

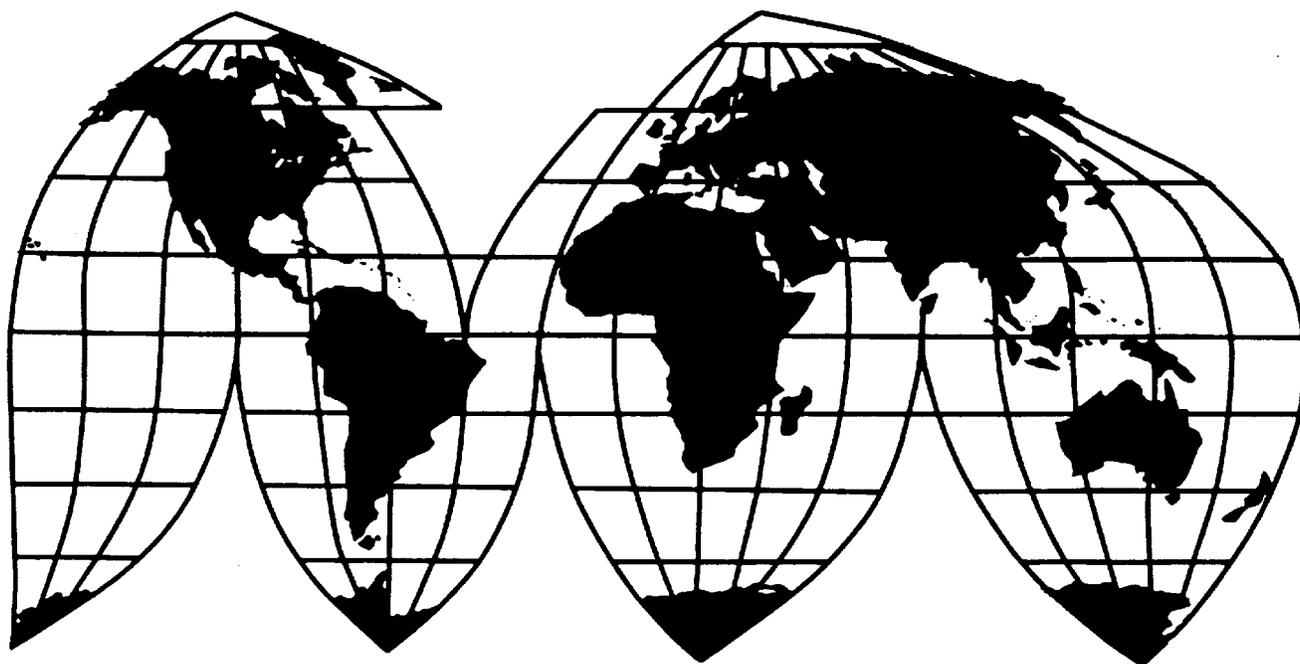
Liquid Sulfur Dioxide From Canada

Investigation No. 731-TA-1098 (Preliminary)

Publication 3826

December 2005

U.S. International Trade Commission



Washington, DC 20436

U.S. International Trade Commission

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David Fishberg, *Attorney*
Lita David-Harris, *Statistician*

Douglas Corkran, *Supervisory Investigator*

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

U.S. International Trade Commission

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Note.—Information that would reveal confidential operations of individual concerns may not be published and therefore has been deleted from this report.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 No. 731-TA-1098 (Preliminary)

LIQUID SULFUR DIOXIDE FROM CANADA

DETERMINATION

On the basis of the record¹ developed in the subject investigation, the United States International Trade Commission (Commission) determines,² pursuant to section 733(a) of the Tariff Act of 1930 (19 U.S.C. § 1673b(a)) (the Act), that there is no reasonable indication that an industry in the United States is materially injured or threatened with material injury, or that the establishment of an industry in the United States is materially retarded, by reason of imports from Canada of liquid sulfur dioxide, provided for in subheading 2811.23.00 of the Harmonized Tariff Schedule of the United States, that are alleged to be sold in the United States at less than fair value (LTFV).

BACKGROUND

On September 30, 2005, a petition was filed with the Commission and the U.S. Department of Commerce (Commerce) by Calabrian Corp., Kingwood, TX, alleging that an industry in the United States is materially injured by reason of LTFV imports of liquid sulfur dioxide from Canada. Accordingly, effective September 30, 2005, the Commission instituted antidumping duty investigation No. 731-TA-1098 (Preliminary).

Notice of the institution of the Commission's investigation and of a public conference to be held in connection therewith was given by posting copies of the notice in the Office of the Secretary, U.S. International Trade Commission, Washington, DC, and by publishing the notice in the *Federal Register* of October 7, 2005 (70 FR 58747). The conference was held in Washington, DC, on October 20, 2005, and all persons who requested the opportunity were permitted to appear in person or by counsel.

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 Chairman Stephen Koplan dissenting.

VIEWS OF THE COMMISSION

Based on the record as a whole in this investigation, we find that there is no reasonable indication that an industry in the United States is materially injured or threatened with material injury by reason of subject imports of liquid sulfur dioxide from Canada that are allegedly sold at less than fair value.^{1 2}

I. THE LEGAL STANDARD FOR PRELIMINARY DETERMINATIONS

The legal standard for preliminary antidumping duty determinations requires the Commission to determine, based upon the information available at the time of the preliminary determination, whether there is a reasonable indication that a domestic industry is materially injured or threatened with material injury, or that the establishment of an industry is materially retarded, by reason of the allegedly unfairly traded imports.³ In applying this standard, the Commission weighs the evidence before it and determines whether “(1) the record as a whole contains clear and convincing evidence that there is no material injury or threat of such injury; and (2) no likelihood exists that contrary evidence will arise in a final investigation.”⁴

The Court of Appeals for the Federal Circuit has stated that the purpose of preliminary determinations is to avoid the cost and disruption to trade caused by unnecessary investigations and that the “reasonable indication” standard requires more than a finding that there is a “possibility” of material injury.⁵ It also has noted that, in a preliminary investigation, the “statute calls for a reasonable indication of injury, not a reasonable indication of need for further inquiry.”⁶ Moreover, the Court of International Trade (“CIT”) has reaffirmed that in applying the reasonable indication “standard for making a preliminary determination regarding material injury or threat of material injury, the Commission may weigh all evidence before it and resolve conflicts in the evidence.”⁷

Staff has collected comprehensive information in this investigation, including extensive information on the U.S. market for liquid sulfur dioxide, domestic producers, Canadian producers, trade and financial data and pricing data.⁸ Our pricing coverage is comprehensive, as is our coverage of the domestic industry, subject imports, importers’ and foreign producers’ data.⁹ We see no likelihood that any evidence we would have obtained in any final investigation would change our findings that the

¹ Chairman Koplán dissents. He finds that there is a reasonable indication that an industry in the United States is materially injured by reason of subject imports from Canada that are allegedly sold at less than fair value. As a result, he joins these views only through the discussion in section VI.A.1 except as otherwise indicated. The remainder of his analysis is provided in separate dissenting views.

² No party argued that the establishment of an industry is materially retarded by reason of the allegedly unfairly traded imports.

³ 19 U.S.C. § 1673b(a); see also, e.g., Co-Steel Raritan, Inc. v. United States, 357 F.3d 1294 (Fed. Cir. 2004); Sensient Technologies Corp. v. United States, Slip Op. 04-11 (Ct. Int’l Trade Sept. 10, 2004); Committee for Fair Coke Trade v. United States, Slip Op. 04-68 (Ct. Int’l Trade June 10, 2004); Ranchers-Cattlemen Action Legal Foundation v. United States, 74 F. Supp.2d 1353, 1368-69 (Ct. Int’l Trade 1999); Aristech Chemical Corp. v. United States, 20 CIT 353, 354-55 (1996); American Lamb Co. v. United States, 785 F.2d 994, 1001-04 (Fed. Cir. 1986).

⁴ American Lamb, 785 F.2d at 1001; see also Texas Crushed Stone Co. v. United States, 35 F.3d 1535, 1543 (Fed. Cir. 1994).

⁵ American Lamb, 785 F.2d at 1004.

⁶ Texas Crushed Stone, 35 F.3d at 1543.

⁷ Ranchers-Cattlemen, 74 F. Supp.2d at 1368.

⁸ Chairman Koplán does not join this paragraph.

⁹ Confidential Report (“CR”) at V-4-5, Public Report (“PR”) at V-3 (pricing); CR at IV-1, PR at IV-1 (imports), CR at VI-1; PR at VI-1 (domestic industry); and CR at VII-2, PR at VII-2 (foreign producers).

domestic industry is not materially injured or threatened with material injury by reason of subject imports from Canada.

II. SUMMARY¹⁰

We find that there is no reasonable indication that an industry in the United States is materially injured by reason of subject imports. While we find that subject import volume and the increases in that volume were significant during the period examined, we do not find that the domestic industry was materially injured by such imports. We base our finding on the fact that the data do not demonstrate significant underselling of the domestic like product by subject imports, and that domestic prices were neither depressed nor suppressed during the period. Further, the domestic industry has been profitable, achieving its highest level of profitability during the first half of 2005, the period with the largest volume of subject imports. Any negative trends observed in the trade and financial data are largely attributable to one domestic producer's, Rhodia, Inc.'s, losses and exit from the market in 2004. We find that the exit by Rhodia from the U.S. market was not attributable to subject imports.

In addition, we find that the U.S. industry is not threatened with material injury by reason of subject imports. As noted above, the domestic industry achieved a high level of profitability during the first half of 2005, indicating that it is not vulnerable to material injury. We also note, among other things, that Canadian production capacity has been stable, Canadian producers' capacity utilization has been relatively high, and Canadian production is projected to decline. Overall, prices of subject imports from Canada have remained stable throughout the period examined, with some increases occurring in the first half of 2005. Accordingly, we find that subject imports are not likely to enter the United States in such volumes so as to threaten to cause material injury to the domestic industry.

For these reasons, which are discussed in greater detail below, we find that the record in this investigation does not demonstrate a reasonable indication that the domestic industry is materially injured or threatened with material injury by reason of subject imports.

III. BACKGROUND

Liquid sulfur dioxide is a hazardous chemical with various end use applications, including: as a raw material input in the manufacture of various downstream chemical derivatives, as a bleaching agent in the paper and pulp industry, as a dechlorinating agent in water treatment facilities, and as anti-microbial agent and preservative in the food processing industry.¹¹ Liquid sulfur dioxide is both sold commercially in the merchant market and consumed internally by its producers in the manufacture of downstream chemical derivatives (primarily sodium hydrosulfite).¹² Most U.S. producers ship liquid sulfur dioxide to end users, although there exists a sizeable independent distribution network to serve lower volume purchasers.¹³ Liquid sulfur dioxide is expensive to transport because it must be moved in special pressurized vessels, and it is subject to transportation restrictions as a hazardous material. It is not transported over water,¹⁴ and moves on specialized rail cars and trucks.¹⁵

¹⁰ Chairman Koplan finds a reasonable indication of material injury and does not join this section.

¹¹ CR at I-10; PR at I-7.

¹² CR at pp. I-2-3 and PR at p. I-2-3.

¹³ CR at p. I-17 and PR at I-12.

¹⁴ Conference Tr. at 76 (Cogliandro).

¹⁵ CR at I-15; PR at I-11.

The petition in this investigation was filed on September 30, 2005¹⁶ by Calabrian Corp. (“Calabrian” or “Petitioner”), Kingwood, TX.¹⁷ All U.S. producers provided questionnaire responses to the Commission: Calabrian, Chemtrade Logistics, Inc. (US) (“Chemtrade”), PVS Chemical Solutions, Inc. (“PVS Chemical”), Olin Corp. (“Olin”), and Rhodia, Inc. (“Rhodia”).¹⁸ Olin ***, while PVS Chemical, Chemtrade and Rhodia, which ceased all production of liquid sulfur dioxide in December 2004, after Chemtrade acquired its liquid sulfur dioxide business, ***.¹⁹ All known U.S. importers of liquid sulfur dioxide from Canada provided questionnaire responses to the Commission: Chemtrade, Marsulex, Inc. (“Marsulex”), and Teck Cominco, Ltd. (US) (“Teck Cominco”).²⁰ Both Chemtrade and Teck Cominco participated at the staff conference and filed postconference briefs in this investigation.

Domestic producers’ shipments accounted for the majority of total U.S. shipments of liquid sulfur dioxide. Domestic producers’ shipments ranged between 61.5 percent and 70.7 percent of the volume of the total U.S. market for liquid sulfur dioxide in the period examined.²¹ U.S. importers’ shipments of subject merchandise (*i.e.* liquid sulfur dioxide from Canada) were also substantial, accounting for between *** percent and *** percent of the volume of the total U.S. market for liquid sulfur dioxide in the period examined.²²

U.S. importers’ shipments of nonsubject merchandise (*i.e.* liquid sulfur dioxide from Mexico) held a smaller, but increasing, share of the U.S. market, accounting for between *** percent and *** percent of the volume of the total U.S. market for liquid sulfur dioxide in the period examined.²³

Five firms produced liquid sulfur dioxide in Canada during the period examined: Chemtrade Canada, Falconbridge, Inco, Marsulex, and Teck Cominco.²⁴

IV. DOMESTIC LIKE PRODUCT

A. In General

To determine whether there is a reasonable indication that an industry in the United States is materially injured or threatened with material injury by reason of imports of the subject merchandise, the Commission first defines the “domestic like product” and the “industry.”²⁵ Section 771(4)(A) of the Tariff Act of 1930, as amended (“the Act”), defines the relevant domestic industry as the “producers as a

¹⁶ As the petition was submitted to the Commission after 12:00 p.m. on September 29, 2005, it was deemed to have been filed at the Commission on September 30, 2005, pursuant to Commission Rule 206.45(e) (19 C.F.R. § 206.45(e)).

¹⁷ CR/PR at I-1.

¹⁸ CR/PR at III-1.

¹⁹ CR/PR at Table III-2.

²⁰ CR/PR at IV-1.

²¹ CR/PR at Table IV-9. Domestic producers’ shipments accounted for between *** percent and *** percent of the volume of the U.S. merchant market. CR/PR at Table C-2. We define merchant market below.

²² CR/PR at Table IV-9. U.S. importers’ shipments of subject merchandise accounted for between *** percent and *** percent of the volume of the U.S. merchant market over the period examined. KmjCR/PR at Table C-2.

²³ CR/PR at Table IV-9. U.S. importers’ shipments of nonsubject merchandise accounted for between *** percent and *** percent of the volume of the U.S. merchant market over the period examined. CR/PR at Table C-2.

²⁴ Chemtrade Logistics, Inc. (Canada) (“Chemtrade Canada”), is related to the U.S. producer and U.S. importer Chemtrade. Falconbridge, Inc. (“Falconbridge”) produced material marketed in the United States by Chemtrade. Inco, Inc. (“Inco”), produced material marketed in the United States by Chemtrade. Marsulex (Canada) (“Marsulex Canada”) is related to the U.S. importer Marsulex. Teck Cominco (Canada) (“Teck Cominco Canada”), is related to the U.S. importer Teck Cominco.

²⁵ 19 U.S.C. § 1677(4)(A).

[w]hole of a domestic like product, or those producers whose collective output of a domestic like product constitutes a major proportion of the total domestic production of the product.”²⁶ In turn, the Act defines “domestic like product” as “a product which is like, or in the absence of like, most similar in characteristics and uses with, the article subject to an investigation.”²⁷

The decision regarding the appropriate domestic like product(s) in an investigation is a factual determination, and the Commission has applied the statutory standard of “like” or “most similar in characteristics and uses” on a case-by-case basis.²⁸ No single factor is dispositive, and the Commission may consider other factors it deems relevant based on the facts of a particular investigation.²⁹ The Commission looks for clear dividing lines among possible like products, and disregards minor variations.³⁰ Moreover, the Commission has repeatedly stated that it “normally does not find separate like products based on different grades of chemical or mineral products.”³¹ Although the Commission must accept the determination of the U.S. Department of Commerce (“Commerce”) as to the scope of the imported merchandise allegedly sold at less than fair value, the Commission determines what domestic product is like the imported articles Commerce has identified.³² The Commission must base its domestic like product determination on the record in this investigation. The Commission is not bound by prior determinations, even those pertaining to the same imported products, but may draw upon previous determinations in addressing pertinent like product issues.³³

B. Product Description

In its notice of initiation, Commerce defined the imported merchandise within the scope of the investigation as follows:

²⁶ Id.

²⁷ 19 U.S.C. § 1677(10).

²⁸ See, e.g., NEC Corp. v. Department of Commerce, 36 F. Supp.2d 380, 383 (Ct. Int’l Trade 1998); Nippon Steel Corp. v. United States, 19 CIT 450, 455 (1995); Torrington Co. v. United States, 747 F. Supp. 744, 749 n.3 (Ct. Int’l Trade 1990), aff’d, 938 F.2d 1278 (Fed. Cir. 1991) (“every like product determination ‘must be made on the particular record at issue’ and the ‘unique facts of each case’”). The Commission generally considers a number of factors including: (1) physical characteristics and uses; (2) interchangeability; (3) channels of distribution; (4) consumer and producer perceptions of the products; (5) common manufacturing facilities, production processes and production employees; and where appropriate, (6) price. See, e.g., Nippon, 19 CIT at 455 n.4; Timken Co. v. United States, 913 F. Supp. 580, 584 (Ct. Int’l Trade 1996).

²⁹ See, e.g., S. Rep. No. 249, 96th Cong., 1st Sess., at 90-91 (1979).

³⁰ See, e.g., Nippon Steel, 19 CIT at 455; Torrington, 747 F. Supp. at 748-49; see also S. Rep. No. 249 at 90-91 (Congress has indicated that the domestic like product standard should not be interpreted in “such a narrow fashion as to permit minor differences in physical characteristics or uses to lead to the conclusion that the product and article are not ‘like’ each other, nor should the definition of ‘like product’ be interpreted in such a fashion as to prevent consideration of an industry adversely affected by the imports under consideration.”)

³¹ See, e.g., Bulk Acetylsalicylic Acid (Aspirin) from China, Inv. No. 731-TA-828 (Final), USITC Pub. 3314 at 5-6 (June 2000); Bulk Acetylsalicylic Acid (Aspirin) from China, Inv. No. 731-TA-828 (Prelim.), USITC Pub. 3211 at 5 (July 1999).

³² See, e.g., Hosiden Corp. v. Advanced Display Mfrs., 85 F.3d 1561, 1568 (Fed. Cir. 1996) (Commission may find a single domestic like product corresponding to several different classes or kinds defined by Commerce); Torrington, 747 F. Supp. at 748-52 (affirming Commission’s determination of six domestic like products in investigations where Commerce found five classes or kinds).

³³ See, e.g., Acciai Speciali Terni S.p.A. v. United States, 118 F. Supp.2d 1298, 1304-05 (Ct. Int’l Trade 2000); Nippon Steel, 19 CIT at 455; Asociacion Colombiana de Exportadores de Flores v. United States, 693 F. Supp. 1165, 1169 n.5 (Ct. Int’l Trade 1988) (particularly addressing like product determination); Citrosuco Paulista, S.A. v. United States, 704 F. Supp. 1075, 1087-88 (Ct. Int’l Trade 1988).

The product covered by this investigation is technical or commercial grade and refrigeration grade liquid sulfur dioxide of a minimum 99.98 percent assay. Sulfur dioxide is identified by the chemical formula SO₂. The Chemical Abstract Service (CAS) No. for sulfur dioxide is 7446-09-5. Liquid sulfur dioxide is pure sulfur dioxide gas compressed through refrigeration and stored under pressure. Sulfur dioxide in its gaseous state is excluded from the petition.

Liquid sulfur dioxide subject to this investigation is currently classifiable under subheading 2811.23.00 of the Harmonized Tariff Schedule of the United States (“HTSUS”). While the HTSUS subheading is provided for convenience and customs purposes, the written description of the scope of this investigation is dispositive.³⁴

Sulfur dioxide has the chemical composition of SO₂ and is also commonly referred to as sulfurous acid anhydride, sulfurous anhydride or sulfurous oxide.³⁵ Sulfur dioxide gas is a hazardous chemical. It is produced by reacting sulfur and oxygen under heat to form sulfur dioxide gas. The purified gas is then compressed under refrigeration to form a liquid and is stored in metal containers under pressure for later use, transport, or sale.³⁶ The resulting liquid sulfur dioxide produced is a minimum 99.98 percent assay. The product manufactured by the various producers is commercially interchangeable with very limited exceptions.³⁷

The principal use of sulfur dioxide is in the chemical industry for the further manufacture of chemical products, primarily sodium hydrosulfite, which is used as a bleaching agent by the textile and pulp and paper industries.³⁸ It is also used to make other sulfur chemical products such as sodium bisulfite, and related sulfur-based sodium salts.³⁹ The agricultural and food processing industries, the water treatment industry, and the metal and ore refining industries are also principal users of liquid sulfur dioxide.⁴⁰

C. Domestic Like Product

Both Petitioner and Respondents agreed on a like product definition consisting of liquid sulfur dioxide.⁴¹ Petitioner presents arguments that gaseous sulfur dioxide should not be included in the same domestic like product as liquid sulfur dioxide.⁴²

We find that liquid sulfur dioxide and gaseous sulfur dioxide differ in physical characteristics, uses, channels of distribution, customer and producer perceptions, and production processes, and that they have limited interchangeability.⁴³ Besides the difference in their liquid and gaseous states, liquid sulfur

³⁴ Liquid Sulfur Dioxide from Canada, 70 Fed. Reg. 69,735, 69,736 (Nov. 17, 2005).

³⁵ CR at I-9; PR at I-7.

³⁶ CR at I-15; PR at I-10-11.

³⁷ CR at I-13, II-11-II-13, III-26; PR at I-9, II-8-9, III-13.

³⁸ CR at I-10 & n.21; PR at I-7 & n.21.

³⁹ CR at I-10; PR at I-7.

⁴⁰ CR at I-10; PR at I-7.

⁴¹ Petitioner Postconference Brief at 3; Chemtrade Postconference Brief at 2; Teck Cominco Postconference Brief at 3.

⁴² Transcript for Commission Conference held October 20, 2005 (“Conference Tr.”) at 46-52 (Wisla).

⁴³ In its analysis of the traditional domestic like product factors, the Commission generally considers a number of factors including: (1) physical characteristics and uses; (2) interchangeability; (3) channels of distribution; (4) common manufacturing facilities, production processes and production employees; (5) customer or producer

(continued...)

dioxide is virtually pure (99.98 percent assay), whereas gaseous sulfur dioxide is only 17 percent pure sulfur dioxide.⁴⁴ Liquid sulfur dioxide can be stored and transported, and therefore sold on the commercial market, whereas storing and transporting gaseous sulfur dioxide is not practical, and prohibitively expensive. Because of its inability to be stored, there is no commercial market for gaseous sulfur dioxide, and it must be used on-site. These differences translate into different applications, channels of distribution, and perceptions of the products.⁴⁵ Certain demanding applications require the virtually pure liquid sulfur dioxide so interchangeability is limited.⁴⁶ Additionally, their production processes differ.⁴⁷ For the foregoing reasons, we define the domestic like product to be liquid sulfur dioxide, coextensive with Commerce's scope of investigation.

V. DOMESTIC INDUSTRY

A. In General

The domestic industry is defined as the “producers as a [w]hole of a domestic like product, or those producers whose collective output of a domestic like product constitutes a major proportion of the total domestic production of the product.”⁴⁸ In defining the domestic industry, the Commission's general practice has been to include in the industry all domestic production of the domestic like product, whether toll-produced, captively consumed, or sold in the domestic merchant market.⁴⁹ Based on our finding that the domestic like product is liquid sulfur dioxide, we define the domestic industry to consist of all known domestic producers of liquid sulfur dioxide, namely Calabrian, Chemtrade, PVS Chemical, Olin and Rhodia.⁵⁰ We now turn our discussion to the issues presented under the statutory related parties provision.

B. Related Parties

We must determine whether any producer of the domestic like product should be excluded from the domestic industry pursuant to 19 U.S.C. § 1677(4)(B). That provision of the statute allows the Commission, if appropriate circumstances exist, to exclude from the domestic industry producers that are related to an exporter or importer of subject merchandise, or which are themselves importers.⁵¹ Exclusion

⁴³(...continued)

perceptions; and, when appropriate, price. See, e.g., Timken, 913 F. Supp. at 584 (Ct. Int'l Trade 1996). We apply that analysis here. No single factor is dispositive, and the Commission may consider other factors relevant to a particular investigation. The Commission looks for clear dividing lines among possible like products, and disregards minor variations. See, e.g., S. Rep. No. 249, 96th Cong., 1st Sess. 90-91 (1979).

⁴⁴ Liquid sulfur dioxide is pure sulfur dioxide of a minimum 99.98 percent assay. Sulfur dioxide gas is 17 percent pure, and mixed with inert gases such as nitrogen, oxygen, argon, neon, and water vapor. Conference Tr. at 47 (Wisla).

⁴⁵ Conference Tr. at 48 (Wisla).

⁴⁶ Conference Tr. at 48 (Wisla).

⁴⁷ Conference Tr. at 50-51 (Wisla).

⁴⁸ 19 U.S.C. § 1677(4)(A).

⁴⁹ See, e.g., United States Steel Group v. United States, 873 F. Supp. 673, 681-84 (Ct. Int'l Trade 1994), aff'd, 96 F.3d 1352 (Fed. Cir. 1996).

⁵⁰ CR/PR at Table III-1.

⁵¹ 19 U.S.C. § 1677(4)(B).

of such a producer is within the Commission's discretion based upon the facts presented in each case.⁵² We have considered two related party issues in this investigation, one relating to Chemtrade and another to PVS Chemical.

Chemtrade is a related party, both by virtue of its corporate affiliation with an exporter, and its imports of subject merchandise. U.S. producer Chemtrade is wholly owned by Chemtrade Canada,⁵³ an exporter of subject merchandise.⁵⁴

Petitioner did not argue for Chemtrade's exclusion from the domestic industry as a related party in this investigation.⁵⁵ Respondents Chemtrade and Teck Cominco both argue that Chemtrade should be included in the domestic industry.⁵⁶ Thus, none of the parties oppose Chemtrade's inclusion in the domestic industry.

We nevertheless consider whether appropriate circumstances exist to exclude Chemtrade from the domestic industry. Chemtrade produces liquid sulfur dioxide at a plant in Cairo, Ohio. Its parent company, Chemtrade Canada, paid *** in 2001 to purchase Chemtrade (U.S.), the primary asset of which is the Cairo plant.⁵⁷ Chemtrade produced *** short tons of liquid sulfur dioxide in 2004, which accounted for *** percent of domestic production in that year. Thus, Chemtrade has significant production operations in the United States. Moreover, Chemtrade is currently one of only four remaining domestic producers of liquid sulfur dioxide.⁵⁸

⁵² See, e.g., Sandvik AB v. United States, 721 F. Supp. 1322, 1331-32 (Ct. Int'l Trade 1989), aff'd mem., 904 F.2d 46 (Fed. Cir. 1990); Empire Plow Co. v. United States, 675 F. Supp. 1348, 1352 (Ct. Int'l Trade 1987). The primary factors the Commission has examined in deciding whether appropriate circumstances exist to exclude related parties include: (1) the percentage of domestic production attributable to the importing producer; (2) the reason the U.S. producer has decided to import the product subject to investigation, i.e. whether the firm benefits from the LTFV sales or subsidies or whether the firm must import in order to enable it to continue production and compete in the U.S. market, and (3) the position of the related producers vis-a-vis the rest of the industry, i.e. whether inclusion or exclusion of the related party will skew the data for the rest of the industry. See, e.g., Torrington, 790 F. Supp. at 1168. The Commission has also considered the ratio of import shipments to U.S. production for related producers and whether the primary interests of the related producers lie in domestic production or in importation. See, e.g., Melamine Institutional Dinnerware from China, Indonesia and Taiwan, Invs. Nos. 731-TA-741-743 (Final), USITC Pub. 3016 at 14 n.81 (Feb. 1997).

⁵³ ***. Staff telephone notes dated November 3, 2005. See also Conference Tr. at 159-160 (Davis).

⁵⁴ 19 U.S.C. § 1677(4)(B)(i) & (ii)(II).

⁵⁵ Petitioner Postconference Brief at 35. Petitioner attempted to reserve the right to argue that Chemtrade should be excluded from the domestic industry pursuant to the related party provision later, in the event that the Commission proceeded to a final phase investigation. However, Petitioner did not provide us with any evidence or argument in support of such exclusion for our consideration in making this determination. Petitioner Postconference Brief at 35.

⁵⁶ Chemtrade Postconference Brief at 5-9; Teck Cominco Postconference Brief at 4. Chemtrade argues that excluding it from the domestic industry would be in violation of NAFTA's national treatment provision, and its prohibition against performance requirements. Chemtrade Postconference Brief at 10.

We disagree. NAFTA made no change to U.S. antidumping law. The NAFTA implementing legislation clearly provides that "[n]o provision of the Agreement, nor the application of any such provision to any person or circumstance, which is inconsistent with any law of the United States shall have effect . . . Nothing in this Act shall be construed . . . to amend or modify any law of the United States." 19 U.S.C. §3312(a).

Furthermore, NAFTA itself, in Articles 1901(3) and 1902(1) of Chapter 19, provides that each of the three signatories to NAFTA reserve the right to apply their antidumping law.

⁵⁷ Chemtrade Postconference Brief at 7.

⁵⁸ As noted previously, Chemtrade *** the petition. CR/PR at Table III-2. Chemtrade Postconference Brief at 7.

Although Chemtrade imports more subject merchandise than it produces of the domestic like product,⁵⁹ it does not appear to derive significant financial benefit for its domestic production operations through its subject imports. Although Chemtrade's ratio of operating income to its net sales ("operating income margins") *** throughout the period examined, the company's operating income margins declined from 2002 to 2004, and were lower in interim 2005 than in interim 2004.⁶⁰ Although Chemtrade's operating income margins were higher than the industry average throughout the period examined, they were comparable to, and fell ***.

On balance, we do not find that appropriate circumstances exist to exclude Chemtrade from the domestic industry. Although Chemtrade's interests appear to lie more in importation than production, it is one of only a few domestic producers, its financial results are within the range of other domestic producers such that its inclusion does not skew our data, and its inclusion in the domestic industry is unopposed. We therefore include Chemtrade in the domestic industry.⁶¹

Accordingly, we define the domestic industry to consist of all known domestic producers of liquid sulfur dioxide, including Chemtrade and PVS Chemical.

VI. NO REASONABLE INDICATION OF MATERIAL INJURY BY REASON OF SUBJECT IMPORTS FROM CANADA^{62 63}

In the preliminary phase of antidumping duty investigations, the Commission determines whether there is a reasonable indication that an industry in the United States is materially injured by reason of the imports under investigation.⁶⁴ In making this determination, the Commission must consider the volume of subject imports, their effect on prices for the domestic like product, and their impact on domestic producers of the domestic like product, but only in the context of U.S. production operations.⁶⁵ The statute defines "material injury" as "harm which is not inconsequential, immaterial, or unimportant."⁶⁶ In assessing whether there is a reasonable indication that the domestic industry is materially injured by reason of subject imports, we consider all relevant economic factors that bear on the state of the industry

⁵⁹ For example, in 2004, Chemtrade produced *** short tons of liquid sulfur dioxide, but imported *** short tons of subject merchandise. Chemtrade's share of direct imports of subject merchandise to domestic production was *** percent in 2002, *** percent in 2003, and *** percent in 2004. It was *** percent in interim 2005 as compared to *** percent in interim 2004. CR/PR at Table III-2 and Table III-12.

⁶⁰ CR/PR at Table VI-2.

⁶¹ PVS Chemical ***. CR/PR at Table III-12. ***. CR/PR at Table III-12, n.1.

***. The ratios of PVS Chemical's purchases of subject imports to Chemtrade's total subject imports over the period examined was *** percent in 2002, *** percent in 2003, *** percent in 2004, *** percent in interim 2004, and *** percent in interim 2005. Derived from CR/PR at Table III-3. We find that PVS Chemical is not a related party, and we include it in the domestic industry.

⁶² We do not find that subject imports from Canada are negligible. The petition was filed on September 30, 2005. The most recent 12-month period for which data were available that preceded the filing of the petition was between September 2004 and August 2005. Subject imports from Canada accounted for 75.4 percent of total imports of liquid sulfur dioxide in this period, based on official Commerce statistics. This share of total imports is much higher than the applicable negligibility threshold of three percent of total imports. CR at IV-15, PR at IV-7; 19 U.S.C. § 1677(24).

⁶³ Because Chairman Koplman finds a reasonable indication of material injury by reason of the subject imports from Canada, he joins only in section VI.A. of this discussion on the conditions of competition in the U.S. market, including the discussion of captive production.

⁶⁴ 19 U.S.C. § 1673b(a).

⁶⁵ 19 U.S.C. § 1677(7)(B)(i). The Commission "may consider such other economic factors as are relevant to the determination" but shall "identify each [such] factor ... [a]nd explain in full its relevance to the determination." 19 U.S.C. § 1677(7)(B); see also, e.g., Angus Chemical Co. v. United States, 140 F.3d 1478 (Fed. Cir. 1998).

⁶⁶ 19 U.S.C. § 1677(7)(A).

in the United States.⁶⁷ No single factor is dispositive, and all relevant factors are considered “within the context of the business cycle and conditions of competition that are distinctive to the affected industry.”⁶⁸

A. Conditions of Competition and the Business Cycle

We have taken the following conditions of competition into account when assessing whether there is a reasonable indication of material injury or threat of material injury to the domestic liquid sulfur dioxide industry by reason of the subject imports from Canada.

1. Captive Production

The captive production provision, 19 U.S.C. § 1677(7)(C)(iv), provides as follows:

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

- (I) the domestic like product produced that is internally transferred for processing into the downstream article does not enter the merchant market for the domestic like product,
- (II) the domestic like product is the predominant material input in the production of that downstream article, and
- (III) the production of the domestic like product sold in the merchant market is not generally used in the production of that downstream article,

then the Commission, in determining market share and the factors affecting financial performance ..., shall focus primarily on the merchant market for the domestic like product.⁶⁹

The parties agree that the threshold requirements for the application of the captive production provision are satisfied in this investigation.⁷⁰ We concur that the threshold requirements are satisfied. Domestic producers internally transfer significant production of the domestic like product for the production of a downstream article, and sell significant production of the domestic like product in the merchant market.⁷¹

⁶⁷ 19 U.S.C. § 1677(7)(C)(iii).

⁶⁸ 19 U.S.C. § 1677(7)(C)(iii).

⁶⁹ 19 U.S.C. § 1677(7)(C)(iv).

⁷⁰ Petitioner Postconference Brief at 36; Chemtrade Postconference Brief at 12. Respondent Teck Cominco took no position on whether the captive production provision applies in this investigation.

⁷¹ Internal transfers (internal consumption plus transfers to related firms) by domestic producers, by quantity, accounted for *** percent of domestic producers' U.S. shipments in 2002 and *** percent of those shipments in interim (January to June) 2005.

Merchant market shipments by domestic producers, by quantity, accounted for *** percent of domestic producers' U.S. shipments in 2002 and *** percent of those shipments in interim 2005. CR at III-19; PR at III-10 and CR/PR at Figure III-7.

The parties agree, however, that the captive production provision is not applicable because the third criterion is not met.⁷² We find that the third criterion is not satisfied in this investigation for the foregoing reasons.

Liquid sulfur dioxide sold in the merchant market is generally used in the production of the same downstream product for which liquid sulfur dioxide is internally transferred. The primary use of liquid sulfur dioxide sold in the merchant market in the United States is for the manufacture of downstream sulfur derivative products, primarily sodium hydrosulfite.⁷³ Of the *** short tons of liquid sulfur dioxide that were internally transferred and processed into a downstream article in 2004,⁷⁴ *** short tons, or *** percent, of those internally consumed products were used to produce sodium hydrosulfite.⁷⁵

Accordingly, we find that the third criterion of the captive production provision is not satisfied, and we do not apply the captive production provision in this investigation. However, we consider the significant level of captive production to be an important condition of competition in the U.S. market, and have accordingly examined all relevant factors by looking both at the entire market and at the merchant market for liquid sulfur dioxide when making our determination.

2. Demand Conditions

Sulfur dioxide is a hazardous chemical product, subject to strict government regulation. The principal use of liquid sulfur dioxide is in the chemical industry for the further manufacture of chemical products, primarily sodium hydrosulfite, but it is also used in several other industries.⁷⁶ A majority of total commercial U.S. shipments of liquid sulfur dioxide go toward the production of downstream chemicals, with smaller shares going to the food processing industry, paper industry, water treatment industry, metal and ore refining, and oil refining and recovery.⁷⁷

Other downstream chemicals that are less hazardous can be substitutes for liquid sulfur dioxide in some applications, but these chemicals are more expensive.⁷⁸ The parties disagree to some extent on current demand for liquid sulfur dioxide, given these less hazardous substitutes. Two firms, Calabrian and Teck Cominco, report that demand for liquid sulfur dioxide is generally decreasing due to concerns over safety and the environment. They maintain that purchasers are switching to more expensive, but

⁷² Petitioner Postconference Brief at 36; Chemtrade Postconference Brief at 12.

⁷³ CR at I-3, I-10; PR at I-3, I-7. Conference Tr. at 56 (“[T]he main use of sulfur dioxide is the manufacture of sodium hydrosulfite. . . . that’s produced captively and it’s also used in the merchant market, so the third provision does not apply.” (Wisla)). Chemtrade, the largest purchaser of liquid sulfur dioxide in the U.S. market, purchased liquid sulfur dioxide from multiple unrelated domestic sources during the period examined, that it transferred to its affiliate Chemtrade Performance Chemicals, Inc. (“Chemtrade Performance”) for its sodium hydrosulfite plant in Leeds, South Carolina. CR at III-24 & n.41; PR at III-12-13 & n.41. CR/PR at Table III-13. See also Conference Tr. at 133 (Hertzberg) (multiple sources for liquid sulfur dioxide supplied to Leeds for sodium hydrosulfite production).

⁷⁴ Total U.S. producers’ internal transfers (internal consumption plus related transfers) in 2004 was *** short tons. CR/PR at Table III-5 and Table III-6. Some of these internal transfers, *** short tons, were diverted back to the merchant market, resulting in *** short tons of internally transferred liquid sulfur dioxide never entering the merchant market. Derived from CR at Table III-5 and III-6, and CR at III-15, III-21; PR at III-10.

⁷⁵ Derived from CR at Table III-6 and Table III-7.

⁷⁶ CR at I-10; PR at I-7. The pulp and paper industry uses liquid sulfur dioxide to remove excess hydrogen peroxide from pulp. The agricultural and food processing industries use liquid sulfur dioxide in a variety of ways, including as a preservative, a fumigant, a steeping agent and to fight contamination in the manufacture of high-fructose corn syrup. The water treatment industry uses liquid sulfur dioxide to remove the residual chlorine that remains after the chlorination of potable water, sewage, and industrial wastewater. Other industrial users of liquid sulfur dioxide include the metal and ore refining industries, the oil recovery and refining industries and liquid soap manufacturers. CR at I-10; PR at I-7.

⁷⁷ CR at I-10 and II-1; PR at I-7 and II-2.

