/customer mix did not change substantially during the period. Conference transcript, pp. 81-82 (Walden).

Table VI-3

Calhypo: Variance analysis of U.S. firms' operations, 2011-13 January-June 2013, and January-June 2014

* * * * *

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

Revenue

Volume

As shown in table VI-2, the pattern of sales volume reported by *** diverged throughout the period: ***.^{13 14 15}

Value

Arch indicated that its calhypo sales do not include an index and/or other mechanism for passing through increases in primary raw material costs.^{16 ***.}¹⁷

While Arch and Axiall reported average sales values that were generally ***.¹⁸ With regard to the pattern of average sales value, it is notable that the industry's large negative 2012-13 price variance (see table VI-3) coincided with the largest period-to-period increase in average raw material cost; i.e., while average sales value was *** in 2013 compared to 2012, average raw material cost was ***.

Cost of goods sold and gross profit

Raw materials

Table VI-1 shows that raw material cost ranged from *** percent to *** percent of total COGS. At the end of the period, the larger relative share of total COGS accounted for by raw materials, and the corresponding lower relative share accounted for by other factory costs,

¹³ ***. Petitioner's postconference brief, p. 50. ***. October 14, 2014 e-mail with attachment from counsel for *** to USITC auditor.

¹⁴ ***. January 13, 2014 e-mail with attachment from counsel to *** to USITC auditor. ***. *** U.S. producer questionnaire, note to table II-8.

***. October 15, 2014 e-mail with attachment from counsel to *** to USITC auditor. See also footnote 9.

¹⁵ ***. *PPG declares caustic soda force majeure*, Metal Bulletin Daily, April 15, 2011, Issue 258, p. 296. ***. January 16, 2014 e-mail with attachment from counsel to *** to USITC auditor.

¹⁶ Conference transcript p. 84 (Walden). ***. October 14, 2014 e-mail with attachment from counsel for *** to USITC auditor.

¹⁷ January 13, 2014 e-mail with attachment from counsel to *** to USITC auditor.

¹⁸ ***.

generally reflects the extent to which production, as noted below, is not constant *** throughout the year.

With regard to the relative importance of specific raw material inputs, Arch reported that chlorine represents approximately *** percent of total raw material costs, followed by caustic soda (*** percent), and lime (*** percent).¹⁹ Axiall reported the following shares: chlorine *** percent, caustic soda (*** percent), and lime (*** percent).²⁰

In addition to showing that company-specific directional trends in average raw material costs were not uniform, table VI-2 shows that *** . See also footnote 23.

Direct labor and other factory costs

During the full-year period, other factory costs generally accounted for the largest share of COGS (declining from a high of *** percent of total COGS in 2011 to a low of *** percent in 2013). Direct labor, the smallest component of COGS, remained within a relatively narrow range during the full-year period (from a low of *** percent of total COGS in 2013 percent to a high of *** percent in 2012).

The large share of COGS accounted for by other factory costs is consistent with the capital intensive nature of the calhypo production process, as confirmed by both Arch and Axiall.²¹ While the underlying calhypo production process of both companies is presumed to be similar and/or essentially the same, Arch and Axiall appear to be *** in terms of plant operation: ***,²² while ***,²³ ***.²⁴

Notwithstanding primary differences in operations, the pattern of company-specific other factory costs also reflects specific events that impacted each company during the period:

***,²⁵ ***.²⁶

***.

***.²⁷

***.²⁸

Table VI-1 shows that the industry's gross profit ratio (total gross profit ratio divided by total revenue) fluctuated during the full-year period: reaching its highest full-year level in 2012,

¹⁹ Petitioner's postconference brief, p. 50.

²⁰ January 16, 2014 e-mail with attachment from counsel to *** to USITC auditor. ***. USITC auditor preliminary-phase notes.

