

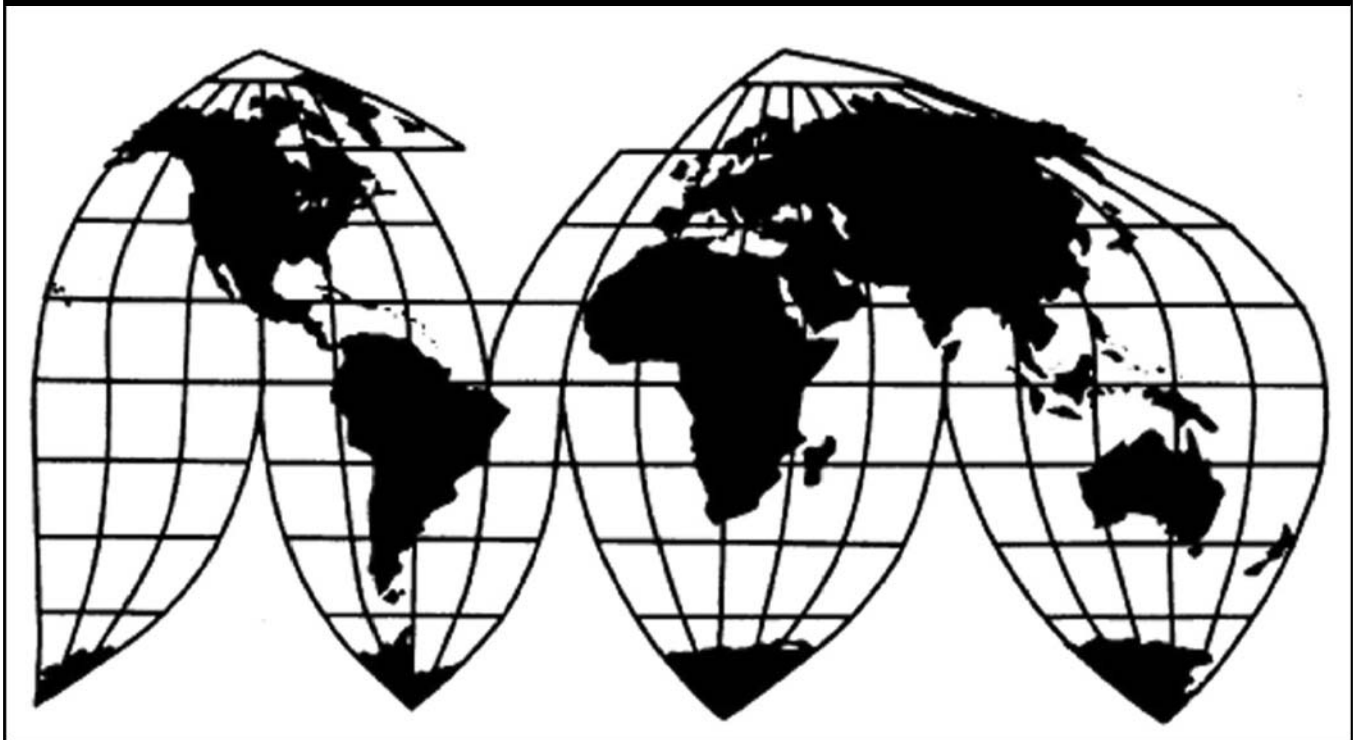
# **Diethyl Terephthalate (DOTP) from Korea**

Investigation No. 731-TA-1330 (Final)

**Publication 4713**

**August 2017**

**U.S. International Trade Commission**



Washington, DC 20436

# U.S. International Trade Commission

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# U.S. International Trade Commission

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# UNITED STATES INTERNATIONAL TRADE COMMISSION

Investigation No. 731-TA-1330 (Final)

Dioctyl terephthalate (DOTP) from Korea

## DETERMINATION

On the basis of the record<sup>1</sup> developed in the subject investigation, the United States International Trade Commission (“Commission”) determines, pursuant to the Tariff Act of 1930 (“the Act”), that an industry in the United States is materially injured by reason of imports of dioctyl terephthalate (“DOTP”) from Korea, provided for in subheading 2917.39.20 of the Harmonized Tariff Schedule of the United States, that have been found by the Department of Commerce (“Commerce”) to be sold in the United States at less than fair value (“LTFV”).<sup>2</sup>