⁷⁸ CR at II-10-11; PR at II-7.

environmentally safer, substitutes.⁷⁹ Another firm, Chemtrade, argues instead that total demand for liquid sulfur dioxide is increasing, but merchant market demand is declining, due to customers substituting less hazardous chemicals for liquid sulfur dioxide.⁸⁰ Chemtrade reasons that, as demand for the safer downstream chemicals increases, there is higher internal consumption of liquid sulfur dioxide, but lower merchant market sales.⁸¹

Our data reflect that total apparent U.S. consumption of liquid sulfur dioxide increased over most of the period surveyed, until interim 2005, but that apparent consumption in the merchant market declined over the entire period. Apparent U.S. consumption in the total market for liquid sulfur dioxide increased by 5.0 percent from 2002 to 2004, but was 6.4 percent lower in interim 2005 than in interim 2004. It increased from 203,023 short tons in 2002 to 210,156 short tons in 2003, and rose to 213,243 short tons in 2004. It was lower in interim 2005 (96,805 short tons) than in interim 2004 (103,461 short tons).⁸² Apparent U.S. consumption in the merchant market for liquid sulfur dioxide decreased by *** percent from 2002 to 2004, and it was *** percent lower in interim 2005 than in interim 2004. Apparent U.S. consumption in the merchant market increased from *** short tons in 2002 to *** in 2003, but fell to *** in 2004. It was lower in interim 2005 (*** short tons) than in interim 2004 (*** short tons).⁸³

A purchaser's demand for a particular supplier's liquid sulfur dioxide may be affected by transportation costs, logistics, and proximity to the supplier. We discuss the importance of transportation costs in more detail below in Supply Conditions.

3. Supply Conditions

The supply of liquid sulfur dioxide to the U.S. market has undergone substantial changes over the period examined, due in large part to the exit of a major domestic producer.

In 2002, there were five U.S. producers of liquid sulfur dioxide: Calabrian, Olin, PVS Chemical, Rhodia and Chemtrade. In 2002, Rhodia was the largest U.S. producer of liquid sulfur dioxide.⁸⁴ However, Rhodia closed its Houston facility in the first half of 2004, and idled its Baton Rouge facility in December 2004.⁸⁵ As a result, by 2004, Calabrian was the largest U.S. producer, accounting for *** percent of total U.S. production in 2004, followed by ***.⁸⁶

In 2000, Rhodia secured a contract to provide liquid sulfur dioxide to Clariant, a merchant market purchaser, to be used for the production of sodium hydrosulfite at Clariant's Leeds, South Carolina plant.⁸⁷ This contract permitted Rhodia to restart its Baton Rouge, Louisiana liquid sulfur dioxide plant, which had been idled since 1997.⁸⁸ In 2002, Clariant sold the Leeds plant to Chemtrade, but the plant continued to be supplied by Rhodia under the contract until Rhodia idled its Baton Rouge facility in December 2004.⁸⁹ Chemtrade currently supplies the Leeds plant with a combination of subject

⁷⁹ Petitioner Postconference Brief at 4-5; Teck Cominco Postconference Brief at 5.

⁸⁰ Chemtrade Postconference Brief at 13.

⁸¹ Chemtrade Postconference Brief at 13.

⁸² CR/PR at Table C-1.

⁸³ CR/PR at Table C-2.

⁸⁴ CR/PR at Table III-3.

⁸⁵ November 21 Staff Telephone Interview with ***. According to Rhodia, it ***. CR/PR at Table III-2 n.2.

⁸⁶ CR at Table III-2. ***.

⁸⁷ Staff Telephone Interview with ***, November 21, 2005.

⁸⁸ Staff Telephone Interview with ***, November 21, 2005.

⁸⁹ CR at III-24 & n.41; PR at III-12-13 & n.41.

imports, nonsubject imports and domestically produced liquid sulfur dioxide.⁹⁰ In 2004, Chemtrade acquired Rhodia's liquid sulfur dioxide business.⁹¹ This series of events not only removed one company from the domestic industry, but also reduced the size of the U.S. merchant market.

The parties dispute the reasons for Rhodia's exit from the liquid sulfur dioxide industry. Petitioner alleges that Rhodia exited the industry due to intense competition with subject imports which led to *** during the period examined.⁹² Respondents argue that Rhodia exited the industry due to safety and environmental concerns.⁹³ Rhodia's exit from the industry followed the purchase of its Leeds account by Chemtrade.

***.⁹⁴

Because of the costs and hazards associated with transporting liquid sulfur dioxide, the U.S. market can only be supplied by producers in the United States, Canada and Mexico.⁹⁵ The share of the U.S. market held by nonsubject imports from Mexico rose over the period examined from *** percent in 2002 to *** percent in interim 2005 of total U.S. shipments.⁹⁶

U.S. producers and importers sell a majority of their product to end users of sulfur dioxide, with the remainder sold to distributors who in turn resell the product in the original rail tankers, or repackage the product in smaller containers for sale to end users.⁹⁷

4. Interchangeability

It is generally agreed that as long as liquid sulfur dioxide meets the standard purity requirements, price is the largest single factor affecting purchasing decisions.⁹⁸ Respondents assert that reliability of supply, contract terms, and relationship with the customer may also affect purchasing decisions.⁹⁹ Chemtrade maintains that multiple sources of supply is an important factor for purchasing decisions because any failure to deliver the product could severely impede its ability to produce downstream products.¹⁰⁰

5. Transportation Conditions

Because liquid sulfur dioxide is a hazardous chemical, it requires specialized transportation via railcar or truck. As such, transportation costs are high in this industry. Overall transportation costs for U.S. producers accounted for approximately *** percent of the total shipped value of liquid sulfur dioxide during the period examined, and approximately *** percent for imports from Canada.¹⁰¹ Given these costs, Teck Cominco, which produces liquid sulfur dioxide in Western Canada, has a tendency to

⁹⁰ CR at III-24 & n.41; PR at III-12-13 & n. 41; CR at IV-16; PR at IV-8.

⁹¹ Conference Tr. at 131 (Davis).

⁹² Petitioner Postconference Brief at 4.

⁹³ Chemtrade Postconference Brief at 34.

⁹⁴ CR/PR at II-2 n.8 citing Staff Telephone Interview with ***, November 21, 2005.

⁹⁵ CR at II-12, VII-10; PR at II-8, VII-8.

⁹⁶ CR/PR at Table C-1.

⁹⁷ CR at II-3-4; PR at II-3.

⁹⁸ Petitioner's Postconference Brief at 6; Conference Tr., p. 187 (Davis) (President of Chemtrade testified, "I think the price is 80 percent of the story and the rest of the stuff is persuasive, but you have to be competitive on price.")

⁹⁹ Chemtrade Postconference Brief at 29; Teck Cominco Post Conference Brief at 9-10.

¹⁰⁰ Conference Tr. at 186 (Davis).

¹⁰¹ CR at V-2; PR at V-1.

sell liquid sulfur dioxide in the Western United States, and Chemtrade, which markets liquid sulfur dioxide produced in Eastern Canada, is more likely to sell to customers in the Eastern United States.¹⁰² Petitioner argues that the industry needs high returns on its production operations to offset high transportation and storage costs necessitated by the nature of the product.¹⁰³

B. Volume of Subject Imports

Section 771(7)(C)(i) of the Act provides that the “Commission shall consider whether the volume of imports of the merchandise, or any increase in that volume, either in absolute terms or relative to production or consumption in the United States, is significant.”¹⁰⁴

We find that subject import volume and the increase in that volume is significant in absolute terms, and relative to production and consumption in the United States, but that it has not adversely affected the domestic industry to a material degree for several reasons discussed below in our price and impact analysis.

In absolute terms, subject imports were at substantial levels in 2002 and continued to increase over the annual periods surveyed. They were higher in interim 2005 than in interim 2004. Subject import volume increased from *** short tons in 2002 to *** short tons in 2003, and then increased slightly to *** short tons in 2004, an overall increase of *** percent from 2002 to 2004.¹⁰⁵ Subject imports were *** percent higher in interim 2005 (*** short tons), than in interim 2004 (*** short tons).¹⁰⁶

Subject imports’ share of total apparent consumption was virtually level from 2002 to 2004, with a nominal increase in market share. Subject imports’ share of total apparent U.S. consumption ranged between *** and *** percent from 2002 to 2004, and increased overall by only *** percentage point.¹⁰⁷ As total apparent U.S. consumption increased by 5.0 percent, domestic producers lost a small amount of market share, 1.3 percentage points, almost entirely to nonsubject imports, which gained *** percentage points in market share from 2002 to 2004.¹⁰⁸

¹⁰² Conference Tr. at 142-43, 156, 163-164 (Davis, Klett and Paolone).

¹⁰³ Petitioner Postconference Brief at 3.

¹⁰⁴ 19 U.S.C. § 1677(7)(C)(i).

¹⁰⁵ CR/PR at Table IV-2.

¹⁰⁶ CR/PR at Table IV-2.

¹⁰⁷ CR/PR at Table C-1.

¹⁰⁸ CR/PR at Table C-1. We have also considered subject import volume relative to consumption in the merchant market. By “merchant market” in these Views, we refer to the U.S. market that encompasses all domestic shipments that are not captively consumed or transferred to related parties, all subject imports, and all nonsubject imports. These data are set forth in Table C-2 of the staff report. CR/PR at Table C-2.

A significant amount of subject imports are internally transferred to related companies within the United States. Most notably, Chemtrade transfers a significant amount of subject imports to a plant in Leeds, South Carolina, owned by a related company. Table C-3 in the staff report provides data on “commercial shipments” of subject imports that do not include these related transfers.

19 U.S.C. § 1673b(a) requires the Commission to determine whether there is a reasonable indication of material injury by reason of subject merchandise. We treat subject imports that are captively consumed by the importer as merchant market shipments. The SAA does provide, at 853, that if the captive production provision of the statute applies, those captive imports shall be included in the import penetration ratio for subject imports for the merchant market only if the captive imports compete with sales of the domestic like product. Here, however, we have found the captive production provision does not apply, and, further, there is evidence of at least some competition between the captive subject imports and the domestic like product. Chemtrade has both purchased liquid sulfur dioxide from domestic producers in the merchant market and internally transferred it, over the period examined. CR at III-24, and PR at III-12. Accordingly, we have not relied on Table C-3 in these Views. Table IV-7 refers to “apparent U.S. merchant market consumption,” but it contains data on commercial subject import

(continued...)

In interim 2005, as the total market for liquid sulfur dioxide declined, subject and nonsubject imports both gained market share and the domestic industry lost market share. Subject imports' share of total apparent U.S. consumption increased by *** percentage points in interim 2005, as compared to its share of total apparent U.S. consumption in interim 2004. Subject imports' share of total consumption was *** percent in interim 2005 as compared to *** percent in interim 2004. Similarly, nonsubject imports' share of total apparent consumption was *** percentage points higher in interim 2005 than in interim 2004; it was *** percent in interim 2005 as compared to *** percent in interim 2004. As a result of these gains in subject and nonsubject market shares, domestic producers' share of the total U.S. market for liquid sulfur dioxide was lower, by 8.6 percentage points in interim 2005 than interim 2004; it was 61.5 percent in interim 2005 as compared to 70.1 percent in interim 2004.¹⁰⁹

As a ratio to U.S. production, subject imports were significant but fluctuating in a narrow range over the period examined. The ratio of subject imports to U.S. production increased slightly from *** percent in 2002 to *** percent in 2003 and then increased to *** percent of U.S. production in 2004. Subject imports from Canada were *** percent of U.S. production in interim 2005 as compared to *** percent in interim 2004.¹¹⁰

Accordingly, while we find that the volume of subject imports both absolutely and relative to production and consumption in the United States is significant, the effect of this volume is muted in light of a largely static market share by subject imports from 2002 to 2004, gains in market share by nonsubject imports during the same annual periods, and the fact that we do not find subject imports responsible for significant price effects or significant adverse impact on the domestic industry.

C. Price Effects of the Subject Imports

Section 771(C)(ii) of the Act provides that, in evaluating the price effects of subject imports, the Commission shall consider whether – (I) there has been significant price underselling by the imported merchandise as compared with the price of domestic like products of the United States, and (II) the effect of imports of such merchandise otherwise depresses prices to a significant degree or prevents price increases, which otherwise would have occurred, to a significant degree.¹¹¹

We do not find significant price underselling of the domestic like product by the subject imports, nor do we find that subject imports have depressed or suppressed prices for the domestic like product to a significant degree. We discuss our findings and the relevant pricing data in more detail below.

¹⁰⁸(...continued)

shipments. For reasons similar to Table C-3, we have not relied on Table IV-7 in these Views.

In the merchant market, from 2002 to 2004, nonsubject imports and subject imports both made comparable gains in market share at the expense of the domestic industry, in a declining market. Apparent U.S. consumption for the merchant market declined from 2002 to 2004 by *** percentage points. The share of apparent U.S. consumption for the merchant market held by subject and nonsubject imports both increased by *** percentage points from 2002 to 2004, while the share held by the domestic industry declined by *** percentage points. CR/PR at Table C-2.

¹⁰⁹ CR at Table C-1. The domestic industry's lower market share in the interim 2005 percent was primarily the result of Rhodia's exit from the market. CR at IV-11; PR at IV-5-6. We note that Rhodia did not internally consume liquid sulfur dioxide. All of its shipments were to the merchant market. CR/PR at Table III-7.

Similar to the total market, in interim 2005, the merchant market for liquid sulfur dioxide declined, subject and nonsubject imports both gained market share and the domestic industry lost market share. The merchant market declined by *** percent in interim 2005 as compared to interim 2004, domestic producers lost *** percentage points of market share, subject imports gained *** percentage points of market share, and nonsubject imports gained *** percentage points of market share. CR/PR at Table C-2.

¹¹⁰ CR/PR at Table IV-10.

¹¹¹ 19 U.S.C. § 1677(7)(C)(ii).

The Commission requested two sets of pricing data (f.o.b. and delivered) for liquid sulfur dioxide with a minimum of 99.98 percent assay. As a preliminary matter, we note that both sets of pricing data provide full or nearly full coverage, with the f.o.b. pricing data accounting for 100 percent of U.S. commercial shipments of U.S. and Canadian-produced liquid sulfur dioxide in the period surveyed, and the delivered pricing data accounting for *** percent of U.S. producers' commercial shipments of liquid sulfur dioxide and 100 percent of U.S. commercial shipments of subject imports from Canada.¹¹²

The Commission requested U.S. producers and importers of liquid sulfur dioxide to provide quarterly net U.S. f.o.b. selling prices and quantity data for sales to unrelated U.S. customers.¹¹³ F.o.b. prices do not include transportation costs, which are a significant aspect of pricing in this industry. Given the substantial transportation costs in this industry, which must ultimately be included in the price to the purchaser, we conclude that f.o.b. prices may make Canadian prices appear lower than domestic prices, when they are likely to be within a comparable range. In light of these facts, we acknowledge that the f.o.b. price comparisons show that Canadian liquid sulfur dioxide undersold domestic like product in 11 out of 14 f.o.b. pricing comparisons, with margins of underselling that ranged from 1.8 percent to 21.1 percent.¹¹⁴ However, we do not view these f.o.b. pricing comparisons in isolation, but in conjunction with the delivered pricing comparisons.

Although f.o.b. prices are distorted because they do not include any transportation costs, delivered prices may be somewhat distorted due to regionality. Delivered prices from a particular producer can appear to be higher or lower depending on the distance, and freight costs, associated with delivering product to that producer's particular mix of customers. The delivered prices reflect much lower underselling than the f.o.b. prices. Subject imports from Canada undersold the domestic like product in only five out of 14 delivered price comparisons, with margins of underselling for delivered prices that ranged from 0.8 percent to 12.7 percent.¹¹⁵ Moreover, when Canadian imports were priced higher than the U.S. product, which was the clear majority of the time, margins of overselling ranged from 3.0 percent to 20.2 percent.¹¹⁶

Although we give more weight to delivered prices, we have considered both sets of pricing data in our analysis. These data reflect mixed overselling and underselling of the domestic like product by subject imports. Taking both sets of data into account, we conclude that subject imports are not significantly underselling the domestic like product.

We have also considered whether subject imports are depressing prices for the domestic like products to a significant degree. Domestic f.o.b. prices fluctuated over the period surveyed, but were rising in interim 2005. In the first quarter of 2002, weighted-average domestic producer prices for liquid sulfur dioxide were *** per short ton. Domestic prices fluctuated but generally stayed below *** after that quarter until the first two quarters of 2005, in which prices were *** and *** per short ton, respectively. These prices are very close to the weighted-average price for liquid sulfur dioxide at the

¹¹² CR/PR at V-4-5; PR at V-3. We note that Petitioner appears to argue that better pricing data, with delivered pricing to a specific destination, could be collected in a final phase investigation. Petitioner Postconference Brief at 26. We see no likelihood that any evidence we obtain in any final investigation would change our findings on price effects. Although we could gather additional pricing data in a final phase investigation, there is no indication in the record that such data would differ in any material respect from the pricing data already collected in this investigation. We note the nearly complete coverage that these pricing data accord us in this investigation, and note that Petitioner did not request additional pricing data in its petition other than "technical grade liquid sulfur dioxide of 99.98 percent minimum assay," which is what we have collected. Petition at 28.

¹¹³ CR at V-4; PR at V-3.

¹¹⁴ CR/PR at Table V-1.

¹¹⁵ CR/PR at Table V-2.

¹¹⁶ CR/PR at Table V-2.

beginning of the period surveyed.¹¹⁷ Subject import f.o.b. prices fluctuated within a narrow range, with the exception of fourth quarter 2004, when prices were at their lowest. In first quarter 2002, weighted-average subject import prices were \$*** per short ton, and at the end of the period surveyed, in the second quarter of 2005, they were \$***.¹¹⁸

Regarding the f.o.b. pricing data, we do not find any pattern indicating that subject imports were putting significant downward pricing pressure on domestic prices. Subject import prices and domestic prices had divergent pricing trends, with domestic prices increasing while subject import prices were falling, and vice versa, until 2004, when both subject import prices and domestic prices initially increased, and then decreased, and then both increased in interim 2005.¹¹⁹ Canadian f.o.b. prices *** in the last quarter of 2004 and increased slightly, while staying at relatively low levels in the first quarter of 2005. Domestic prices did not follow that decline, rising from *** per short ton from the last quarter in 2004. These pricing trends do not indicate that subject imports are putting downward pricing pressure on domestic prices.¹²⁰

Delivered pricing data also do not reflect significant price depression of the domestic like product by subject imports. Domestic producer weighted-average delivered prices for liquid sulfur dioxide were *** per short ton in first quarter 2002, and then stayed below *** per short ton until the second quarter of 2004. Then, domestic prices increased until they were approximately *** per short ton higher than in the first quarter of 2002, namely *** per short ton in the second quarter of 2005. Except for the first quarter of 2002, subject import delivered prices were higher than domestic delivered prices until the third quarter of 2004 when domestic prices began to increase, while subject import prices declined. Domestic prices and subject import prices both increased in 2005, but subject import prices were below the domestic delivered prices, which increased by over \$*** per short ton from the fourth quarter of 2004 to the first quarter of 2005. Importantly, these domestic price increases occurred at a time when subject import volume was increasing.

Overall, these data indicate that subject imports were not exerting downward pricing pressure on domestic prices. Taking both f.o.b. pricing data and delivered pricing data into consideration, we do not find that subject imports are depressing prices for the domestic like product to a significant degree.¹²¹

Further, we do not find that subject imports are suppressing prices for the domestic like product to a significant degree, or causing a cost/price squeeze to occur. The ratio of cost of goods sold to net sales (“COGS/sales”) increased to some extent from 2002 to 2003, and then increased sharply in 2004, for all domestic shipments. The COGS/sales ratio for total domestic shipments was 76.8 percent in 2002, 81.4 percent in 2003, and 87.0 percent in 2004. It was 76.1 percent in interim 2005 as compared to 85.8 percent in interim 2004, a difference of 9.8 percentage points.¹²²

¹¹⁷ CR/PR at Table V-1.

¹¹⁸ CR/PR at Table V-1.

¹¹⁹ CR/PR at Figure V-2.

¹²⁰ CR/PR at Table V-1, Figure V-2.

¹²¹ Petitioner has presented arguments based on average unit values for subject imports. Petitioner Postconference Brief at 10-11. These data do not reflect actual sales, are not quarterly, are not limited to unrelated purchasers, and do not take transportation costs into account. Therefore, we have relied on our more comprehensive weighted-average pricing data to unrelated purchasers which includes data on delivered prices.

¹²² CR/PR at Table C-1. Unit COGS increased from 2002 to 2004, but was lower in interim 2005 as compared to interim 2004. CR/PR at Table C-1.

The trends are similar for domestic industry merchant shipments. COGS/sales was stable for merchant market shipments from 2002 to 2003, and then it increased sharply in 2004 as well. In interim 2005, however, the COGS/sales ratio decreased as compared to interim 2004. The COGS/sales ratio for merchant shipments was 79.4 percent in 2002, 82.0 percent in 2003, and 95.0 percent in 2004. It was 79.0 percent in interim 2005 as compared to 92.2 percent in interim 2004. CR/PR at Table C-2.

We find that the increase in the COGS/sales ratio in 2004 is attributable to Rhodia's exit from the domestic industry in that year for reasons unrelated to subject import competition. Rhodia's COGS/sales ratio was *** percent in 2004, and *** percent in interim 2004, far exceeding the COGS ratio of any other domestic producer in either period.¹²³ In 2004, as Rhodia left the industry, its costs increased while its sales plummeted, resulting in an anomalously high COGS/sales ratio in 2004 and in interim 2004.¹²⁴ If Rhodia's costs incurred in closing or idling plants and exiting the industry, which we refer to as "exit" costs,¹²⁵ are excluded, the domestic industry's COGS/sales ratio in 2004 is several percentage points lower, ***, and the overall COGS/sales ratio trend for the industry is much flatter from 2002 to 2004, without a sharp increase in 2004. If these costs are excluded, the industry's COGS/sales ratio would be *** percent in interim 2005 as compared to *** percent in interim 2004.¹²⁶

More than any other factor, the interim 2005 data reflect that subject imports are not suppressing domestic prices to a significant degree. The COGS/sales ratio for the industry improved in interim 2005, at the same time that subject import volume increased. Moreover, the industry's profitability improved.¹²⁷

These data reflect that costs of goods sold were a lower percentage of sales in interim 2005, even in the face of increased subject imports. We find that any increase in the COGS/sales ratio over the period examined, including the sharp increase in 2004, was not caused by subject imports suppressing domestic prices. Even though subject import volume increased in interim 2005 as compared to interim 2004, the COGS/sales ratio improved.

No other domestic producer besides Petitioner alleged that it had lost sales or revenues due to pricing competition from subject imports. We acknowledge that some lost sales and lost revenue allegations by Petitioner have been confirmed in this investigation. Petitioner alleged that it had ***¹²⁸ and staff confirmed this lost sale. Other confirmed lost sales and lost revenues occurred in interim 2005, and involved ***.¹²⁹ Nevertheless, Petitioner's sales and revenues increased steadily by quantity and value from 2002 to 2004, and were higher in interim 2005 than in interim 2004.¹³⁰ Petitioner's operating income margins *** from 2002 to 2004, and remained at high levels in interim 2005.¹³¹ Given these circumstances, we do not find that these lost sales and lost revenues support a finding of significant adverse price effects by the subject imports.

For all of these reasons, we do not find that there has been significant price underselling of the domestic like product by subject imports, that subject imports have depressed domestic prices to a significant degree, or that there has been significant price suppression by subject imports from Canada.

¹²³ CR/PR at Table VI-2.

¹²⁴ CR at VI-11; PR at VI-5. Rhodia indicated that approximately *** of its *** was attributable to shut-down costs, with the remaining \$*** attributable to *** on its normal operations. OINV Memorandum INV-CC-203 (December 1, 2005) at VI-5, n.5.

¹²⁵ OINV Memorandum INV-CC-203 (December 1, 2005) at VI-5, n.5. We discuss Rhodia's exit costs in more detail below.

¹²⁶ Derived from CR/PR at Table VI-1 and OINV Memorandum INV-CC-203 (Dec. 1, 2005) at VI-5.

¹²⁷ CR/PR at Table IV-1 (subject import volume); Table C-1 (operating income margins for all domestic industry sales); Table C-2 (operating income margins for domestic industry merchant market sales).

¹²⁸ ***. CR/PR at Table V-3 and ***.

¹²⁹ CR/PR at Table V-3 and Table V-4.

¹³⁰ CR/PR at Table VI-2 (net sales by quantity and value).

¹³¹ CR/PR at Table VI-2.

D. Impact of the Subject Imports¹³²

Section 771(7)(C)(iii) provides that the Commission, in examining the impact of the subject imports on the domestic industry, “shall evaluate all relevant economic factors which have a bearing on the state of the industry.”¹³³ These factors include output, sales, inventories, capacity utilization, market share, employment, wages, productivity, profits, cash flow, return on investment, ability to raise capital, research and development, and factors affecting domestic prices. No single factor is dispositive and all relevant factors are considered “within the context of the business cycle and conditions of competition that are distinctive to the affected industry.”¹³⁴

We do not find that there is a reasonable indication that subject imports have had an adverse impact on the domestic industry during the period examined. The domestic industry has been profitable throughout the period examined, and increased its production, sales and shipments from 2002 to 2004. It attained its highest profitability in the most recent period, interim 2005, when subject import volume was at its highest level and domestic prices experienced their largest increase. In interim 2005, when the domestic industry operating income margin was 10.0 percent, subject imports were *** percent higher than in interim 2004, and domestic prices had increased by \$*** per short ton.¹³⁵ Furthermore, the COGS/sales ratio for the domestic industry, which increased from 2002 to 2004, improved in interim 2005 as compared to interim 2004.¹³⁶ Although several trade and financial indicators show negative trends at the end of the period examined, they are heavily influenced by Rhodia’s losses and exit from the industry. We discuss these issues in more detail below.

The domestic industry’s operating income margins were 9.8 percent in 2002, 5.8 percent in 2003, 0.3 percent in 2004, 1.6 percent in interim 2004 and 10.0 percent in interim 2005.¹³⁷ The industry’s

¹³² In its notice of initiation, Commerce estimated a dumping margin ranging from 141.14 percent to 219.99 percent for liquid sulfur dioxide from Canada. 70 Fed. Reg. 69,735, 69,737 (Nov. 17, 2005).

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

¹³⁴ 19 U.S.C. § 1677(7)(C)(iii); see also SAA at 851, 885; Live Cattle from Canada and Mexico, Inv. Nos. 701-TA-386, 731-TA-812-813 (Preliminary), USITC Pub. 3155 at 25 n.148 (Feb. 1999).

¹³⁵ Although Petitioner argues that the domestic industry must have higher than usual returns due to the costs associated with storing, and transporting a hazardous material, and the attendant risks, Petitioner Postconference Brief at 3, we note that such costs are generally accounted for as selling, general and administrative (“SG&A”) expenses in this industry, which are taken into account in developing the domestic industry’s profitability data. CR/PR at Table VI-1.

¹³⁶ CR/PR at Table C-1.

¹³⁷ CR/PR at Table C-1. Operating income margins for the domestic industry’s share of the U.S. merchant market were *** percent in 2002, *** percent in 2003, and *** percent in 2004. It was *** percent in interim 2005 and *** percent in interim 2004. CR/PR at Table C-2.

Petitioner argues that as subject imports increased in 2005, the U.S. merchant market contracted, intensifying the impact of subject imports on the domestic industry. Petitioner Postconference Brief at 15. Although we recognize that the merchant market has contracted over the period surveyed, the domestic industry was more profitable in the merchant market in interim 2005, compared with its operating loss in interim 2004. Furthermore, we note that Petitioner itself has stated that as the merchant market contracts, internal consumption of liquid sulfur dioxide will increase, as the demand for more expensive downstream chemicals increases.

But there is a growing market in the SO₂ derivatives, which are basically sulfur dioxide substitutes. The need for the product is still there. That is not going away. The only thing that may be changing is where the product shows up and how it shows up. So the sulfur dioxide is either

(continued...)

decline in profitability from 2002 to 2004 as well as its declining return on investment in that period, was largely due to Rhodia's ***.¹³⁸ Furthermore, the absence of its *** in interim 2005, as opposed to its *** in interim 2004, are an important reason that the industry's profitability *** in interim 2005.¹³⁹

Rhodia estimates that *** of its *** was due to its shut-down or exit costs, with the remaining *** attributable to *** on its normal operations.¹⁴⁰ Rhodia has specifically stated that it did not leave the industry for reasons related to subject imports, and that it ***.¹⁴¹ If Rhodia's exit costs are excluded from the data, the domestic industry's operating income margins are even stronger in 2004 than if they are included. With these exit costs excluded, the domestic industry's operating income margins are ***.¹⁴² These data reflect higher profitability in 2004, and over the period examined generally, than the operating income margins that are skewed by Rhodia's ***. Operating income data also reflect the effects of Rhodia's exit costs that are unrelated to subject imports. With Rhodia's exit costs excluded from the data, domestic industry operating income for 2004 was \$***. If these exit costs are included, domestic industry operating income for 2004 was \$***.¹⁴³ As already discussed in our pricing analysis, with Rhodia's exit costs excluded from the data, the 2004 COGS/sales ratio for the domestic industry is lower.

Petitioner argues that Rhodia's exit from the industry, by itself, constitutes evidence of subject imports' adverse impact on the domestic industry.¹⁴⁴ We disagree. We accept Rhodia's assertion that it had reasons unrelated to subject imports for exiting this market, in particular, ***.

Domestic production of liquid sulfur dioxide increased by 4.0 percent from 2002 to 2004.¹⁴⁵ Production, capacity, and capacity utilization reflect downward trends at the end of the period examined, but this is consistent with a major producer leaving the industry. Domestic industry production increased from 2002 to 2003, decreased from 2003 to 2004, and was lower in interim 2005 than in interim 2004.

¹³⁷(...continued)

showing up as pure sulfur dioxide liquid in the market place, or as a derivative. The need for sulfur dioxide, the demand for sulfur dioxide molecules, is growing at a significant pace. Hence, that's the reconciliation. That's why, in 2002 and 2003, the internal consumption figures basically increased. We were responding to the derivative market.

Conference Tr. at 79 (Cogliandro). Thus, we do not find that the record reflects that the domestic industry was injured in interim 2005, even in the contracting merchant market.

¹³⁸ Rhodia's operating ***. CR/PR at Table VI-2. CR/PR at Table VI-7 (return on investment).

¹³⁹ CR at VI-5; PR at VI-5. Commissioner Lane and Commissioner Pearson note that ***, the domestic industry's operating income margins would have been significantly higher through the annual periods surveyed and in interim 2004. Absent Rhodia's data the domestic industry's operating margins would have been ***. Id.

¹⁴⁰ OINV Memorandum INV-CC-203 (December 1, 2005) at VI-5, n.5.

¹⁴¹ CR/PR at III-2, n.8 & Table III-2; PR at III-1, n.8.

¹⁴² Derived from CR/PR at Table VI-1 and OINV Memorandum INV-CC-203 (Dec. 1, 2005) at VI-5.

¹⁴³ Derived from CR/PR at Table VI-1 and OINV Memorandum INV-CC-203 (Dec. 1, 2005) at VI-5.

¹⁴⁴ Petitioner Postconference Brief at 3-4. Conference Tr. at 110-111 (Cogliandro).

¹⁴⁵ CR/PR at Table C-1.

The same trends are true for capacity.¹⁴⁶ We attribute these trends to Rhodia slowing down production in 2004, idling capacity, and exiting the industry by interim 2005.¹⁴⁷

Similarly, the number of production workers, hours worked per worker per year, and wages paid per hour declined to some extent from 2002 to 2003, and were lower in interim 2005 than in interim 2004. We note, however, that as Rhodia left the industry, the industry became more productive, and unit labor costs (total wages/short ton) declined. Productivity increased from 2002 to 2004, and it was higher in interim 2005 as compared to interim 2004. Unit labor costs declined overall from 2002 to 2004, and were lower in interim 2005 than in interim 2004.¹⁴⁸

Shipments increased by 3.1 percent and sales by *** percent from 2002 to 2004.¹⁴⁹ Declines in shipments and sales by the domestic industry from 2003 to 2004 were heavily impacted by decreases in shipments and sales by Rhodia as it left the industry.¹⁵⁰ Domestic producers' shipments to the total U.S. market increased somewhat from 2002 to 2003, and were level from 2003 to 2004, although they were substantially lower in interim 2005 than in interim 2004. As domestic industry shipments declined in interim 2005, so did its market share. Net sales by quantity increased from 2002 to 2003, and were relatively stable from 2003 to 2004. They were much lower in interim 2005 as compared to interim 2004. Net sales by value increased at a slower pace from 2002 to 2004, but they were lower in interim 2005 than in interim 2004. Thus, from 2002 to 2003, the domestic industry experienced increases in sales and shipments, which slowed from 2003 to 2004, and reversed in interim 2005.¹⁵¹ We note that total

¹⁴⁶ Average domestic industry production capacity was 236,838 short tons in 2002, 262,487 short tons in 2003, and 242,943 short tons in 2004. It was 110,450 short tons in interim 2005 and 111,067 short tons in interim 2004.

Domestic industry production was 144,462 short tons in 2002, 155,345 short tons in 2003, and 150,215 short tons in 2004. It was 61,225 short tons in interim 2005 and 73,930 short tons in interim 2004.

Capacity utilization fluctuated from 2002 to 2004, but was lower in interim 2005 than in interim 2004. Domestic industry capacity utilization was 61.0 percent in 2002, 59.2 percent in 2003, and 61.8 percent in 2004. It was 55.4 percent in interim 2005 and 66.6 percent in interim 2004. CR/PR at Table III-3.

Domestic industry inventories are not significant in this industry given the toxic nature of sulfur dioxide and the dangers of storing it under pressure. Inventories were less than three percent of U.S. production and shipments in all periods surveyed. CR/PR at Table III-4.

¹⁴⁷ We do not find that the relatively low level of capacity utilization in this industry is indicative of injury by reason of subject imports. Petitioner acknowledges that it expanded capacity in 2003 when its capacity utilization was at *** percent for two reasons: increased demand for its sulfur derivative products, and the expectation of sales to merchant market purchasers after the closure of certain domestic liquid sulfur dioxide plants. Petitioner Postconference Brief at 24; Conference Tr. at 78-79 (Cogliandro).

¹⁴⁸ The domestic industry's average number of production workers was 44 in 2002 and 2003, and 41 in 2004. It was 34 in interim 2005 as compared to 44 in interim 2004.

The number of hours worked per production worker per year was 2,127 hours in 2002, 2,096 hours in 2003, and 2,206 hours in 2004. The number of hours worked was 1,060 hours in interim 2005 as compared to 1,087 hours in interim 2004.

Average wages per hour were \$26.80 in 2002, \$27.02 in 2003, and \$26.69 in 2004. It was \$27.63 in interim 2005 and \$27.02 in interim 2004.

Productivity (short tons/1,000 hours) was 1,544 short tons in 2002, 1,693 short tons in 2003, and 1,663 short tons in 2004. It was 1,715 short tons in interim 2005 as compared to 1,561 short tons in interim 2004.

Unit labor costs (total wages/short ton) were \$17.36 in 2002, \$15.96 in 2003, and \$16.05 in 2004. It was \$16.12 in interim 2005 as compared to \$17.31 in interim 2004. CR/PR at Table III-15.

¹⁴⁹ CR/PR at Table C-1.

¹⁵⁰ CR/PR at Table III-4 and Table VI-2 ***.

¹⁵¹ CR/PR at Table VI-1. Commercial sales and commercial shipments in the merchant market followed similar trends.

shipments and sales (by quantity and value) by domestic producers other than Rhodia increased from 2002 to 2004, and are relatively stable in interim 2005 as compared to interim 2004.¹⁵²

We find that there is no correlation between subject imports and any declines in profitability. Almost all of the increase in subject import volume prior to interim 2005 occurred from 2002 to 2003. At that time, the domestic industry was at its second-highest level of profitability over the period surveyed (operating margin of 9.8 percent). Subject import volume was level from 2003 to 2004, at which time the domestic industry's profitability declined significantly. Subject import volume was *** percent higher in interim 2005 than in interim 2004, at which time the domestic industry was at its most profitable over the period surveyed (operating margin of 10.0 percent).¹⁵³

We find that there is also generally a lack of correlation over the period examined between subject import volume and domestic pricing trends, particularly with respect to delivered pricing trends. As subject import volume increased from 2002 to 2003, domestic delivered prices declined initially and then increased but stayed below \$170.00 per ton. From 2003 to 2004, as subject import volume was level, domestic delivered prices increased gradually. In interim 2005, when subject import volume increased sharply, the domestic industry's delivered prices also increased sharply by over \$*** per short ton, to \$*** per short ton in first quarter 2005, and stayed close to this price, at \$*** in the second quarter of 2005.¹⁵⁴

Further, to some extent, there is a lack of correlation between subject import volume and domestic f.o.b. pricing trends. As subject import volume increased from 2002 to 2003, domestic prices generally declined. As subject import volume was level from 2003 to 2004, f.o.b. pricing fluctuated, but attained its highest level over the period surveyed in second quarter 2004. In interim 2005, as subject import volume increased more than at any time during the period examined, f.o.b. prices increased sharply (consistent with the trend in the delivered pricing data), and sustained that increase over two quarters.¹⁵⁵

The lack of correlation between subject imports and any injury to the domestic industry demonstrated above, is further supported by certain conditions of competition in this industry. A significant amount of the subject import volume that did enter the U.S. market was transferred to related firms and processed into downstream products. Although we find that these subject imports competed to some extent with the domestic like products, competition is limited by the significant degree of internal consumption.

Our finding of no reasonable indication of material injury is due to the widespread lack of correlation between subject import volume and profitability and pricing trends. At the end of the period examined, prices increased significantly, profitability strengthened, productivity increased, and the simultaneous increase in subject imports had no significant effect on these improvements to the financial condition of the domestic industry.

We do not find that there is a reasonable indication that subject imports are having an adverse impact on the domestic industry. We find that the record as a whole contains clear and convincing evidence that there is no reasonable indication of material injury by reason of subject imports of liquid sulfur dioxide from Canada and no likelihood exists that contrary evidence will arise in a final investigation.

¹⁵² Derived from CR/PR at Table VI-1 and Table VI-2.

¹⁵³ CR/PR at Table IV-2 (subject import volume). This remains true whether the merchant market data are examined, CR at Table C-2, or whether Rhodia's exit costs are excluded from the operating margins, derived from CR/PR at Table VI-1 and OINV Memorandum INV-CC-203 (Dec. 1, 2005) at VI-5.

¹⁵⁴ CR/PR at Table V-2. CR/PR at Table IV-2.

¹⁵⁵ CR/PR at Table V-1. CR/PR at Table IV-2.

VII. NO REASONABLE INDICATION OF A THREAT OF MATERIAL INJURY BY REASON OF SUBJECT IMPORTS FROM CANADA

Section 771(F) of the Act directs the Commission to determine whether there is a reasonable indication that an industry in the United States is threatened with material injury by reason of the subject imports by analyzing whether “further dumped or subsidized imports are imminent and whether material injury by reason of imports would occur unless an order is issued or a suspension agreement is accepted.”¹⁵⁶ The Commission may not make such a determination “on the basis of mere conjecture or supposition,” and considers the threat factors “as a whole.”¹⁵⁷ In making our determination, we have considered all factors that are relevant to this investigation.¹⁵⁸ Based on an evaluation of the relevant statutory factors, we find that there is no reasonable indication that an industry in the United States is threatened with material injury by reason of subject imports of liquid sulfur dioxide from Canada that are allegedly sold in the United States at less than fair value.