²¹ Conference transcript, p. 86 (Walden). January 13, 2014 e-mail with attachment from counsel to Axiall to USITC auditor. ***. Petitioner's postconference brief, p. 50. January 13, 2014 e-mail with attachment from counsel to *** to USITC auditor.

²² Verification report (Arch), p. 4. See also footnote 24.

²³ ***. January 13, 2014 e-mail with attachment from counsel to *** to USITC auditor. ***.

²⁴ October 14, 2014 e-mail with attachment from counsel for *** to USITC auditor. ***. Verification report (Arch), p. 4.

²⁵ ***. October 13, 2014 e-mail from *** to USITC auditor.

²⁶ As described by the company, ***. Petitioner's postconference brief, p. 51.

***. Ibid.

²⁷ January 13, 2014 e-mail with attachment from counsel to *** to USITC auditor.

²⁸ ***. October 15, 2014 e-mail with attachment from counsel to *** to USITC auditor. See also footnote 9.

due to a higher average sales value and a corresponding decline in average other factory costs, and then declining to its lowest full-year level in 2013 due to a combination of lower average sales value, higher average raw material costs, and, to a lesser extent, higher average other factory costs. As noted previously, ***.

SG&A expenses and operating income or loss

As shown in table VI-2, ***.²⁹ In its postconference brief, Arch described features of its calhypo sales and marketing which ***.³⁰ With regard to Axiall's calhypo sales and marketing, the company stated that ***.

As shown in table VI-2, ***
***.³¹

While the level of total SG&A expenses appears to have played a secondary role in general, the increase in SG&A expenses between 2011 and 2012 partially offset the corresponding increase in gross profit. The subsequent decline in gross profitability in 2013 was then in effect amplified by SG&A expenses which remained at an elevated level compared to the beginning of the period.

CAPITAL EXPENDITURES AND RESEARCH AND DEVELOPMENT EXPENSES

Table VI-4 presents company-specific capital expenditures, research and development (R&D) expenses, and property, plant, and equipment (PP&E) related to granular/powder and tableting calhypo operations in the United States.

Table VI-4

Calhypo: Capital expenditures, research and development expenses, and property, plant and equipment (PP&E) by firm, 2011-13 January-June 2013, and January-June 2014

* * * * *

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

The industry's total capital expenditures, primarily attributed to granular/powder operations, were at their highest level in 2011 which in large part reflects ***.³² Axiall's capital expenditures ***.³³ ***.³⁴

²⁹ Selling expenses and G&A expenses, respectively, represent *** percent of the industry's total SG&A expenses. While the absolute amount of Arch's SG&A expenses were ***, both companies reported *** SG&A expense profiles: Arch (*** percent and *** percent, respectively, representing selling and G&A expenses over the period) and Axiall (*** percent and *** percent, respectively, representing selling and G&A expenses over the period).

³⁰ Petitioner's postconference brief at p. 24. ***. Petitioner's postconference brief at p. 52.

***. Verification report (Arch), p. 5.

³¹ October 23, 2014 e-mail with attachment from counsel to *** to USITC auditor. ***. Ibid.

While R&D expenses were reported by ***.^{35 36} As shown in table VI-4, ***.

CAPITAL AND INVESTMENT

The Commission requested that U.S. producers describe any actual or potential negative effects of imports of calhypo from China on their firms' growth, investment, ability to raise capital, development and production efforts, or the scale of capital investments. The responses of U.S. producers are presented below.

Actual negative effects

Arch	***.
Axiall	***.
Stellar	***.

Anticipated negative effects

Arch	***.
Axiall	***.
Stellar	***.

³² ***. Petitioner's postconference brief at p. 52. ***. Verification report (Arch), p. 7.

³³ January 13, 2014 e-mail with attachment from counsel to *** to USITC auditor.

³⁴ October 15, 2014 e-mail with attachment from counsel to *** to USITC auditor. See also footnote 9.

³⁵ ***. Petitioner's postconference brief at p. 52.