## BACKGROUND

The Commission, pursuant to section 735(b) of the Act (19 U.S.C. 1673d(b)), instituted this investigation effective June 30, 2016, following receipt of a petition filed with the Commission and Commerce by Eastman Chemical Company, Kingsport, Tennessee. The Commission scheduled the final phase of the investigation following notification of a preliminary determination by Commerce that imports of DOTP from Korea were being sold at LTFV within the meaning of section 733(b) of the Act (19 U.S.C. 1673b(b)). Notice of the scheduling of the final phase of the Commission’s investigation and of a public hearing to be held in connection therewith was given by posting copies of the notice in the Office of the Secretary, U.S. International Trade Commission, Washington, DC, and by publishing the notice in the *Federal Register* of April 12, 2017 (82 FR 17691). The hearing was held in Washington, DC, on June 13, 2017, and all persons who requested the opportunity were permitted to appear in person or by counsel.

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

<sup>2</sup> Vice Chairman David S. Johanson dissenting.



## Views of the Commission

Based on the record in the final phase of this investigation, we determine that an industry in the United States is materially injured by reason of imports of dioctyl terephthalate (“DOTP”) from Korea found by the U.S. Department of Commerce (“Commerce”) to be sold in the United States at less than fair value.<sup>1</sup>

### I. Background

The petition was filed on June 30, 2016 by Eastman Chemical Company (“Eastman”), a domestic producer of DOTP. Its representatives appeared at the hearing accompanied by counsel and submitted prehearing and posthearing briefs.

One respondent participated actively in the final phase investigation. Representatives and counsel for ALAC International, Inc. (“ALAC”), a U.S. importer of subject merchandise from Korea, appeared at the hearing and submitted prehearing and posthearing briefs.

**Data Coverage.** U.S. industry data are based on the questionnaire response from one domestic producer that accounted for all known domestic production of DOTP in 2016.<sup>2</sup> U.S. import data are based on official Commerce import statistics and from questionnaire responses of 21 U.S. importers of DOTP that accounted for \*\*\* percent of subject imports from Korea in 2016. Information concerning the subject industry is based on questionnaire responses from two foreign producers that accounted for approximately \*\*\* percent of production of subject merchandise from Korea in 2016.<sup>3</sup>

### II. Domestic Like Product

#### A. In General

In determining whether an industry in the United States is materially injured or threatened with material injury by reason of imports of subject merchandise, the Commission first defines the “domestic like product” and the “industry.”<sup>4</sup> Section 771(4)(A) of the Tariff Act of 1930, as amended (“the Tariff Act”), defines the relevant domestic industry as the “producers as a whole of a domestic like product, or those producers whose collective output of a domestic like product constitutes a major proportion of the total domestic production of the product.”<sup>5</sup> In turn, the Tariff Act defines “domestic like product” as “a product which is like,

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<sup>1</sup> Vice Chairman Johanson determines that an industry in the United States is not materially injured or threatened with material injury by reason of imports of DOTP from Korea. See Dissenting Views of Vice Chairman David S. Johanson. He joins sections I to IV.B of these Views, except as otherwise indicated.

<sup>2</sup> Confidential Report (“CR”) at I-5; Public Report (“PR”) at I-4.

<sup>3</sup> CR at I-5; PR at I-4.

<sup>4</sup> 19 U.S.C. § 1677(4)(A).

<sup>5</sup> 19 U.S.C. § 1677(4)(A).

or in the absence of like, most similar in characteristics and uses with, the article subject to an investigation.”<sup>6</sup>

The decision regarding the appropriate domestic like product 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.<sup>7</sup> No single factor is dispositive, and the Commission may consider other factors it deems relevant based on the facts of a particular investigation.<sup>8</sup> The Commission looks for clear dividing lines among possible like products and disregards minor variations.<sup>9</sup> Although the Commission must accept Commerce’s determination as to the scope of the imported merchandise that is subsidized or sold at less than fair value,<sup>10</sup> the Commission determines what domestic product is like the imported articles Commerce has identified.<sup>11</sup>

## **B. Product Description**

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

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<sup>6</sup> 19 U.S.C. § 1677(10).