As an initial matter, we do not find that the domestic industry is vulnerable. We base this finding on the fact that the industry operated at a significant profit, 10.0 percent, in interim 2005. Rhodia, which was experiencing *** throughout the period examined, has now left the industry for reasons unrelated to subject imports. In 2005, the COGS/sales ratio for the industry improved, as did productivity and unit labor costs, indicating a much stronger financial condition for the industry than in 2004, notwithstanding the increase in subject imports in interim 2005.

We have also considered domestic industry support as a factor in our threat of material injury analysis.¹⁵⁹ ***.¹⁶⁰ We find that the lack of support for the petition provides additional support for our finding of no reasonable indication of threat of material injury by reason of subject imports.

Chemtrade, Marsulex and Teck Cominco were Canadian producers and exporters of liquid sulfur dioxide over the period examined. Additionally, Chemtrade markets liquid sulfur dioxide produced by Falconbridge and Inco in the United States. All five firms provided useable data in response to the Commission’s foreign producers’ questionnaires and account for 100 percent of known Canadian production of liquid sulfur dioxide.¹⁶¹ Other than Marsulex, all Canadian producers of liquid sulfur dioxide produce liquid sulfur dioxide as a by-product of their heavy-metal smelting operations.¹⁶²

¹⁵⁶ 19 U.S.C. § 1677d(b) and 1677(7)(F)(ii).

¹⁵⁷ 19 U.S.C. § 1677(7)(F)(ii). An affirmative threat determination must be based upon “positive evidence tending to show an intention to increase the levels of importation.” *Metallwerken Nederland B.V. v. United States*, 744 F. Supp. 281, 287 (Ct. Int’l Trade 1990) (citing *American Spring Wire Corp. v. United States*, 590 F. Supp. 1273, 1280 (Ct. Int’l Trade 1984); see also *Calabrian Corp. v. United States*, 794 F. Supp. 377, 387-88 (Ct. Int’l Trade 1992) citing H.R. Rep. No. 98-1156 at 174 (1984).

¹⁵⁸ 19 U.S.C. § 1677(7)(F). These factors include: 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; a significant rate of increase of the volume or market penetration of imports of the subject merchandise indicating the likelihood of substantially increased imports; whether imports of the subject merchandise are entering at prices that are likely to have a significant depressing or suppressing effect on the domestic prices and are likely to increase demand for further imports; inventories of the subject merchandise; 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; and the actual and potential negative effects on the existing development and production efforts of the domestic industry. 19 U.S.C. § 1677(7)(F)(i). Statutory threat factor (I) is inapplicable, as no countervailable subsidies are involved, and statutory threat factor (VII) is inapplicable, as no imports of agricultural products are involved. *Id.*

¹⁵⁹ *Suramerica de Aleaciones Laminadas, C.A. v. United States*, 44 F. 2d 978, 983 (Fed. Cir. 1994).

¹⁶⁰ CR/PR at Table III-2.

¹⁶¹ CR/PR at VII-2.

¹⁶² CR/PR at VII-3.

Canadian production capacity has been stable, except for periodic production disruptions due to labor strikes at Canadian heavy metal firms, which caused a decrease in production capacity in 2003, and in interim 2005.¹⁶³ No Canadian producer ***.¹⁶⁴ Projected capacity in 2005 and 2006 are lower than production capacity in 2002.¹⁶⁵

Canadian capacity utilization is relatively high. Although it has declined from a high of 93.6 percent in 2002, Canadian capacity utilization has been at 79.2 percent or higher throughout the period examined. It is projected to be at 85.8 percent in 2005, and 89.6 percent in 2006.¹⁶⁶

Total production of liquid sulfur dioxide from Canada declined from 2002 to 2004. Canadian production was lower in interim 2005 than in interim 2004, and it is projected to be lower in full year 2005 than in 2004 as well. Moreover, it is projected to be lower in 2006 than in 2002.¹⁶⁷

Approximately *** percent of Canadian shipments of liquid sulfur dioxide went to the home market, twenty-seven to thirty-seven percent to the United States, and *** percent were internally consumed over the period examined.¹⁶⁸ A significant amount of the subject import volume that did enter the U.S. market was transferred to related firms and processed into downstream products. These patterns are projected to remain in place for the imminent future. Exports to the United States increased gradually over the period examined as a share of shipments, but are projected to remain between thirty and thirty-five percent of shipments in 2005 and 2006.¹⁶⁹ In absolute terms, shipments from Canada to the United States are projected to increase to some extent, but at a slower rate from 2005 to 2006, than from 2004 to 2005.¹⁷⁰ There are no dumping orders in third country markets that would encourage increased shipments to the U.S. market in the imminent future.¹⁷¹

We also do not find that it is likely that Canadian producers will shift production from other products to liquid sulfur dioxide, due to the costs involved for most producers. Only one Canadian producer, Marsulex, can shift production to liquid sulfur dioxide without additional capital investment. While existing sulfuric acid production from heavy metal smelting operations could be diverted to the production of liquid sulfur dioxide, this would require some capital investment or retrofitting of

¹⁶³ CR/PR at VII-6 and Table VII-3. Petitioner argues that the Commission should use Canadian nameplate capacity for *** rather than the average production capacity data collected from these firms through our questionnaires. Petitioner Postconference Brief at 28-29. We find consistent data from all Canadian producers on their average production capacity more reliable given the variables in production operations in this industry that can cause published “nameplate capacity” to have limited relevance to our analysis, such as ***. We do not agree with Petitioner’s arguments that we should rely on nameplate capacity for *** because the average production capacity reported by other firms is close to their published capacity. Petitioner Postconference Brief at 28-29. ***. CR/PR at Table VII-4. Furthermore, *** nameplate capacity has been present throughout the period examined, although as the staff’s analysis shows, ***, without injury to the domestic industry. There is no reason to think that this would change in the imminent future. Id.

¹⁶⁴ CR/PR at VII-6 & Table VII-3.

¹⁶⁵ CR/PR at Table VII-3.

¹⁶⁶ CR/PR at Table VII-3.

¹⁶⁷ CR/PR at Table VII-3.

¹⁶⁸ CR/PR at Table VII-3.

¹⁶⁹ CR/PR at Table VII-3. Canadian shipments of liquid sulfur dioxide to the United States increased from 26.6 percent of shipments in 2002 to 32.2 percent of shipments in 2003, before decreasing to 29.5 percent of shipments in 2004. Exports to the United States were 37.4 percent in interim 2005 and 32.3 percent in interim 2004. Exports to the United States are projected to be 34.9 percent of total shipments in 2005 and 33.3 percent of total shipments in 2006. Id.

¹⁷⁰ Exports to the United States were 45,565 short tons in 2002, 49,607 short tons in 2003, and 47,458 short tons in 2004. They were 28,879 short tons in interim 2005 as compared to 25,300 short tons in interim 2004. Exports to the United States are projected to be 50,630 short tons in 2005, 3,172 short tons higher than 2004 levels, and 53,290 short tons in 2006, 2,660 short tons higher than projected 2005 levels. CR/PR at Table VII-3.

¹⁷¹ CR at VII-10; PR at VII-8.

equipment for production and additional handling and storage capacities.¹⁷² The record does not reflect, nor does Petitioner argue, that significant product-shifting in Canada will occur in the imminent future.

Furthermore, we do not find that Canadian inventories of subject merchandise indicate that the domestic industry is threatened with material injury. Canadian inventories of subject merchandise are relatively small, accounting for under ten percent of total shipments over the period examined.¹⁷³

We recognize that due to the dangers of transporting liquid sulfur dioxide, there are no viable export markets for liquid sulfur dioxide from Canada other than the United States.¹⁷⁴ We find the market in Canada to be relatively stable, both in terms of production capacity, capacity utilization and exports to the United States. We do not find that the data in this investigation on Canadian production capacity, and exports to the United States, indicate the likelihood of substantially increased imports of the subject merchandise into the United States.

We acknowledge that subject import volume increased in quantity by *** short tons or by *** percent from 2002 to 2004. Furthermore, subject import volume increased in quantity by *** short tons or by *** percent in interim 2005 as compared to interim 2004.¹⁷⁵ However, we find that these increases in subject import volume have stabilized. The increase in subject imports in interim 2005 was related to Chemtrade's need to fulfill its affiliate's needs for liquid sulfur dioxide at its Leeds, South Carolina sodium hydrosulfite plant, which is supplied by domestic like product, subject imports and nonsubject imports.¹⁷⁶ Although the need for that liquid sulfur dioxide for use at the Leeds plant will likely remain in place for the imminent future, there is no indication that any increased demand for subject imports will lead to a substantial increase in overall or total subject import volume.

Subject import volume relative to total apparent U.S. consumption was relatively stable from 2002 to 2004. It was nonsubject imports, not subject imports, that gained market share in the total market for liquid sulfur dioxide from 2002 to 2004. Subject imports experienced an increase in market share in total apparent U.S. consumption in interim 2005 as compared to interim 2004, but as we have already stated, that increase was related to Chemtrade's needs to supply liquid sulfur dioxide to its Leeds plant, and we do not find evidence that subject imports will significantly increase market share in the imminent future, given projected exports from Canada.¹⁷⁷ Thus, the record does not reflect a likelihood of substantially increased imports of the subject merchandise into the United States or a substantial increase in market penetration in the imminent future.

We find it unlikely that subject imports will enter the U.S. market at prices that are likely to have a significant depressing or suppressing effect on domestic prices or that are likely to increase demand for further imports. Coupled with our findings on the lack of likely substantially increased subject imports, the record evidence indicates that subject import prices had no significant adverse effects on domestic prices during the period examined. Prices rose in interim 2005 notwithstanding an increase in subject imports from Canada in the U.S. market.¹⁷⁸ The COGS/sales ratio improved in interim 2005. Based on

¹⁷² CR at VII-8; PR at VII-7.

¹⁷³ CR/PR at Table VII-6.

¹⁷⁴ CR at VII-7; PR at VII-6.

¹⁷⁵ CR/PR at IV-1.

¹⁷⁶ CR at III-24, IV-16; PR at III-12-13, IV-8.

¹⁷⁷ CR/PR at Table C-1. CR/PR at Table VII-3. Subject imports gained a small amount of market share in the merchant market from 2002 to 2004, and more market share in interim 2005 as compared to interim 2004. As with the total market, we find that this increase in merchant market share was related to Chemtrade's need to supply Leeds with liquid sulfur dioxide, and there is no evidence indicating that this market share will increase in the future. CR/PR at Table C-2.

¹⁷⁸ Petitioner maintained at the conference that Canadian producers are willing to sell liquid sulfur dioxide "at whatever price necessary" to grow market share, because it is a byproduct of Canadian smelting operations. Conference Tr. at 22 (Cogliandro). At the conference, Teck Cominco's representative categorically denied ever making such a statement. Conference Tr. at 144 (Paolone). We note that Canadian producers have been producing

(continued...)

these considerations, we find it unlikely that subject imports will enter the U.S. market at prices that are likely to have a significant depressing or suppressing effect on domestic prices or that are likely to increase demand for further imports.

We also do not find that subject imports are likely to have an actual or potential negative effect on the domestic industry's existing development and production efforts. There is no indication that subject imports have negatively impacted development efforts by the domestic industry. Petitioner was responsible for the vast majority of capital expenditures over the period examined. Although Petitioner's capital expenditures have decreased, we do not find this to be an indicator of future material injury. Petitioner has reported ***.¹⁷⁹

Accordingly, we find that the record as a whole contains clear and convincing evidence that there is no reasonable indication of a threat of material injury by reason of subject imports of liquid sulfur dioxide from Canada, and no likelihood exists that contrary evidence will arise in a final investigation.

CONCLUSION

For the reasons stated above, we determine that there is no reasonable indication that an industry in the United States is materially injured or threatened with material injury by reason of subject imports of liquid sulfur dioxide from Canada that are allegedly sold in the United States at less than fair value.

¹⁷⁸(...continued)

liquid sulfur dioxide as a byproduct from their smelting operations for a long time, Canadian f.o.b. prices fluctuated within a relatively narrow range over the period examined, and were increasing at the end of the period examined. Canadian delivered prices were generally higher than domestic prices. These data do not reflect that Canadian producers are willing to sell liquid sulfur dioxide "at whatever price necessary" but reflects more or less stable pricing in a mature industry that often oversold the domestic product in the delivered pricing series.

¹⁷⁹ CR/PR at Table VI-1.

DISSENTING VIEWS OF CHAIRMAN STEPHEN KOPLAN

Based on the record developed in this preliminary investigation, I find that there is a reasonable indication that the domestic industry is materially injured by reason of imports of liquid sulfur dioxide from Canada that are allegedly sold in the United States at less than fair value (“LTFV”). I note that there are fundamental issues raised and unanswered in the limited record of this preliminary phase investigation that warrants an affirmative determination and the continuation of the investigation into the final phase. The important unresolved issues include, but are not limited to, the adequacy of pricing data given the regional concentration and high transportation costs in the industry, the lack of purchaser data, and the role and impact of subject imports on the decision of a leading domestic producer to exit the industry during the period of investigation.

I join the Commission’s views on domestic like product, domestic industry, and conditions of competition, except as noted.¹ My dissenting views follow.

I. The Legal Standard for Preliminary Determinations

The legal standard for preliminary antidumping duty determinations requires the Commission to determine, based upon the information available at the time of the preliminary determination, whether there is a reasonable indication that a domestic industry is materially injured, threatened with material injury, or whether the establishment of an industry is materially retarded, by reason of the allegedly unfairly traded imports.² In applying this standard, the Commission weighs the evidence before it and determines whether “(1) the record as a whole contains clear and convincing evidence that there is no material injury or threat of such injury; and (2) no likelihood exists that contrary evidence will arise in a final investigation.”³

II. Reasonable Indication of Material Injury by Reason of Allegedly LTFV Imports From Canada

In the preliminary phase of an antidumping duty investigation, the Commission determines whether there is a reasonable indication that an industry in the United States is materially injured by reason of the imports under investigation.⁴ In making this determination, the Commission must consider the volume of subject imports, their effect on prices for the domestic like product, and their impact on domestic producers of the domestic like product, but only in the context of U.S. production operations.⁵ The statute defines “material injury” as “harm which is not inconsequential, immaterial, or unimportant.”⁶ In assessing whether there is a reasonable indication that the domestic industry is materially injured by reason of subject imports, I am required to consider all relevant economic factors that bear on the state of

¹ Given that the record indicates that subject imports and the domestic like product are interchangeable and recognizing an important issue raised regarding the nature of competition between subject imports and the domestic like product, *i.e.*, whether transportation costs limit U.S. merchant producers’ sales to nearby purchasers, I find that a negative determination at this preliminary stage is not warranted. The record does not present information sufficient to support dispositive distinctions regarding the industry’s performance, absent purchaser input regarding the nature of competition between domestic and imported product, in the merchant segment.

² 19 U.S.C. § 1673b(a); *see also American Lamb Co. v. United States*, 785 F.2d 994, 1001-1004 (Fed. Cir. 1986); *Aristech Chemical Corp. v. United States*, 20 CIT 353, 354 (1996).

³ *American Lamb*, 785 F.2d at 994, 1001 (Fed. Cir. 1986); *see also Texas Crushed Stone Co. v. United States*, 35 F.3d 1535, 1543 (Fed. Cir. 1994).

⁴ 19 U.S.C. § 1673b(a).

⁵ 19 U.S.C. § 1677(B)(i). The Commission “may consider such other economic factors as are relevant to the determination” but shall “identify each [such] factor ...[a]nd explain in full its relevance to the determination.” 19 U.S.C. § 1677(7)(B); *see also Angus Chemical Co. v. United States*, 140 F.3d 1478 (Fed. Cir. 1998).

⁶ 19 U.S.C. § 1677(7)(A).

the industry in the United States.⁷ No single factor is dispositive, and all relevant factors are considered “within the context of the business cycle and conditions of competition that are distinctive to the affected industry.”⁸

A. Volume of the Subject Imports

Section 771(7)(C)(i) of the Act provides that the “Commission shall consider whether the volume of imports of the merchandise, or any increase in that volume, either in absolute terms or relative to production or consumption in the United States, is significant.”⁹

Subject imports from Canada increased significantly over the period of investigation, both from 2002 to 2004, and between interim 2004 and interim 2005.¹⁰ Apparent U.S. consumption increased 5.0 percent from 203,023 short tons in 2002 to 213,243 short tons in 2004. It was 96,805 short tons in interim 2005 as compared to 103,461 short tons in interim 2004, a decline of 6.4 percent.¹¹ U.S. shipments of subject imports increased their market share, from *** percent of apparent U.S. consumption by quantity in 2002 to *** percent in 2004, and increased between the interim periods while apparent U.S. consumption decreased. U.S. shipments of subject imports’ share of apparent U.S. consumption was *** percentage points higher in interim 2005 as compared to interim 2004.¹²

The increase in market share by subject imports, which occurred primarily in interim 2005, was at the expense of the domestic industry. Domestic producers’ share of apparent U.S. consumption declined over the period of investigation. It was 70.7 percent by quantity in 2002, 70.5 percent in 2003, and 69.4 percent in 2004. The domestic industry’s U.S. market share declined more rapidly between the interim periods. It declined from 70.1 percent in interim 2004 to 61.5 percent in interim 2005.¹³

As the Commission noted,¹⁴ domestic producer Rhodia ceased production of liquid sulfur dioxide at its Houston, Texas facility and *** in April 2004. Subsequently, Rhodia exited the industry when it idled its remaining liquid sulfur dioxide facility in Baton Rouge, Louisiana in the second half of 2004.¹⁵ Rhodia has indicated that it exited the industry ***.¹⁶ Although Rhodia ***. Further, as Commerce’s Initiation of Antidumping Duty Investigation notes, Rhodia has sold all its liquid sulfur dioxide sales business to Chemtrade U.S. and has entered into an agreement under which it receives commissions on sales to its former customers.¹⁷

Current U.S. consumption consists of both internal consumption by producers of liquid sulfur dioxide, and sales in the merchant market. Respondent Chemtrade Canada has argued that its increased subject imports in 2005 were to satisfy demand at its U.S. affiliate, Chemtrade Performance Chemicals, and could not have been the cause of injury to the Petitioner, as this material did not enter the merchant market.¹⁸ Data gathered in this preliminary investigation indicates that much of the increase in Chemtrade U.S.’s subject imports in 2005 was transferred internally to related firms. At the same time, there was a decline in merchant market sales due to the exit from the industry by domestic producer Rhodia ***.¹⁹ In interim 2005, ***. Consequently, I find that increased subject imports have led to increased competition for the remaining sales in the merchant market.

⁷ 19 U.S.C. § 1677(7)(C)(iii).

⁸ 19 U.S.C. § 1677(7)(C)(iii).

⁹ 19 U.S.C. § 1677(7)(C)(i).

¹⁰ CR/PR at Table IV-1.

¹¹ CR/PR at Table IV-8.

¹² CR/PR at Table IV-9.

¹³ CR/PR at Table IV-9.

¹⁴ See Conditions of Competition in Views of the Commission.

¹⁵ CR/PR at III-1.

¹⁶ CR at III-2, fn. 8, citing a November 21 telephone interview with *** and PR at III-1, fn. 8.

¹⁷ 70 Fed. Reg. 69735, 69737 (November 17, 2005).

¹⁸ Chemtrade U.S. Postconference Brief, at 18. *** (CR/PR at Table IV-1).

¹⁹ CR/PR at Table III-4 and Table III-6.

Subject imports accounted for the vast majority of all imports throughout the period of investigation,²⁰ and over *** percent of apparent U.S. consumption by quantity in every year and in interim 2005.²¹ During the period of investigation, the domestic industry lost market share to subject imports. Subject imports increased significantly between 2002 and 2004, and in interim 2005 as compared to interim 2004. Domestic producers' production and U.S. shipments increased from 2002 to 2004, but at a slower rate than subject imports or apparent consumption. Subject imports increased both absolutely, and relative to both domestic production and consumption. Accordingly, I find the volume of subject imports, both in absolute terms and relative to production and consumption in the United States, was significant during the period of investigation.

B. Price Effects of the Subject Imports

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

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

(II) the effect of imports of such merchandise otherwise depresses prices to a significant degree or prevents price increases, which otherwise would have occurred, to a significant degree.²²

The Commission collected pricing data for sales to unrelated customers on both an f.o.b. and a delivered basis. On an f.o.b. basis, subject imports undersold the domestic like product, by quarterly comparisons, from January 2002-June 2005 in 11 of 14 quarters.²³ During this period, the subject imports oversold the domestic like product only in two quarters in 2002 and one quarter in 2003. On a delivered basis, subject imports undersold the domestic like product in only 5 of 14 comparisons.²⁴ However, the instances of underselling include the last four quarters for which data were collected. In 2004, delivered subject import prices generally trended down, and domestic delivered prices increased.²⁵ With the exception of one quarter, quarterly average domestic delivered prices increased in each successive quarter since the first quarter of 2004, while the quarterly average delivered price of subject imports declined in three of five successive quarters and was lower in the second quarter of 2005 than in the first quarter of 2004.²⁶

The average unit value of shipments by domestic producers declined between 2002 and 2004, but was higher in interim 2005 compared to interim 2004.²⁷ In contrast, the average unit value of subject imports increased between 2002 and 2004, but was lower in interim 2005 compared to interim 2004.²⁸ At the Staff Conference, Ms. Wueller, Comptroller for Petitioner Calabrian, testified that Calabrian had not been able to increase selling prices for liquid sulfur dioxide in 2005 sufficient to cover increasing costs.²⁹ Respondent Chemtrade Canada has acknowledged in its Postconference Brief (pgs. 21-22) that Petitioner Calabrian (and by extension the domestic producer Olin, who uses the same production process as the

²⁰ CR/PR at Table IV-2.

²¹ CR/PR at Table C-1.

²² 19 U.S.C. § 1677(7)(C)(ii).

²³ CR/PR at Table V-1.

²⁴ CR/PR at Table V-2.

²⁵ Petitioner asserts that it has not been able to raise its prices sufficiently to offset increased production and transportation costs. Petition at 35 and Conference Tr. at 11.

²⁶ CR/PR at Table V-2.

²⁷ CR/PR at Table III-1.

²⁸ CR/PR at Table IV-2.

²⁹ Conference Tr. at 41-43.

Petitioner) have experienced cost increases in interim 2005 that other producers of liquid sulfur dioxide have not, because of their different production process, but asserted that this inability to raise prices as rapidly as costs increased does not warrant trade relief because Calabrian (and Olin) have a different cost structure than other domestic producers. However, Calabrian and Olin are ***. Consequently, I find that there is a reasonable indication that subject imports suppressed domestic prices in the recent period.

As discussed in the Conditions of Competition in Views of the Commission, transportation costs for liquid sulfur dioxide are high and vary widely by region. This limits the utility of nation-wide price comparisons, both on an f.o.b. and a delivered basis. Overall, transportation costs for U.S. producers accounted for approximately *** percent of the total shipped value of liquid sulfur dioxide during the period for which data were collected.³⁰ A final investigation would have allowed the Commission to gather, as a better measure of price competition, purchaser pricing data on sales to specific customers. Additionally, bid data could have been collected for those purchasers with exclusive contracts.

Petitioner provided data concerning specific sales lost to Canadian subject imports between February 2002 and June 2005, as well as lost revenues due to price competition with subject imports in annual contract negotiations. In all, Commission staff was able to confirm *** of the total *** in alleged lost sales, and *** of the total *** in lost annual revenues.³¹ Consequently, I find that there is a reasonable indication that subject imports undersold the domestic product in a significant number of comparisons.

Although the record is limited at this stage of this investigation, nonetheless I find, based in reliance upon the increasing market share of the subject imports and the fungible nature of the product, that the subject imports are having significant negative price effects on the domestic like product. I further note that, despite our recognition that the preliminary record is limited, of particular importance is the absence of additional data from purchasers with respect to the effect of import prices on their price negotiations with domestic producers; any final phase investigation would have provided the ability to more adequately assess the price effects of subject imports.³²

Based on the foregoing, I find, for purposes of this preliminary investigation, significant underselling of the domestic like product by subject imports and a reasonable indication that subject imports have suppressed domestic prices to a significant degree.

C. Impact of the Subject Imports

Section 771(7)(C)(iii) provides that the Commission, in examining the impact of the subject imports on the domestic industry, “shall evaluate all relevant economic factors which have a bearing on the state of the industry.”³³ These factors include output, sales, inventories, capacity utilization, market share, employment, wages, productivity, profits, cash flow, return on investment, ability to raise capital, and research and development. No single factor is dispositive and all relevant factors are considered “within the context of the business cycle and conditions of competition that are distinctive to the industry.”³⁴

I find that there is a reasonable indication that the subject imports have had a significant adverse impact on the domestic industry. The growth in the volume of fungible subject imports that exceeded the growth in U.S. apparent consumption, the incidences of underselling that have contributed to the suppression of domestic prices, and the exit of domestic producer Rhodia from the liquid sulfur dioxide

³⁰ CR at V-2, and PR at V-1.

³¹ CR at V-10, and PR at V-5.

³² See American Lamb, 785 F.2d at 1001 (Fed. Cir. 1986).

³³ 19 U.S.C. § 1677(7)(C)(iii).

³⁴ The statute instructs the Commission to consider the “magnitude of the dumping margin” in an antidumping proceeding as part of its consideration of the impact of imports. 19 U.S.C. § 1677(7)(C)(iii)(V). In its Notice of Initiation, Commerce estimated dumping margins for Canadian producers/exporters of liquid sulfur dioxide ranging from 141.1 percent to 219.99 percent (FR 697735).

market, resulted in the decline of several key performance indicators over the period of investigation.³⁵ The operating income of the domestic industry only improved in interim 2005, following the exit of Rhodia in December 2004.³⁶

As noted above, the increasing volume of low-priced subject imports contributed to the suppression of domestic prices and the steady decline in the domestic industry's market share, resulting in the industry's poor financial performance. Therefore, I find that the subject imports have had a significant adverse impact on the domestic industry. I note also that in any final investigation, the Commission would have been able to gather a full year of data for 2005, following the exit of Rhodia in December 2004.

III. Conclusion

For the foregoing reasons, I determine that there is a reasonable indication that the domestic industry is materially injured by reason of subject imports of liquid sulfur dioxide from Canada sold in the United States at less than fair value.

³⁵ U.S. production increased by 4.0 percent from 144,462 short tons in 2002 to 150,215 short tons in 2004, but decreased by 17.2 percent during the interim periods. Capacity utilization rates also increased from 2002 to 2004, but declined between the interim periods, and employment levels declined. CR/PR at Table C-1.

³⁶ Operating income as a share of net sales declined from 9.8 percent in 2002 to 0.3 percent in 2004, but increased to 10.0 percent in interim 2005 compared to 1.6 percent in interim 2004. CR/PR at Table VI-1.

PART I: INTRODUCTION

BACKGROUND

This antidumping duty investigation results from a petition filed by Calabrian Corporation (“Calabrian”), Kingwood, Texas, on September 30, 2005, alleging that an industry in the United States is materially injured and threatened with material injury by reason of less-than-fair-value (“LTFV”) imports of liquid sulfur dioxide from Canada.¹ Information relating to the background of this investigation is provided below.²

<i>Date</i>	<i>Action</i>
September 30, 2005	Petition filed with Commerce and the Commission; institution of the Commission’s investigation (70 FR 58747, October 7, 2005).
October 20, 2005	Commission’s conference. ³
October 27, 2005	Commerce’s extension of initiation (70 FR 61937, October 27, 2005).
November 9, 2005	Commerce’s initiation (70 FR 69735, November 17, 2005).
November 17, 2005	Commission’s revised schedule of investigation (70 FR 70879, November 23, 2005).
December 7, 2005	Commission’s vote.
December 12, 2005	Commission’s determination transmitted to Commerce.
December 19, 2005	Commission’s views transmitted to Commerce.

ORGANIZATION OF REPORT

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

¹ See Garvey Schubert Baker, *Liquid Sulfur Dioxide from Canada: Filing of Antidumping Duty Petition* (“Petition”), September 29, 2005. The petition was submitted after 12:00 p.m. (noon), and therefore deemed to be filed on the following business day.

² *Federal Register* notices cited are presented in app. A.

³ A list of witnesses appearing at the conference is presented in app. B.

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 declines 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.

Part I of this report presents information on the subject merchandise, preliminary 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 and pricing of imports of the subject merchandise, respectively. *Part VI* presents information on the financial experience of U.S. producers. *Part VII* presents information obtained for use in the Commission's consideration of the question of threat of material injury.

U.S. MARKET SUMMARY

Trade for liquid sulfur dioxide totaled approximately \$26.4 million (213 million short tons) in the total U.S. market in 2004, reflecting shipments of \$*** (** short tons) in the merchant market and \$*** (** short tons) in transfers and internal consumption. Currently, four firms produce liquid sulfur dioxide for commercial sale in the United States: Calabrian, Chemtrade Logistics, Inc. US ("Chemtrade"),⁴ PVS Chemical Solutions, Inc. ("PVS Chemical"), and Olin Corp. ("Olin"). A fifth firm, Rhodia, Inc. ("Rhodia"), produced liquid sulfur dioxide until idling its remaining production capacity in 2004.

U.S. producers' U.S. shipments of domestically produced liquid sulfur dioxide totaled \$19.9 million (148 million short tons) in 2004, and accounted for 75.3 percent of apparent U.S. consumption by value. Commercial shipments of U.S.-produced liquid sulfur dioxide totaled \$*** (** short tons) in 2004, and accounted for *** percent of the apparent U.S. merchant market consumption by value. U.S. producers and U.S. importers primarily ship liquid sulfur dioxide to end users, whether as merchant

⁴ Chemtrade is also a U.S. importer and Canadian exporter, and formerly it was a Canadian producer (prior to July 2004). A related firm, Chemtrade Performance Chemicals, LLC ("Chemtrade Performance Chemicals"), is a producer in the United States of a downstream sulfur derivative product called sodium hydrosulfite and a U.S. purchaser of liquid sulfur dioxide. Both Chemtrade and Chemtrade Performance Chemicals have sister firms in Canada by the same name. Chemtrade Logistics Canada is the legal entity that coordinates the sale and marketing of Canadian liquid sulfur dioxide within Canada, while Chemtrade Performance Chemicals Canada is a producer of sodium hydrosulfite in Canada. Mark Davis is the head of both Chemtrade Logistics in the United States and in Canada. Douglas Cadwell is the head of both Chemtrade Performance Chemicals in the United States and in Canada. All four legal entities are owned and controlled by an umbrella firm called Chemtrade Logistics Fund, which is traded on the Toronto Stock Exchange. See <http://www.chemtradelogistics.com/corporate-sppc.htm>, retrieved October 18, 2005.

market sales or through captive consumption. Chemical manufacturing of further downstream sulfur derivative products, primarily sodium hydrosulfite, is the main end use for liquid sulfur dioxide. Other end use industries for liquid sulfur dioxide include food processing (preservative, bleaching), water treatment (dechlorinating), paper and pulp (bleaching), and refining (bleaching). Some U.S. producers and U.S. importers sell product to intermediaries that repackage the rail car or truck car material into smaller canisters for subsequent sale to smaller end users, such as certain municipalities and small food processors. All U.S. producers are involved in the manufacture of other sulfur derivatives that consume liquid sulfur dioxide (e.g. sodium hydrosulfite and the sulfur-based sodium salts: sodium sulfite, sodium bisulfite, sodium thiosulfate, and sodium metabisulfite) or that share the same manufacturing equipment (e.g. sulfuric acid).⁵ Many of the sulfur derivatives serve as possible substitutes to liquid sulfur dioxide.

U.S. importers' U.S. shipments of Canadian-produced liquid sulfur dioxide totaled \$*** (***) short tons) in 2004, and accounted for *** percent of U.S. consumption by value. Commercial shipments of subject liquid sulfur dioxide totaled \$*** (***) short tons) in 2004, and accounted for *** percent of the U.S. merchant market by value. Chemtrade Logistics ("Chemtrade"), Marsulex, Inc. ("Marsulex"), and Teck Cominco, Inc. ("Teck Cominco") accounted for all imported liquid sulfur dioxide from Canada. Chemtrade is owned by Canadian interests and operates both as a U.S. importer of subject merchandise and as a Canadian producer of liquid sulfur dioxide.

The only other reported source of U.S. imports was Mexico. U.S. importers' U.S. shipments of Mexican-produced liquid sulfur dioxide totaled \$*** (***) short tons) in 2004, and accounted for *** percent of U.S. consumption by value. Commercial shipments of nonsubject liquid sulfur dioxide totaled \$*** (***) short tons) in 2004, and accounted for *** percent of the U.S. merchant market by value.

SUMMARY DATA AND DATA SOURCES

Tables C-1 through C-6 of appendix C present summaries of data collected in this investigation. Unless otherwise noted, this report presents data based on responses to the Commission's questionnaires from all five U.S. manufacturers of liquid sulfur dioxide from January 1, 2002 to June 30, 2005. U.S. import data are based on data reported by U.S. importers in response to the Commission U.S. importers' questionnaire.

PREVIOUS AND RELATED INVESTIGATIONS

Liquid sulfur dioxide has not been the subject of any prior antidumping or countervailing duty investigations in the United States. A raw material to the manufacture of liquid sulfur dioxide, elemental sulfur, was the subject of antidumping duty investigations in the United States in 1971 (Mexico) and 1973 (Canada). The order on elemental sulfur from Canada was removed following the Commission's five-year review in 1998-99.⁶ Sulfanilic acid, a sulfur derivative product, has been the subject of several antidumping and countervailing duty investigations in the United States.⁷ Sodium thiosulfate, another sulfur derivative product, was subject to antidumping duty orders on imports from China, Germany, and

⁵ The use of common equipment in the manufacture of sulfuric acid depends upon the manufacturing process employed.

⁶ *Elemental Sulfur from Canada, Inv. No. AA1921-127* (Review), USITC Publication 3152, January 1999.

⁷ Original antidumping and countervailing duty orders on sulfanilic acid from China (1992) and from India (1993) are currently undergoing their second five-year review. *Sulfanilic Acid From China and India*, 70 FR 22698, May 2, 2005. Additionally, sulfanilic acid from Hungary and Portugal have been subject to antidumping duty orders since 2002. *Sulfanilic Acid from Hungary and Portugal, Invs. Nos. 701-TA-426 and 731-TA-984-985 (Final)*, USITC Publication 3554, November 2002.

the United Kingdom before their revocation following the completion of their second five-year review in 2005.⁸

NATURE AND EXTENT OF ALLEGED SALES AT LTFV

On November 17, 2005, the Commission received notification of Commerce's initiation of an antidumping duty investigation concerning liquid sulfur dioxide from Canada. The alleged dumping margins as recalculated by Commerce for Canadian producers/exporters of liquid sulfur dioxide range from 141.1 percent to 219.99 percent.⁹

THE SUBJECT MERCHANDISE

Commerce's Scope

Commerce has defined the imported product subject to this investigation as follows:¹⁰

Liquid Sulfur Dioxide.— *The product covered by this investigation is technical or commercial grade and refrigeration grade liquid sulfur dioxide of a minimum 99.98 percent assay. Sulfur dioxide is identified by the chemical formula SO₂. The Chemical Abstract Service (CAS) No. for sulfur dioxide is 7446-09-5. Liquid sulfur dioxide gas compressed through refrigeration and stored under pressure. Sulfur dioxide in its gaseous state is excluded from the petition. Liquid sulfur dioxide subject to this investigation is currently classifiable under subheading 2811.23.00 of the Harmonized Tariff Schedule of the United States ("HTSUS"). While the HTSUS subheading is provided for convenience and Customs purposes, the written description of the scope of this investigation is dispositive.*

Tariff Treatment

The imported product subject to this investigation is entered under subheading 2811.23.00 of the Harmonized Tariff Schedule of the United States ("HTS"). For subheading 2811.23.00, a normal trade relations ("NTR") tariff rate of 4.2 percent *ad valorem* applies to imports liquid sulfur dioxide. However, liquid sulfur dioxide from Canada and Mexico is eligible to enter into the United States free of duty under the North American Free Trade Agreement ("NAFTA"), if it meets applicable rules of origin.

THE DOMESTIC LIKE PRODUCT

The Commission's determination regarding the appropriate domestic product that is "like" the subject imported product is based on a number of factors, including (1) physical characteristics and uses; (2) common manufacturing facilities and production employees; (3) interchangeability; (4) customer and producer perceptions; (5) channels of distribution; and, where appropriate, (6) price.

Petitioner contends that there is one domestic like product consisting solely of liquid sulfur dioxide, coextensive with the scope of this investigation.¹¹ For the purposes of the preliminary phase of

⁸ *Sodium Thiosulfate from China, Germany, and the United Kingdom*, 70 FR 29364, May 20, 2005, effective March 7, 2005.

⁹ *Initiation of Antidumping Duty Investigation: Liquid Sulfur Dioxide from Canada*, 70 FR 69735, November 17, 2005.

¹⁰ *Ibid.*

¹¹ Conference transcript, pp. 46-52 (Wisla). *See also* Petition, pp. 21-22.

the investigation, the respondents do not challenge the petitioner on its definition of the domestic like product.¹²

General Description

Sulfur dioxide is an oxide of sulfur. Sulfur occurs naturally in many fuels, such as crude oil and coal, and ores containing metals such as copper, zinc, lead, and iron. Sulfur dioxide is produced from the chemical reaction of sulfur with molecular oxygen (O₂) when these raw materials are combusted or otherwise processed. Millions of tons per year of gaseous sulfur dioxide are produced from fuel combustion and metals processing. Sulfur dioxide is also generated naturally in volcanic eruptions.¹³

Sulfur dioxide is a hazardous chemical. As a gas, it can be detected by humans at concentrations above 0.3 parts-per-million (ppm). Concentrations between 5 and 10 ppm can cause irritation of the nose and throat with slightly higher concentrations causing an irritant cough. Above concentrations of 20 ppm, gaseous sulfur dioxide can irritate the eyes. At concentrations of 10,000 ppm and above, sulfur dioxide can irritate moist areas of the skin within a few minutes of exposure. Since sulfur dioxide exists as a gas at normal temperatures and pressures, skin or eye contact with or ingestion of liquid sulfur dioxide are unlikely to occur. However, if liquid sulfur dioxide were to contact the skin or eyes, the vaporization of sulfur dioxide could cause a sufficiently lower temperature at the point of contact to produce frostbite or corneal burns.¹⁴

Sulfur dioxide is an environmental pollutant and health hazard. Sulfur dioxide can contribute to respiratory illness in children and the elderly and can aggravate existing heart and lung diseases. Sulfur dioxide contributes to the formation of acid rain and air-borne sulfate particles, which contribute to haze and reduced visibility.¹⁵ The Clean Air Act of 1970 established National Ambient Air Quality Standards to limit the levels of pollutants, including sulfur dioxide, in air. The 1990 revision of the Clean Air Act established a market-based system for reducing sulfur dioxide emissions. The goal of this system was to reduce sulfur dioxide emission by 10 million tons per year from 1980 emission levels.¹⁶ According to the U.S. Environmental Protection Agency (EPA), the rate of sulfur dioxide emission in 2002 was 15.4 million tons per year.¹⁷

Table I-1 summarizes major sources of sulfur dioxide emissions. Table I-2 summarizes major U.S. federal environmental legislation with consequences for emitters of sulfur dioxide.