³⁶ ***. January 13, 2014 e-mail with attachment from counsel to *** to USITC auditor. As reported in the final-phase questionnaire, ***. October 15, 2014 e-mail with attachment from counsel to *** to USITC auditor.

PART VII: THREAT CONSIDERATIONS AND INFORMATION ON NONSUBJECT COUNTRIES

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

In determining whether an industry in the United States is threatened with material injury by reason of imports (or sales for importation) of the subject merchandise, the Commission shall consider, among other relevant economic 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 IV and V*; and information on the effects of imports of the subject merchandise on U.S. producers' existing development and production efforts is presented in *Part VI*. Information on inventories of the subject merchandise; foreign producers' operations, including the potential for "product-shifting;" any other threat indicators, if applicable; and any dumping in third-country markets, follows. Also presented in this section of the report is information obtained for consideration by the Commission on nonsubject countries.

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

THE INDUSTRY IN CHINA

The Commission issued foreign producers' or exporters' questionnaires to 25 firms believed to produce and/or export calhypo from China.³ No useable responses to the Commission's questionnaire were received during the final phase of these investigations. During the preliminary phase of these investigations usable responses to the Commission's questionnaire were received from two firms: Sinopec Jiangnan Salt & Chemical Complex ("JSCC") and Tianjin Jinbin International Trade Co., Ltd. ("Tianjin Jinbin").

In the preliminary phase, JSCC reported that its production of calhypo accounted for *** percent of all calhypo production in China during 2012. JSCC's *** and that it reported that its ***.⁴ JSCC's ***.

The *** of JSCC's ***. JSCC reported that it is ***..

Tianjin Jinbin reported that ***. Tianjin Jinbin ***. Tianjin Jinbin reported that its supply of calhypo is ***.⁵ Tianjin Jinbin has ***.

These firms' exports to the United States accounted for the majority of U.S. imports of calhypo from China from 2010 to 2012. According to the estimate provided by the only responding Chinese producer, JSCC, the production of calhypo in China reported in this part of the report accounts for approximately *** percent of overall production of calhypo in China and ***⁶ percent of all calhypo exports to the United States from China in 2012. Table VII-1 presents information on the calhypo operations of the responding producer and exporter in China.

Table VII-1

Calhypo: Data for producers in China, 2010-12, January-September 2012, and January-September 2013, and projected 2013 and 2014

* * * * *

³ These firms were identified through a review of information submitted in the petition and contained in proprietary Customs records.

⁴ JSCC reported ***.

⁵ Tianjin Jinbin reported that it ***

⁶ Tianjin Jinbin ***.

U.S. INVENTORIES OF IMPORTED MERCHANDISE

Table VII-2 presents data on U.S. importers' reported inventories of calhypo.

Table VII-2

Calhypo: U.S. importers' end-of-period inventories of imports by source, 2011-13, January to June 2013, and January to June 2014

Item	Calendar year			January - June	
	2011	2012	2013	2013	2014
Imports from China					
Inventories (<i>1,000 pounds</i>)	***	***	***	***	***
Ratio to U.S. imports (<i>percent</i>)	***	***	***	***	***
Ratio to U.S. shipments of imports (<i>percent</i>)	***	***	***	***	***
Imports from all other sources					
Inventories (<i>1,000 pounds</i>)	***	***	***	***	***
Ratio to U.S. imports (<i>percent</i>)	***	***	***	***	***
Ratio to U.S. shipments of imports (<i>percent</i>)	***	***	***	***	***
Imports from all sources					
Inventories (<i>1,000 pounds</i>)	***	***	***	***	***
Ratio to U.S. imports (<i>percent</i>)	***	***	***	***	***
Ratio to U.S. shipments of imports (<i>percent</i>)	***	***	***	***	***

Note.--No imports from other countries were reported.