<sup>7</sup> See, e.g., *Cleo Inc. v. United States*, 501 F.3d 1291, 1299 (Fed. Cir. 2007); *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 the following: (1) physical characteristics and uses; (2) interchangeability; (3) channels of distribution; (4) customer and producer perceptions of the products; (5) common manufacturing facilities, production processes, and production employees; and, where appropriate, (6) price. See *Nippon*, 19 CIT at 455 n.4; *Timken Co. v. United States*, 913 F. Supp. 580, 584 (Ct. Int’l Trade 1996).

<sup>8</sup> See, e.g., S. Rep. No. 96-249 at 90-91 (1979).

<sup>9</sup> *Nippon*, 19 CIT at 455; *Torrington*, 747 F. Supp. at 748-49; see also S. Rep. No. 96-249 at 90-91 (Congress has indicated that the like product standard should not be interpreted in “such a narrow fashion as to permit minor differences in physical characteristics or uses to lead to the conclusion that the product and article are not ‘like’ each other, nor should the definition of ‘like product’ be interpreted in such a fashion as to prevent consideration of an industry adversely affected by the imports under consideration.”).

<sup>10</sup> See, e.g., *USEC, Inc. v. United States*, 34 Fed. Appx. 725, 730 (Fed. Cir. 2002) (“The ITC may not modify the class or kind of imported merchandise examined by Commerce.”); *Algoma Steel Corp. v. United States*, 688 F. Supp. 639, 644 (Ct. Int’l Trade 1988), *aff’d*, 865 F.3d 240 (Fed. Cir.), *cert. denied*, 492 U.S. 919 (1989).

<sup>11</sup> *Hosiden Corp. v. Advanced Display Mfrs.*, 85 F.3d 1561, 1568 (Fed. Cir. 1996) (the Commission may find a single like product corresponding to several different classes or kinds defined by Commerce); *Cleo*, 501 F.3d at 1298 n.1 (“Commerce’s {scope} finding does not control the Commission’s {like product} determination.”); *Torrington*, 747 F. Supp. at 748-52 (affirming the Commission’s determination defining six like products in investigations in which Commerce found five classes or kinds).

The merchandise covered by this investigation is dioctyl terephthalate (DOTP), regardless of form. DOTP that has been blended with other products is included within this scope when such blends include constituent parts that have not been chemically reacted with each other to produce a different product. For such blends, only the DOTP component of the mixture is covered by the scope of this investigation.

DOTP that is otherwise subject to this investigation is not excluded when commingled with DOTP from sources not subject to this investigation. Commingled refers to the mixing of subject and non-subject DOTP. Only the subject component of such commingled products is covered by the scope of the investigation.

DOTP has the general chemical formulation  $C_6H_4(C_8H_{17}COO)_2$  and a chemical name of "bis (2-ethylhexyl) terephthalate" and has a Chemical Abstract Service (CAS) registry number of 6422-86-2. Regardless of the label, all DOTP is covered by this investigation.

Subject merchandise is currently classified under subheading 2917.39.2000 of the Harmonized Tariff Schedule of the United States (HTSUS). Subject merchandise may also enter under subheadings 2917.39.7000 or 3812.20.1000 of the HTSUS. While the CAS registry number and HTSUS classification are provided for convenience and customs purposes, the written description of the scope of this investigation is dispositive.<sup>12</sup>

DOTP is a colorless, almost odorless, slightly viscous liquid that is used to make resins more flexible and easier to process as plastics. It is a synthetic organic chemical and part of a group of chemical products, known as plasticizers, which are used in the manufacture of plastics.<sup>13</sup>

### **C. Arguments of the Parties**

*Petitioner's Arguments.* Eastman argues that the Commission should define a single domestic like product consisting of all DOTP that is coextensive with the scope of the investigation, as it did in the preliminary determination.<sup>14</sup>

*Respondent's Arguments.* ALAC does not contest the Commission's definition in the preliminary determination of a single domestic like product consisting of all DOTP.<sup>15</sup>

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<sup>12</sup> *Dioctyl Terephthalate From the Republic of Korea: Final Determination of Sales at Less Than Fair Value and Final Negative Determination of Critical Circumstances*, 82 Fed. Reg. 28824, 28826 (June 26, 2017).