¹² Conference transcript, p. 165 (Griffith and Hertzberg). *See also* Teck Cominco postconference brief, p. 3, and Chemtrade postconference brief, p. 2.

¹³ According to the U.S. Geological Survey, an active volcano can generate between 20 tons and 14 million tons of sulfur dioxide per day depending on the size of the volcano and the type of volcanic activity. U.S. Geological Survey, *Volcanic Gases and Their Effects*, <http://volcanoes.usgs.gov/Hazards/What/VolGas/volgas.html>, retrieved October 24, 2005.

¹⁴ Petition, exh. 5.

¹⁵ U.S. Environment Protection Agency, *Health and Environmental Impacts of Sulfur Dioxide*, <http://www.epa.gov/air/urbanair/so2/hlth1.html>, retrieved October 24, 2005.

¹⁶ U.S. Department of Energy, *Environmental Policy & Guidance, Clean Air Act*, <http://www.eh.doe.gov/oepa/laws/caa.html>, retrieved October 24, 2005.

¹⁷ U.S. EPA, *National Emissions Inventory Air Pollutant Emissions Trends Data*, <http://www.epa.gov/ttn/chieftrends/>, retrieved October 24, 2005.

Table I-1
Sulfur dioxide: U.S. emissions, 2002

Source	Sulfur dioxide emissions (in 1,000 short tons)	Share of total (in percent)
Fuel combustion, electric utilities	10,293	67.0
Fuel combustion, industrial	2,299	15.0
Fuel combustion, other	575	3.7
Chemical & allied product manufacturing ¹	328	2.1
Metals processing ²	271	1.8
Other	1,587	10.3
Total	15,353	100.0

¹ Following the 1970 Clean Air Act, chemical manufacturers were required to implement closed systems to prevent the emission of sulfur dioxide into the environment.

² Following the 1970 Clean Air Act, metal processing firms also were required to implement closed systems to prevent the emission of sulfur dioxide into the environment from smelting operations. These firms currently collect the sulfur dioxide for the manufacture of sulfuric acid in the United States.

Source: U.S. EPA, *National Emissions Inventory Air Pollutant Emissions Trends Data*, <http://www.epa.gov/ttn/chieftrends/>, retrieved October 24, 2005.

Table I-2
Sulfur dioxide: Major U.S. federal legislation affecting sulfur dioxide emitters

Legislation	Brief description	Effect on sulfur dioxide emitters
Air Pollution Control Act of 1955	Mandated federal research into the health and welfare effects of air pollution. Most subsequent legislative acts concerning air pollution were amendments to this act.	Little or none.
Clean Air Act of 1970	Required EPA to set National Ambient Air Quality Standards for certain pollutants including sulfur dioxide. Established New Source Performance Standards (NSPS) for these pollutants.	All newly constructed or modified sources must meet NSPS. Some established sources forced to add pollution control technologies.
Clean Air Act of 1990	Introduced new efforts to control air pollution and acid rain.	Annual allowances for sulfur dioxide emissions were allocated to existing and new sources. Market-based trading of allowances gave emitters more flexibility in meeting emissions requirements.

Sources: U.S. Environmental Protection Agency, *Air Pollution Control Orientation Course*, <http://www.epa.gov/air/oaqps/eog/course422/apc.html>, retrieved November 15, 2005. U.S. Environmental Protection Agency, *Clean Air Act*, <http://www.epa.gov/oar/caa/>, retrieved November 15, 2005.

Physical Characteristics and Uses

Sulfur dioxide is an inorganic chemical composed of approximately equal parts (by mass) of sulfur and oxygen. The chemical formula for sulfur dioxide is SO₂ and its Chemical Abstract Services

(CAS) classification number is 7446-09-5.¹⁸ Other names for sulfur dioxide include sulfurous acid anhydride, sulfurous anhydride, and sulfurous oxide. At normal ambient temperatures and atmospheric pressure, sulfur dioxide is a colorless gas. However, it is commercially stored and transported as a colorless liquid at ambient temperature and high pressure with a purity of at least 99.98 percent assay.¹⁹

Sulfur dioxide occupies a much greater volume in its gaseous states than in its liquid state. The ratio of the volume of gaseous sulfur dioxide to liquid sulfur dioxide is approximately 490:1.²⁰ For this reason, all U.S. and Canadian producers of sulfur dioxide liquify their product for delivery to customers. Transporting and handling sulfur dioxide in liquid form increases the hazard to customers in handling and using the product; however, the cost benefits to this mode of transportation make it the most economical form of commercial distribution.

The uses of sulfur dioxide are diverse and encompass many different industries. The largest use of liquid sulfur dioxide in the United States is by the chemical industry in the production of sodium hydrosulfite²¹ and other sulfur-containing chemicals, such as sodium bisulfite and sulfonations.²² In the pulp and paper industry, sulfur dioxide is used to stabilize mechanical pulps after bleaching by reacting with excess hydrogen peroxide. Liquid sulfur dioxide is used in the agriculture and food processing industries as a fumigant, preservative, and bleaching agent and as an anti-microbial agent in the manufacture of corn syrup. Municipal and industrial wastewater treatment facilities use sulfur dioxide to remove residual chlorine from treated water. Liquid sulfur dioxide also has uses in the metal and ore refining and in oil recovery and refining.²³

Some of the larger users of liquid sulfur dioxide, such as downstream sulfur derivative producers, sizable pulp and paper mills, or corn processing facilities, find it more economical to generate sulfur dioxide on site rather than purchasing liquid sulfur dioxide in the merchant market. In most cases, these facilities produce sulfur dioxide by burning molten sulfur in air. This process produces gas that is approximately 17 percent sulfur dioxide by volume with the remaining gas being primarily nitrogen with smaller amounts of oxygen, water vapor, carbon dioxide, and argon. Unlike the product subject to this investigation, this gaseous sulfur dioxide mixture is immediately injected into the process without any purification or compression. Gaseous sulfur dioxide mixture cannot be used in the production of certain chemicals, such as the production of sodium hydrosulfite, which requires a pure sulfur dioxide feedstock.²⁴ Due to the inefficiencies of storing and transporting the gaseous 17 percent sulfur dioxide product, there is currently no known merchant market for sulfur dioxide in this form in the United States.

The sulfur products that may compete with liquid sulfur dioxide in some applications are sodium bisulfite (NaHSO₃, CAS No. 7631-90-5), sodium metabisulfite (Na₂S₂O₅, CAS No. 7681-57-4), sodium thiosulfate (Na₂S₂O₃, CAS No. 7772-98-7), and sodium sulfite (Na₂SO₃, CAS No. 7757-83-7). These

¹⁸ Petition, exh. 5.

¹⁹ Petition, p. 8.

²⁰ Approximately 1 kilogram of liquid sulfur dioxide at 0 degrees Celsius (and high pressure) occupies a volume of 0.7 liters, while that same material under ambient atmospheric pressure occupies a volume of 342 liters. Based on staff calculations derived from information in the Petition, exh. 5.

²¹ Sodium hydrosulfite (Na₂S₂O₄, CAS No. 7775-14-6) is an inorganic chemical that is primarily used as a bleaching agent in the pulp and paper and textile industries.

²² Sulfonations are reactions of organic chemicals with sulfur dioxide (or one of its derivatives) that result in the formation of carbon-sulfur bonds. The products of sulfonations are used as intermediates in the production of a variety of synthetic chemicals including surfacants, dyes, medicinals, plastics, etc. See, e.g., Edward A. Knaggs and Marshall J. Nepras, "Sulfonation and Sulfation," Kirk-Othmer Encyclopedia of Chemical Technology, John Wiley & Sons, Inc., 1997.

²³ Petition, p. 9.

²⁴ Two U.S. producers of liquid sulfur dioxide, Chemtrade and Olin, also produce sodium hydrosulfite. Chemtrade (the U.S. producer of liquid sulfur dioxide) transfers some of its U.S.-produced liquid sulfur dioxide and some of its Canadian-produced liquid sulfur dioxide to a sister firm, Chemtrade Performance Chemicals (a U.S. producer of sodium hydrosulfite). Olin produces liquid sulfur dioxide primarily for its sodium hydrosulfite business, selling any excess liquid sulfur dioxide in the merchant market.

products can be co-products in the production of liquid sulfur dioxide or they may be produced by some manufacturers from liquid sulfur dioxide feedstock. Sodium bisulfite is used as a substitute for liquid sulfur dioxide in the removal of residual chlorine after wastewater treatment. In this and other applications, users are switching from liquid sulfur dioxide to sodium bisulfite primarily due to safety concerns.²⁵ Sodium metabisulfate is a white, granular powder that when mixed with water gives a sodium bisulfite solution.²⁶ Sodium metabisulfite competes with liquid sulfur dioxide in the same applications as sodium bisulfite, namely, pulp and textile bleaching, food preservation, and wastewater treatment.²⁷ The other two sulfur compounds, sodium thiosulfate and sodium sulfite, can in some cases substitute for liquid sulfur dioxide in pulp bleaching and reduction of chlorine in wastewater treatment, but how well they substitute depends greatly on the specific requirements (*e.g.*, the optimal pH) of these processes. While these four chemicals compete with liquid sulfur dioxide in some applications, they also have uses, such as the processing of photographic film, where liquid sulfur dioxide is not used.²⁸

Table I-3 presents information on downstream products that consume sulfur dioxide as a raw material in their production.

²⁵ Sodium bisulfite is shipped as an aqueous solution, which is hazardous if ingested or if it contacts the skin or eyes. However, the safety hazards associated with storing and transporting the sodium bisulfite solution are significantly lower than the hazards associated with handling liquid sulfur dioxide under high pressure. For some users this reduction in safety outweighs the extra cost of sodium bisulfite. Sodium bisulfite is shipped as an aqueous solution, so the end-user is paying to ship water as well as the sodium bisulfite. Sodium bisulfite also has a lower sulfur content by mass than sulfur dioxide, so a greater quantity of sodium bisulfite would be needed for most applications. These two cost factors are balanced with the safety concerns when a purchaser chooses between liquid sulfur dioxide and sodium bisulfite. Conference transcript, pp. 71-72 (Cogliandro).

²⁶ Edward D. Weil and Stanley R. Sandler, "Sulfur Compounds," *Kirk-Othmer Encyclopedia of Chemical Technology*, John Wiley & Sons, Inc., 1997, Section 10.

²⁷ Since sodium metabisulfite is shipped as a solid, it does not incur the transportation inefficiency of shipping water that was mentioned for sodium bisulfite.

²⁸ Edward D. Weil and Stanley R. Sandler, "Sulfur Compounds," *Kirk-Othmer Encyclopedia of Chemical Technology*, John Wiley & Sons, Inc., 1997, Section 10; S. L. Bean, "Thiosulfates," *Kirk-Othmer Encyclopedia of Chemical Technology*, John Wiley & Sons, Inc., 1997, Section 4.

Table I-3
Sulfur dioxide: Downstream products

Chemical	Used in	Source of sulfur dioxide
Sulfuric acid (H ₂ SO ₄)	Production of basic chemicals, fertilizers, pharmaceuticals, etc.	Primarily unpurified ¹
Sodium hydrosulfite (Na ₂ S ₂ O ₄)	Bleaching of paper and textiles	Purified
Sodium sulfite (Na ₂ SO ₃)	Pulp manufacture, water treatment, photography	Primarily unpurified ²
Sodium bisulfite (NaHSO ₃)	Textile and paper bleaching, water treatment, production of plastics	Primarily unpurified ²
Sodium thiosulfate (Na ₂ S ₂ O ₃)	Photography, leather tanning, paper and textile bleaching	(³)
Sodium metabisulfite (Na ₂ S ₂ O ₅)	Textile and paper bleaching, water treatment, production of plastics	Primarily unpurified ²

¹ Gaseous, impure sulfur dioxide is primarily consumed in the production of this downstream product. While no U.S. producer reported consumption of liquid sulfur dioxide in the production of sulfuric acid, several U.S. producers reported sharing manufacturing equipment with liquid sulfur dioxide.

² Most producers of these sulfur-based sodium salts in the United States consume gaseous, impure sulfur dioxide; Calabrian, however, consumes liquid sulfur dioxide in the production of these sulfur-based sodium salts due to the sulfur dioxide manufacturing process it employs in which it reacts sulfur directly with pure oxygen.

³ Sodium thiosulfate is produced by reacting sodium sulfite with elemental sulfur and does not directly use sulfur dioxide.

Sources: Edward D. Weil and Stanley R. Sandler, "Sulfur Compounds," Kirk-Othmer Encyclopedia of Chemical Technology, John Wiley & Sons, Inc., 1997, Section 10; S. L. Bean, "Thiosulfates," Kirk-Othmer Encyclopedia of Chemical Technology, John Wiley & Sons, Inc., 1997, Section 4.

Manufacturing Facilities and Production Employees

Differences in sulfur dioxide production process lead to differences in purity of the gaseous sulfur dioxide. Many processes produce a gaseous sulfur dioxide product that is mixed nitrogen, oxygen, carbon dioxide, argon, and other gaseous species. The share of sulfur dioxide in this gas mixture varies by process but is approximately 17 percent by volume in processes where molten sulfur is burned in air and approximately 6 percent in gases released in the smelting of metal ores. To produce a commercially viable sulfur dioxide, the sulfur dioxide must first be purified to at least 99.98 percent assay. Pure sulfur dioxide gas is then cooled and compressed to form liquid sulfur dioxide for shipment. Even though different processes may produce gaseous sulfur dioxide at different levels of purity, they eventually produce the same purity sulfur dioxide liquid product.

The primary raw material for the production of liquid sulfur dioxide in the United States is molten sulfur. U.S. producers of liquid sulfur dioxide primarily source molten sulfur from the domestic petrochemical industry, where sulfur is a by-product of crude oil refining.²⁹ Canadian producers of liquid sulfur dioxide are primarily metal refiners and capture sulfur dioxide as a by-product of the smelting process.³⁰ Currently, little if any U.S. or Canadian liquid sulfur dioxide production sources its sulfur from direct mining operations.³¹

In the United States, liquid sulfur dioxide production facilities generally receive molten sulfur by truck from nearby crude oil refineries.³² The delivered sulfur is mostly pure with possible trace impurities

²⁹ Staff field trip notes, ***, October 12, 2005; Conference transcript, p. 74 (Cogliandro).

³⁰ Conference transcript, pp. 21 (Cogliandro) and 156 (Paolone).

³¹ Conference transcript, p. 75 (Cogliandro).

³² Conference transcript, p. 75 (Cogliandro).

of hydrocarbons. In most cases, the impurities are combusted along with the sulfur and do not affect the purity of the final liquid sulfur dioxide product. The molten sulfur is pumped into a burner through an atomization nozzle where it reacts with molecular oxygen in the air fed to the burner. Air and sulfur generally are fed to the burner in a ratio that produces a gas that is approximately 17 percent sulfur dioxide by volume. The remainder of the gas is mostly nitrogen with smaller amounts (less than 4 percent by volume) of oxygen, argon, carbon dioxide, and other gases. Before the sulfur dioxide can be compressed into a liquid, it must be separated from the other gases.

There are two main processes by which the sulfur dioxide is removed from the 17 percent sulfur dioxide gas stream that exits the burner. In plants that produce sulfuric acid,³³ the 17 percent sulfur dioxide gas is passed over a metal catalyst that converts the sulfur dioxide and oxygen into sulfur trioxide.^{34,35} The sulfur trioxide is subsequently absorbed into water to form a liquid product known as oleum.³⁶ While most of the oleum is further processed to make sulfuric acid of various concentrations, a fraction of the oleum is mixed in a reactor with molten sulfur. The sulfur trioxide in the oleum reacts with the sulfur to produce sulfur dioxide, which is removed from the reactor in the gaseous state. This pure sulfur dioxide gas is then refrigerated and compressed to generate liquid sulfur dioxide for storage and transport in rail cars and tanker trucks.

In plants that do not produce sulfuric acid, the sulfur dioxide leaving the burner is removed from the other gases compounds by a process known as scrubbing. The gas containing sulfur dioxide is passed through a liquid solvent that absorbs the sulfur dioxide but not the other gases.³⁷ This solvent is later heated or otherwise processed to release the sulfur dioxide. The pure, gaseous sulfur dioxide is then liquified using a combination of refrigeration and compression. If the solvent used in scrubbing is an aqueous solution of sodium hydroxide or sodium carbonate, the sulfur dioxide dissolves in the solvent to form a sodium bisulfite solution. This sodium bisulfite solution can be concentrated and sold, processed to produce liquid sulfur dioxide, or converted into other sulfur products, such as sodium metabisulfite, sodium sulfite, or sodium thiosulfate.³⁸

Two U.S. producers of liquid sulfur dioxide, Calabrian and Olin, use a different process to produce liquid sulfur dioxide, which was developed by Calabrian and remains a trade secret. This process also begins with molten sulfur from oil refineries, but burns the sulfur using pure oxygen (O₂) instead of air. This produces a stream of pure, gaseous sulfur dioxide. Since there are no other gaseous species in this stream it can immediately be refrigerated and compressed into a liquid without scrubbing. According to Calabrian, the benefit of this process is that it has no emissions of regulated pollutants.³⁹ Olin uses the same technology, licensed through a third party, to produce sulfur dioxide in liquid form.⁴⁰

Canadian producers of liquid sulfur dioxide generally do not produce liquid sulfur dioxide by burning elemental sulfur. Instead, they use a scrubbing process like the one described above to remove sulfur dioxide from gases produced during the smelting of metal ores, such as ores of zinc, lead, and copper.⁴¹ The gases from the smelting operations have a lower concentration of sulfur dioxide than in the case of burning molten sulfur in air, approximately 6 percent sulfur dioxide by volume compared to 17 percent. Part of the sulfur dioxide may be converted to sulfur trioxide and sulfuric acid as described

³³ Sulfuric acid (H₂SO₄, CAS No. 7664-93-9) is a highly corrosively liquid and is one of the most widely used basic chemicals. It is used in the production of basic chemicals, fertilizers, plastics, pharmaceuticals, etc. *See, e.g.*, "Chemical Profile: Sulfuric Acid", *Chemical Market Reporter*, September 22, 1997.

³⁴ Sulfur trioxide (SO₃, CAS No. 7446-11-9) is a colorless liquid at room temperature and atmospheric pressure. In the presence of water, sulfur trioxide will readily form sulfuric acid.

³⁵ Staff field trip notes, ***, October 12, 2005; Petition, p. 11.

³⁶ Oleum is concentrated sulfuric acid that contains excess amounts of sulfur trioxide dissolved in it.

³⁷ Petition, p. 11.

³⁸ Edward D. Weil and Stanley R. Sandler, *op. cit.*, Section 10.

³⁹ Conference transcript, p. 74 (Cogliandro).

⁴⁰ Petition, Attachment 1.

⁴¹ Conference transcript, p. 156 (Paolone).

above and the remaining sulfur dioxide scrubbed with aqueous sodium hydroxide, resulting in a sodium bisulfite solution. The sodium bisulfite solution is then mixed with an acid that releases pure sulfur dioxide gas and an ammonium sulfate solution that can be used as a fertilizer.⁴² The pure sulfur dioxide gas is cooled and compressed to produce liquid sulfur dioxide.

Liquid sulfur dioxide is primarily transported in insulated-tank rail cars or non-insulated tank trucks as a liquid under pressure.⁴³ Liquid sulfur dioxide can also be repackaged into ton containers or smaller cylinders under pressure for end users that need smaller amounts of the product. However, U.S. producers do not sell their liquid sulfur dioxide in such containers, relying instead on intermediary repackagers or distributors for sales to customers that would purchase small quantities of liquid sulfur dioxide.⁴⁴

Figure I-1 presents a typical rail car and typical tank truck used in the transportation of liquid sulfur dioxide, while figure I-2 presents a variety of cylinders in which certain purchasers or distributors of liquid sulfur dioxide might repackage the product for resale.

Figure I-1
Liquid sulfur dioxide: U.S. producers' typical transportation vessels



Figure I-2
Liquid sulfur dioxide: Cylinder containers for repackaging product for sale to smaller end users



⁴² Ibid.

⁴³ Petition, p. 8.

⁴⁴ Staff field trip notes, ***, October 12, 2005.

Interchangeability and Customer and Producer Perceptions

U.S. producers and U.S. importers of liquid sulfur dioxide generally agreed that the U.S.-produced and imported product were interchangeable and were viewed as such by their customers as well. As long as the product meets standard purity specifications, it is more or less interchangeable with any other domestically produced or imported liquid sulfur dioxide. More detailed information on interchangeability can be found in Part II of this report, *Conditions of Competition in the U.S. Market*.

Channels of Distribution

Both U.S. producers and U.S. importers reported selling most of their product to end users of liquid sulfur dioxide. In 2004, U.S. producers reported selling approximately 80.0 percent of their product to end users while importers reported selling 76.5 percent of their product to end users. Additional information on channels of distribution can be found in Part II of this report, *Conditions of Competition in the U.S. Market*.

Price

Table I-4 presents average unit values for shipments of liquid sulfur dioxide in the total U.S. and merchant markets by source. Pricing practices and prices reported for liquid sulfur dioxide in response to Commission questionnaires are presented in Part V of this report, *Pricing and Related Information*.

Table I-4
Liquid sulfur dioxide: Average unit values of shipments by source, 2002-04, January-June 2004, and January-June 2005

Item	Calendar year			January-June	
	2002	2003	2004	2004	2005
Average unit value of U.S. commercial shipments (per short ton)					
Commercial U.S. shipments of U.S.-produced product	\$***	\$***	\$***	\$***	\$***
Commercial U.S. shipments of imports from:					
Canada	***	***	***	***	***
Mexico	***	***	***	***	***
Average	***	***	***	***	***
Average unit value of all U.S. shipments (per short ton)					
Total U.S. shipments of U.S.-produced product	\$139.37	\$131.57	\$134.47	\$135.32	\$143.59
Total U.S. shipments of imports from:					
Canada	***	***	***	***	***
Mexico	***	***	***	***	***
Average	115.25	107.36	100.15	110.65	91.92
Source: Compiled from data submitted in response to Commission questionnaires.					

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

U.S. MARKET SEGMENTS

U.S. producers' U.S. commercial shipments are made primarily to chemical producers of further processed downstream sulfur products.¹ Data compiled from questionnaire responses indicate that 54 percent of total U.S. commercial shipments of liquid sulfur dioxide go toward the production of downstream chemicals. The chemical processing end use for liquid sulfur dioxide is even larger than U.S. producers' U.S. commercial shipments indicate, as U.S. producers' internal consumption of liquid sulfur dioxide also factors into the production of sulfur derivatives. The food processing industry is the next largest recipient of U.S. producers' U.S. commercial shipments and accounts for 26 percent of shipments.² The paper industry receives 10 percent of U.S. producers' U.S. shipments;³ the water treatment industry receives 7 percent; and petrol and metal refiners receive 3 percent. Water treatment facilities, however, actually consume more than 7 percent of liquid sulfur dioxide as smaller consumers (*i.e.*, municipalities) in this industry purchase product from distributors and repackagers of liquid sulfur dioxide.

U.S. imports of liquid sulfur dioxide from Canada have a slightly different concentration of customers with the paper industry and water treatment industry receiving higher shares of U.S. commercial shipments from U.S. importers from Canada than they do from U.S. producers and the chemical manufacturing industry and food processing industry receiving lower shares.

Geographically, the markets are limited by the difficulty in transporting liquid sulfur dioxide. Three of four responding producers reported that *** percent of their sales are shipped less than 1,000 miles while the fourth reported that *** percent of sales were shipped less than 1,000 miles. One of five U.S. producers reported selling nationwide and four reported regional sales to ***.⁴ Aside from the producer that reported nationwide sales, no other U.S. producer reported selling to the *** regions. Each of the *** regions appears to be served by only one importer; two importers reported sales to the ***; and three reported sales to the ***. Chemtrade reported that is *** with *** in the Western United States pursuant to *** dating from *** and expiring in ***.⁵

Figure II-1 presents information on the primary end-use markets for liquid sulfur dioxide by share of U.S. producers' U.S. commercial shipments while figure II-2 presents similar information for U.S. importers' U.S. commercial shipments of liquid sulfur dioxide from Canada.

¹ Consumers in the chemical processing industry include ***.

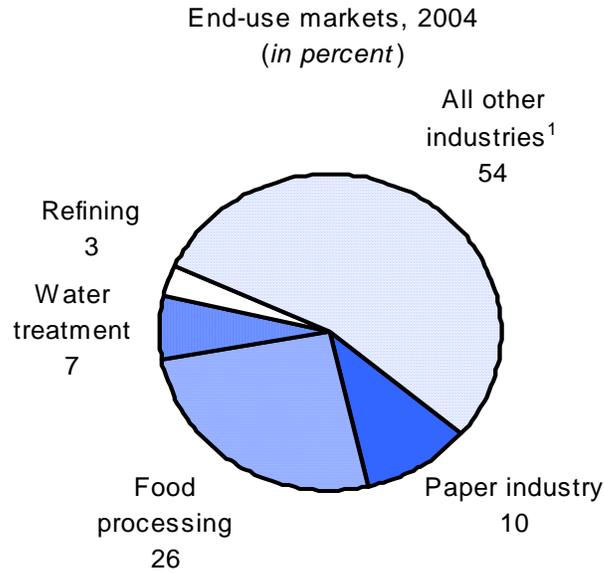
² Consumers in the food processing industry include ***.

³ Paper industry consumers include ***.

⁴ *** reported nationwide sales of liquid sulfur dioxide.

⁵ Chemtrade's postconference brief, p. 43.

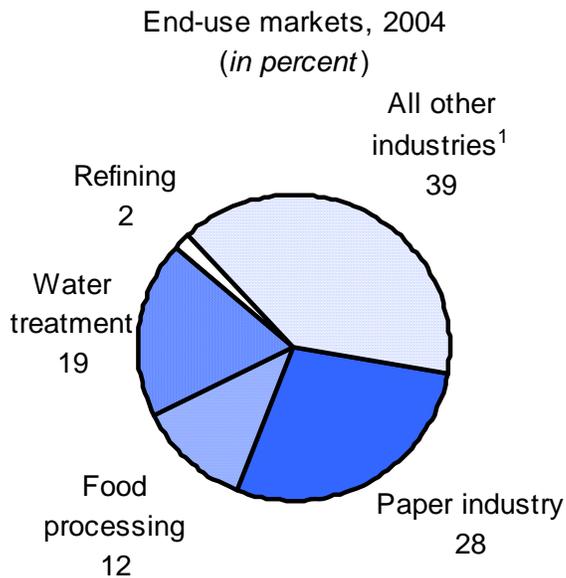
Figure II-1
Liquid sulfur dioxide: Primary end-use markets of U.S. producers' U.S. commercial shipments, 2004



¹ The all other category primarily includes sales to producers of sulfur derivatives.

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

Figure II-2
Liquid sulfur dioxide: Primary end-use markets of U.S. importers' U.S. commercial shipments from Canada, 2004



¹ The all other category primarily includes sales to producers of sulfur derivatives.

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

CHANNELS OF DISTRIBUTION

Producers sell liquid sulfur dioxide to distributors as well as to final consumers. Four of five U.S. producers as well as all four importers report sales to both distributors and end users of liquid sulfur dioxide. One U.S. producer reported selling only to a distributor.⁶ The vast majority of U.S. producers' U.S. shipments of liquid sulfur dioxide were shipped directly to end users throughout the period for which data were collected. Approximately 80 percent of all U.S. producers' U.S. shipments went to end users in each year between 2002 and 2004, while the remaining 20 percent of all U.S. shipments went to distributors. In January to June 2005, the percentage of U.S. shipments shipped to end users was slightly lower than in January to June 2004 ***. Similarly, 77 to 78 percent of U.S. imports from Canada went to end users during the period 2002 to 2004 with the remainder going to distributors. Distributors such as *** take the rail tankers or truck tankers of liquid sulfur dioxide from the U.S. producers or U.S. importers from Canada, repackage the material in smaller containers for sale to end users, while distributors such as *** resell the product in the original rail tankers. Table II-1 presents information on U.S. producers' and U.S. importers' channels of distribution.

Table II-1

Liquid sulfur dioxide: U.S. producers' and U.S. importers' U.S. shipments by channels of distribution, 2002-04, and January to June 2004-05

Shipments	Calendar year			January-June	
	2002	2003	2004	2004	2005
U.S. producers' U.S. shipments (in short tons)					
To distributors	27,460	29,663	29,657	14,251	13,920
To end users	116,129	118,494	118,384	58,302	45,657
U.S. importers' subject U.S. shipments (in short tons)					
To distributors	***	***	***	***	***
To end users	***	***	***	***	***
Share of U.S. producers' U.S. shipments (in percent)					
To distributors	19.1	20.0	20.0	19.6	23.4
To end users	80.9	80.0	80.0	80.4	76.6
Share of U.S. importers' subject U.S. shipments (in percent)					
To distributors	22.7	22.2	23.5	21.1	26.7
To end users	77.3	77.8	76.5	78.9	73.3
Source: Compiled from data submitted in response to Commission questionnaires.					

SUPPLY AND DEMAND CONSIDERATIONS

U.S. Supply

Domestic Production

Based on available information, staff believes that U.S. liquid sulfur dioxide producers are likely to respond to changes in demand with large changes in shipments of U.S.-produced liquid sulfur dioxide to the U.S. market. The primary factors contributing to the high degree of responsiveness of supply are a

⁶ *** reported selling only to other firms for resale.

relatively large amount of unused capacity as well as the ability to shift production to and from alternative products.⁷

Industry capacity

Total capacity of all U.S. producers rose from 236,838 short tons in 2002 to 262,487 short tons in 2003 as Calabrian added capacity but fell to 242,943 short tons in 2004 as Rhodia exited the market. U.S. producers' reported capacity utilization for liquid sulfur dioxide stayed fairly constant from 2002 to 2004 at 59 to 62 percent but fell noticeably in the first half of 2005 to 55.4 percent compared with 66.6 percent in the first half of 2004. Much of the unused capacity belongs to *** which had a capacity utilization rate of *** percent during the first half of 2005, while the other three active U.S. producers all had utilization rates over *** percent during the first half of 2005. Calabrian reported adding 50,000 short tons of nameplate capacity in 2003 which has yet to be brought online due to market conditions. Overall, the level of capacity utilization indicates that U.S. producers of liquid sulfur dioxide have substantial available capacity with which they could increase production of liquid sulfur dioxide in the event of a price change.⁸

Alternative markets

Overall, domestic producers' exports rose between 2002 and 2005 but remained modest relative to total shipments of liquid sulfur dioxide (*** percent of total shipments during the first half of 2005).⁹ According to a public source, during the period for which data were collected, 93 to 99 percent of the U.S. exports went to Canada.¹⁰ U.S. exports were much higher in 2003 than during any other year in the period for which data were collected due to a decline in Canadian production brought about by the strike at Inco's Sudbury, ON, facility.¹¹ The generally low level of exports during the period indicate that domestic producers have limited ability to shift shipments between the U.S. and other markets (aside from Canada) in response to price changes. This conclusion is consistent with the difficulty associated with shipping any highly pressurized hazardous liquid. One producer stated that the cost of transport makes shipping to or from countries outside of continental North America cost-prohibitive.¹² In addition, Calabrian contends that Canadian regulations regarding shipment of hazardous substances such as liquid sulfur dioxide can prove to be an impediment to exports from the United States to Canada.¹³ Respondents dispute this contention, however, and claim that compliance with Canadian regulations concerning the transportation of dangerous goods is required of all firms that ship in Canada, and that these regulations are substantially the same as the corresponding U.S. regulations.¹⁴

Inventory levels

Small inventories relative to total shipments indicate that U.S. producers are not likely to be able to respond to changes in demand simply by increasing shipments from inventory. According to questionnaire responses, U.S. producers' aggregate inventories stood at *** percent of annualized total shipments in December of 2004. In general, inventories tend to be low in this industry due to the dangers

⁷ A large portion of the unused capacity, however, is held by one firm, ***.

⁸ See table III-3 for additional details concerning capacity and capacity utilization.

⁹ Calculated from producer questionnaire responses.

¹⁰ These data are derived from official export statistics of the Department of Commerce.

¹¹ Conference transcript, p. 178 (Davis).

¹² *** U.S. producer's questionnaire response, question IV-B-16.

¹³ Conference transcript, pp. 115-116.

¹⁴ Chemtrade's postconference brief, p. 42.

of storing a highly pressurized, hazardous chemical. Table III-14 presents complete inventory data for U.S. producers.

Production alternatives

Once created from burning molten sulfur and scrubbed of impurities, pure gaseous or liquid sulfur dioxide can be combined with other chemicals to make a variety of products including sodium bisulfite and sodium hydrosulfite.¹⁵ All five responding U.S. producers report producing other sulfur derivatives which use sulfur dioxide as a raw material. Four of the five responding U.S. producers, ***, indicated that they produced other products using the same production and related workers as sulfur dioxide and *** reported using the same equipment to produce other products.¹⁶ Thus, in response to demand changes, U.S. producers have the ability to produce less or more sulfur dioxide by shifting production to or from other products. The result of this flexibility is that supply response is likely high for most producers. This is especially true for facilities such as those operated by ***. These facilities produce both liquid sulfur dioxide as well as sulfuric acid and therefore have the ability to alter relative production of the two chemicals in response to changing market conditions.

Subject Imports

According to questionnaire responses, imports from Canada as a share of total imports into the United States ranged from *** to *** percent from 2002 to 2004. This share was *** percent in the first half of 2005, down from *** percent in the first half of 2004. Between 2002 and 2004, U.S. importers' subject imports rose by *** short tons or by *** percent. In the first half of 2005, subject imports were *** percent higher than in the first half of 2004. Based on available information, importers of liquid sulfur dioxide from Canada are likely to respond to changes in demand with moderate changes in the quantity shipped to the U.S. market. The level of supply response is limited by small to moderate levels of inventory, a moderate to high capacity utilization rate, and the absence of alternative markets (aside from Canada) from which product may be diverted into the United States. The ability to switch production to and from alternative products, however, increases the potential response.

Industry capacity

Reported Canadian capacity stayed constant in 2002 and 2004 at *** short tons although it dropped to *** in 2003 and is expected to be closer to this level in 2005 before recovering in 2006 (see table VII-3). One public source, however, lists Canadian capacity in 2004 as being 261,000 short tons.¹⁷ The lower capacity reported by Canadian manufacturers of liquid sulfur dioxide relates to average production capacity, which in this instance is noticeably lower than nameplate capacity cited above. Based on the capacity numbers provided in the questionnaire responses, capacity utilization rates decreased from *** percent in 2002 to *** percent in 2004 then declined further to *** percent in the first half of 2005.¹⁸ These data indicate that Canadian suppliers of liquid sulfur dioxide have some excess capacity with which they could increase production of liquid sulfur dioxide in the event of a price change.

¹⁵ In addition, the 17 percent pure gaseous sulfur dioxide can be used directly in the production of sulfuric acid.

¹⁶ ***, ***.

¹⁷ Petition, exh. 9. Web address: <http://www.the-innovation-group.com/ChemProfiles/Sulfur%20Dioxide.htm>.

¹⁸ Calculating capacity utilization using available public source nameplate capacities would result in lower capacity utilization rates of up to *** percentage points.

Alternative markets

As mentioned above, because of the difficulty and danger involved in shipping liquid sulfur dioxide, Canadian producers are somewhat limited in their range of export markets. The United States is the sole foreign market for Canadian suppliers, accounting for 100 percent of Canadian exports. Aside from Canada's home market, there are no alternative markets from which Canadian producers can divert product in response to changes in the price of liquid sulfur dioxide.

Inventory levels

Canadian producers' inventories, as a share of total shipments, rose from *** percent in 2002 to *** percent in 2004 and were *** percent through the first half of 2005. These data indicate that these producers are constrained in their ability to use inventories as a means of substantially increasing shipments of liquid sulfur dioxide to the U.S. market.

Production alternatives

*** responding Canadian producers indicated that they produced other products using the same equipment used to produce liquid sulfur dioxide.¹⁹ The ease with which Canadian producers can switch to alternative products is negatively affected by the fact that most Canadian liquid sulfur dioxide is produced from heavy metals smelting operations rather than dedicated sulfur burners. One Canadian producer states, ***.²⁰ However, once the sulfur dioxide gas is created, it can be combined with other chemicals to make a variety of products such as sulfuric acid and sodium bisulfite. In response to relative demand and price changes, producers presumably have the ability to transform more or less sulfur dioxide into other products either on site or at another facility owned by the same firm.

U.S. Demand

Based on available information, liquid sulfur dioxide consumers are likely to respond to changes in the price of liquid sulfur dioxide with small to moderate changes in their purchases of liquid sulfur dioxide. The main contributing factor to the low responsiveness of demand is the lack of substitute products that can compete with liquid sulfur dioxide at current price levels. If prices of liquid sulfur dioxide were to rise steeply, then more substitutes might be considered and the impact might be larger.

While a change in price might not spur a large change in demand, other factors have had an effect in demand for liquid sulfur dioxide. Many purchasers are choosing to use substitute products rather than liquid sulfur dioxide due to safety concerns. These substitutes are often substantially more expensive. The four responding producers that discuss substitutes along with the four responding importers all reported that the decision to use substitute products is based on product safety rather than on price. This trend toward safer substitutes is also noted in postconference briefs from both the petitioner and respondents.²¹

Demand Characteristics

U.S. demand for liquid sulfur dioxide depends on the level of demand for downstream products using liquid sulfur dioxide as well as the relative desirability of substitutes. Liquid sulfur dioxide is used primarily in the production of other chemicals and is also used in pulp and paper manufacturing, water treatment, and food processing.

¹⁹ *** reported producing other products using the same equipment used to produce liquid sulfur dioxide.

²⁰ ***.

²¹ Calabrian's postconference brief, pp. 4-5; Teck Cominco's postconference brief, p. 25; and Chemtrade's postconference brief, pp. 13-14.

When asked if demand for liquid sulfur dioxide had changed since 2002, all five responding producers and all four responding importers reported that demand had decreased between 2002 and 2005. *** producers and all four importers reported that use of liquid sulfur dioxide has gone down in favor of more expensive substitutes due safety concerns. One importer stated that demand has fallen because, “Producers of sulfur derivatives can ‘burn’ their own sulfur at very low cost.” ***. One public source included in the petition reported that growth between 1997 and 2002 averaged -0.3 percent per year and forecasted zero growth through 2006.²² The same report stated that, “Market growth has been limited by the trend of large consumers to install sulfur burning equipment and generate their own sulfur dioxide on-site as required.”²³

Substitute Products

Four of five producers and all four responding importers reported that there are substitutes for liquid sulfur dioxide. Three of the producers that discussed substitutes as well as all four reporting importers reported that sodium bisulfite is a substitute for liquid sulfur dioxide in most applications. Two producers also listed sodium thiosulfate as a substitute. Other substitutes listed were sodium sulfite, ammonium bisulfite, sodium metabisulfite, sodium hydrosulfite, and hydrogen peroxide. One producer and one importer also suggested gaseous sulfur dioxide from a burner as a substitute product, however, gaseous sulfur dioxide is not obtainable commercially and must be produced internally. When asked about purchasers switching to in-house gaseous sulfur dioxide production, the petitioner and two respondents said that this was not an important factor affecting the demand for liquid sulfur dioxide.²⁴

The degree of substitutability for some of the substitute products may vary depending on the specific end use, but, in general, substitutes are available for most end uses. Two producers and four importers reported details regarding the uses of each substitute. They indicated that sodium bisulfite, ammonia bisulfite, sodium metabisulfite, and sodium thiosulfate all may be used in water dechlorination; sodium bisulfite may be used in corn milling; ammonium bisulfite may be used in the manufacture of food chemicals; and sodium hydrosulfite may be used as a bleaching agent in the paper and pulp industry.