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

U.S. IMPORTERS' OUTSTANDING ORDERS

The Commission requested U.S. importers to indicate whether they imported or arranged for the importation of calhypo after June 30, 2014; *** U.S. importers stated that they ***.

ANTIDUMPING OR COUNTERVAILING DUTY ORDERS IN THIRD-COUNTRY MARKETS

No producer, importer, or foreign producer reported any countervailing or antidumping duty orders on calhypo from China in third-country markets.

INFORMATION ON NONSUBJECT COUNTRIES

In assessing whether the domestic industry is materially injured or threatened with material injury "by reason of subject imports," the legislative history states "that the Commission must examine all relevant evidence, including any known factors, other than the dumped or subsidized imports, that may be injuring the domestic industry, and that the

Commission must examine those other factors (including non-subject imports) ‘to ensure that it is not attributing injury from other sources to the subject imports.’”⁷

The Chemical Economics Handbook (“CEH”) ***,⁸ of which ***,⁹ Among ***,¹⁰ Japan

Table VII-3 presents data for U.S. imports of calhypo from China (subject) and nonsubject countries. India and Japan were the top sources of U.S. imports of calhypo from nonsubject countries from January 2011 to June 2014.

Table VII-4 presents statistics of Global Trade Information Services Inc. (“GTIS”).¹¹ China’s share of total global exports measured in volume under HS 282810, covering all concentrations of calcium hypochlorite, increased from 47.7 percent in 2010 to 59.0 percent in 2013. Among non-subject nations, India and Japan were the biggest exporters during 2010-13, other than the United States. Russia was the biggest importer of calhypo, accounting for between 12.2 percent and 17.3 percent of total global imports each year during 2010-13. CEH
***.¹²

⁷ *Mittal Steel Point Lisas Ltd. v. United States*, Slip Op. 2007-1552 at 17 (Fed. Cir. Sept. 18, 2008), quoting from Statement of Administrative Action on Uruguay Round Agreements Act, H.R. Rep. 103-316, Vol. I at 851-52; see also *Bratsk Aluminum Smelter v. United States*, 444 F.3d 1369 (Fed. Cir. 2006).

⁸ ***.

⁹ CEH Marketing Research Report, “Hypochlorite Bleaches,” p. 110.

¹⁰ CEH Marketing Research Report, “Hypochlorite Bleaches,” p. 156.

¹¹ Global trade data presented are derived from GTIS, *Global Trade Atlas*, HS 282810. This six-digit HS classification includes all grades of calcium hypochlorite.

¹² CEH Marketing Research Report, “Hypochlorite Bleaches,” p. 149.

Table VII-3

Calhyo: U.S. imports by source, 2011-2013, January-June 2013, and January-June 2014

Item	Calendar year			January - June	
	2011	2012	2013	2013	2014
	Quantity (1,000 pounds)				
China	9,481	10,626	13,247	9,834	3,910
India	838	578	1,124	378	859
Japan	308	123	0	0	0
Hong Kong	640	0	0	0	0
Canada	0	40	0	0	0
Thailand	4	0	0	0	0
Total	11,271	11,367	14,372	10,212	4,769
	Value (1,000 dollars)				
China	6,532	7,798	9,233	6,896	2,736
India	673	409	729	269	518
Japan	240	100	0	0	0
Hong Kong	307	0	0	0	0
Canada	0	50	0	0	0
Thailand	3	0	0	0	0
Total	7,754	8,357	9,961	7,165	3,254
	Unit value (dollars per pound)				
China	\$0.69	\$0.73	\$0.70	\$0.70	\$0.70
India	0.80	0.71	0.65	0.71	0.60
Japan	0.78	0.81	0.00	0.00	0.00
Hong Kong	0.48	0.00	0.00	0.00	0.00
Canada	0.00	1.26	0.00	0.00	0.00
Thailand	0.58	0.00	0.00	0.00	0.00
Total	0.69	0.74	0.69	0.70	0.68

Source: Official import statistics, using HTS statistical reporting number 2828.10.0000.