<sup>13</sup> CR at I-8; PR at I-6.

<sup>14</sup> Eastman's Prehearing Brief at 2-11.

<sup>15</sup> Transcript of Hearing ("Hearing Tr.") at 171-172 (Winton).

#### **D. Domestic Like Product Analysis**

Based on the record, we define a single domestic like product consisting of all DOTP that is coextensive with Commerce's scope.

In the preliminary determination, the Commission defined a single domestic like product that was coextensive with Commerce's scope consisting of all DOTP, and rejected ALAC's argument that the Commission should define the like product to also include diisononyl phthalate ("DINP"), a chemical product outside Commerce's scope. The Commission found during the preliminary phase of this investigation that DOTP and DINP are different chemicals with different chemical formulations, and are produced using different inputs, production processes, and manufacturing facilities. The Commission stated that both DOTP and DINP are general purpose plasticizers with similar end uses in flooring and polyvinyl chloride ("PVC") applications, but observed that this also applied to several other plasticizers that did not fit within ALAC's proposed like product definition. The Commission found that DINP and DOTP are distinguished as to toxicity. DINP is an ortho-phthalate plasticizer that has become subject to an increasing number of federal and state regulations due to carcinogenic concerns, and a number of purchasers preferred non-phthalate plasticizers such as DOTP to comply with federal and state regulations and to avoid such concerns. The Commission found that both DOTP and DINP are sold through similar channels of distribution to distributors and end users. The Commission noted that the parties disagreed on whether DOTP prices were higher than DINP prices, but found that the pricing data in the record were limited to DOTP products.<sup>16</sup> Consequently, the Commission found that the record indicated that there is a clear dividing line between DOTP and DINP, and defined a single domestic like product consisting of all DOTP coextensive with the scope.<sup>17</sup>

While the record in this final phase investigation contains new information regarding the characteristics and uses of DOTP and DINP,<sup>18</sup> none of that new information calls into question the Commission's findings in the preliminary determination that there is a clear dividing line between DOTP and DINP. Moreover, no party has argued that the Commission should adopt a definition of the domestic like product that is different from that in the preliminary determination. Therefore, for the same reasons set forth in the preliminary determination, we define a single domestic like product consisting of all DOTP that is coextensive with Commerce's scope.

### **III. Domestic Industry**

The domestic industry is defined as the domestic "producers as a whole of a domestic like product, or those producers whose collective output of a domestic like product constitutes

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<sup>16</sup> *Diocetyl Terephthalate (DOTP) from Korea*, Inv. No. 731-TA-1330 (Preliminary), USITC Pub. 4630 at 6-11 (Aug. 2016) ("*Preliminary Determination*").

<sup>17</sup> *Preliminary Determination*, USITC Pub. 4630 at 9-11.

<sup>18</sup> See generally CR at II-13 to II-17; PR at II-8 to II-11.

a major proportion of the total domestic production of the product.”<sup>19</sup> In defining the domestic industry, the Commission’s general practice has been to include in the industry producers of all domestic production of the like product, whether toll-produced, captively consumed, or sold in the domestic merchant market.

In the preliminary determination, the Commission defined the domestic industry as Eastman, the sole domestic producer of DOTP.<sup>20</sup> Eastman argues that the Commission should continue to define the domestic industry as it did in the preliminary determination.<sup>21</sup> ALAC has not directly addressed the domestic industry definition, but appears to argue that BASF Corporation should be considered a member of the domestic industry, and in particular that capital investments by BASF should be considered as investments by the domestic industry.<sup>22</sup>

In deciding whether a firm qualifies as a domestic producer of the domestic like product, the Commission generally analyzes the overall nature of a firm’s U.S. production-related activities, although production-related activity at minimum levels could be insufficient to constitute domestic production.<sup>23</sup>

BASF did not produce any DOTP during the period of investigation (“POI”) of January 1, 2014 through December 31, 2016. BASF reported \*\*\*.<sup>24</sup> We do not consider such production of limited quantities in test production trials to constitute domestic production.