While substitutes exist, liquid sulfur dioxide is almost always the lowest cost alternative and none of the producers or importers indicated that changes in prices of substitutes have had any impact on the price of liquid sulfur dioxide. Four of five producers and all four importers stated that substitutes are growing in use due to concerns about the safety of liquid sulfur dioxide. It should be noted that the chemicals that are substitutes for liquid sulfur dioxide are often derived from gaseous sulfur dioxide and therefore also represent production alternatives.

Cost Share

Limited information from two producers indicates that liquid sulfur dioxide accounts for approximately *** of the cost of downstream chemical products such as sodium hydrosulfite, sodium sulfite, and sodium thiosulfate and as much as *** of the cost of producing ammonium thiosulfate. No firms reported information concerning the percentage of the total cost of pulp and paper products, water treatment, or food processing that is accounted for by liquid sulfur dioxide. These processes, however, rely either on liquid sulfur dioxide or a substitute which is most likely another chemical derived from sulfur dioxide. Despite the large impact on costs that an increase in liquid sulfur dioxide prices may have on these downstream chemicals, price changes for liquid sulfur dioxide will likely have a small effect on consumption because, due to the chemical nature of the products, no substitutes are available for the production of these downstream products.

²² Petition exhibit 9. Web address <http://www.the-innovation-group.com/ChemProfiles/Sulfur%20Dioxide.htm>.

²³ Ibid.

²⁴ Conference transcript, p. 85 (Cogliandro), p. 170 (Paolone), and p. 171 (Davis).

SUBSTITUTABILITY ISSUES

Factors Affecting Purchasing Decisions

It is generally agreed that as long as liquid sulfur dioxide meets the standard purity requirements, then price is the largest single factor affecting purchase decisions. As Mark Davis, President and CEO of Chemtrade Corp., stated, "If you are weighting things, I think the price is 80 percent of the story and the rest of the stuff is persuasive, but you still have to be competitive on price."²⁵ While there is little or no difference in the physical product offered by each individual supplier, there may be other factors that influence the substitutability and desirability of products across suppliers. One important factor in this market is transportation. Since liquid sulfur dioxide is a hazardous chemical, it requires very specialized transportation. The ability to arrange transportation to the customer either via railcar or truck is crucial to the producer's ability to supply a customer.

Comparisons of Domestic Products, Subject Imports, and Nonsubject Imports

Producers and importers were asked to report how frequently liquid sulfur dioxide from different countries were used in the same applications (table II-2). All four producers with knowledge of the Canadian product and three of four importers reported that Canadian and U.S. liquid sulfur dioxide are always interchangeable and one importer reported that product from the two countries is frequently interchangeable. Three of four producers that reported knowledge of product from outside the United States and Canada along with three of three importers reported that product was always interchangeable regardless of country of production. The other producer reported that product from nonsubject countries is sometimes interchangeable with U.S. or Canadian liquid sulfur dioxide but provided no explanation for this characterization.

Table II-2

Liquid sulfur dioxide: U.S. producers' and importers' perceived degree of interchangeability of products produced in the United States and other countries

Country comparison	U.S. producers					U.S. importers				
	A	F	S	N	0	A	F	S	N	0
U.S. vs. Canada	4	0	0	0	1	3	1	0	0	0
U.S. vs. Nonsubject	3	0	1	0	1	3	0	0	0	1
Canada vs. Nonsubject	3	0	1	0	1	3	0	0	0	1

¹ Producers and importers were asked if liquid sulfur dioxide produced in the United States and in other countries are used interchangeably.

Note: "A" = Always, "F" = Frequently, "S" = Sometimes, "N" = Never, and "0" = No familiarity.

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

Producers and importers were also asked to assess how often differences other than price were significant in sales of liquid sulfur dioxide from the United States, Canada, or nonsubject countries (table II-3). Three of four producers who reported knowledge of Canadian product as well as one of four reporting importers responded that non-price differences are always a factor in sales of liquid sulfur dioxide from the United States and Canada, one importer reported that such differences are frequently a factor, and one producer and two importers reported that such differences are sometimes a factor. Three producers and one importer reported that non-price difference were always a factor when comparing U.S. or Canadian product to liquid sulfur dioxide from other countries, two importers reported that they were

²⁵ Conference transcript, p. 187 (Davis).

sometimes a factor, and one importer reported that such differences were frequently a factor. One producer, ***, stated that Mexican product was typically lower quality. One importer said that Mexican product differs from U.S. or Canadian product because of transportation and regional availability issues.

Table II-3

Liquid sulfur dioxide: U.S. producers' and importers' conceptions concerning the importance of non-price differences in purchases of liquid sulfur dioxide from the United States and other countries

Country comparison	U.S. producers					U.S. importers				
	A	F	S	N	0	A	F	S	N	0
U.S. vs. Canada	3	0	1	0	1	1	1	2	0	0
U.S. vs. Nonsubject	3	0	0	0	2	1	0	2	0	1
Canada vs. Nonsubject	3	0	0	0	2	1	1	2	0	0

¹ Producers and importers were asked if differences other than price between liquid sulfur dioxide produced in the United States and in other countries are a significant factor in their firm's sales of the product.

Note: "A" = Always, "F" = Frequently, "S" = Sometimes, "N" = Never, and "0" = No familiarity.

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

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

U.S. PRODUCERS

The petition identified six U.S. producers or potential U.S. producers of liquid sulfur dioxide.¹ Of the six firms identified in the petition, the Commission received questionnaire responses from Calabrian (the petitioner), Chemtrade, Olin, PVS Chemical, and Rhodia. Thatcher Company ("Thatcher"), which the petition identified as a potential U.S. producer of liquid sulfur dioxide, did not provide the Commission with a questionnaire response.² Rhodia exited the industry when it idled its remaining liquid sulfur dioxide facility in Baton Rouge, LA, in the second half of 2004. Thus, as of December 2005, there are only four U.S. producers of liquid sulfur dioxide.³

U.S. CAPACITY, PRODUCTION, AND CAPACITY UTILIZATION

Available market research characterizes the North American market for liquid sulfur dioxide as "stable" or "zero growth."⁴ While testimony at the preliminary conference suggested that the market in the United States for liquid sulfur dioxide is in decline,⁵ the data collected in this investigation indicate a slowly growing total market for liquid sulfur dioxide, within which there has been a decline in the merchant market. All the same, there have been some notable capacity and production changes as some U.S. producers exited the industry. U.S. producer Calabrian noted that it began producing liquid sulfur dioxide for sale in the merchant market in 1996,⁶ at which time there were reportedly nine independent chemical companies with 11 production facilities in the United States.⁷ By 2002, there were five known producers of liquid sulfur dioxide in the United States. With Rhodia having shut down its remaining liquid sulfur dioxide capacity in 2004,⁸ there are currently only four confirmed producers of liquid sulfur dioxide in the United States.

Table III-1 summarizes testimony and market research available on liquid sulfur dioxide plant closures immediately preceding the period for which data were collected. Table III-2 presents information on U.S. producers with production of liquid sulfur dioxide, their positions on the petition, ownership, plant locations, and shares of total reported U.S. production in 2004.

¹ Petition, p. 3.

² Commission staff was informed that while Thatcher has a sulfur burner, the firm does not produce liquid sulfur dioxide for sale on the merchant market. Thatcher internally consumes all of the gaseous sulfur dioxide that the firm produces in the production of other sulfur derivatives. Staff telephone interview with ***, October 4, 2005.

³ Industrial Chemicals, Puerto Rico, was identified as a firm with modest capacity to produce sulfur dioxide. See petition, exh. 2. Sulfur dioxide produced in Puerto Rico is believed to be captively consumed and, in any case, is not shipped off the island for sale in the continental United States. See conference transcript, p. 76 (Cogliandro).

⁴ Petition, exh. 2, which include two independent market research publications: *Chemical Profile: Sulfur Dioxide* dated June 19, 2000 ("exh. 2a"), and *Sulfur Dioxide* from www.the-innovation-group.com, as revised January 2004 ("exh. 2b").

⁵ Conference transcript, pp. 10 (Wisla), 15 (Griffith), and 28 (Cogliandro).

⁶ *Ibid.*, p. 19 (Cogliandro).

⁷ *Ibid.*, p. 6 (Wisla).

⁸ The parties dispute the reasons for Rhodia's exit from the liquid sulfur dioxide industry in 2004. The petitioner alleges that Rhodia made a business decision to exit the industry due to intense competition with subject imports at its Leeds account (the main remaining account for liquid sulfur dioxide produced at Baton Rouge), which Chemtrade then ended up purchasing in 2004. See conference transcript, pp. 110-111 (Cogliandro). The respondents argue that Rhodia decided to exit the U.S. industry due to safety concerns. See conference transcript, p. 131 (Davis). Rhodia officials indicated that the firm exited the sulfur dioxide industry ***. ***. Staff telephone interview with ***, November 21, 2005.

Table III-1
Liquid sulfur dioxide: U.S. producers' closures, 2000-01

Plant location	Owner	Year
Hammond, IN	Rhodia	2000
Copperhill, TN	Marsulex	2000
Bucks, AL	Clariant Corporation	2001
Waterloo, IA	Hydrite Chemical ¹	2001
¹ ***. Staff e-mail correspondence with ***, November 29, 2005.		
Source: Petition, exh. 2, and conference transcript, pp. 19-20 (Cogliandro).		

Table III-2
Liquid sulfur dioxide: U.S. producers, positions on the petition, ownership, plant locations, and shares of total reported U.S. production, 2004

Firm	Position on petition	Firm ownership	U.S. plant location(s)	U.S. production	
				Quantity (in short tons)	Share (in percent)
Calabrian	Supports (petitioner)	Privately owned corporation (U.S.)	Port Neches, TX	***	***
Chemtrade	***	Owned by Chemtrade Logistics, Inc. (Canada)	Cairo, OH	***	***
Olin	***	Publicly owned corporation (U.S.) ¹	Charleston, TN	***	***
PVS Chemical	***	Owned by Pressure Vessel Service, Inc. (U.S.)	Chicago, IL	***	***
Rhodia	Opposes	Owned by Rhodia Group (France)	Houston, TX ² Baton Rouge, LA ²	***	***
¹ Olin Corporation operates three business segments, of which Olin Chlor Alkali Products operates its liquid sulfur dioxide production facilities.					
² Rhodia closed both facilities in 2004. According to Rhodia's U.S. producer's questionnaire response, the firm ***. Petition, exh. 11, <i>Chemtrade Logistic Income Fund announces first quarter results</i> , April 20, 2004, publicly reports this business transaction at a total cash consideration of \$1.2 million.					
Source: Compiled from data submitted in response to Commission questionnaires and from public sources.					

While several U.S. producers were exiting the industry, U.S. producer Calabrian increased capacity of its Port Neches facility. Calabrian began production of liquid sulfur dioxide for internal consumption purposes with a nameplate capacity of 25,000 short tons in 1990.⁹ In 1996, Calabrian began selling a portion of its liquid sulfur dioxide in the merchant market.¹⁰ By 2000, Calabrian had a nameplate capacity of 50,000 short tons.¹¹ In 2000, Calabrian increased its capacity by an additional 50,000 short tons for a total nameplate capacity of 100,000 short tons.¹² In 2003, Calabrian again increased its capacity by an additional 50,000 short tons for a total nameplate capacity of 150,000 short

⁹ Conference transcript, p. 17 (Cogliandro), and petition, exh. 2a.

¹⁰ Conference transcript, p. 18 (Cogliandro).

¹¹ Petition, exh. 2a.

¹² Petition, exh. 2b.

tons.¹³ According to public testimony, Calabrian's decision to bring online additional production capacity in 2003 was the result of increased demand for its sulfur derivative products,¹⁴ and due to other U.S. producers' closures.¹⁵

Table III-3 presents information on U.S. average production capacity, production, and capacity utilization. Figures III-1 and III-2 present information on shares of U.S. average production capacity and production.

Over the period for which data were collected, the aggregate reported average production capacity for liquid sulfur dioxide in the United States first increased by 25,649 short tons (10.8 percent) in 2003 and then decreased by 19,544 short tons (7.4 percent) in 2004, for a net increase of 6,105 short tons (2.6 percent) between 2002 and 2004. In January-June 2005, average production capacity was modestly lower (less than 1 percent) than during the same six-month period the year before.¹⁶ The aggregate reported production of liquid sulfur dioxide in the United States first increased by 10,883 short tons (7.5 percent) from 2002 to 2003 and then decreased by 5,130 short tons (3.3 percent) in 2004, for a net increase of 5,753 short tons (4.0 percent) between 2002 and 2004. These data reflect ***.¹⁷ In January-June 2005, production of liquid sulfur dioxide in the United States was lower by 12,705 short tons (17.2 percent) over the same six-month period in 2004. The majority of this decrease can be attributed to Rhodia's closure of its Baton Rouge production facility.

As a result of these fluctuations in average production capacity and actual production, capacity utilization in the U.S. industry first decreased by 1.8 percentage points and then increased by 2.6 percentage points, for a net increase of 0.8 percentage point in overall capacity utilization when comparing 2004 with 2002. In January-June 2005, the capacity utilization was 11.1 percentage points lower than in the same six-month period a year earlier.¹⁸

¹³ Ibid.

¹⁴ Conference transcript, pp. 78-79 (Cogliandro).

¹⁵ Petition, pp. 31-32.

¹⁶ As Rhodia exited between these two periods, *** additional reported average production capacity accounts for why the industry did not in the aggregate decrease its average production capacity in this comparison.

¹⁷ ***.

¹⁸ This lower capacity utilization in January-June 2005 than in January-June 2004 or in calendar year 2004 is the result of several factors: Rhodia's exit from the industry, ***, and ***.

Table III-3

Liquid sulfur dioxide: U.S. average production capacity, production, and capacity utilization, 2002-04, January-June 2004, and January-June 2005

Item	Calendar year			January-June	
	2002	2003	2004	2004	2005
Average production capacity (in short tons)					
Calabrian	***	***	***	***	***
ChemTrade	***	***	***	***	***
Olin	***	***	***	***	***
PVS Chemical	***	***	***	***	***
Rhodia	***	***	***	***	0
Total	236,838	262,487	242,943	111,067	110,450
Production (in short tons)					
Calabrian	***	***	***	***	***
ChemTrade	***	***	***	***	***
Olin	***	***	***	***	***
PVS Chemical	***	***	***	***	***
Rhodia	***	***	***	***	0
Total	144,462	155,345	150,215	73,930	61,225
Capacity utilization (in percent)					
Calabrian	***	***	***	***	***
ChemTrade	***	***	***	***	***
Olin	***	***	***	***	***
PVS Chemical	***	***	***	***	***
Rhodia	***	***	***	***	(1)
Average	61.0	59.2	61.8	66.6	55.4
¹ Not applicable.					
Source: Compiled from data submitted in response to Commission questionnaires.					

Figure III-1

Liquid sulfur dioxide: Shares of U.S. average production capacity, 2002 and January-June 2005

* * * * *

Figure III-2

Liquid sulfur dioxide: Shares of U.S. production, 2002 and January-June 2005

* * * * *

U.S. PRODUCERS' U.S. COMMERCIAL SHIPMENTS, INTERNAL CONSUMPTION, AND TRANSFERS TO RELATED FIRMS

Table III-4 and figure III-3 present information on U.S. producers' U.S. commercial shipments. Table III-5 and figure III-4 present information of U.S. producers' internal consumption. Table III-6 and figure III-5 present U.S. producers' transfers to related firms.

Between 2002 and 2004, U.S. producers' U.S. commercial shipments by quantity decreased while U.S. producers' U.S. internal consumption and U.S. transfers to related firms by quantity increased. Comparing January-June 2005 with January-June 2004, the same trends are apparent except that U.S. producers' U.S. transfers to related firms by quantity were lower in the most recent interim period. Over the period examined, U.S. producers reportedly responded to increased demand in various sulfur derivative markets by shifting some of their production from liquid sulfur dioxide to sulfur derivative product(s), increasing internal consumption and transfers to related firms of liquid sulfur dioxide.¹⁹ According to testimony, traditional consumers of the subject merchandise have been seeking to substitute their consumption of sulfur dioxide with other products (often sulfur derivatives) due to the hazards of handling liquid sulfur dioxide.²⁰ Additionally, it was alleged that since September 11, 2001, the U.S. government's increased regulatory requirements on the transportation and handling of liquid sulfur dioxide have increased costs to consumers of this material thereby making it possible for consumers to substitute liquid sulfur dioxide with more expensive chemicals in specific end-use applications.²¹

Table III-4
Liquid sulfur dioxide: U.S. producers' U.S. commercial shipments, 2002-04, January-June 2004, and January-June 2005

* * * * *

Figure III-3
Liquid sulfur dioxide: U.S. producers' U.S. commercial shipments by quantity (bar graph, left axis) and by average unit value (line graph, right axis), 2002-04, January-June 2004, and January-June 2005

* * * * *

Figure III-4
Liquid sulfur dioxide: U.S. producers' U.S. internal consumption by quantity (bar graph, left axis) and by average unit value (line graph, right axis), 2002-04, January-June 2004, and January-June 2005

* * * * *

Table III-5
Liquid sulfur dioxide: U.S. producers' U.S. internal consumption, 2002-04, January-June 2004, and January-June 2005

* * * * *

¹⁹ Conference transcript, pp. 78-79 (Cogliandro). Additionally, Mr. Cogliandro testified that these downstream sulfur derivatives also serve as substitutes for liquid sulfur dioxide in select end uses.

²⁰ Conference transcript, pp. 28 (Cogliandro) and 152 (Klett).

²¹ Conference transcript, pp. 77 (Cogliandro) and 152 (Klett).

Table III-6

Liquid sulfur dioxide: U.S. producers' transfers to related firms, 2002-04, January-June 2004, and January-June 2005

* * * * *

Figure III-5

Liquid sulfur dioxide: U.S. producers' U.S. transfers to related firms by quantity (bar graph, left axis) and by average unit value (line graph, right axis), 2002-04, January-June 2004, and January-June 2005

* * * * *

The quantity of U.S. producers' U.S. commercial shipments remained stable between 2002 and 2003, decreased between 2003 and 2004, and was lower in January-June 2005 than in January-June 2004. While U.S. producers' U.S. commercial shipments accounted for more than the majority of U.S. producers' total U.S. shipments by quantity over the period for which data were collected, this share declined between 2002 and 2004, and was lower in January-June 2005 than in January-June 2004. *** increased the quantity of their U.S. commercial shipments, which offset the decreased quantities of U.S. commercial shipments *** between 2002 and 2003. In 2004, *** was the only U.S. producer to increase its U.S. commercial shipments substantially on a quantity basis, but this increase did not entirely offset *** decreases in U.S. commercial shipments, resulting in an overall decrease in U.S. commercial shipments of liquid sulfur dioxide in 2004.²² In January-June 2005, there were *** short tons fewer (***) U.S. commercial shipments of liquid sulfur dioxide than in January-June 2004. Having idled its remaining Baton Rouge liquid sulfur dioxide facility at the end of 2004, Rhodia reported zero U.S. commercial shipments in January-June 2005, *i.e.* *** fewer short tons of liquid sulfur dioxide than in January-June 2004. At the same time, the four remaining U.S. producers' U.S. commercial shipments did not offset Rhodia's departure from the industry.²³

The average unit value of U.S. producers' U.S. commercial shipments decreased by \$*** per short ton between 2002 and 2003, increased by \$*** per short ton between 2003 and 2004, and was \$*** higher per short ton in January-June 2005 than in January-June 2004.

The quantity of U.S. producers' U.S. internal consumption decreased between 2002 and 2003, increased between 2003 and 2004, and was higher in January-June 2005 than in January-June 2004. *** account for the majority of internal consumption reported by U.S. producers, *** reported minimal internal consumption,²⁴ and *** did not report any internal consumption their U.S.-produced liquid sulfur dioxide. ***. The difference in U.S. producers' treatment of internal consumption of sulfur dioxide reflects differences in firms' manufacturing processes. ***. Therefore, when *** produce sulfur derivatives, they internally consume liquid sulfur dioxide; whereas when ***²⁵ produce sulfur derivatives

²² Specifically, ***, ***.

²³ *** had greater U.S. commercial shipments by quantity of liquid sulfur dioxide in January-June 2005 than in January-June 2004, while *** had less U.S. commercial shipments by quantity.

²⁴ *** produces sulfur dioxide for sale in the merchant market at its *** facility. This facility's assets had been purchased from ***. ***. Staff telephone interview with ***, November 21, 2005. The quantities of internal consumption that *** reported were the result of supply shortages of gaseous sulfur dioxide at its other production facilities where *** operates a sulfur burner. In other words, *** produces sulfur dioxide separately from what it produces at its *** facility for downstream sulfur derivative products, but this material is not liquified and does not enter the merchant market, so its small quantities of reported internal consumption in each period for which data were collected relate to instances where *** had to ship *** material to its other facilities to supplement burner capacity there.

²⁵ *** also transfers liquid sulfur dioxide to a related firm for the production of another sulfur derivative product, namely ***.

(mainly sulfuric acid), they internally consume gaseous sulfur dioxide of a 17-percent assay purity.²⁶ Specifically, *** produces *** sulfuric acid using internally consumed gaseous sulfur dioxide at its *** facility than it produces “scrubbed” and liquified sulfur dioxide; while *** produces *** sulfuric acid using internally consumed gaseous sulfur dioxide at its *** facility than it produces “scrubbed” and liquified sulfur dioxide, and *** produced approximately *** sulfuric acid using internally consumed gaseous sulfur dioxide at its *** facility than it produced “scrubbed” and liquified sulfur dioxide.

Table III-7 presents information on U.S. producers’ internal consumption of sulfur dioxide.

Table III-7
Liquid sulfur dioxide: U.S. producers’ internal consumption

* * * * *

The average unit value of U.S. producers’ internal consumption, following the same trends apparent in the average unit value of U.S. commercial shipments, decreased between 2002 and 2003, increased between 2003 and 2004, and was higher in January-June 2005 than in January-June 2004.

The quantity of U.S. producers’ transfers to related firms increased between 2002 and 2003, increased between 2003 and 2004, and was lower in January-June 2005 than in January-June 2004. *** reported transfers to related firms. ***. ***. ***. The majority of the increase in U.S. producers’ transfers to related firms is attributable to ***, although ***.

The average unit value of U.S. producers’ transfers to related firms, following the same trends apparent in the average unit value of U.S. commercial shipments and internal consumption, decreased between 2002 and 2003, increased between 2003 and 2004, and was higher in January-June 2005 than in January-June 2004.

U.S. PRODUCERS’ U.S. SHIPMENTS

Table III-8 and figure III-6 present information on U.S. producers’ U.S. shipments. Figure III-7 presents information on the share of U.S. commercial shipments, internal consumption, and transfers to related firms within U.S. shipments.

The quantity of U.S. producers’ total U.S. shipments increased by 4,568 short tons (3.2 percent) between 2002 and 2003, decreased by 116 short tons (less than 0.1 percent) between 2003 and 2004, and was lower by 13,040 short tons (18.0 percent) in January-June 2005 than in January-June 2004. Much of this decrease in U.S. shipments is attributable to Rhodia’s staggered exit from the industry in 2004, and specifically its final idling of the Baton Rouge, LA, facility.²⁷ Prior to Rhodia’s exit, U.S. producers’ total U.S. shipments were relatively stable.²⁸

²⁶ Gaseous sulfur dioxide is not included as internal consumption. The minimal amounts of liquid sulfur dioxide that *** reported as internal consumption was sulfur dioxide that the firm had purified for sale on the merchant market, but then diverted back to internal operations (otherwise supplied by gaseous sulfur dioxide) as the need arose.

²⁷ Rhodia closed its Houston facility in the first half of 2004, but only closed its Baton Rough facility by December 2004.

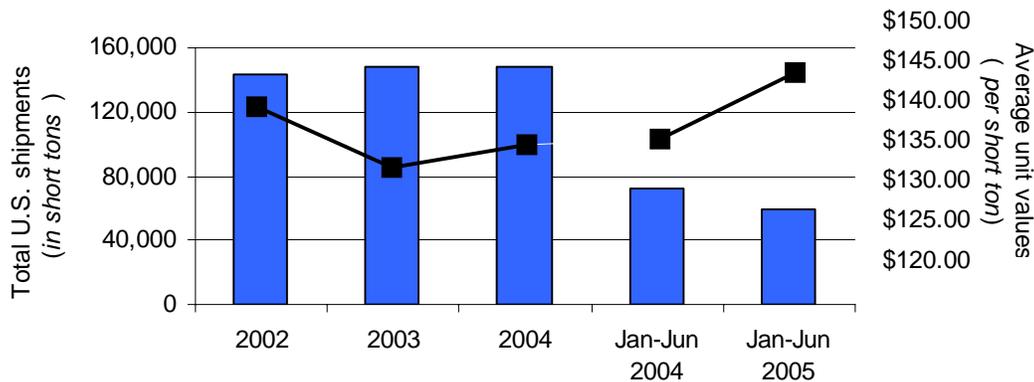
²⁸ As discussed previously, however, even during this period of stability there was a slight shift from U.S. commercial shipments to internal consumption of liquid sulfur dioxide for the manufacture of downstream sulfur derivative products.

Table III-8
Liquid sulfur dioxide: U.S. producers' U.S. shipments, 2002-04, January-June 2004, and January-June 2005

Item	Calendar year			January-June	
	2002	2003	2004	2004	2005
Quantity (short tons)					
Calabrian	***	***	***	***	***
Chemtrade	***	***	***	***	***
Olin	***	***	***	***	***
PVS Chemical	***	***	***	***	***
Rhodia	***	***	***	***	0
Total	143,589	148,157	148,041	72,553	59,513
Value (1,000 dollars)					
Calabrian	***	***	***	***	***
Chemtrade	***	***	***	***	***
Olin	***	***	***	***	***
PVS Chemical	***	***	***	***	***
Rhodia	***	***	***	***	0
Total	20,012	19,493	19,907	9,818	8,545
Average unit value (per short ton)					
Calabrian	\$***	\$***	\$***	\$***	\$***
Chemtrade	***	***	***	***	***
Olin	***	***	***	***	***
PVS Chemical	***	***	***	***	***
Rhodia	***	***	***	***	(1)
Average	139.37	131.57	134.47	135.32	143.59
¹ Not applicable.					
Source: Compiled from data submitted in response to Commission questionnaires.					

Figure III-6

Liquid sulfur dioxide: U.S. producers' U.S. shipments by quantity (bar graph, left axis) and by average unit value (line graph, right axis), 2002-04, January-June 2004, and January-June 2005



Source: Calculated from data in table III-8.

Figure III-7

Liquid sulfur dioxide: Shares of U.S. shipments accounted for by U.S. commercial shipments, internal consumption, and transfers to related firms, by quantity, 2002 and January-June 2005

* * * * *

The average unit value of U.S. producers' U.S. shipments decreased by \$7.80 per short ton (5.6 percent) between 2002 and 2003, increased by \$2.90 per short ton (2.2 percent) between 2003 and 2004, and was \$8.27 per short ton (6.1 percent) higher in January-June 2005 than in January-June 2004. The general trend in the average unit value of U.S. producers' U.S. shipments follow the trends in each of the average unit values of the individual components of U.S. shipments: U.S. commercial shipments, internal consumption, and transfers to related firms.

CAPTIVE PRODUCTION

During the preliminary conference, staff requested that parties to the investigation discuss the applicability of the captive production provision. The captive production provision provides that:

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

- (i) the domestic like product produced that is internally transferred for processing into that downstream article does not enter the merchant market for the domestic like product,*
- (ii) the domestic like product is the predominant material input in the production of that downstream article, and*
- (iii) the production of the domestic like product sold in the merchant market is not generally used in the production of that downstream article,*

*then the Commission, in determining market share and the factors affecting financial performance set forth in clause (iii), shall focus primarily on the merchant market for the domestic like product.*²⁹

Transfer and Sale of Significant Production of the Domestic Like Product

In 2002, internal consumption accounted for *** percent of U.S. producers' U.S. shipments by quantity and transfers to related firms accounted for *** percent of U.S. producers' U.S. shipments by quantity. By January-June 2005, internal consumption accounted for *** percent of U.S. producers' U.S. shipments by quantity and transfers to related firms accounted for *** percent of U.S. producers' U.S. shipments by quantity. U.S. producers' commercial (*i.e.* merchant market) shipments, in contrast, decreased as a share of quantity of overall U.S. shipments, falling from *** percent in 2002 to *** percent in January-June 2005.

*** account for the majority of U.S. producers' reported internal consumption of liquid sulfur dioxide. *** produced sodium hydrosulfite from its internally consumed liquid sulfur dioxide in 2004. *** produced sodium sulfite, sodium bisulfite, sodium thiosulfate, and sodium metarsulfite from its internally consumed liquid sulfur dioxide in 2004. *** produced ammonium thiosulfate and sodium thiosulfate from its internally consumed liquid sulfur dioxide in 2004.

*** are the only two U.S. producers that reported transfers of liquid sulfur dioxide to related firms. *** transferred liquid sulfur dioxide from ***³⁰ to ***³¹ for use in the manufacture of sodium hydrosulfite. *** transferred liquid sulfur dioxide from its *** facility to a related firm, ***, which was ultimately diverted back for sale on the merchant market without further processing. Both *** transferred legal title of the liquid sulfur dioxide to the related firm. Both *** transfers were based on market prices. Finally, for both *** transfers, the related firm received and maintained the rights to market and distribute the products produced using the transferred liquid sulfur dioxide.

The First Statutory Criterion

The first statutory criterion for the application of the captive consumption provision requires that the domestic like product that is internally transferred for processing into that downstream article does not enter the merchant market for the domestic like product. U.S. producers reported internal consumption of liquid sulfur dioxide for a variety of applications, namely: sodium hydrosulfite, sodium thiosulfate, sodium bisulfite, sodium metarsulfite, and sodium sulfite. No U.S. producer reported diverting liquid sulfur dioxide intended for internal consumption to the merchant market in 2004. One responding U.S. producer (***) that transferred liquid sulfur dioxide to related firms³² did, however, report that all of its *** short tons of transferred liquid sulfur dioxide were eventually diverted by the related firms back into the merchant market for the domestic like product without further processing in 2004. Discounting the material subsequently diverted back to the merchant market without further processing, *** short tons (***) percent) of liquid sulfur dioxide did not enter the merchant market out of the *** short tons of U.S. producers' U.S. shipments of liquid sulfur dioxide in 2004.

Calabrian contends that the first statutory criterion for the application of the captive consumption provision is satisfied without elaboration.³³ Chemtrade does not dispute that the first criterion is satisfied,

²⁹ 19 U.S.C. § 1677(7)(C)(iv) .

³⁰ ***.

³¹ ***.

³² ***. *** U.S. producer's questionnaire response, question II-17.

³³ Petitioner's postconference brief, p. 36.

noting instead that there are substantial volumes of domestic production of liquid sulfur dioxide that are captively consumed in the United States.³⁴

The Second Statutory Criterion

The second statutory criterion for the application of the captive consumption provision requires that the domestic like product is the predominant material input in the production of the downstream article that is produced from captively consumed material. There are two main downstream categories of products produced using captively consumed liquid sulfur dioxide in this investigation: the sulfur-based sodium salts (sodium bisulfite, sodium metabisulfite, sodium sulfite, and sodium thiosulfate) and sodium hydrosulfite. Calabrian is the only U.S. producer of liquid sulfur dioxide that also produces sodium salts using liquid sulfur dioxide; all other U.S. producers of sulfur-based sodium salts consume gaseous sulfur dioxide in their production.³⁵ Chemtrade Performance Chemicals, Inc., (the related firm to U.S. producer Chemtrade) and Olin are the only two U.S. producers of the downstream product sodium hydrosulfite,³⁶ which requires the use of purified sulfur dioxide in its manufacturing process.³⁷

Calabrian contends that the second statutory criterion for the application of the captive consumption provision is satisfied without elaboration.³⁸ Chemtrade argues, however, that the second criterion for applying the captive consumption provision might not be satisfied as *** transfers of liquid sulfur dioxide to *** account for only *** percent of the cost of manufacturing sodium hydrosulfite.³⁹

Table III-9 presents the chemical formulas for the production of the downstream products, the share of cost for liquid sulfur dioxide as a raw material input, and the share of input weight of liquid sulfur dioxide.

³⁴ Chemtrade's postconference brief, pp. 11-12.

³⁵ Other U.S. producers of sulfur-based sodium salts include Holland Company, Inc., (Adams, MA), Hydrite Chemical Co. (Brookfield, WI), Southern Ionics, Inc., (West Point, MS), and Thatcher Co. (Salt Lake City, UT). Staff telephone interview, ***, November 23, 2005. A representative of *** indicated that producers of sulfur-based sodium salts choose to produce the sodium salts using gaseous sulfur dioxide produced in their own sulfur burners due to the price differential between liquid sulfur dioxide available on the merchant market and the cost of producing sulfur on site. Staff telephone interview ***, November 23, 2005.

³⁶ Chemtrade Performance Chemicals, Inc., operates two sodium hydrosulfite plants: one in Leeds, SC, and the other in Kalama, WA. Olin also operates two sodium hydrosulfite plants: one in Charleston, TN, and the other in Augusta, GA.

³⁷ Since the manufacture of sodium hydrosulfite requires pure sulfur dioxide, both Chemtrade and Olin supply liquid sulfur dioxide to their sodium hydrosulfite plants.

³⁸ Petitioner's postconference brief, p. 36.

³⁹ Chemtrade's postconference brief, p.12, citing *** U.S. producers' questionnaire response, question 11-15-b. Although, recent large increases in the price of caustic soda (NaOH) might account for the *** share in cost accounted for by liquid sulfur dioxide in the production of *** sodium hydrosulfite as reported.

Table III-9
Liquid sulfur dioxide: downstream products.

Downstream product	Chemical reaction ¹	Share of cost of sulfur dioxide ²	Share of input weight
		(percent)	
Sodium bisulfite ³	$\text{SO}_2 + \text{NaOH} \rightarrow \text{NaHSO}_3$	***	***
Sodium metasilicate ³	$2 \text{SO}_2 + 2 \text{NaOH} \rightarrow \text{Na}_2\text{S}_2\text{O}_5 + \text{H}_2\text{O}$	***	***
Sodium sulfite ³	$\text{SO}_2 + 2 \text{NaOH} \rightarrow \text{Na}_2\text{SO}_3 + \text{H}_2\text{O}$	*** ⁴	***
Sodium thiosulfate ^{3 5}	$\text{SO}_2 + 2 \text{NaOH} + \text{S} \rightarrow \text{Na}_2\text{S}_2\text{O}_3 + \text{H}_2\text{O}$	***	***
Sodium hydrosulfite	Amalgam Process (***) $2 \text{SO}_2 + 2 \text{Na (from amalgam)} \rightarrow \text{Na}_2\text{S}_2\text{O}_4$	***	***
	Electrochemical process (***) $2 \text{SO}_2 + 2 \text{NaOH} \rightarrow \text{Na}_2\text{S}_2\text{O}_4 + \text{O}_2 + \text{H}_2$		*** ⁶
	Formate Process (***): $2 \text{SO}_2 + \text{HCOONa} + \text{NaOH} \rightarrow \text{Na}_2\text{S}_2\text{O}_4 + \text{H}_2\text{O} + \text{CO}_2$	***	***
	Zinc Process (***): $2 \text{SO}_2 + \text{Zn} + 2 \text{NaOH} \rightarrow \text{Na}_2\text{S}_2\text{O}_4 + \text{Zn(OH)}_2$		***

¹ NaOH, sodium hydroxide (a.k.a. caustic soda); O₂, oxygen; N₂, nitrogen; Ar, argon; H₂O, water; S, sulfur; HCOONa, sodium formate; H₂, hydrogen; Na, sodium; and Zn, Zinc.

² Share of cost accounted for by liquid sulfur dioxide in the production of the downstream sulfur derivative product. Staff notes that the relatively small percentage of cost accounted for by liquid sulfur dioxide in the production of the sulfur derivatives (especially the sodium salts) is somewhat skewed by the alleged five-fold increase in the price of caustic soda (NaOH), which began in the Spring of 2004 due to the increasing cost of natural gas for producers of caustic soda. Staff telephone interview ***, November 23, 2005.

³ Producers of sulfur-based sodium salts could also use sodium carbonate (soda ash) in lieu of caustic soda the production of sulfur-based sodium salts, which is not the case for sodium hydrosulfite.

⁴ ***

⁵ Sodium thiosulfate is produced by reacting additional sulfur with a sodium bisulfite solution.

⁶ Staff estimate. The *** share provided by *** matches expectations for the percentage by weight that liquid sulfur dioxide accounts for sodium hydrosulfite produced in the amalgam process (as the mercury in the amalgam is heavy); however, in the electrochemical process, which uses caustic soda as the other raw material input, staff estimates *** of the weight of the raw material inputs for the production of sodium hydrosulfite is accounted for by liquid sulfur dioxide.

Source: Based on U.S. producers' questionnaire responses, question II-15-a; Edward D. Weil and Stanley R. Sandler, "Sulfur Compounds", *Kirk-Othmer Encyclopedia of Chemical Technology*, John Wiley & Sons, Inc., 1997, Section 10; staff telephone interview ***, November 23, 2005; staff telephone interview ***, November 28, 2005; staff telephone interview ***, November 28, 2005; and staff estimate as noted.

The Third Statutory Criterion

The third statutory criterion for the application of the captive consumption provision requires that the production of the domestic like product sold in the merchant market is not generally used in the production of that downstream article. As discussed previously, the largest end-use industry for U.S. producers of liquid sulfur dioxide are other chemical producers that manufacture sulfur derivatives from liquid sulfur dioxide on the merchant market.⁴⁰ The share of merchant market sales to other chemical producers has, however, declined over the period examined due to Chemtrade's purchase of the Leeds,

⁴⁰ See Chapter II of this report, "U.S. Conditions of Competition in the U.S. Market: U.S. Market Segments."