Table VII-4
Calhypo: World exports by country, 2010-13

Item	Calendar Year			
	2010	2011	2012	2013
Quantity (1000 pounds)				
China	182,815	246,187	252,873	269,016
India	44,523	25,141	40,379	40,413
Japan	40,574	37,740	38,886	37,929
Russia	9,378	8,917	7,009	4,749
United States	50,955	53,415	52,494	55,697
Other	54,926	50,286	43,452	48,198
Total	383,171	421,687	435,094	456,002
Value (1000 dollars)				
China	79,716	116,712	116,815	115,272
India	18,431	11,976	18,498	16,367
Japan	27,439	28,614	30,719	29,382
Russia	1,832	1,819	1,519	1,094
United States	53,149	54,080	55,095	58,392
Other	32,752	36,556	32,218	34,111
Total	213,318	249,757	254,863	254,619
Unit Value (dollars/pound)				
China	\$0.44	\$0.47	\$0.46	\$0.43
India	0.41	0.48	0.46	0.40
Japan	0.68	0.76	0.79	0.77
Russia	0.20	0.20	0.22	0.23
United States	1.04	1.01	1.05	1.05
Other	0.60	0.73	0.74	0.71
Total	0.56	0.59	0.59	0.56

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

Source: Global Trade Information Services Inc. Global Trade Atlas, HS 282810. Retrieved December 12, 2014.

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
79 FR 30082, May 27, 2014	<i>Calcium Hypochlorite From the People's Republic of China: Preliminary Affirmative Countervailing Duty Determination, and Alignment of Final Countervailing Duty Determination With Final Antidumping Duty Determination</i>	http://www.gpo.gov/fdsys/pkg/FR-2014-05-27/pdf/2014-12157.pdf
79 FR 43393, July 25, 2014	<i>Calcium Hypochlorite From the People's Republic of China: Preliminary Determination of Sales at Less Than Fair Value and Postponement of Final Determination</i>	http://www.gpo.gov/fdsys/pkg/FR-2014-07-25/pdf/2014-17487.pdf
79 FR 51605, August 29, 2014	<i>Calcium Hypochlorite From China; Scheduling of the Final Phase Of Countervailing Duty and Antidumping Duty Investigations</i>	http://www.gpo.gov/fdsys/pkg/FR-2014-08-29/pdf/2014-20588.pdf
79 FR 74064, December 15, 2014	<i>Calcium Hypochlorite From the People's Republic of China: Final Affirmative Countervailing Duty Determination</i>	http://www.gpo.gov/fdsys/pkg/FR-2014-12-15/pdf/2014-29368.pdf
79 FR 74065, December 15, 2014	<i>Calcium Hypochlorite From the People's Republic of China: Final Determination of Sales at Less Than Fair Value</i>	http://www.gpo.gov/fdsys/pkg/FR-2014-12-15/pdf/2014-29370.pdf

APPENDIX B
HEARING WITNESSES

CALENDAR OF PUBLIC HEARING

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

- Subject:** Calcium Hypochlorite from China
- Inv. Nos.:** 701-TA-510 and 731-TA-1245 (Final)
- Date and Time:** November 25, 2014 - 9:30 a.m.

A sessions was held in connection with these investigations in the Main Hearing Room (room 101), 500 E Street, S.W., Washington, DC.

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

Law Offices of Peggy A. Clarke
Washington, DC
on behalf of

Arch Chemicals, Inc., a Lonza Company (“Arch”)

Rick Walden, Senior Vice President, Arch

Stephen Heard, Business Director Pro Dealer/Repack Private Label, Lonza Americas

Kimberly Harrelson, Associate General Counsel, Lonza Americas, Inc.