SC, sodium hydrosulfite facility from Clariant in December 2002. After this transaction, material previously supplied by *** to Clariant on the merchant market became ***.⁴¹ Even so, when Inco went on strike in 2003, Chemtrade had to supply a large portion of its liquid sulfur dioxide needs by increasing its purchases of liquid sulfur dioxide in the merchant market, mainly from ***.⁴² Olin internally consumes liquid sulfur dioxide in the production of sodium hydrosulfite and ***.⁴³ Calabrian is the only producer of sulfur-based sodium salts that consumes the domestic like product in their manufacture.⁴⁴ Most other producers consumed gaseous sulfur dioxide in the production of sulfur-based sodium salts.⁴⁵ Liquid sulfur dioxide could be used in the manufacture of these sulfur-based sodium salts (sodium bisulfite, sodium metasulfite, sodium sulfite, and sodium thiosulfate) if the cost differential between the domestic like product and the impure, gaseous material (*i.e.* sulfur dioxide produced in-house using a sulfur burner) did not make doing so unattractive economically.⁴⁶

Calabrian argues that the third statutory criterion for the application of the captive consumption provision is not satisfied in this investigation as “the sulfur dioxide sold in the merchant market is generally used in the production of the downstream article, sodium hydrosulfite.”⁴⁷ Calabrian does not address the applicability of the third criterion to its internal consumption of liquid sulfur dioxide in the manufacture of the sulfur-based sodium salts.⁴⁸ Chemtrade also argues that the third criterion for applying the captive consumption provision is not satisfied, citing to the Petitioner’s testimony to that effect in the preliminary conference.⁴⁹ Chemtrade does not address the applicability of the third criterion to Calabrian’s internal consumption of liquid sulfur dioxide in the manufacture of the sulfur-based sodium salts.⁵⁰

U.S. PRODUCERS’ EXPORTS

*** and Chemtrade are the only two U.S. producers that reported exporting liquid sulfur dioxide in the period examined. The increase in the quantity of Chemtrade’s exports in 2003 reflects the shortage of liquid sulfur dioxide caused by the strike at Inco’s Sudbury, ON, facility that year.⁵¹ ***. ***.⁵² *** export shipments supply costumers in ***.⁵³ The average unit value of U.S. export shipments fluctuated, following the same trends apparent in the average unit value of U.S. producers’ total shipments, but on average were \$*** to \$*** higher than U.S. commercial shipments.

⁴¹ At the same time, ***. ***. *** U.S. importer’s questionnaire response, question III-C.

⁴² Chemtrade’s U.S. producers’ questionnaire response, question II-11.

⁴³ ***. ***.

⁴⁴ This relates to the sulfur dioxide production process that Calabrian has in which it produces sulfur dioxide from a reaction of sulfur in pure oxygen, in lieu of in air.

⁴⁵ Staff telephone interview with ***, November 23, 2005.

⁴⁶ The cost differential between liquid sulfur dioxide sold on the merchant market (~\$120 to ~\$180 per short ton) and gaseous sulfur dioxide produced in house (~\$35 per short ton: calculated from one short ton of sulfur at \$70, which produces two tons of gaseous sulfur dioxide) is larger than the cost associated with using an impure, gaseous sulfur dioxide raw material input that requires the end product to be further processed and cleaned. Staff telephone interview with ***, November 23, 2005.

⁴⁷ Petitioner’s postconference brief, p. 36, and conference transcript, p. 56 (Wisla).

⁴⁸ Ibid.

⁴⁹ Chemtrade’s postconference brief, p.12, citing conference transcript, p. 56 (Wisla).

⁵⁰ Ibid.

⁵¹ Conference transcript, p. 178 (Davis).

⁵² Staff telephone interview, ***. The average unit value of U.S. producer Chemtrade’s export shipments of liquid sulfur dioxide reflect this *** in 2004, and in both partial year period comparisons.

⁵³ *** U.S. producer’s questionnaire response, question II-10.

The Petitioner contends that it faces a non-tariff barrier in the Canadian market in the form of discriminatorily applied hazardous chemical shipping regulations.⁵⁴ However, as narrated above, two U.S. producers reported export shipments to Canada in the period examined. Respondents argue that compliance with the regulations on the transportation of dangerous goods (which include liquid sulfur dioxide) in Canada is required of all Canadian and foreign suppliers of liquid sulfur dioxide regardless of the origin of the material being shipped.⁵⁵

Table III-10 and figure III-8 present information on U.S. producers' export shipments.

Table III-10

Liquid sulfur dioxide: U.S. producers' export shipments, 2002-04, January-June 2004, and January-June 2005

* * * * *

Figure III-8

Liquid sulfur dioxide: U.S. producers' export shipments by quantity (bar graph, left axis) and by average unit value (line graph, right axis), 2002-04, January-June 2004, and January-June 2005

* * * * *

U.S. PRODUCERS' TOTAL SHIPMENTS

Table III-11 and figure III-9 present information on U.S. producers' total shipments. Figure III-10 presents information on the shares of U.S. commercial shipments, internal consumption, export shipments, and transfers to related firms within U.S. producers' total shipments of liquid sulfur dioxide.

Due to the relatively small quantities of U.S. producers' export shipments, the general trends apparent in U.S. producers' U.S. shipments are consistent with those for U.S. producers' total shipments. Likewise, the average unit value of U.S. producers' total shipments, following the same trends as the average unit value of U.S. producers' U.S. shipments, decreased from 2002 to 2003, increased from 2003 to 2004, and was higher in January-June 2005 than in January-June 2004.

Table III-11

Liquid sulfur dioxide: U.S. producers' total shipments, 2002-04, January-June 2004, and January-June 2005

* * * * *

Figure III-9

Liquid sulfur dioxide: U.S. producers' total shipments by quantity (bar graph, left axis) and by average unit value (line graph, right axis), 2002-04, January-June 2004, and January-June 2005

* * * * *

⁵⁴ Conference transcript, pp. 113-116 (Cogliandro).

⁵⁵ Chemtrade's postconference brief, p. 42, and Teck Cominco's postconference brief, p. A-1.

Figure III-10

Liquid sulfur dioxide: Shares of total shipments accounted for by U.S. commercial shipments, internal consumption, transfers to related firms, and export shipments, by quantity, 2002 and January-June 2005

* * * * *

U.S. PRODUCERS' IMPORTS AND PURCHASES

During the period for which data were collected, two producers (***) reported purchases or direct imports of liquid sulfur dioxide from Canada. For the purposes of replying to the Commission's questionnaire, *** conservatively assumed that all of the liquid sulfur dioxide it purchased from ***.⁵⁶ *** reported direct imports of liquid sulfur dioxide from subject (Canada) and nonsubject (Mexico) sources throughout the period for which data were collected.⁵⁷

Table III-12 presents information on U.S. producers' direct imports and purchases of subject merchandise from U.S. importers.

Table III-12

Liquid sulfur dioxide: U.S. producers' direct imports and purchases of subject merchandise from U.S. importers, 2002-04, January-June 2004, and January-June 2005

* * * * *

The quantities of liquid sulfur dioxide that *** reported as purchased from U.S. importers of product from Canada were equivalent to less than *** percent of its U.S. production from 2002 to 2004 and were equivalent to *** percent of its U.S. production in January-June 2005.⁵⁸ The quantities of liquid sulfur dioxide that *** reported in its U.S. importer's questionnaire accounted for *** in each comparison. *** ratio of direct imports to U.S. production reflects the firm's origin as a provider of ***.⁵⁹

⁵⁶ *** U.S. producer's questionnaire response, question II-11.

⁵⁷ *** U.S. producer's questionnaire response question II-11, and ***.

⁵⁸ ***. *** U.S. producer's questionnaire response, question II-2.

⁵⁹ ***.

During the period for which data were collected, two U.S. producers (***) reported purchases of liquid sulfur dioxide from other U.S. producers. ***.⁶⁰ ***.⁶¹ ***.⁶² ***.⁶³ ***.⁶⁴ ***.⁶⁵ ***.⁶⁶ ***.⁶⁷ ***.⁶⁸

Table III-13 presents information on U.S. producers' purchases of liquid sulfur dioxide from other U.S. producers.

Table III-13

Liquid sulfur dioxide: U.S. producers' purchases from other U.S. producers, 2002-04, January-June 2004, and January-June 2005

* * * * *

POTENTIAL RELATED PARTY ISSUES

In the public conference associated with this investigation, Commission staff requested that parties comment in their postconference briefs on the applicability of the related parties provision in the definition of the domestic U.S. liquid sulfur dioxide industry.⁶⁹ While the petitioner alleges that appropriate circumstances exist for excluding U.S. producer Chemtrade from the domestic industry under the "related parties" provision of the antidumping statute, it has no objection to the inclusion of Chemtrade in the definition of the domestic industry for the purposes of the preliminary phase of this investigation.⁷⁰ The respondent parties argue for the inclusion of Chemtrade in the definition of the domestic U.S. industry.⁷¹

U.S. PRODUCERS' INVENTORIES

Due to the toxic nature of liquid sulfur dioxide and the dangers in storing this product under pressure, most U.S. producers do not keep significant amounts of inventory. *** keep larger stocks of inventories than other U.S. producers as a result of ***. Table III-14, which presents end-of-period inventories for liquid sulfur dioxide during the period for which data were collected, shows that inventories are relatively low as a ratio to production. The decline in inventory levels as a ratio to production are a result of Rhodia's exit from the domestic industry.

⁶⁰ ***. Prior to ***.

⁶¹ Ibid.

⁶² *** U.S. importers' questionnaire response question II-5-a.

⁶³ *** U.S. producers' questionnaire response question II-11.

⁶⁴ *** U.S. producers' questionnaire response question II-11.

⁶⁵ *** U.S. producers' questionnaire response question II-13.

⁶⁶ Staff e-mail correspondence with ***, October 19, 2005.

⁶⁷ Table III-4, *infra*.

⁶⁸ Staff e-mail correspondence with ***, October 19, 2005.

⁶⁹ Conference transcript, pp. 118 (Carpenter), and 168 (Driscoll).

⁷⁰ Petitioner's postconference brief, pp. 34 to 35.

⁷¹ Chemtrade's postconference brief, pp. 5 to 9.

Table III-14

Liquid sulfur dioxide: U.S. producers' inventories, 2002-04, January-June 2004, and January-June 2005

Item	Calendar year			January-June	
	2002	2003	2004	2004	2005
End of period inventories (in short tons)					
Inventories	3,575	4,083	2,016	3,267	1,616
Ratios (in percent)¹					
To production	2.5	2.6	1.3	2.2	1.3
To U.S. shipments	2.5	2.8	1.4	2.3	1.4
To total shipments	***	***	***	***	***
¹ The partial period ratios have been annualized. Source: Compiled from data submitted in response to Commission questionnaires.					

U.S. EMPLOYMENT, COMPENSATION, AND PRODUCTIVITY

In the preliminary conference, the Petitioner estimated that over 100 workers in the liquid sulfur dioxide industry have lost their jobs since 2001.⁷² However, data collected in from U.S. producers' questionnaire responses indicate there were 41 to 44 production related workers working on liquid sulfur dioxide in the industry between 2002 and 2004, and then 34 production related workers in January-June 2005 after Rhodia exited the industry. ***.⁷³

Table III-15 presents information on U.S. producers' employment-related information.

⁷² Conference transcript, p. 40 (Rickert). Given, however, that Rhodia reported *** production related workers for its approximate capacity of *** short tons of liquid sulfur dioxide, it would be odd that Clariant's exit from the industry in 2001 of *** short tons of capacity and Hydrite's exit from the industry in 2001 of *** short tons of capacity account for the remaining *** workers laid off since 2001.

⁷³ *** U.S. producer's questionnaire response, question II-9. ***.

Table III-15

Liquid sulfur dioxide: U.S. producers' employment-related data, 2002-04, January-June 2004, and January-June 2005

Item	Calendar year			January-June	
	2002	2003	2004	2004	2005
Average number of PRWs (<i>number of workers</i>)	44	44	41	44	34
Hours worked/PRW (<i>hours per year</i>)	2,127	2,096	2,206	1,087	1,060
PRW average wages (<i>per hour</i>)	\$26.80	\$27.02	\$26.69	\$27.02	\$27.63
Productivity (<i>short tons/1,000 hours</i>)	1,544	1,693	1,663	1,561	1,715
Unit labor costs (<i>total wages/ short ton</i>)	\$17.36	\$15.96	\$16.05	\$17.31	\$16.12
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

Chemtrade, Marsulex, and Teck Cominco account for 100 percent of U.S. imports from Canada. Peñoles (Mexico) accounted for the majority of nonsubject imports until 2005, when ***. Table IV-1 presents data on imports of liquid sulfur dioxide collected from responses to the Commission's U.S. importers' questionnaires.¹

Table IV-1
Liquid sulfur dioxide: U.S. importers' reported imports, 2002-04, January-June 2004, and January-June 2005

Item	Calendar year			January-June	
	2002	2003	2004	2004	2005
Quantity (short tons)					
Chemtrade	***	***	***	***	***
Marsulex	***	***	***	***	***
Teck Cominco	***	***	***	***	***
Subtotal, subject	***	***	***	***	***
Chemtrade	***	***	***	***	***
Penoles	***	***	***	***	***
Teck Cominco	***	***	***	***	***
Subtotal, nonsubject	***	***	***	***	***
Total	59,359	63,361	66,270	31,268	37,221
Share by quantity (percent)					
Chemtrade	***	***	***	***	***
Marsulex	***	***	***	***	***
Teck Cominco	***	***	***	***	***
Subtotal, subject	***	***	***	***	***
Chemtrade	***	***	***	***	***
Penoles	***	***	***	***	***
Teck Cominco	***	***	***	***	***
Subtotal, nonsubject	***	***	***	***	***
Source: Compiled from data submitted in response to Commission questionnaires.					

Figures IV-1 and IV-2 present information on U.S. importers' shares of imports by quantity for subject and nonsubject merchandise, respectively.

¹ Responses to the Commission U.S. importers' questionnaire differ slightly from official Commerce statistics for 2003 and 2004 ***. U.S. importers' reported imports from Canada are lower than import volumes reported in official statistics in 2002.

Figure IV-1
Liquid sulfur dioxide: U.S. importers' shares of subject imports, by quantity, 2002 and January-June 2005

* * * * *

Figure IV-2
Liquid sulfur dioxide: U.S. importers' shares of nonsubject imports, by quantity, 2002 and January-June 2005

* * * * *

U.S. IMPORTS

Table IV-2 presents information on U.S. importers' subject and nonsubject imports. Figure IV-3 presents information on the quantity and average unit value of U.S. importers' imports.

Between 2002 and 2004, U.S. importers' subject imports increased in quantity by *** short tons (**% percent) and in value by \$*** million (**% percent). Most of the increase in quantity and in value occurred between 2002 and 2003. In January-June 2005, subject imports were *** short tons higher (**% percent) in quantity but were \$*** lower (**% percent) in value than in January-June 2004. Subject imports account for the majority of imported liquid sulfur dioxide in the United States, ranging from *** to *** percent of total imports by quantity between 2002 and 2004. Nonsubject imports of liquid sulfur dioxide from Mexico account for approximately *** to *** percent of total imports by quantity between 2002 and 2004, with quantities of nonsubject imports increasing.

The average unit values of subject imports increased by \$*** per short ton between 2002 and 2004, with nearly all this increase incurring between 2002 and 2003.² In January-June 2005, the unit value of subject imports was \$*** per short ton lower than in January-June 2004. Nonsubject imports had declining average unit values that were consistently lower than subject imports in each period examined.³

² ***.

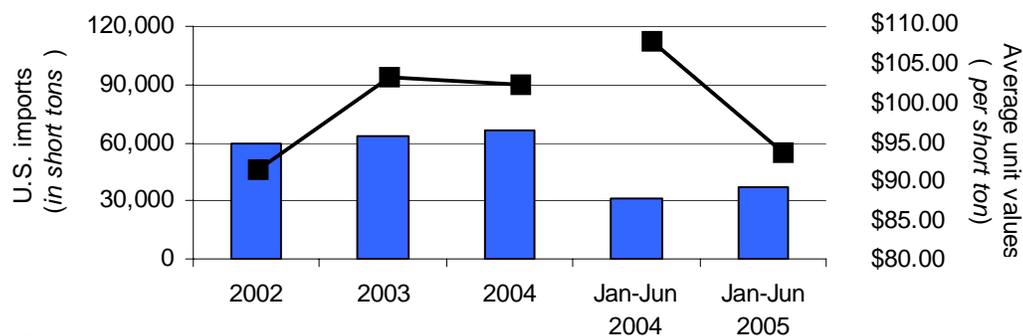
³ The petitioner explained that it did not include Mexico in its petition despite the lower average unit values of Mexican liquid sulfur dioxide because of the greater absolute volume of subject (*i.e.* Canadian) imports than nonsubject (*i.e.* Mexican) imports. Conference transcript, pp. 83-84 (Cogliandro).

Table IV-2
Liquid sulfur dioxide: U.S. imports, by sources, 2002-04, January-June 2004, and January-June 2005

Source	Calendar year			January-June	
	2002	2003	2004	2004	2005
Imports (short tons)					
Canada	***	***	***	***	***
All other sources	***	***	***	***	***
Total	59,359	63,361	66,270	31,268	37,221
Imports (1,000 dollars)					
Canada	***	***	***	***	***
All other sources	***	***	***	***	***
Total	5,426	6,551	6,783	3,369	3,485
Average unit value of imports (per short ton)					
Canada	\$***	\$***	\$***	\$***	\$***
All other sources	***	***	***	***	***
Average	91.41	103.39	102.35	107.75	93.63
Share of imports by quantity (percent)					
Canada	***	***	***	***	***
All other sources	***	***	***	***	***
Share of imports by value (percent)					
Canada	***	***	***	***	***
All other sources	***	***	***	***	***

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

Figure IV-3
Liquid sulfur dioxide: U.S. importers' importers by quantity (bar-graph, left axis) and by average unit value (line graph, right axis), 2002-04, January-June 2004, and January-June 2005



Source: Calculated from data in table IV-2.

COMMERCIAL SHIPMENTS OF U.S. IMPORTS

Table IV-2 presents information on U.S. importers' commercial shipments of subject and nonsubject imports. Figure IV-4 and figure IV-5 present information on the quantity and average unit value of U.S. importers' commercial U.S. shipments of subject and nonsubject merchandise, respectively. Figures IV-6 and IV-7 present information on U.S. importers' shares of commercial U.S. shipments by quantity for imported subject and nonsubject merchandise, respectively.

Between 2002 and 2003, U.S. importers' commercial U.S. shipments of subject merchandise decreased in quantity by *** short tons (***) percent) and in value by \$*** (***) percent). Most of the decrease between 2002 and 2003 relates to ***. Between 2003 and 2004, U.S. importers' commercial U.S. shipments of subject merchandise increased in quantity by *** short tons (***) percent) and in value by \$*** (***) percent). In January-June 2005, U.S. importers' commercial U.S. shipments of subject merchandise were *** short tons lower (***) percent) in quantity and were \$*** lower (***) percent) in value than in January-June 2004. Subject merchandise accounts for the vast majority of U.S. importers' commercial shipments of imported liquid sulfur dioxide in the United States, ranging from *** to *** percent of commercial U.S. shipments by quantity between 2002 and 2004.

***,⁴ which accounts for the lower U.S. commercial shipments by quantity in January-June 2005 over that same period a year earlier. The withdrawal of this material from the merchant market had the effect of increasing the share of U.S. importers' subject commercial U.S. shipments by quantity and by value in January-June 2005 over earlier periods.

Table IV-3

Liquid sulfur dioxide: U.S. importers' commercial U.S. shipments, by sources, 2002-04, January-June 2004, and January-June 2005

* * * * * * *

Figure IV-4

Liquid sulfur dioxide: U.S. importers' commercial U.S. shipments of subject merchandise by quantity (bar-graph, left axis) and by average unit value (line graph, right axis), 2002-04, January-June 2004, and January-June 2005

* * * * * * *

Figure IV-5

Liquid sulfur dioxide: U.S. importers' commercial U.S. shipments of nonsubject merchandise by quantity (bar-graph, left axis) and by average unit value (line graph, right axis), 2002-04, January-June 2004, and January-June 2005

* * * * * * *

Figure IV-6

Liquid sulfur dioxide: U.S. importers' shares of commercial U.S. shipments of subject imports by quantity, 2002 and January-June 2005

* * * * * * *

Figure IV-7

Liquid sulfur dioxide: U.S. importers' shares of commercial U.S. shipments of nonsubject imports by quantity, 2002 and January-June 2005

* * * * * * *

⁴ *** U.S. importer's questionnaire response, question II-2.

The average unit values of commercial U.S. shipments of subject merchandise fluctuated over the period examined. The average unit value of U.S. importers' commercial U.S. shipments of subject merchandise decreased by \$*** per short ton between 2002 and 2003, and then remained relatively constant in 2004. In January-June 2005, the average unit value of U.S. importers' commercial U.S. shipments of subject merchandise was lower by \$*** per short ton than in January-June 2004. Commercial U.S. shipments of nonsubject merchandise had lower average unit values over commercial U.S. shipments of subject merchandise in each period for which data were collected, except in January-June 2005. The average unit value of U.S. importers' commercial U.S. shipments of nonsubject merchandise decreased steadily in each year between 2002 and 2004, but then in January-June 2005 the average unit value of U.S. importers' commercial U.S. shipments of nonsubject merchandise was noticeably higher than in January-June 2004.⁵

TRANSFERS OF U.S. IMPORTS TO RELATED FIRMS

Only one importer of either subject or nonsubject liquid sulfur dioxide reported any internal consumption or transfers to related firms. ***. ***.

Table IV-4 presents information on *** transfers to related firms of both subject and nonsubject liquid sulfur dioxide. Figure IV-8 and figure IV-9 present information on the quantity and average unit value of *** transfers of subject and nonsubject merchandise, respectively, to related firms.

Table IV-4

Liquid sulfur dioxide: U.S. importers' transfers to related firms, by sources, 2002-04, January-June 2004, and January-June 2005

* * * * *

Figure IV-8

Liquid sulfur dioxide: U.S. importers' transfers of subject merchandise to related firms by quantity (bar-graph, left axis) and by average unit value (line graph, right axis), 2002-04, January-June 2004, and January-June 2005

* * * * *

Figure IV-9

Liquid sulfur dioxide: U.S. importers' transfers of nonsubject merchandise to related firms by quantity (bar-graph, left axis) and by average unit value (line graph, right axis), 2002-04, January-June 2004, and January-June 2005

* * * * *

U.S. IMPORTERS' U.S. SHIPMENTS

Between 2002 and 2003, U.S. importers' U.S. shipments of subject merchandise increased in quantity by *** short tons (***) percent) and in value by \$*** (***) percent). The increase between 2002 and 2003 relates to ***. Between 2003 and 2004, U.S. importers' U.S. shipments of subject merchandise decreased in quantity by *** short tons (***) percent) and in value by \$*** (***) percent). In January-June 2005, U.S. importers' U.S. shipments of subject merchandise were *** short tons higher (***) percent) in quantity and were \$*** lower (***) percent) in value than in January-June 2004. Subject merchandise accounts for the vast majority of U.S. importers' U.S. shipments of imported liquid sulfur

⁵ This higher average unit value in January-June reflects a very small quantity of liquid sulfur dioxide being sold on the merchant market. ***.

dioxide in the United States, ranging from *** to *** percent of U.S. shipments by quantity between 2002 and 2004.

The average unit values of U.S. shipments of subject and nonsubject merchandise decreased throughout the period for which data were collected.⁶ U.S. shipments of nonsubject merchandise had consistently lower average unit values compared with U.S. shipments of subject merchandise in each period examined. The average unit value of U.S. importers' U.S. shipments of subject merchandise decreased by \$*** per short ton between 2002 and 2003, \$*** per short ton between 2003 and 2004, and were \$*** lower in January-June 2005 than in January-June 2004. The average unit value of U.S. importers' U.S. shipments of nonsubject merchandise followed the same trend as that of subject merchandise over the period examined, decreasing or being lower in each comparable period.

Table IV-5 presents information on U.S. importers' U.S. shipments of subject and nonsubject imports. Figure IV-10 and figure IV-11 present information on the quantity and average unit value of U.S. importers' U.S. shipments of subject and nonsubject merchandise, respectively. Figures IV-12 and IV-13 present information on U.S. importers' shares of U.S. shipments by quantity for imported subject and nonsubject merchandise, respectively.

Table IV-5
Liquid sulfur dioxide: U.S. importers' U.S. shipments, by sources, 2002-04, January-June 2004, and January-June 2005

Item	Calendar year			January-June	
	2002	2003	2004	2004	2005
	Quantity (short tons)				
Canada	***	***	***	***	***
All other sources	***	***	***	***	***
Total	59,434	63,321	65,202	30,908	37,292
	Value (1,000 dollars)				
Canada	***	***	***	***	***
All other sources	***	***	***	***	***
Total	6,850	6,889	6,530	3,420	3,428
	Average unit value (per short ton)				
Canada	\$***	\$***	\$***	\$***	\$***
All other sources	***	***	***	***	***
Average	115.25	108.79	100.15	110.65	91.92
	Share of quantity (percent)				
Canada	***	***	***	***	***
All other sources	***	***	***	***	***
	Share of value (percent)				
Canada	***	***	***	***	***
All other sources	***	***	***	***	***
Source: Compiled from data submitted in response to Commission questionnaires.					

⁶ These decreases largely reflect decreases in the average unit value of U.S. importers' commercial U.S. shipments, with the exception of the decrease from 2003 to 2004 which was primarily the result of the decrease in the average unit value of U.S. importers' transfers to related firms, *i.e.* ***.

Figure IV-10

Liquid sulfur dioxide: U.S. importers' U.S. shipments of subject merchandise by quantity (bar-graph, left axis) and by average unit value (line graph, right axis), 2002-04, January-June 2004, and January-June 2005

* * * * *

Figure IV-11

Liquid sulfur dioxide: U.S. importers' U.S. shipments of nonsubject merchandise by quantity (bar-graph, left axis) and by average unit value (line graph, right axis), 2002-04, January-June 2004, and January-June 2005

* * * * *

Figure IV-12

Liquid sulfur dioxide: U.S. importers' share of U.S. shipments of subject imports, by quantity, 2002 and January-June 2005

* * * * *

Figure IV-13

Liquid sulfur dioxide: U.S. importers' share of total U.S. shipments of nonsubject imports by quantity, 2002 and January-June 2005

* * * * *

NEGLIGENCE

The Tariff Act of 1930 provides for the termination of an investigation if imports of the subject product from a country are less than 3 percent of total imports, or, if there is more than one such country, their combined share is less than or equal to 7 percent of total imports, during the most recent 12 months for which data are available preceding the filing of the petition.⁷ Subject imports accounted for 75.4 percent of total imports of liquid sulfur dioxide between September 2004 and August 2005.⁸

APPARENT U.S. MERCHANT MARKET CONSUMPTION AND MARKET SHARES

In the preliminary conference, the petitioner described the merchant market for liquid sulfur dioxide as the level at which competition is primarily focused.⁹ Likewise, the respondents argued that the Commission must look into what happens to liquid sulfur dioxide imported into the United States, whether that material is used to supply the merchant market or the importing firms' own internal consumption needs, in making its determination.¹⁰ Accordingly, staff has compiled data on U.S. producers' and U.S. importers' commercial U.S. shipments below.

Over the period for which data were collected, apparent U.S. merchant market consumption of liquid sulfur dioxide declined. Between 2002 and 2003, apparent U.S. merchant market consumption of liquid sulfur dioxide decreased in quantity by *** short tons (***) percent and in value by \$*** (***)

⁷ 19 U.S.C. § 1677(24)(A)(ii).

⁸ Calculated from official Commerce statistics.

⁹ Conference transcript, pp. 29-30 (Cogliandro).

¹⁰ Conference transcript, p. 151 (Klett).

percent). The decrease between 2002 and 2003 primarily reflects Chemtrade's purchase of Clariant's sodium hydrosulfite facility in Leeds, SC.¹¹ Between 2003 and 2004, apparent U.S. merchant market consumption decreased in quantity by *** short tons (***) percent) and in value by \$*** (***) percent).¹² In January-June 2005, apparent U.S. merchant market consumption of liquid sulfur dioxide was *** short tons lower (***) percent) in quantity and was \$*** lower (***) percent) in value than in January-June 2004.¹³ By quantity and by value, U.S. producers gained market share out of overall U.S. commercial shipments between 2002 and 2003 and then lost market share out of overall U.S. commercial shipment between 2003 and 2004. U.S.-produced liquid sulfur dioxide accounted for a lower share of overall U.S. commercial shipments by quantity in January-June 2005 than in January-June 2004, but a higher share by value.

U.S. importers' U.S. commercial shipments of subject and nonsubject liquid sulfur dioxide had lower average unit values than U.S. producers' U.S. commercial shipments in each full and partial year period for which data were collected. The average unit value of overall shipments in apparent U.S. merchant market consumption decreased by \$*** per short ton between 2002 and 2003 and remained relatively constant between 2003 and 2004. In January-June 2005, the average unit value of overall shipments in apparent U.S. merchant market consumption was \$*** lower than in January-June 2004.¹⁴

Table IV-6 presents information on apparent U.S. merchant market consumption of liquid sulfur dioxide. Figure IV-14 presents information on the quantity and average unit value of apparent U.S. merchant market consumption. Figure IV-15 presents information on the average unit value of each source of apparent U.S. merchant market consumption. Table IV-7 presents information on market shares of merchant market U.S. consumption of liquid sulfur dioxide by source. Figure IV-16 presents information on market shares of liquid sulfur dioxide by source and figure IV-17 presents information on market shares of liquid sulfur dioxide by firm.

Table IV-6
Liquid sulfur dioxide: Apparent U.S. merchant market consumption, by sources, 2002-04, January-June 2004, and January-June 2005

* * * * *

Figure IV-14
Liquid sulfur dioxide: Apparent U.S. merchant market consumption by quantity (bar-graph, left axis) and by average unit value (line graph, right axis), 2002-04, January-June 2004, and January-June 2005

* * * * *

Figure IV-15
Liquid sulfur dioxide: Average unit values of U.S. commercial shipments, by source, 2002-04, January-June 2004, and January-June 2005

* * * * *

¹¹ ***, ***, ***, ***,

¹² Both commercial U.S. shipments of subject and nonsubject imports increased between 2003 and 2004, offsetting in part the decrease in U.S. producers' commercial U.S. shipments in that comparison.

¹³ The idling of Rhodia's liquid sulfur dioxide production facility in Baton Rouge, LA, explains *** of this decrease. Additionally, in 2005, ***.

¹⁴ The average unit value of U.S. producers' commercial U.S. shipments drives most of the average unit value changes in apparent U.S. merchant market consumption.

Table IV-7

Liquid sulfur dioxide: Shares of apparent U.S. merchant market consumption, by source, 2002-04, January-June 2004, and January-June 2005

* * * * *

Figure IV-16

Liquid sulfur dioxide: Market shares based on quantity of apparent U.S. merchant market consumption, by source, 2002 and January-June 2005

* * * * *

Figure IV-17

Liquid sulfur dioxide: Market shares based on quantity of apparent U.S. merchant market consumption, by firm, 2002 and January-June 2005

* * * * *

APPARENT U.S. CONSUMPTION AND MARKET SHARES

Over the period examined, apparent U.S. consumption of liquid sulfur dioxide increased, although it was lower in January-June 2005 than in January-June 2004. Between 2002 and 2003, apparent U.S. consumption of liquid sulfur dioxide increased in quantity by 7,133 short tons (3.5 percent) but decreased in value by \$713,000 (2.7 percent). The increase in quantity from 2002 to 2003 is a result of both an increase in U.S. producers' U.S. shipments and U.S. importers' U.S. shipments of subject liquid sulfur dioxide, while the decrease in value from 2002 to 2003 is primarily a result of a decline in the value of U.S. producers' U.S. shipments. Between 2003 and 2004, apparent U.S. consumption of liquid sulfur dioxide increased in quantity by 3,087 short tons (1.5 percent) and in value by \$288,570 (1.1 percent). An increase in U.S. importers' U.S. shipments of nonsubject merchandise explains the increased quantity of U.S. consumption, while increases in the value of U.S. producers' U.S. shipments and in U.S. importers' U.S. shipments of nonsubject merchandise offset the decrease in the value of U.S. importers' U.S. shipments of subject merchandise. In January-June 2005, apparent U.S. consumption of liquid sulfur dioxide was 6,656 short tons lower (6.4 percent) in quantity and was \$1.3 million lower (9.6 percent) in value than in January-June 2004. Between 2002 and 2003, U.S. producers maintained market share measured by both quantity and value. U.S. producers lost some market share measured by quantity between 2003 and 2004, but gained market share by value. U.S. producers had a noticeably diminished market share by quantity in January-June 2005 relative to January-June 2004, but by value, U.S. producers had only a slightly lower market share.¹⁵

Both subject and nonsubject U.S. shipments of liquid sulfur dioxide had lower average unit values than U.S. producers' U.S. shipments in each full and partial year period for which data were collected. The overall average unit value of apparent U.S. consumption decreased by \$7.89 per short ton between 2002 and 2003 as a result of declines in the average unit values of all sources of U.S. shipments. The overall average unit value of apparent U.S. consumption again decreased between 2003 and 2004, but by a lesser amount than between 2002 and 2003 as the average value of U.S. producers' U.S. shipments increased by \$2.90 in 2004 offsetting the decreases in average unit values of U.S. importers' U.S. shipments. In January-June 2005, the average unit value of all U.S. shipments was \$4.26 lower than in January-June 2004, with the increase in the average value of U.S. producers' U.S. shipments unable to completely offset the decrease in the average unit values of U.S. importers' U.S. shipments. As was the case in apparent U.S. merchant market consumption, the average unit value of U.S. producers' (in this

¹⁵ U.S. producers' lower market share in the January-June 2005 period over the January-June 2004 period is primarily the result of Rhodia's exit from the market and a shifting of the denominator in the calculation of market share.

case U.S.) shipments had a stronger influence on the overall average unit values than did U.S. importers' (U.S.) shipments within apparent (U.S.) consumption.

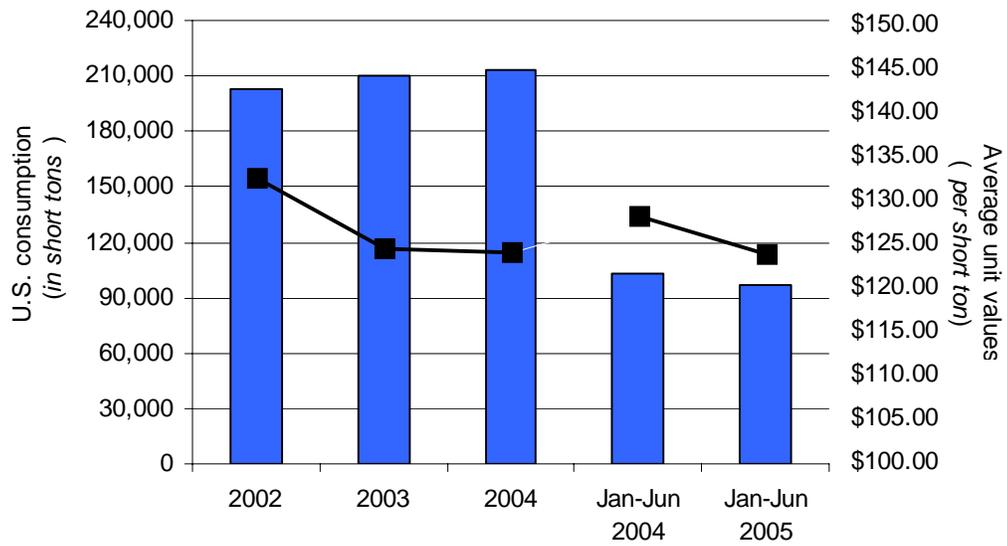
Table IV-8 presents information on apparent U.S. consumption of liquid sulfur dioxide. Figure IV-18 presents information on the quantity and average unit value of apparent U.S. consumption. Figure IV-19 presents information on the average unit value of each source of apparent U.S. consumption. Table IV-9 presents information on market shares of apparent U.S. consumption of liquid sulfur dioxide by source. Figure IV-20 presents information on market shares of liquid sulfur dioxide by source and figure IV-21 presents information on market shares of liquid sulfur dioxide by firm.

Table IV-8
Liquid sulfur dioxide: Apparent U.S. consumption, by sources, 2002-04, January-June 2004, and January-June 2005

Item	Calendar year			January-June	
	2002	2003	2004	2004	2005
Quantity (short tons)					
U.S. producers' U.S. shipments	143,589	148,157	148,041	72,553	59,513
U.S. importers' U.S. shipments from-					
Subject sources	***	***	***	***	***
Nonsubject sources	***	***	***	***	***
Total	59,434	61,999	65,202	30,908	37,292
Apparent U.S. consumption	203,023	210,156	213,243	103,461	96,805
Value (1,000 dollars)					
U.S. producers' U.S. shipments	20,012	19,493	19,907	9,818	8,545
U.S. importers' U.S. shipments from-					
Subject sources	***	***	***	***	***
Nonsubject sources	***	***	***	***	***
Total	6,850	6,656	6,530	3,420	3,428
Apparent U.S. consumption	26,862	26,149	26,437	13,238	11,973
Average unit value (per short ton)					
U.S. producers' U.S. shipments	\$139.37	\$131.57	\$134.47	\$135.32	\$143.59
U.S. importers' U.S. shipments from-					
Subject sources	***	***	***	***	***
Nonsubject sources	***	***	***	***	***
Average	115.25	107.36	100.15	110.65	91.92
Apparent U.S. consumption	132.31	124.43	123.98	127.95	123.69
Source: Compiled from data submitted in response to Commission questionnaires.					

Figure IV-18

Liquid sulfur dioxide: Apparent U.S. consumption by quantity (bar-graph, left axis) and by average unit value (line graph, right axis), 2002-04, January-June 2004, and January-June 2005



Source: Calculated from data in table IV-8.

Figure IV-19

Liquid sulfur dioxide: Average unit values of apparent U.S. consumption and by source, 2002-04, January-June 2004, and January-June 2005

* * * * *

Table IV-9
Liquid sulfur dioxide: Shares of apparent U.S. consumption, by source, 2002-04, January-June 2004, and January-June 2005

Item	Calendar year			January-June	
	2002	2003	2004	2004	2005
Share of quantity (percent)					
U.S. producers' total U.S. shipments	70.7	70.5	69.4	70.1	61.5
U.S. importers' total U.S. shipments from-					
Subject sources	***	***	***	***	***
Nonsubject sources	***	***	***	***	***
Total	29.3	29.5	30.6	29.9	38.5
Share of value (percent)					
U.S. producers' total U.S. shipments	74.5	74.5	75.3	74.2	71.4
U.S. importers' total U.S. shipments from-					
Subject sources	***	***	***	***	***
Nonsubject sources	***	***	***	***	***
Total	25.5	25.5	24.7	25.8	28.6
Source: Compiled from data submitted in response to Commission questionnaires.					

Figure IV-20
Liquid sulfur dioxide: Market shares based on quantity of apparent U.S. consumption, by source, 2002 and January-June 2005

* * * * * * *

Figure IV-21
Liquid sulfur dioxide: Market shares of apparent U.S. consumption based on quantity, by firm, 2002 and January-June 2005

* * * * * * *

RATIO OF SUBJECT IMPORTS TO U.S. PRODUCTION

Table IV-10 presents information on the ratio of subject and nonsubject imports to U.S. production of liquid sulfur dioxide.

Table IV-10

Liquid sulfur dioxide: Ratio of U.S. imports to U.S. production, by sources, 2002-04 and January-June 2004, and January-June 2005

Item	Calendar year			January-June	
	2002	2003	2004	2004	2005
	U.S. production (<i>in short tons</i>)				
U.S. production	144,462	155,345	150,215	73,930	61,225
	Ratio to U.S. production (<i>in percent</i>)				
Subject imports	***	***	***	***	***
Nonsubject imports	***	***	***	***	***
Total	41.1	40.8	44.1	42.3	60.8
Source: Compiled from data submitted in response to Commission questionnaires.					

PART V: PRICING AND RELATED INFORMATION

FACTORS AFFECTING PRICES

Raw Materials

The production method for liquid sulfur dioxide differs across firms and requires different use of raw materials. In Calabrian's "SO2Clean" process, used by Calabrian and Olin, sulfur dioxide gas is produced when burned sulfur combines with pure oxygen molecules. To create liquid sulfur dioxide, this gas is cooled and compressed. The raw materials used in this production process are sulfur and pure oxygen. Overall, sulfur and oxygen accounted for *** percent of Calabrian's total cost of producing liquid sulfur dioxide in 2004 (***). Other U.S. producers do not use pure oxygen in their production process. In the traditional production process, utilized by PVS, Chemtrade and (formerly) Rhodia, sulfur is burned and mixes with air to create a 17 percent sulfur dioxide gas. To obtain pure sulfur dioxide gas, the 17 percent mixture must be scrubbed of impurities. Once this is accomplished, the pure gas is cooled and compressed to form liquid sulfur dioxide. This process uses sulfur as a raw material. For U.S. firms that use the traditional process, sulfur accounted for approximately *** of the total cost of production in 2004, ***. This share *** in the first half of 2005.¹ The rising price of sulfur accounts for approximately half of the total increase in raw material cost while Rhodia's exit from the industry accounted for the rest of the increase.²

Transportation Costs to the U.S. Market

Transportation costs for liquid sulfur dioxide from subject countries to the United States (excluding U.S. inland costs) in 2005 are estimated to be equivalent to approximately 4.5 percent of the customs value for product from Canada. These estimates are derived from official import data and represent the transportation and other charges on imports valued on a c.i.f. basis, as compared with customs value.³

U.S. Inland Transportation Costs

U.S. inland transportation costs for liquid sulfur dioxide were approximately *** percent for three of the four U.S. producers and *** percent for the fourth, and ranged from *** percent for the three reporting Canadian importers. Overall, transportation costs for U.S. producers accounted for approximately *** percent of the total shipped value of liquid sulfur dioxide during the period for which data were collected. The corresponding share for imports from Canada was approximately *** percent.

Producers and importers also were asked to estimate the percentage of their sales that occurred within certain distance ranges. All four producers that ship their product⁴ reported that a large majority (*** to *** percent) of their sales were shipped between 100 and 1,000 miles, with *** percent or less shipped within 100 miles. Only *** reported any shipments of more than 1,000 miles, with *** reporting that *** percent of its sales were shipped over 1,000 miles and *** reporting that *** percent of its sales were shipped over 1,000 miles. All three responding importers that provided shipping information reported that at least *** percent of their sales were shipped over 100 miles to their customers with one reporting that *** percent and one reporting that *** percent of sales were shipped between 100 and

¹ ***.

² With the exception of Marsulex, Canadian producers obtain 6 percent sulfur dioxide gas directly from metal smelting processes within the firm and therefore do not purchase any raw materials specifically for the liquid sulfur dioxide production process. Conference transcript, p. 156 (Davis).

³ These estimates are based on HTS subheading 2811.23.00.

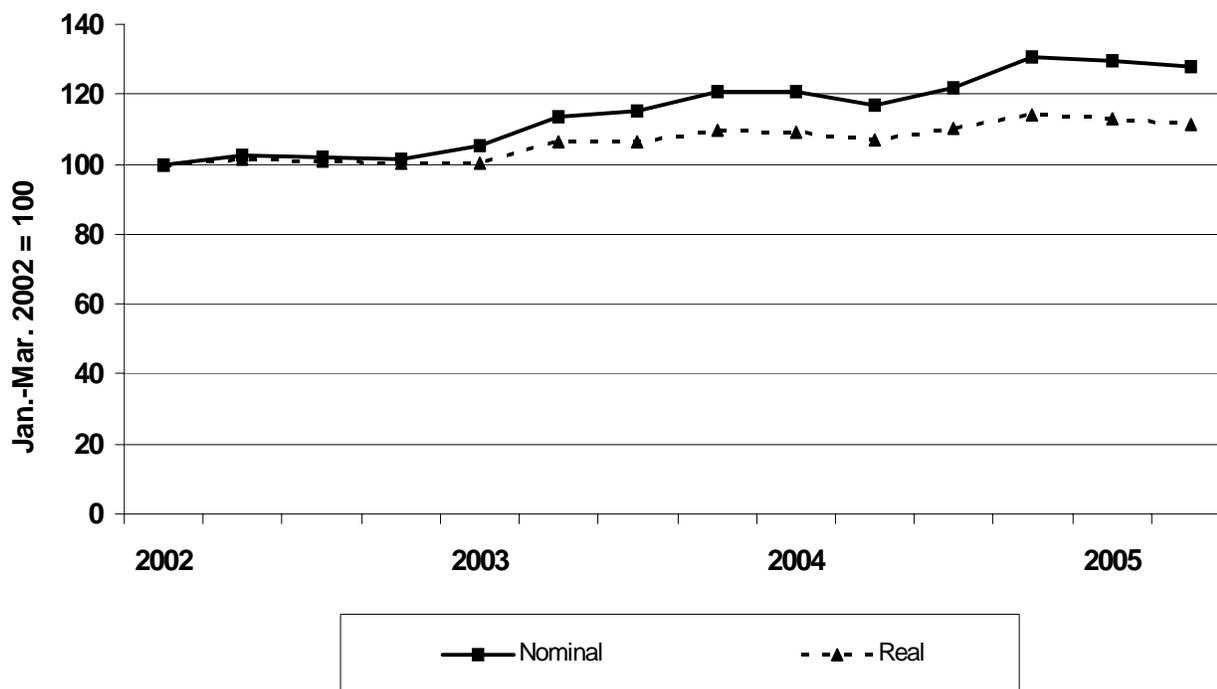
⁴ *** reports not shipping its product outside of its facility.

1,000 miles. One importer reported that *** percent of all sales were shipped more than 1,000 miles.⁵ One of the three responding importers reported that any of its shipments were made within 100 miles.

Exchange Rates

Quarterly data reported by the International Monetary Fund for the Canadian dollar from January 2002 through September 2005 for the nominal and real values of the currency are presented in figure V-1. The data show that both the nominal and real value of the Canadian dollar generally appreciated during the period for which data were collected with the nominal value appreciating more than the real value. Most of the appreciation took place in 2003 and 2004 with the real value rising almost 14 percent during that period. Since the end of 2004, the Canadian dollar has depreciated slightly. Overall, the real value appreciated by 11.4 percent during the period for which data were collected.

Figure V-1
Exchange rates: Indices of the nominal and real exchange rates of the Canadian dollar relative to the U.S. dollar, by quarters, January 2002-June 2005



Source: International Monetary Fund, *International Financial Statistics*, retrieved from <http://ifs.apdi.net/imf/about.asp> on September 28, 2005.

PRICING PRACTICES

Pricing Methods

Most sales of liquid sulfur dioxide are made on a contract basis. Four of five responding U.S. producers and all three responding importers reported that at least 80 percent of their sales of liquid sulfur dioxide are made on a contract basis. One U.S. producer, ***, reported that all sales are on a spot basis. In addition, most of the contracts are considered long-term (at least two years), with four of five

⁵ ***.

responding producers and all three responding importers reporting that more than 60 percent of sale are on a long-term basis. Very limited spot sales also were reported by three producers and two importers.

None of the responding producers or importers reported any official discount policy. However, *** stated that total quantity is a major factor in the determination of price.

PRICE DATA

The Commission requested U.S. producers and importers of liquid sulfur dioxide to provide quarterly data for the total quantity and f.o.b. (U.S. point of shipment) value of liquid sulfur dioxide that was shipped to unrelated customers in the U.S. market. Data were requested for the period January 2002 to June 2005. The product for which pricing data was requested was defined as “liquid sulfur dioxide with a minimum of 99.98 percent assay.”

Five U.S. producers and three importers of liquid sulfur dioxide from Canada provided usable pricing data for sales of the requested product, although not all firms reported pricing for all quarters since one firm, Rhodia, ceased production of liquid sulfur dioxide in 2004 and ***.⁶ Table V-1 and figure V-2 present f.o.b. (U.S. point of shipment) selling prices for liquid sulfur dioxide produced and sold in the United States as well as product produced in Canada and imported into the United States. By quantity, f.o.b. pricing data reported by responding firms in 2002 through second quarter 2005 accounted for 100 percent of U.S. commercial shipments of U.S.- and Canadian-produced liquid sulfur dioxide.

The Commission also requested delivered prices from all U.S. producers as well as importers from Canada. Four U.S. producers⁷ and three importers from Canada reported delivered prices. These data are reported in table V-2 and figure V-3. By quantity, delivered pricing data reported by responding firms in 2002 through second quarter 2005 accounted for *** percent of U.S. producers’ commercial shipments of liquid sulfur dioxide and 100 percent of U.S. commercial shipments of subject imports from Canada.

Price Trends

U.S. producers’ average f.o.b. prices showed no discernable trend over the period for which data were collected. While prices moved from quarter to quarter, overall they stayed relatively stable, declining by 2.3 percent between January-March 2002 and April-June 2005. There is, however, some variation in the price trend across U.S. firms. The largest distinction lies ***. While *** over the period for which data were collected, prices for ***, ***, ***.

U.S. importers’ prices for liquid sulfur dioxide from Canada stayed fairly stable (with some movement) through the first half of 2004, then fell by 20 percent in the last two quarters of 2004. From fourth quarter 2004 to second quarter 2005, prices of these imports rose by 17.5 percent from to a level similar to that observed before the decline. The observed decrease in prices was driven by ***, ***.

U.S. producers’ delivered prices show a slight upward trend throughout the period for which data were collected. This trend is particularly noticeable in the first two quarters of 2005. Canadian importers’ delivered prices mirror their f.o.b. counterparts more so than do U.S. delivered prices, remaining fairly stable before dropping in the last two quarters of 2004 and rising in the first two quarters of 2005.

⁶ In calculating U.S. prices, sales by Chemtrade’s U.S. production facility are included. Data excluding U.S. prices reported by Chemtrade appear in app. D. Data for PVS include transfers to related firms.

⁷ *** reported that it does not deliver product.

Table V-1

Liquid sulfur dioxide: Weighted-average f.o.b. prices and quantities of domestic and imported products and margins of underselling/(overselling), by quarters, January 2002-June 2005

Period	United States		Canada		
	Price (per short ton)	Quantity (short tons)	Price (per short ton)	Quantity (short tons)	Margin (percent)
2002:					
Jan.-Mar.	\$133.86	23,292	\$***	***	***
Apr.-June	129.09	27,411	***	***	***
July-Sept.	126.41	35,053	129.04	7,812	(2.1)
Oct.-Dec.	124.95	30,019	116.24	10,645	7.0
2003:					
Jan.-Mar.	127.22	30,603	***	***	***
Apr.-June	114.47	29,002	***	***	***
July-Sept.	121.84	33,180	***	***	***
Oct.-Dec.	127.68	28,908	***	***	***
2004:					
Jan.-Mar.	122.73	27,843	120.57	11,713	1.8
Apr.-June	135.46	25,926	123.69	10,411	8.7
July-Sept.	124.94	31,106	***	***	***
Oct.-Dec.	121.01	27,511	98.58	7,426	18.5
2005:					
Jan.-Mar.	134.68	22,592	106.23	9,666	21.1
Apr.-June	130.78	21,295	115.81	9,281	11.4

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

Table V-2

Liquid sulfur dioxide: Weighted-average delivered prices and quantities of domestic and imported products and margins of underselling/(overselling), by quarters, January 2002-June 2005

* * * * *

Figure V-2

Liquid sulfur dioxide: Weighted-average f.o.b. prices of domestic and imported liquid sulfur dioxide, by quarters, January 2002-June 2005

* * * * *

Figure V-3

Liquid sulfur dioxide: Weighted-average delivered prices of domestic and imported liquid sulfur dioxide, by quarters, January 2002-June 2005

* * * * *

Price Comparisons

In general, f.o.b. prices of imports from Canada were lower than prices of the U.S.-produced product, exclusively so after the first half of 2003. On an f.o.b. basis, margins ranged from -6.9 percent (overselling) to 21.1 percent (underselling). The largest margins of underselling were found in the last

quarter of 2004 (18.5percent) and the first quarter of 2005 (21.1 percent). Prices of U.S. imports from Canada fell *** in the last two quarters of 2004 but rebounded in the first two quarters of 2005. U.S. prices followed a similar, but less pronounced, pattern, thus leading to the high margins observed.

For most of the period for which data were collected, delivered prices for U.S. producers were below those of Canadian importers. However, since the third quarter of 2004, U.S. producers' prices have risen while the price of imports from Canada have stayed fairly constant (falling in the last half of 2004 and rising in the first half of 2005). As a result, Canadian import prices have fallen below U.S. producers' prices during that period. While the delivered prices accurately represent the final price paid by purchasers, they do not take into account differences in shipping distances or regional differences in freight costs, and therefore should be regarded cautiously.

Petitioner and respondents take different positions regarding the use of delivered versus f.o.b. pricing in the Commission's analysis of underselling. Petitioner states that, "analyzing underselling on the basis of delivered prices is potentially distortive because a large percentage of the delivered price reflects the transportation costs, not the selling price of the subject merchandise" and that, "for the purposes of the preliminary determination, the most comparable data are the f.o.b. prices."⁸ Respondents on the other hand, argue that delivered prices are the appropriate data to use when determining underselling under the logic that customers are concerned only with delivered prices.⁹ In its postconference brief, Chemtrade stated that, "all sales in this market are transacted on a delivered rather than an f.o.b. basis," and that, "given differences in the proximity of producers to customers, delivered prices are the only relevant price comparisons in this market. F.o.b. price comparisons are grossly misleading."¹⁰

LOST SALES AND LOST REVENUES

The petitioner provided a list of alleged lost sales to Canadian competitors totaling *** between February 2002 and June 2005. In addition, petitioner alleged another *** per year of lost revenue attributable to lower prices on retained contracts caused by competition from Canadian producers. Based on interviews with purchasers, *** of the alleged *** in total lost sales, and *** of the alleged *** in annual lost revenue were confirmed as instances in which sales shifted from U.S. to Canadian suppliers (for whatever reason). Customers rejected the allegation for various reasons in *** of the total lost sales and *** of the annual lost revenue. Staff was unable to obtain information on *** in alleged lost sales. However, in its postconference brief, *** indicated that the purchaser involved in those lost sales is now being supplied from ***.¹¹

Of the eight purchasers contacted concerning these lost sales, six purchasers (accounting for eight allegations) responded. Of those six, four agreed to the allegation that sales were lost to a Canadian competitor. Of those four, however, only one agreed with the exact numbers. In two cases, ***. These purchasers acknowledged that price was the reason for the switch and stated that they were not aware of any U.S. firms lowering their prices to compete with liquid sulfur dioxide imported from Canada. Another purchaser agreed that sales were lost to Canadian producers but noted that ***. In addition, this purchaser noted that ***.¹² One purchaser, ***, disagreed with the allegation of lost sales and stated that ***. In addition, this purchaser reported that ***.¹³ In another similar instance, the petitioner alleged lost revenue caused by matching a lower bid from a Canadian firm. The purchaser informed the Commission that ***.¹⁴

⁸ Calabrian's postconference brief, pp. 25-26.

⁹ Conference transcript, pp. 180-182 (Griffith) and Teck Cominco's postconference brief, p. A-4.

¹⁰ Chemtrade postconference brief, p. 24.

¹¹ ***.

¹² Staff telephone interview with ***, purchaser for ***, October 20, 2005.

¹³ Response to lost sales allegation - ***, purchaser for ***.

¹⁴ Staff telephone interview with ***, purchaser for ***, October 24, 2005.

Table V-3
Liquid sulfur dioxide: U.S. producers' lost revenue allegations

* * * * *

Table V-4
Liquid sulfur dioxide: U.S. producers' lost sales allegations

* * * * *

PART VI: FINANCIAL EXPERIENCE OF U.S. PRODUCERS

BACKGROUND

All five producers that provided trade data also provided useable financial data. These producers all had fiscal years ending December 31. In addition to commercial sales, *** of the firms (***) reported internal consumption and *** firms (***) reported related party transfers. On a quantity basis, internal consumption accounted for *** percent of net sales in 2004 while related party transfers accounted for another *** percent.

As in every investigation, Commission staff instructed producers to value merchandise internally consumed at fair market value (in other words, the unit price the merchandise was sold for commercially). The purpose of this instruction is to provide producers with an objective method of valuing internally consumed merchandise (in this case, liquid sulfur dioxide), thereby resulting in a fair presentation of their financial results. Valuing *** internal consumption at fair market value ***, and, in the opinion of the staff, ***.

Constructing a profit and loss statement for *** internal consumption based upon its *** values¹ and its *** unit costs² results in *** in every period. This is incongruous, given that ***,³ and especially given that ***.⁴ Thus, while the Commission staff is not disturbing *** revenue and cost data relating to its commercial sales data, it ***.

Because *** represents such a large part of the industry's overall financial results, staff considered alternative valuation methods, including ***. In staff's opinion, ***. Therefore, *** was valued accordingly.

OPERATIONS ON LIQUID SULFUR DIOXIDE

Aggregate income-and-loss data for the producers on their total operations producing liquid sulfur dioxide (commercial sales, internal consumption, and related party transfers) are presented in table VI-1. Net sales quantities and values both increased moderately during the full year periods and then both declined markedly in January-June 2005 compared to January-June 2004. These overall results were in turn the combination of generally decreasing commercial sales and generally increasing internal consumption and related party transfers. For example, as commercial sales quantities decreased from *** short tons in 2002 to *** short tons in 2004, the quantity of internal consumption and related party transfers combined increased from *** short tons. Comparing January-June 2005 to January-June 2004, the decline in commercial sales quantities accelerated, from *** short tons in January-June 2004 to *** short tons in January-June 2005, while there was a very modest decline in internal consumption and related party transfers quantities combined, from *** short tons. Thus, internal consumption and related party transfers steadily supplanted commercial sales, accounting for *** percent of sales quantities in January-June 2005 as opposed to *** percent in 2002. The trends for sales values were quite similar.

¹ *** reported unit sales values of *** per short ton in every period while the *** other producers combined reported average unit sales values of approximately *** per short ton. *See* U.S. producer questionnaire responses, question III-9.

² *** reported unit cost of goods sold values of *** per short ton in every period while the *** other producers combined reported average unit cost of goods sold values of approximately *** per short ton. *See* U.S. producer questionnaire responses, question III-9.

³ *See* November 2, 2005 submission by ***.

⁴ *** reported that the *** on its sales of *** in 2002, 2003, 2004, year-to-date 2005 were *** percent, respectively. *See* November 2, 2005 submission by ***.

Table VI-1

Liquid sulfur dioxide: Results of producers on their trade, transfer, and internal consumption operations,¹ fiscal years 2002-04, January-June 2004, and January-June 2005

Item	Fiscal year			January-June	
	2002	2003	2004	2004	2005
	Quantity (short tons)				
Net sales quantities:					
Commercial sales	***	***	***	***	***
Internal consumption	***	***	***	***	***
Transfers to related parties	***	***	***	***	***
Total net sales quantities	***	***	***	***	***
	Value (1,000 dollars)				
Net sales values:					
Commercial sales	***	***	***	***	***
Internal consumption	***	***	***	***	***
Transfers to related parties	***	***	***	***	***
Total net sales values	***	***	***	***	***
Cost of goods sold:					
Raw materials	***	***	***	***	***
Direct labor	***	***	***	***	***
Other factory costs	***	***	***	***	***
Total cost of goods sold	***	***	***	***	***
Gross profit	***	***	***	***	***
SG&A expenses	***	***	***	***	***
Operating income/(loss) ²	***	***	***	***	***
Other expense/(income), net	***	***	***	***	***
Net income/(loss) before taxes	***	***	***	***	***
Depreciation/amortization	***	***	***	***	***
Cash flow	***	***	***	***	***
	Number of firms reporting				
Operating losses	1	2	2	2	1
Data	5	5	5	5	4

Table continued on next page

Table VI-1--Continued

Liquid sulfur dioxide: Results of producers on their trade, transfer, and internal consumption operations,¹ fiscal years 2002-04, January-June 2004, and January-June 2005

Item	Fiscal year			January-June	
	2002	2003	2004	2004	2005
	Unit value (per short ton)				
Net sales values					
Commercial sales	\$***	\$***	\$***	\$***	\$***
Internal consumption ³	***	***	***	***	***
Transfers to related parties	***	***	***	***	***
Total net sales values	141.91	135.03	138.92	143.42	149.57
Cost of goods sold:					
Raw materials	19.51	29.72	32.19	31.60	36.62
Direct labor	15.41	13.82	13.49	13.59	14.23
Other factory costs	74.08	66.41	75.22	77.91	62.95
Total cost of goods sold	109.01	109.94	120.90	123.11	113.79
Gross profit	32.90	25.08	18.02	20.31	35.77
SG&A expenses	18.99	17.22	17.58	18.00	20.78
Operating income/(loss)	13.91	7.86	0.44	2.31	14.99
	Ratio to net sales (percent)				
Cost of goods sold:					
Raw materials	13.8	22.0	23.2	22.0	24.5
Direct labor	10.9	10.2	9.7	9.5	9.5
Other factory costs	52.2	49.2	54.1	54.3	42.1
Total cost of goods sold	76.8	81.4	87.0	85.8	76.1
Gross profit	23.2	18.6	13.0	14.2	23.9
SG&A expenses	13.4	12.8	12.7	12.5	13.9
Operating income/(loss) ²	9.8	5.8	0.3	1.6	10.0

¹ The producers are ***. There are fewer producers reporting data during the January-June 2005 time period because Rhodia exited the industry in 2004.

² As previously noted in the text, staff has ***, respectively.

³ These values are ***.

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

Aggregate industry profitability steadily declined from 2002 to 2004 and then increased sharply in January-June 2005 from January-June 2004. However, these results were *** (see table VI-2), a producer that *** in 2004. As shown in table VI-2, *** in 2004⁵ was the primary reason aggregate industry *** by the company during the January-June 2005 time period (as *** in January-June 2004) was the primary reason the aggregate industry profitability ***. Absent the effects of ***, the aggregate industry operating margins (in percent) would be *** for 2002, 2003, 2004, January-June 2004, and January-June 2005, respectively.

Table VI-2
Liquid sulfur dioxide: Selected financial data of producers on their trade, transfer, and internal consumption operations, fiscal years 2002-04, January-June 2004, and January-June 2005

* * * * *

Aggregate unit sales values declined by 4.8 percent from 2002 to 2003 before increasing 2.9 percent in 2004 and then another 4.3 percent in January-June 2005 compared to January-June 2004. Unit cost of goods sold behaved differently, increasing in both 2003 and 2004 before decreasing in January-June 2005 compared to January-June 2004. Nonetheless, unit sales values, unit cost goods sold, unit gross and operating profits, and operating profits as a percentage of net sales value were all higher during January-June 2005 than they were in 2002.

Selected company-by-company data are presented in table VI-2. Calabrian, the ***, reported *** from 2002 to 2004 and in January-June 2005 compared to January-June 2004. The company, whose internal consumption accounted for *** percent of its total sales quantities in 2004, *** from 2002 to 2004 with ***. In January-June 2005 compared to January-June 2004, the opposite was true, as *** more than offset ***.⁶ Calabrian reported *** of liquid sulfur dioxide from any other U.S. producers from 2002 through June 2005, and reported *** of liquid sulfur dioxide to any other U.S. producer.

Chemtrade, the *** producer, reported *** from 2002 to 2004 and then *** amounts in January-June 2005 compared to January-June 2004. The company, whose *** percent of its total sales quantities in 2004, offset approximately *** of its *** in January-June 2005 compared to January-June 2004 with ***. As a result, while its operating profit margins *** in January-June 2005 than they were at any time during which data were gathered, they were ***. Chemtrade reported ***, and reported *** of liquid sulfur dioxide to any other U.S. producer.

Olin, the *** producer, reported *** from 2002 to 2004 and then *** in January-June 2005 compared to January-June 2004. Perhaps what is most noticeable about Olin are its ***. The disparity centers around the *** where the liquid sulfur dioxide is produced. According to Olin, the cost of the ***.⁷ Olin *** on its commercial sales of liquid sulfur dioxide (see footnotes 1 and 2 in this section), but

⁵ Rhodia indicated that approximately *** of its *** was attributable to shut-down costs, with the remaining *** attributable to *** on its normal operations. November 28, 2005 submission by Rhodia.

⁶ At the staff conference, Calabrian reported higher natural gas costs, electricity costs, diesel fuel costs, freight rates, and energy surcharges imposed by vendors in 2005. Conference transcript, p. 41-42 (Wueller). In response to a request by staff, Calabrian provided details of certain per unit costs for calendar years 2002 to 2004 and January 1 to June 30, 2005. These data indicate Calabrian's per unit oxygen, sulfur, electricity, and natural gas costs increased from *** per short ton in 2002 to *** per short ton in 2005. See Calabrian's October 24, 2005 submission. Despite increases in these costs, and despite the fact that Calabrian's unit cost of goods sold *** per ton in January-June 2004 to *** per ton in January-June 2005, the unit cost is ***.

Also, Calabrian stated at the staff conference that no costs associated with its unused 50,000 ton capacity were included in their questionnaire cost data. Conference transcript p. 92-93 (Cogliandro).

⁷ November 2, 2005 submission by Olin.

at least these ***.⁸ The company, whose internal consumption accounted for *** percent of its total sales quantities in 2004, had *** from 2002 to 2004 while ***; in January-June 2005 compared to January-June 2004, unit operating costs *** unit sales values, resulting in ***. Olin reported *** of liquid sulfur dioxide from any other U.S. producers from 2002 through June 2005, but reported ***.

PVS reported *** from 2002 to 2004 and then *** in January-June 2005 compared to January-June 2004. The company, whose *** percent of its total sales quantities in 2004, reported *** from 2002 to 2004 and then *** in January-June 2005 compared to January-June 2004. PVS reported *** to any other U.S. producer.

Rhodia, which exited the industry in 2004, was, in 2002, the ***. Much like ***, the company reported ***. Unlike *** with the rest of the industry (approximately *** per ton), at least during 2002 and 2003. In 2004, as the company exited the industry, its ***. Rhodia reported *** of liquid sulfur dioxide ***.

Aggregate income-and-loss data for the trade-only (commercial) sales of the producers are presented in table VI-3. Net sales quantities and value declined irregularly from 2002 to 2004 and in January-June 2005 compared to January-June 2004. All levels of profitability also declined each year during the full-year periods, but then reversed trends and increased in January-June 2005 compared to January-June 2004. As noted earlier in the discussion of total sales (commercial, internal consumption, and related party transfers), much of the decline in profitability during the full-year periods and then the increase in the interim periods is due to ***. Absent the effects of ***, net sales quantities and values would ***, and the aggregate industry operating margins (in percent) would have been *** for 2002, 2003, 2004, January-June 2004, and January-June 2005, respectively.

Aggregate income-and-loss data for the internal consumption and related party transfer sales of the producers are presented in table VI-4. Net sales quantities and values steadily increased during the full-year periods and then declined slightly in January-June 2005 compared to January-June 2004. Operating income increased irregularly from 2002 to 2004 and then increased in January-June 2005 compared to January-June 2004 as decreases in unit operating costs approximated decreases in unit sales revenues.

Table VI-3
Liquid sulfur dioxide: Results of producers on their commercial (trade sale) only operations,¹
fiscal years 2002-04, January-June 2004, and January-June 2005

* * * * *

Table VI-4
Liquid sulfur dioxide: Results of producers on their internal consumption and related party
transfer operations,¹ fiscal years 2002-04, January-June 2004, and January-June 2005

* * * * *

The variance analysis showing the effects of prices and volume on the producers' trade, transfer, and internal consumption operations, and of costs and volume on their total cost, is shown in table VI-5. The analysis illustrates that from 2002 to 2004 profitability decreased as the per-unit revenues (price variance) declined while per-unit operating costs (net cost/expense variance) were increasing. The opposite was true when comparing January-June 2005 to January-June 2004, as profitability increased because of the simultaneous increase in per-unit revenues (price variance) and decrease in per-unit operating costs (net cost/expense variance).

⁸ *** November 2, 2005 submission by Olin.

Table VI-5

Liquid sulfur dioxide: Variance analysis of producers¹ on their trade, transfer, and internal consumption operations, fiscal years 2002-04, January-June 2004, and January-June 2005

Item	Between fiscal years			January-June
	2002-04	2002-03	2003-04	2004-05
Value (\$1,000)				
Net sales:				
Commercial sales				
Price variance	***	***	***	***
Volume variance	***	***	***	***
Total variance	***	***	***	***
Internal consumption and related party transfers:				
Price variance	***	***	***	***
Volume variance	***	***	***	***
Total variance	***	***	***	***
Total net sales				
Price variance	***	***	***	***
Volume variance	***	***	***	***
Total variance	***	***	***	***
Cost of sales:				
Cost variance	***	***	***	***
Volume variance	***	***	***	***
Total cost variance	***	***	***	***
Gross profit variance	***	***	***	***
SG&A expenses:				
Expense variance	***	***	***	***
Volume variance	***	***	***	***
Total SG&A variance	***	***	***	***
Operating income variance	***	***	***	***
Summarized as:				
Price variance	(455)	(1,066)	593	379
Net cost/expense variance	(1,596)	129	(1,723)	403
Net volume variance	92	128	(20)	(30)
Note.--Unfavorable variances are shown in parentheses; all others are favorable.				
¹ The data in this table are derived from the data in table VI-1.				
Source: Compiled from data submitted in response to Commission questionnaires.				

CAPITAL EXPENDITURES AND RESEARCH AND DEVELOPMENT EXPENSES

Domestic liquid sulfur dioxide producers' capital expenditures and research and development (R&D) expenses are presented in table VI-6. ***.

*** R&D expenses.

Table VI-6

Liquid sulfur dioxide: U.S producers' capital expenditures and research and development expenditures, fiscal years 2002-04, January-June 2004, and January-June 2005

* * * * *

ASSETS AND RETURN ON INVESTMENT

Data on the domestic liquid sulfur dioxide producers' assets and their return on investment (defined as operating income divided by total assets) are presented in table VI-7. The value of total assets steadily decreased from 2002 to 2004 as did operating income and the return on investment.

Table VI-7

Liquid sulfur dioxide: U.S producers' value of assets and return on investment, fiscal years 2002-04

Item	Fiscal year		
	2002	2003	2004
	<i>Value (1,000 dollars)</i>		
Total assets:			
Current assets:			
Accounts receivable	1,356	1,726	1,720
Inventories (total)	573	659	414
All other current assets	878	749	520
Total current assets	2,807	3,134	2,654
Non-current assets:			
Property, plant, and equipment at cost	30,873	31,214	32,000
Less: accumulated depreciation	11,014	13,532	17,396
Equals: book value	19,859	17,682	14,604
Other non-current assets	438	465	776
Total non-current assets	20,297	18,147	15,380
Total assets	23,104	21,281	18,034
Operating income	***	***	***
	Ratio of operating income to total assets (percent)		
Return on investment	8.8	5.7	0.4
¹ All five producers reported asset data. Source: Compiled from data submitted in response to Commission questionnaires.			

CAPITAL AND INVESTMENT

The Commission requested U.S. producers to describe any actual negative effects since January 1, 2002, on their return on investment, growth, investment, ability to raise capital, existing development and production efforts (including efforts to develop a derivative or more advanced version of the

product), or the scale of capital investments as a result of imports of liquid sulfur dioxide from Canada. *** replied “no,” while *** did not respond to the question. *** responded as follows: ***.

The Commission also requested U.S. producers to describe any anticipated negative impact of imports of liquid sulfur dioxide from Canada. Again, *** replied ‘no,’ while *** did not respond to the question. *** responded as follows: ***.

PART VII: THREAT CONSIDERATIONS

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,

(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),

¹ Section 771(7)(F)(ii) of the Act (19 U.S.C. § 1677(7)(F)(ii)) provides that “The Commission shall consider *** . . . 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.”

(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 volume and pricing of imports of the subject merchandise is presented in Parts IV and V. 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.

THE INDUSTRY IN CANADA

The petition identified three Canadian producers with U.S. export operations: Chemtrade, Marsulex, and Teck Cominco. These three firms own and have business operations to market, sell, and deliver Canadian-produced liquid sulfur dioxide into the United States.³ Additionally, Chemtrade markets, sells, and delivers liquid sulfur dioxide produced by Falconbridge, Ltd. ("Falconbridge"), and Inco, Ltd. ("Inco"), in the United States. All five firms provided useable data in response to the Commission's foreign producers' questionnaires and account for 100 percent of known Canadian production of liquid sulfur dioxide.⁴

The Canadian liquid sulfur dioxide industry consists primarily of firms in the Canadian heavy metals industry that produce liquid sulfur dioxide as a by-product of their smelting operations. Only one Canadian producer, Marsulex, has dedicated liquid sulfur dioxide facilities similar to U.S. producers' production facilities whereby it produces its sulfur dioxide from elemental sulfur it purchases on the merchant market. Unlike in the Canadian market, there are no heavy metal smelters in the United States that produce liquid sulfur dioxide from their smelting operations. The colder climate in Canada allegedly allows for Canadian smelters to produce liquid sulfur dioxide more economically than their counterparts in the United States.⁵ Additionally, firms in the U.S. heavy metals industry apparently have internal

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."

³ See Chapter IV "U.S. imports, U.S. consumption, and market shares," *infra*.

⁴ Petition, exh. 2b.

⁵ Staff telephone interview with ***, October 27, 2005.

consumption needs for sulfuric acid, and so have historically chosen to produce sulfuric acid from captured sulfur dioxide omissions in lieu of liquid sulfur dioxide.⁶

Table VII-1 presents Canadian producers' liquid sulfur dioxide production facilities. Table VII-2 presents data regarding production and exports of liquid sulfur dioxide to the United States. Figure VII-1 presents information on the share of U.S. exports out of Canadian production. Table VII-3 presents data provided by the five Canadian producers/exporters with respect to their liquid sulfur dioxide operations in Canada.

Table VII-1
Liquid sulfur dioxide: Canadian production facilities, 2005

Canadian producer	Plant location	Liquid sulfur dioxide production method
Falconbridge	Kidd Creek, ON	By-product of smelting operations
Inco	Sudbury, ON	By-product of smelting operations
Marsulex	Prince George, BC	Direct production from burning pure sulfur in air
Teck Cominco	Trail, BC	By-product of smelting operations
Source: Compiled from data submitted in response to Commission questionnaires.		

⁶ Additional retrofitting of existing sulfuric acid capacity at U.S. copper smelters would be required on these plants' facilities (related to purifying and storage) were they to decide to enter into the production of liquid sulfur dioxide. If additional firms or plants outside of the universe of those that currently produce liquid sulfur dioxide in Canada process sulfite ores, the same would apply. Staff telephone interview with ***, November 17, 2005.

Table VII-2

Liquid sulfur dioxide: Canadian producers, U.S. importers, production, and exports to the United States, by firm, 2004

Canadian producer	U.S. importer	Canadian production		Exports to the United States	
		Quantity (in short tons)	Share (in percent)	Quantity (in short tons)	Share (in percent)
Chemtrade ¹	Chemtrade ²	***	***	***	***
Falconbridge ¹	Chemtrade ²	***	***	***	***
Inco	Chemtrade ²	***	***	***	***
Marsulex	Marsulex ³	***	***	***	***
Teck Cominco	Teck Cominco ⁴	***	***	***	***
Total		159,420	100.0	47,458	100.0

¹ Chemtrade sold its Kidd Creek, ON, liquid sulfur dioxide production facility to Falconbridge in mid-2004, ***. Production and export figures reported by Chemtrade relate to operations at Kidd Creek in the first half of 2004 and those reported by Falconbridge relate to operation at Kidd Creek in the second half of 2004.

² Data reported by the U.S. importer Chemtrade ***.

³ Data reported by the U.S. importer Marsulex ***.

⁴ Data reported by the U.S. importer Teck Cominco ***.

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

Figure VII-1

Liquid sulfur dioxide: U.S. exports as a share of Canadian production, by firm and total, 2004¹

* * * * *

Table VII-3

Liquid sulfur dioxide: Canadian production capacity, production, and shipments, 2002-04, January-June 2004, January-June 2005, and projected 2005-06

Item	Actual experience					Projections	
	Calendar year			January-June		Calendar year	
	2002	2003	2004	2004	2005	2005 ¹	2006
Quantity (short tons)							
Capacity	184,375	166,375	184,375	89,400	87,400	162,375	182,375
Production	172,546	155,289	159,420	74,213	69,188	139,344	163,367
Shipments:							
Internal consumption	***	***	***	***	***	***	***
Home market	***	***	***	***	***	***	***
Exports to--							
The United States	45,565	49,607	47,458	25,300	28,879	50,630	53,290
All other markets	0	0	0	0	0	0	0
Total shipments	171,376	154,198	160,812	78,218	77,243	145,200	159,936
Ratio (percent)							
Capacity utilization	93.6	93.3	86.5	83.0	79.2	85.8	89.6
Share of quantity (percent)							
Shipments:							
Internal consumption	***	***	***	***	***	***	***
Home market	***	***	***	***	***	***	***
Exports to--							
The United States	26.6	32.2	29.5	32.3	37.4	34.9	33.3
All other markets	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total shipments	100.0	100.0	100.0	100.0	100.0	100.0	100.0
¹ ***							
Source: Compiled from data submitted in response to Commission questionnaires.							

The Canadian market for liquid sulfur dioxide appears to be stable after taking into account periodic production disruptions due to labor unrest, *i.e.* strikes, at Canadian heavy metals firms. The decrease in reported production capacity in 2003 was due to a strike at Inco's production

facility in Sudbury, ON. The decrease in projected production capacity in 2005 relates to strikes at Teck Cominco's production facility in Trail, BC. No Canadian producer ***, nor has recently.⁷

Current and projected capacity utilization rates of Canadian liquid sulfur dioxide manufacturing facilities remain relatively high, above *** percent, in each reported year, although Canadian producers reported slightly lower capacity utilization rates in 2004 and in projections for 2005 and 2006. ***,⁸ while ***.⁹ The petitioner contends, however, that two Canadian producers, ***, have understated their average production capacity for the purposes of the preliminary phase of the investigation, thereby distorting the Commission's capacity utilization calculations.¹⁰

Table VII-4 provides an alternative capacity utilization calculation based on publicly available data related to nameplate capacities at *** facilities.

Table VII-4
Liquid sulfur dioxide: Alternative capacity utilization calculation, 2002-04 and projected 2005-06

* * * * *

Due to dangers associated with transporting liquid sulfur dioxide, the United States is the only current viable export market for Canadian-produced liquid sulfur dioxide. Over the period for which data were collected, exports to the United States accounted for 26 to 38 percent of Canadian producers' shipments of liquid sulfur dioxide.¹¹ In 2005 and 2006, Canadian producers expect to ship slightly more liquid sulfur dioxide into the United States than in previous years.¹² Further potential increases in the quantity of Canadian producers' exports to the United States are limited by the Canadian producers' relatively high capacity utilization rates and by demand for liquid sulfur dioxide in Canada.¹³

Canadian producers' ability to shift production from other products to liquid sulfur dioxide is limited by the nature of their operations. Most Canadian producers (Falconbridge, Inco, and Teck Cominco) produce liquid sulfur dioxide from heavy metal smelting operations, with the exception of

⁷ Although, the Petitioner points to an apparent increase in nameplate capacity for Teck Cominco when comparing publicly available data for two different sources. Petitioner's postconference brief, pp. 27-28. Teck Cominco indicated ***. *** foreign producers'/ importers' questionnaire response, question II-1.