Bruce Malashevich, President, Economic Consulting Services

Alex Olcese, President *and* Chief Operating Officer, AllChem Industries

Jim Calais, President, AllChem Performance Products

Peggy A. Clarke) – OF COUNSEL

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

Alston & Bird LLP
Washington, DC
on behalf of

Axiall Corporation

Michael Hoops, General Manager, Water Treatment Products,
Axiall Corporation

Michelle Ritter, Division General Counsel, Chemicals, Axiall
Corporation

Kenneth Weigel) – OF COUNSEL

APPENDIX C
SUMMARY DATA

Table C-1

Calhypo: Summary data concerning the U.S. market, 2011-13, January to June 2013, and January to June 2014

(Quantity=1,000 pounds; Value=1,000 dollars; Unit values, unit labor costs, and unit expenses=dollars per pound; Period changes=percent--exceptions noted)

	Report data					Period changes			
	Calendar year		January to June			Calendar year			Jan-June
	2011	2012	2013	2013	2014	2011-13	2011-12	2012-13	2013-14
U.S. consumption quantity:									
Amount.....	***	***	***	***	***	***	***	***	***
Producers' share (fn1).....	***	***	***	***	***	***	***	***	***
Importers' share (fn1):									
China.....	***	***	***	***	***	***	***	***	***
All others sources.....	***	***	***	***	***	***	***	***	***
Total imports.....	***	***	***	***	***	***	***	***	***
U.S. consumption value:									
Amount.....	***	***	***	***	***	***	***	***	***
Producers' share (fn1).....	***	***	***	***	***	***	***	***	***
Importers' share (fn1):									
China.....	***	***	***	***	***	***	***	***	***
All others sources.....	***	***	***	***	***	***	***	***	***
Total imports.....	***	***	***	***	***	***	***	***	***
U.S. Imports from:									
China:									
Quantity.....	9,481	10,626	13,247	9,834	3,910	39.7	12.1	24.7	-60.2
Value.....	6,532	7,798	9,233	6,896	2,736	41.4	19.4	18.4	-60.3
Unit value.....	\$0.69	\$0.73	\$0.70	\$0.70	\$0.70	1.2	6.5	-5.0	-0.2
Ending inventory quantity.....	***	***	***	***	***	***	***	***	***
All other sources:									
Quantity.....	1,790	741	1,124	378	859	-37.2	-58.6	51.8	127.1
Value.....	1,223	559	729	269	518	-40.4	-54.2	30.3	92.1
Unit value.....	\$0.68	\$0.76	\$0.65	\$0.71	\$0.60	-5.1	10.6	-14.2	-15.4
Ending inventory quantity.....	***	***	***	***	***	***	***	***	***
Total imports:									
Quantity.....	11,271	11,367	14,372	10,212	4,769	27.5	0.9	26.4	-53.3
Value.....	7,754	8,357	9,961	7,165	3,254	28.5	7.8	19.2	-54.6
Unit value.....	\$0.69	\$0.74	\$0.69	\$0.70	\$0.68	0.7	6.9	-5.7	-2.8
Ending inventory quantity.....	***	***	***	***	***	***	***	***	***
U.S. producers':									
Powder form calhypo:									
Average capacity quantity.....	***	***	***	***	***	***	***	***	***
Production quantity.....	***	***	***	***	***	***	***	***	***
Capacity utilization (fn1).....	***	***	***	***	***	***	***	***	***
Tablet form calhypo:									
Average capacity quantity.....	***	***	***	***	***	***	***	***	***
Production quantity.....	***	***	***	***	***	***	***	***	***
Capacity utilization (fn1).....	***	***	***	***	***	***	***	***	***
U.S. shipments (combined) (fn2):									
Quantity.....	***	***	***	***	***	***	***	***	***
Value.....	***	***	***	***	***	***	***	***	***
Unit value.....	\$***	\$***	\$***	\$***	\$***	\$***	\$***	\$***	\$***
Export shipments (combined) (fn3):									
Quantity.....	***	***	***	***	***	***	***	***	***
Value.....	***	***	***	***	***	***	***	***	***