⁸ ***.

⁹ ***.

¹⁰ Petitioner's postconference brief, p. 28.

¹¹ The difference between Canadian producers' exports to the United States and U.S. importers' imports from Canada are due mainly to intratemporal reporting differences.

¹² *** in 2005 and 2006. *** reported that it had lost a major U.S. account to *** in the third quarter of 2004.

¹³ The Petitioner points to higher nameplate capacity for Canadian producers ***, which would suggest an ability to increase Canadian production on short notice to respond to increased demand for liquid sulfur dioxide in North America. Constraints on Canadian producers' ability to increase production on demand might be apparent in 2003, when *** had to export liquid sulfur dioxide into the Canadian market during Inco's 2003 strike to meet demand in Canada.

Marsulex, which runs a dedicated liquid sulfur dioxide and sulfuric acid plant similar to the ones operated by Chemtrade and PVS Chemicals in the United States. Falconbridge, Inco, and Teck Cominco reported that ***, while Marsulex reported ***.¹⁴ Therefore, only one Canadian producer, ***, can shift production to liquid sulfur dioxide without additional capital investment.¹⁵ Separately, any existing sulfuric acid production off of heavy metal smelting operations could be diverted to the production of liquid sulfur dioxide, however, this would require some capital investment or retrofitting of equipment for production and additional handling and storage capacities.¹⁶

U.S. IMPORTERS' AND CANADIAN PRODUCERS' INVENTORIES OF SUBJECT MERCHANDISE

Table VII-5 presents data regarding U.S. importers' inventories of subject merchandise and table VII-6 presents data on Canadian producers' inventories of liquid sulfur dioxide. The increase in U.S. importers' end-of-period inventories in 2004 reflects data submitted by ***, while the increase in Canadian producers' end-of-period inventories in 2004 reflects data submitted by ***.

Table VII-5
Liquid sulfur dioxide: U.S. importers' end-of-period inventories of imports, 2002-04, January-June 2004, and January-June 2005

* * * * *

Table VII-6
Liquid sulfur dioxide: Canadian producers' end-of-period inventories, 2002-04, January-June 2004, January-June 2005

Item	Calendar year			January-June	
	2002	2003	2004	2004	2005
Quantity (short tons)					
Canadian producers' end-of-period inventories	***	***	12,184	***	***
Ratios (percent)					
Ratio to total shipments	***	***	7.6	***	***
Ratio to Canadian production	***	***	7.6	***	***
Source: Compiled from data submitted in response to Commission questionnaires.					

¹⁴ Foreign producers' / importers' questionnaire responses, question II-3.

¹⁵ This reflects the manufacturing technology employed in *** facility, which is equivalent technology to that used by U.S. producers Chemtrade and PVS Chemical, as well as former U.S. producer Rhodia, wherein sulfur is burned in air to produce gaseous sulfur dioxide that is either then purified and liquified for sale in the merchant market, or further reacted with water to produce sulfuric acid for sale in the merchant market.

¹⁶ Staff telephone interview with ***, November 17, 2005. This would apply to U.S. sulfuric acid capacity in heavy metal smelting firms as well as Canadian heavy metal smelting firms.

U.S. IMPORTERS' CURRENT ORDERS

All U.S. importers in this investigation are also Canadian producers of liquid sulfur dioxide during the period of investigation.¹⁷ Therefore, data collected from Canadian producers in their foreign producers'/exporters' questionnaire responses provide better forecasts of U.S. importers' current (and expected) orders than U.S. importers' questionnaire responses.¹⁸ Canadian producers (and, therefore, U.S. importers) expect to ship 50,630 short tons of liquid sulfur dioxide into the United States in 2005, which represents a 3,172-short ton increase (6.7 percent) over 2004.¹⁹ In 2006, Canadian producers expect to ship 53,290 short tons of liquid sulfur dioxide into the United States, which represents a 2,660-short ton increase (5.3 percent) over the 2005 prediction.²⁰

ANTIDUMPING AND COUNTERVAILING DUTY ORDERS IN THIRD-COUNTRY MARKETS

As logistically it is only feasible to ship North American-produced liquid sulfur dioxide in North America, the applicable antidumping and countervailing duty orders in third-country markets concerning liquid sulfur dioxide for the purposes of this investigation would be limited to orders in the United States and Mexico. There are no known antidumping duty orders on liquid sulfur dioxide in either country.

¹⁷ While Chemtrade ceased to be a Canadian producer of liquid sulfur dioxide when it sold its Kidd Creek operations to Falconbridge, it continues to sell material produced at the Falconbridge facility as well as the Inco facility in both Canada and the United States.

¹⁸ *** even referred staff to its foreign producers' questionnaire response in its importers' questionnaire response. *** importers' questionnaire response, question II-3. Other U.S. importers only partially responded to question II-3.

¹⁹ See table VII-3, *infra*.

²⁰ *Ibid*.

APPENDIX A
FEDERAL REGISTER NOTICES

The Commission's views are due at Commerce within five business days thereafter, or by November 21, 2005.

For further information concerning the conduct of this investigation and rules of general application, consult the Commission's Rules of Practice and Procedure, part 201, subparts A through E (19 CFR part 201), and part 207, subparts A and B (19 CFR part 207).

EFFECTIVE DATE: September 30, 2005.

FOR FURTHER INFORMATION CONTACT:

Russell Duncan (202-708-4727), Office of Investigations, U.S. International Trade Commission, 500 E Street, SW., Washington, DC 20436. Hearing-impaired persons can obtain information on this matter by contacting the Commission's TDD terminal on 202-205-1810. Persons with mobility impairments who will need special assistance in gaining access to the Commission should contact the Office of the Secretary at 202-205-2000. General information concerning the Commission may also be obtained by accessing its Internet server (<http://www.usitc.gov>). The public record for this investigation may be viewed on the Commission's electronic docket (EDIS) at <http://edis.usitc.gov>.

SUPPLEMENTARY INFORMATION:

Background.—This investigation is being instituted in response to a petition filed on September 30, 2005, by Calabrian Corporation, Kingwood, Texas.

Participation in the investigation and public service list.—Persons (other than petitioners) wishing to participate in the investigation as parties must file an entry of appearance with the Secretary to the Commission, as provided in sections 201.11 and 207.10 of the Commission's rules, not later than seven days after publication of this notice in the **Federal Register**. Industrial users and (if the merchandise under investigation is sold at the retail level) representative consumer organizations have the right to appear as parties in Commission antidumping investigations. The Secretary will prepare a public service list containing the names and addresses of all persons, or their representatives, who are parties to this investigation upon the expiration of the period for filing entries of appearance.

Limited disclosure of business proprietary information (BPI) under an administrative protective order (APO) and BPI service list.—Pursuant to section 207.7(a) of the Commission's rules, the Secretary will make BPI gathered in this investigation available to authorized applicants representing interested parties (as defined in 19

U.S.C. 1677(9)) who are parties to the investigation under the APO issued in the investigation, provided that the application is made not later than seven days after the publication of this notice in the **Federal Register**. A separate service list will be maintained by the Secretary for those parties authorized to receive BPI under the APO.

Conference.—The Commission's Director of Operations has scheduled a conference in connection with this investigation for 9:30 a.m. on October 20, 2005, at the U.S. International Trade Commission Building, 500 E Street, SW., Washington, DC. Parties wishing to participate in the conference should contact Russell Duncan (202-708-4727) not later than October 18, 2005, to arrange for their appearance. Parties in support of the imposition of antidumping duties in this investigation and parties in opposition to the imposition of such duties will each be collectively allocated one hour within which to make an oral presentation at the conference. A nonparty who has testimony that may aid the Commission's deliberations may request permission to present a short statement at the conference.

Written submissions.—As provided in sections 201.8 and 207.15 of the Commission's rules, any person may submit to the Commission on or before October 26, 2005, a written brief containing information and arguments pertinent to the subject matter of the investigation. Parties may file written testimony in connection with their presentation at the conference no later than three days before the conference. If briefs or written testimony contain BPI, they must conform with the requirements of sections 201.6, 207.3, and 207.7 of the Commission's rules. The Commission's rules do not authorize filing of submissions with the Secretary by facsimile or electronic means, except to the extent permitted by section 201.8 of the Commission's rules, as amended, 67 FR 68036 (November 8, 2002). Even where electronic filing of a document is permitted, certain documents must also be filed in paper form, as specified in II(C) of the Commission's Handbook on Electronic Filing Procedures, 67 FR 68168, 68173 (November 8, 2002).

In accordance with sections 201.16(c) and 207.3 of the rules, each document filed by a party to the investigation must be served on all other parties to the investigation (as identified by either the public or BPI service list), and a certificate of service must be timely filed. The Secretary will not accept a document for filing without a certificate of service.

INTERNATIONAL TRADE COMMISSION

[Investigation No. 731-TA-1098
(Preliminary)]

Liquid Sulfur Dioxide From Canada

AGENCY: United States International Trade Commission.

ACTION: Institution of antidumping investigation and scheduling of a preliminary phase investigation.

SUMMARY: The Commission hereby gives notice of the institution of an investigation and commencement of preliminary phase antidumping investigation No. 731-TA-1098 (Preliminary) under section 733(a) of the Tariff Act of 1930 (19 U.S.C. 1673b(a)) (the Act) to determine whether there is a reasonable indication that an industry in the United States is materially injured or threatened with material injury, or the establishment of an industry in the United States is materially retarded, by reason of imports from Canada of liquid sulfur dioxide, provided for in subheading 2811.23.00 of the Harmonized Tariff Schedule of the United States, that are alleged to be sold in the United States at less than fair value. Unless the Department of Commerce extends the time for initiation pursuant to section 732(c)(1)(B) of the Act (19 U.S.C. 1673a(c)(1)(B)), the Commission must reach a preliminary determination in antidumping investigations in 45 days, or in this case by November 14, 2005.

Authority: This investigation is being conducted under authority of title VII of the Tariff Act of 1930; this notice is published pursuant to section 207.12 of the Commission's rules.

Issued: October 3, 2005.

By order of the Commission.

Marilyn R. Abbott,

Secretary to the Commission.

[FR Doc. 05-20203 Filed 10-6-05; 8:45 am]

BILLING CODE 7020-02-P

compressed through refrigeration and stored under pressure. Sulfur dioxide in its gaseous state is excluded from the petition.

Liquid sulfur dioxide subject to this petition is currently classifiable under subheading 2811.23.00 of the Harmonized Tariff Schedule of the United States ("HTSUS"). While the HTSUS subheading is provided for convenience and Customs purposes, the written description of the scope of this petition is dispositive.

Determination of Industry Support for the Petition

Section 732(b)(1) of the Tariff Act of 1930, as amended ("the Act") requires that a petition be filed by or on behalf of the domestic industry. Section 732(c)(4)(A) of the Act provides that the Department's industry support determination be based on whether a minimum percentage of the relevant industry supports the petition. A petition meets this requirement if the domestic producers or workers who support the petition account for: (i) at least 25 percent of the total production of the domestic like product; and (ii) more than 50 percent of the production of the domestic like product produced by that portion of the industry expressing support for, or opposition to, the petition. Moreover, section 732(c)(4)(D) of the Act provides that, if the petition does not establish support of domestic producers or workers accounting for more than 50 percent of the total production of the domestic like product, the Department shall: (i) poll the industry or rely on other information in order to determine if there is support for the petition, as required by subparagraph (A), or (ii) if there is a large number of producers, determine industry support using a statistically valid sampling method to poll the industry.

Extension of Time

Section 732(c)(1)(A)(ii) of the Act provides that within 20 days of the filing of an antidumping duty petition, the Department will determine, *inter alia*, whether the petition has been filed by or on behalf of the U.S. industry producing the domestic like product. Section 732(c)(1)(B) of the Act provides that the deadline for the initiation determination can be extended by 20 days in any case in which the Department must "poll or otherwise determine support for the petition by the industry . . ." Because it is not clear from the petition whether the industry support criteria have been met, we have determined to extend the time for initiating an investigation in order to

DEPARTMENT OF COMMERCE

International Trade Administration

[A-122-852]

Notice of Extension of the Deadline for Determining the Adequacy of the Antidumping Duty Petition: Liquid Sulfur Dioxide from Canada

AGENCY: Import Administration, International Trade Administration, Department of Commerce.

EFFECTIVE DATE: October 27, 2005.

FOR FURTHER INFORMATION CONTACT: Kate Johnson or Rebecca Trainor, AD/CVD Operations, Import Administration, International Trade Administration, U.S. Department of Commerce, 14th Street and Constitution Avenue, NW, Washington, DC 20230; telephone: (202) 482-4929 and (202) 482-4007, respectively.

Initiation of Investigation

The Petition

On September 30, 2005, the Department of Commerce ("Department") received an antidumping duty petition ("Petition") filed by Calabrian Corporation ("Petitioner") on behalf of the domestic industry producing liquid sulfur dioxide.

Scope of the Petition

The product covered by this petition is technical or commercial grade and refrigeration grade liquid sulfur dioxide of a minimum 99.98 percent assay. Sulfur dioxide is identified by the chemical formula SO₂. The CAS No. for sulfur dioxide is 7446-09-5. Liquid sulfur dioxide is pure sulfur dioxide gas

poll the domestic industry. On October 7, 2005, we issued polling questionnaires to all known domestic producers of liquid sulfur dioxide identified in the petition. On October 12, 2005, we sent a letter to the domestic producers transmitting revised scope language provided by the petitioner on October 11, 2005. The questionnaires are on file in the Central Records Unit in room B-099 of the main Department of Commerce building. We requested that each company complete the polling questionnaire and fax their responses to the Department.

We will need additional time to analyze the domestic producers' responses to our request for information. See the "Determination of Industry Support for the Petition" section of this notice, above. Therefore, it is necessary to extend the deadline determining the adequacy of the petition for a period not to exceed 40 days from the filing of the petition. As a result, the initiation determination is due no later than November 9, 2005.

International Trade Commission Notification

Because the Department has extended the deadline of the initiation determination, the Department will contact the International Trade Commission ("ITC") and will make this extension notice available to the ITC.

Dated: October 20, 2005.

Joseph A. Spetrini,

*Acting Assistant Secretary for Import
Administration.*

[FR Doc. E5-5965 File 10-26-05;8:45 am]

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DEPARTMENT OF COMMERCE**International Trade Administration**

[A-122-852]

**Initiation of Antidumping Duty
Investigation: Liquid Sulfur Dioxide
from Canada**

AGENCY: Import Administration,
International Trade Administration,
Department of Commerce.

EFFECTIVE DATE: November 17, 2005.

FOR FURTHER INFORMATION CONTACT: Kate
Johnson or Rebecca Trainor, AD/CVD
Operations, Office 2, Import
Administration, International Trade
Administration, U.S. Department of
Commerce, 14th Street and Constitution
Avenue, NW, Washington, DC 20230;
telephone: (202) 482-4929 and (202)
482-4007, respectively.

SUPPLEMENTARY INFORMATION:**INITIATION OF INVESTIGATION****The Petition**

On September 30, 2005, the Department of Commerce (Department) received a petition on imports of liquid sulfur dioxide from Canada filed in proper form by Calabrian Corporation (the petitioner) on behalf of the domestic industry producing liquid sulfur dioxide¹ (*Liquid Sulfur Dioxide from Canada: Antidumping Duty Petition* dated September 30, 2005 (Petition)). The period of investigation (POI) is July 1, 2004, through June 30, 2005.

In accordance with section 732(b) of the Tariff Act of 1930, as amended (the Act), the petitioner alleged that imports of liquid sulfur dioxide from Canada are being, or are likely to be, sold in the United States at less than fair value within the meaning of section 731 of the Act, and that such imports are materially injuring or threaten to injure an industry in the United States.

Scope of Investigation

The product covered by this investigation is technical or commercial

¹ See Memorandum from the Team to Barbara Tillman, Acting Deputy Assistant Secretary: Decision Memorandum Concerning Filing Date of Petition, October 6, 2005, (explaining that the proper filing date is September 30, 2005, as the petition was filed at the ITC after the noon deadline on September 29).

grade and refrigeration grade liquid sulfur dioxide of a minimum 99.98 percent assay. Sulfur dioxide is identified by the chemical formula SO₂. The Chemical Abstract Service (CAS) No. for sulfur dioxide is 7446-09-5. Liquid sulfur dioxide is pure sulfur dioxide gas compressed through refrigeration and stored under pressure. Sulfur dioxide in its gaseous state is excluded from the petition.

Liquid sulfur dioxide subject to this investigation is currently classifiable under subheading 2811.23.00 of the Harmonized Tariff Schedule of the United States (HTSUS). While the HTSUS subheading is provided for convenience and customs purposes, the written description of the scope of this investigation is dispositive.

Comments on Scope of Investigation

During our review of the petition, we discussed the scope with the petitioner to ensure that it accurately reflects the product for which the domestic industry is seeking relief. Moreover, as discussed in the preamble to the Department's regulations, we are setting aside a period for interested parties to raise issues regarding product coverage. See *Antidumping Duties; Countervailing Duties; Final Rule*, 62 FR 27295, 27323 (May 19, 1997). The Department encourages all interested parties to submit such comments within 20 calendar days of publication of this initiation notice. Comments should be addressed to Import Administration's Central Records Unit, Room 1870, U.S. Department of Commerce, 14th Street and Constitution Avenue, NW, Washington, DC 20230 - Attn: Irene Darzenta Tzafolias. The period of scope consultations is intended to provide the Department with ample opportunity to consider all comments and consult with interested parties prior to the issuance of the preliminary determination.

Determination of Industry Support for the Petition

Section 732(b)(1) of the Act requires that a petition be filed by or on behalf of the domestic industry. In order to determine whether a petition has been filed by or on behalf of the industry, the Department, pursuant to section 732(c)(4)(A) of the Act, determines whether a minimum percentage of the relevant industry supports the petition. A petition meets this requirement if the domestic producers or workers who support the petition account for: (i) at least 25 percent of the total production of the domestic like product; and (ii) more than 50 percent of the production of the domestic like product produced by that portion of the industry

expressing support for, or opposition to, the petition. Moreover, section 732(c)(4)(D) of the Act provides that, if the petition does not establish support of domestic producers or workers accounting for more than 50 percent of the total production of the domestic like product, the Department shall: (i) poll the industry or rely on other information in order to determine if there is support for the petition, as required by subparagraph (A), or (ii) determine industry support using any statistically valid sampling method.

Section 771(4)(A) of the Act defines the "industry" as the producers of a domestic like product. Thus, to determine whether a petition has the requisite industry support, the statute directs the Department to look to producers and workers who produce the domestic like product. The International Trade Commission (ITC), which is responsible for determining whether "the domestic industry" has been injured, must also determine what constitutes a domestic like product in order to define the industry. While both the Department and the ITC must apply the same statutory definition regarding the domestic like product (section 771(10) of the Act), they do so for different purposes and pursuant to a separate and distinct authority. In addition, the Department's determination is subject to limitations of time and information. Although this may result in different definitions of the like product, such differences do not render the decision of either agency contrary to law. See *Algoma Steel Corp. Ltd. v. United States*, 688 F. Supp. 639, 642-44 (CIT 1988); see also *High Information Content Flat Panel Displays and Display Glass Therefor from Japan: Final Determination; Rescission of Investigation and Partial Dismissal of Petition*, 56 FR 32376, 32380-81 (July 16, 1991).

Section 771(10) of the Act defines the domestic like product as "a product which is like, or in the absence of like, most similar in characteristics and uses with, the article subject to an investigation under this title." Thus, the reference point from which the domestic like product analysis begins is "the article subject to an investigation," *i.e.*, the class or kind of merchandise to be investigated, which normally will be the scope as defined in the petition.

With regard to the domestic like product, the petitioner does not offer a definition of domestic like product distinct from the scope of the investigation. Based on our analysis of the information submitted in the petition, we have determined there is a single domestic like product, liquid

sulfur dioxide, which is defined further in the "Scope of the Investigation" section above, and we have analyzed industry support in terms of that domestic like product. See *Initiation Checklist* at Attachment 1.

Based on information provided in the petition, the share of total estimated U.S. production of the domestic like product in calendar year 2004 represented by the petitioner did not account for more than 50 percent of the total production of the domestic like product. Therefore, in accordance with 732(c)(4)(D) of the Act, we polled the industry. See *Notice of Extension of the Deadline for Determining the Adequacy of the Petition: Liquid Sulfur Dioxide from Canada*, 70 FR 61937 (October 27, 2005).

On October 7, 2005, we issued polling questionnaires to all known domestic producers of liquid sulfur dioxide identified in the petition. On October 12, 2005, we sent a letter to the domestic producers transmitting revised scope language provided by the petitioner on October 11, 2005, as well as a clarification regarding the reporting of liquid sulfur dioxide that was produced and consumed internally. The questionnaires are on file in the Central Records Unit (CRU) in room B-099 of the main Department of Commerce building. We requested that each company complete the polling questionnaire and certify their responses by faxing their responses to the Department by the due date. For a detailed discussion of the responses received, please see the *Initiation Checklist* at Attachment I.

On October 25, 2005, we sent additional questions to Rhodia Inc. (Rhodia) and Chemtrade Logistics (U.S.) Inc. (Chemtrade U.S.), domestic producers expressing opposition to the petition, and received responses on October 31, 2005. Based on the responses received, we determined that Rhodia's opposition should be disregarded in our industry support calculation.

Section 732(c)(4)(B)(i) of the Act states that the Department "shall disregard the position of domestic producers who oppose the petition if such producers are related to foreign producers, as defined in section 771(4)(B)(ii), unless such domestic producers demonstrate that their interests as domestic producers would be adversely affected by the imposition of an antidumping duty order." In addition, section 351.203(e)(4)(i) of the Department's regulations states that the position of a domestic producer that opposes the petition may be disregarded if such producer is related to a foreign

producer or to a foreign exporter under section 771(4)(B)(ii) of the Act, unless such domestic producer demonstrates to the Secretary's satisfaction that its interests as a domestic producer would be adversely affected by the imposition of an antidumping order. Moreover, section 771(4)(B)(ii)(II) contemplates that the Department will consider whether an exporter controls a producer, when determining whether a domestic producer is related to a foreign company for purposes of section 732(c)(4)(B)(i).

In its October 31, 2005, response, Rhodia confirmed that it has a significant relationship with a Canadian exporter of subject merchandise. Specifically, Rhodia, which ceased production of the subject merchandise on December 31, 2004, entered into an asset purchase and sale agreement with Chemtrade Logistics Inc. (Chemtrade Canada) at the end of 2003, whereby it sold all of its domestic manufacturing and sales business to Chemtrade Canada and was obligated not to compete in the liquid sulfur dioxide industry for a period of 5 years. In addition, Rhodia is currently marketing and distributing liquid sulfur dioxide supplied by Chemtrade Canada, and is entitled to a commission on these sales.

In this case, we find that Rhodia and Chemtrade Canada are related, as defined in section 771(4)(B)(ii)(II) of the Act. Section 771(4)(B)(ii)(II) states that a producer and an exporter or importer shall be considered to be related parties if "the exporter or importer directly or indirectly controls the producer." This subparagraph also states that "a party shall be considered to directly or indirectly control another party if the party is legally or operationally in a position to exercise restraint or direction over the other party." Because of the nature of the relationship between Rhodia and Chemtrade Canada, Chemtrade Canada is legally and operationally in a position to restrain or direct Rhodia. For further discussion, see *Initiation Checklist*.

Section 732(c)(4)(B)(i) of the Act also states that the Department will disregard the opposition of related producers "unless such domestic producers demonstrate that their interests as domestic producers would be adversely affected by the imposition of an antidumping duty order." Rhodia has not demonstrated that its interests as a domestic producer would be adversely affected by the imposition of an antidumping order. Furthermore, it is unclear what "interests as a domestic producer" Rhodia has because it no longer produces the domestic like product pursuant to its business

arrangement with Chemtrade Canada. Therefore, we determine that it is appropriate to disregard Rhodia's opposition to the petition under section 732(c)(4)(B)(i) of the Act and section 351.203(e)(4)(i) of the Department's regulations based on the fact that it is related to Chemtrade Canada and failed to demonstrate that its interests as a domestic producer would be adversely affected by the imposition of an antidumping duty order on liquid sulfur dioxide.

Our analysis of the data indicates that the domestic producers of liquid sulfur dioxide who support the petition account for at least 25 percent of the total production of the domestic like product and, once Rhodia's opposition is disregarded, more than 50 percent of the production of the domestic like product produced by that portion of the industry expressing support for, or opposition to, the petition. See *Initiation Checklist* at Attachment I. Accordingly, the Department determines that the industry support requirements of section 732(c)(4)(A) of the Act have been met. The petitioner has suggested that we disregard another party who opposed the petition, Chemtrade U.S., because it is related to Chemtrade Canada and is a significant importer of liquid sulfur dioxide from Canada; however, because the petitioner has met the 50 percent threshold, after disregarding Rhodia's opposition, we have determined that we need not address the opposition of Chemtrade U.S.

Therefore, the Department determines that petitioner filed this petition on behalf of the domestic industry because it is an interested party as defined in section 771(9)(F) of the Act and it has demonstrated sufficient industry support with respect to the antidumping investigation that it is requesting the Department initiate. See *Initiation Checklist* at Attachment I (Industry Support).

U.S. Price and Normal Value

The following is a description of the allegation of sales at less than fair value upon which the Department based its decision to initiate this investigation. The sources of data for the deductions relating to the U.S. and home market prices are also discussed in the *Initiation Checklist*. Should the need arise to use any of this information as facts available under section 776 of the Act in our preliminary or final determination, we may reexamine the information and revise the margin calculations, if appropriate.

Export Price

Pursuant to section 772(a) of the Act, the petitioner based export price on two price quotations from a Canadian producer of liquid sulfur dioxide to U.S. customers. See petition at 18–20 and Attachment 15 and amended petition at 9. The Department deducted from these prices freight expenses and merchandise processing fees of 0.21 percent of dutiable value (net of freight). The freight rates are based on the published 2005 freight tariffs of Canadian Pacific Railway. See proprietary *Initiation Checklist*.

Normal Value

To calculate NV, pursuant to section 773(a) of the Act, the petitioner provided a 2003 published price for liquid sulfur dioxide and June 2005 Canadian prices obtained through foreign market research. See petition at 15–18 and Attachments 10–13 and amended petition at 6–9. For purposes of this initiation, we have relied on the market research by the petitioner of Canadian liquid sulfur dioxide prices because these prices are more contemporaneous. In addition, we disregarded two of these prices and recalculated another price based on source documentation in the petition. See proprietary *Initiation Checklist*. The petitioner deducted estimated freight expenses to derive ex-factory prices. The freight rates are based on the published 2005 freight tariffs of Canadian Pacific Railway. See proprietary *Initiation Checklist*.

Fair Value Comparisons

Based on the data provided by the petitioner, there is reason to believe that imports of liquid sulfur dioxide from Canada are being, or are likely to be, sold in the United States at less than fair value. Based upon comparisons of export price to the NV, calculated in accordance with section 773(a) of the Act, the estimated dumping margins for liquid sulfur dioxide from Canada, revised as a result of the Department's recalculations, range from 141.14 percent to 219.99 percent.

Allegations and Evidence of Material Injury and Causation

The petitioner alleges that the U.S. industry producing the domestic like product is being materially injured, or is threatened with material injury, by reason of the individual and cumulated imports of the subject merchandise sold at less than NV. The petitioner contends that the industry's injured condition is illustrated by the decline in customer base, market share, domestic shipments, prices and profit. We have assessed the

allegations and supporting evidence regarding material injury and causation, and we have determined that these allegations are properly supported by adequate evidence and meet the statutory requirements for initiation. *See Initiation Checklists.*

Initiation of Antidumping Investigation

Based upon our examination of the petition on liquid sulfur dioxide from Canada, we find that this petition meets the requirements of section 732 of the Act. Therefore, we are initiating an antidumping duty investigation to determine whether imports of liquid sulfur dioxide from Canada are being, or are likely to be, sold in the United States at less than fair value. Unless postponed, we will make our preliminary determination no later than 140 days after the date of this initiation.

Distribution of Copies of the Petition

In accordance with section 732(b)(3)(A) of the Act, a copy of the public version of the petition has been provided to the Government of Canada.

International Trade Commission Notification

We have notified the International Trade Commission (ITC) of our initiation, as required by section 732(d) of the Act.

Preliminary Determination by the ITC

The ITC will preliminarily determine, within 25 days after the date on which it receives notice of this initiation, whether there is a reasonable indication that imports of liquid sulfur dioxide from Canada are causing material injury, or threatening to cause material injury, to a U.S. industry. *See* section 733(a)(2) of the Act. A negative ITC determination will result in the investigation being terminated; otherwise, this investigation will proceed according to statutory and regulatory time limits.

This notice is issued and published pursuant to section 777(i) of the Act.

Dated: November 9, 2005.

Stephen J. Claeys,

Acting Assistant Secretary for Import Administration.

[FR Doc. E5-6370 Filed 11-16-05; 8:45 am]

BILLING CODE 3510-DS-S

**INTERNATIONAL TRADE
COMMISSION****[Investigation No. 731-TA-1098
(Preliminary)]****Liquid Sulfur Dioxide From Canada****AGENCY:** United States International Trade Commission.**ACTION:** Revised schedule for the subject investigation.**EFFECTIVE DATE:** November 17, 2005.**FOR FURTHER INFORMATION CONTACT:** Russell Duncan (202-708-4727), Office of Investigations, U.S. International Trade Commission, 500 E Street SW., Washington, DC 20436. Hearing-impaired persons can obtain information on this matter by contacting the Commission's TDD terminal on 202-205-1810. Persons with mobility impairments who will need special assistance in gaining access to the Commission should contact the Office of the Secretary at 202-205-2000. General information concerning the Commission may also be obtained by accessing its Internet server (<http://www.usitc.gov>). The public record for this investigation may be viewed on the Commission's electronic docket (EDIS) at <http://edis.usitc.gov>.**SUPPLEMENTARY INFORMATION:** The Commission instituted the subject investigation in response to a petition filed on September 30, 2005, by Calabrian Corporation, Kingwood, Texas (70 FR 58747, October 7, 2005). Subsequently, the U.S. Department of Commerce ("Commerce") extended the date for its initiation of the investigation (70 FR 61937, October 27, 2005). Commerce's Initiation of Antidumping Duty Investigation: Liquid Sulfur Dioxide from Canada was published in the **Federal Register** on November 17, 2005 (70 FR 69735), thereby providing notice to the Commission of its initiation of the subject investigation. Accordingly, the Commission will transmit its determination in the preliminary phase of this investigation to Commerce within 25 days of November 17, 2005. The Commission's views are due at Commerce within five business days thereafter.

For further information concerning this investigation see the Commission's notice cited above and the Commission's Rules of Practice and Procedure, part 201, subparts A through E (19 CFR part 201) and part 207, subparts A and C (19 CFR part 207).

Authority: This investigation is being conducted under authority of title VII of the Tariff Act of 1930; this notice is published pursuant to section 207.12 of the Commission's rules.

Issued: November 18, 2005.

By order of the Commission.

Marilyn R. Abbott,

Secretary to the Commission.

[FR Doc. 05-23180 Filed 11-22-05; 8:45 am]

BILLING CODE 7020-02-P

APPENDIX B
CONFERENCE WITNESSES

APPENDIX C
SUMMARY DATA

Table C-1

Liquid sulfur dioxide: Summary data concerning the U.S. market, 2002-04, January-June 2004, and January-June 2005

(Quantity=short tons, value=1,000 dollars, unit values, unit labor costs, and unit expenses are per short ton; period changes=percent, except where noted)

Item	Reported data					Period changes			
	2002	2003	2004	January-June		2002-04	2002-03	2003-04	Jan.-June 2004-05
				2004	2005				
U.S. consumption quantity:									
Amount	203,023	210,156	213,243	103,461	96,805	5.0	3.5	1.5	-6.4
Producers' share (1)	70.7	70.5	69.4	70.1	61.5	-1.3	-0.2	-1.1	-8.6
Importers' share (1):									
Canada	***	***	***	***	***	***	***	***	***
All other sources	***	***	***	***	***	***	***	***	***
Total imports	29.3	29.5	30.6	29.9	38.5	1.3	0.2	1.1	8.6
U.S. consumption value:									
Amount	26,862	26,149	26,437	13,238	11,973	-1.6	-2.7	1.1	-9.6
Producers' share (1)	74.5	74.5	75.3	74.2	71.4	0.8	0.0	0.8	-2.8
Importers' share (1):									
Canada	***	***	***	***	***	***	***	***	***
All other sources	***	***	***	***	***	***	***	***	***
Total imports	25.5	25.5	24.7	25.8	28.6	-0.8	-0.0	-0.8	2.8
U.S. shipments of imports from:									
Canada:									
Quantity	***	***	***	***	***	***	***	***	***
Value	***	***	***	***	***	***	***	***	***
Unit value	***	***	***	***	***	***	***	***	***
Ending inventory quantity	***	***	***	***	***	***	***	***	***
All other sources:									
Quantity	***	***	***	***	***	***	***	***	***
Value	***	***	***	***	***	***	***	***	***
Unit value	***	***	***	***	***	***	***	***	***
Ending inventory quantity	***	***	***	***	***	***	***	***	***
All sources:									
Quantity	59,434	61,999	65,202	30,908	37,292	9.7	4.3	5.2	20.7
Value	6,850	6,656	6,530	3,420	3,428	-4.7	-2.8	-1.9	0.2
Unit value	\$115.25	\$107.36	\$100.15	\$110.65	\$91.92	-13.1	-6.9	-6.7	-16.9
Ending inventory quantity	***	***	***	***	***	***	***	***	***
U.S. producers':									
Average capacity quantity	236,838	262,487	242,943	111,067	110,450	2.6	10.8	-7.4	-0.6
Production quantity	144,462	155,345	150,215	73,931	61,225	4.0	7.5	-3.3	-17.2
Capacity utilization (1)	61.0	59.2	61.8	66.6	55.4	0.8	-1.8	2.6	-11.1
U.S. shipments:									
Quantity	143,589	148,157	148,041	72,553	59,513	3.1	3.2	-0.1	-18.0
Value	20,012	19,493	19,907	9,818	8,545	-0.5	-2.6	2.1	-13.0
Unit value	\$139.37	\$131.57	\$134.47	\$135.32	\$143.59	-3.5	-5.6	2.2	6.1
Export shipments:									
Quantity	***	***	***	***	***	***	***	***	***
Value	***	***	***	***	***	***	***	***	***
Unit value	***	***	***	***	***	***	***	***	***
Ending inventory quantity	3,575	4,083	2,016	3,267	1,616	-43.6	14.2	-50.6	-50.6
Inventories/total shipments (1)	***	***	***	***	***	***	***	***	***
Production workers	44	44	41	44	34	-6.9	-0.5	-6.4	-22.7
Hours worked (1,000s)	94	92	90	47	36	-3.4	-2.0	-1.5	-24.6
Wages paid (\$1,000s)	2,507	2,479	2,411	1,280	987	-3.8	-1.1	-2.7	-22.9
Hourly wages	\$26.80	\$27.02	\$26.69	\$27.02	\$27.63	-0.4	0.8	-1.2	2.3
Productivity (tons/1,000 hours)	1,544.0	1,693.4	1,662.6	1,560.6	1,714.7	7.7	9.7	-1.8	9.9
Unit labor costs	\$17.36	\$15.96	\$16.05	\$17.31	\$16.12	-7.5	-8.1	0.6	-6.9
Net sales:									
Quantity	***	***	***	***	***	***	***	***	***
Value	***	***	***	***	***	***	***	***	***
Unit value	\$141.91	\$135.03	\$138.92	\$143.42	\$149.57	-2.1	-4.9	2.9	4.3
Cost of goods sold (COGS)									
Gross profit or (loss)	***	***	***	***	***	***	***	***	***
SG&A expenses	***	***	***	***	***	***	***	***	***
Operating income or (loss)	***	***	***	***	***	***	***	***	***
Capital expenditures	***	***	***	***	***	***	***	***	***
Unit COGS	\$109.01	\$109.94	\$120.90	\$123.12	\$113.79	10.9	0.9	10.0	-7.6
Unit SG&A expenses	\$18.99	\$17.22	\$17.58	\$18.00	\$20.78	-7.4	-9.3	2.1	15.5
Unit operating income or (loss)	\$13.91	\$7.86	\$0.44	\$2.31	\$14.99	-96.9	-43.5	-94.4	549.7
COGS/sales (1)	76.8	81.4	87.0	85.8	76.1	10.2	4.6	5.6	-9.8
Operating income or (loss)/ sales (1)	9.8	5.8	0.3	1.6	10.0	-9.5	-4.0	-5.5	8.4

(1) "Reported data" are in percent and "period changes" are in percentage points.

(2) Not applicable.

Note.--Financial data are reported on a fiscal year basis and may not necessarily be comparable to data reported on a calendar year basis. Because of rounding, figures may not add to the totals shown. Unit values and shares are calculated from the unrounded figures.

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

Table C-2

Liquid sulfur dioxide: Summary data concerning the U.S. merchant market, 2002-04, January-June 2004, and January-June 2005

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Table C-3

Liquid sulfur dioxide: Summary data concerning U.S. commercial shipments of domestically produced and imported merchandise, 2002-04, January-June 2004, and January-June 2005

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Table C-4

Liquid sulfur dioxide: Summary data concerning the U.S. market (excluding Chemtrade), 2002-04, January-June 2004, and January-June 2005

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Table C-5

Liquid sulfur dioxide: Summary data concerning the U.S. merchant market (excluding Chemtrade), 2002-04, January-June 2004, and January-June 2005

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Table C-6

Liquid sulfur dioxide: Summary data concerning U.S. commercial shipments of domestically produced and imported merchandise, (excluding Chemtrade), 2002-04, January-June 2004, and January-June 2005

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APPENDIX D

U.S. PRICING DATA WITHOUT CHEMTRADE'S CAIRO, OH FACILITY

Table D-1

Liquid sulfur dioxide: Weighted-average f.o.b. prices and quantities of domestic and imported products and margins of underselling/(overselling), by quarters, January 2002-June 2005. U.S. prices do not include product from Chemtrade's Cairo, OH facility

* * * * *

Table D-2

Liquid sulfur dioxide: Weighted-average delivered prices and quantities of domestic and imported products and margins of underselling/(overselling), by quarters, January 2002-June 2005. U.S. prices do not include product from Chemtrade's Cairo, OH facility

* * * * *

Figure D-1

Liquid sulfur dioxide: Weighted-average f.o.b. prices (per short ton) of domestic and imported liquid sulfur dioxide, by quarters, January 2002-June 2005. U.S. prices do not include product from Chemtrade's Cairo, OH facility

* * * * *

Figure D-2

Liquid sulfur dioxide: Weighted-average delivered prices (per short ton) of domestic and imported liquid sulfur dioxide, by quarters, January 2002-June 2005. U.S. prices do not include product from Chemtrade's Cairo, OH facility

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