Unit value.....	\$***	\$***	\$***	\$***	\$***	\$***	\$***	\$***	\$***
Powder form calhypo:									
Ending inventory quantity.....	***	***	***	***	***	***	***	***	***
Inventories/total shipments (fn1).....	***	***	***	***	***	***	***	***	***
Production workers.....	***	***	***	***	***	***	***	***	***
Hours worked (1,000s).....	***	***	***	***	***	***	***	***	***
Wages paid (\$1,000).....	***	***	***	***	***	***	***	***	***
Productivity (pounds per hour).....	***	***	***	***	***	***	***	***	***
Unit labor costs.....	\$***	\$***	\$***	\$***	\$***	\$***	\$***	\$***	\$***
Tablet form calhypo:									
Ending inventory quantity.....	***	***	***	***	***	***	***	***	***
Inventories/total shipments (fn1).....	***	***	***	***	***	***	***	***	***
Production workers.....	***	***	***	***	***	***	***	***	***
Hours worked (1,000s).....	***	***	***	***	***	***	***	***	***
Wages paid (\$1,000).....	***	***	***	***	***	***	***	***	***
Productivity (pounds per hour).....	***	***	***	***	***	***	***	***	***
Unit labor costs (dollars per pound).....	\$***	\$***	\$***	\$***	\$***	\$***	\$***	\$***	\$***
Financial data (excluding Stellar except as noted): (fn4)									
Net Sales									
Quantity.....	***	***	***	***	***	***	***	***	***
Value.....	***	***	***	***	***	***	***	***	***
Unit value.....	\$***	\$***	\$***	\$***	\$***	\$***	\$***	\$***	\$***
Cost of goods sold (COGS).....	***	***	***	***	***	***	***	***	***
Gross profit of (loss).....	***	***	***	***	***	***	***	***	***
SG&A expenses.....	***	***	***	***	***	***	***	***	***
Operating income or (loss).....	***	***	***	***	***	***	***	***	***
Capital expenditures (fn4).....	***	***	***	***	***	***	***	***	***
Unit COGS.....	\$***	\$***	\$***	\$***	\$***	\$***	\$***	\$***	\$***
Unit SG&A expenses.....	\$***	\$***	\$***	\$***	\$***	\$***	\$***	\$***	\$***
Unit operating income or (loss).....	\$***	\$***	\$***	\$***	\$***	\$***	\$***	\$***	\$***
COGS/sales (fn1).....	***	***	***	***	***	***	***	***	***
Operating income or (loss)/sales (fn1).....	***	***	***	***	***	***	***	***	***

Notes:

- fn1.--Report data are in percent and period changes are in percentage points.
- fn2.--Combines powder-form and tablet-form U.S. shipments of calhypo eliminating doublecounting. See part III for a discussion of the adjustments.
- fn3.--Combines powder-form and tablet-form U.S. shipments of calhypo. Doublecounting is not an issue in compiling export data between levels.
- fn4.--Reported financial data excluded the toll producer Stellar's results except reported capital expenditures which includes data reported by Stellar.

Source: Compiled from data submitted in response to Commission questionnaires and Customs data for HTS number 2828.10.000.

APPENDIX D

**THE U.S. INDUSTRY'S FINANCIAL RESULTS WITH INPUT
ADJUSTMENT FOR RELATED PARTY PROFIT OR LOSS**

Table D-1

Calhypo: Results of operations of U.S. firms, 2011-13 January-June 2013, and January-June 2014

* * * * *

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

Table D-2

Calhypo: Results of operations of U.S. producers, by firm, 2011-13, January-June 2013, and January-June 2014

* * * * *

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

Table D-3

Calhypo: Variance analysis on the operations of U.S. producers, 2011-13, January-June 2013, and January-June 2014

* * * * *

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