BASF also reported that \*\*\*.<sup>25</sup> It reported \*\*\* of \$\*\*\* in 2014, \$\*\*\* in 2015, and \$\*\*\* in 2016.<sup>26</sup> BASF reported that it \*\*\*.<sup>27</sup>

BASF reported capital expenditures of \$\*\*\* during the POI for \*\*\*.<sup>28</sup> BASF reported \*\*\* production and related workers (“PRWs”) related to the production of DOTP during the POI.<sup>29</sup> The record contains no information on the technical expertise involved in the U.S. production

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<sup>19</sup> 19 U.S.C. § 1677(4)(A).

<sup>20</sup> *Preliminary Determination*, USITC Pub. 4630 at 11.

<sup>21</sup> Eastman’s Prehearing Brief at 12.

<sup>22</sup> Hearing Tr. at 12 (Winton).

<sup>23</sup> The Commission generally considers six factors: (1) source and extent of the firm’s capital investment; (2) technical expertise involved in U.S. production activities; (3) value added to the product in the United States; (4) employment levels; (5) quantity and type of parts sourced in the United States; and (6) any other costs and activities in the United States directly leading to production of the like product. No single factor is determinative and the Commission may consider any other factors it deems relevant in light of the specific facts of any investigation. *Crystalline Silica Photovoltaic Cells and Modules from China*, Inv. Nos. 701-TA-481 and 731-TA-1190 (Final), USITC Pub. 4360 at 12-13 (Nov. 2012).

<sup>24</sup> CR at III-1 n.1; PR at III-1 n.1.

<sup>25</sup> BASF’s U.S. Producers’ Questionnaire response at 36, response to Question IV-22 (EDIS Document No. 614858). A press account dated June 12, 2017 indicated that BASF announced that it had begun preparations for the startup of the Pasadena, TX plant. See ALAC’s Posthearing Brief at Attachment 5.

<sup>26</sup> CR at VI-10; PR at VI-4.

<sup>27</sup> BASF’s U.S. Producers’ Questionnaire response at 14, response to Question II-12 (EDIS Document No. 614858).

<sup>28</sup> CR at VI-10; PR at VI-4.

<sup>29</sup> BASF’s U.S. Producers’ Questionnaire response at 13, response to Question II-9 (EDIS Document No. 614858).

activities that are to be undertaken at BASF's facility, or on the quantity and type of parts sourced in the United States by BASF with respect to future DOTP production at the Pasadena facility. In the absence of current domestic production, BASF is not currently engaged in value-added DOTP activities.

Thus, although the record indicates a \*\*\* investment by BASF at its Pasadena, TX facility, it does not contain information as to any of the other factors that would support a finding that BASF's production-related activities are sufficient to constitute domestic production. Accordingly, we find that BASF is not currently a domestic producer, and we define the domestic industry to consist of Eastman, the sole domestic entity engaged in DOTP production during the POI.

#### **IV. Material Injury by Reason of Subject Imports<sup>30</sup>**

##### **A. Legal Standards**

In the final phase of antidumping and countervailing duty investigations, the Commission determines whether an industry in the United States is materially injured or threatened with material injury by reason of the imports under investigation.<sup>31</sup> 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

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<sup>30</sup> Pursuant to Section 771(24) of the Tariff Act, imports from a subject country of merchandise corresponding to a domestic like product that account for less than 3 percent of all such merchandise imported into the United States during the most recent 12 months for which data are available preceding the filing of the petition shall be deemed negligible. 19 U.S.C. §§ 1671b(a), 1673b(a), 1677(24)(A)(i), 1677(24)(B); *see also* 15 C.F.R. § 2013.1 (developing countries for purposes of 19 U.S.C. § 1677(36)). The statute further provides that subject imports from a single country which comprise less than 3 percent of total such imports of the product may not be considered negligible if there are several countries subject to investigation with negligible imports and the sum of such imports from all those countries collectively accounts for more than 7 percent of the volume of all such merchandise imported into the United States. 19 U.S.C. § 1677(24)(A)(ii). In the case of countervailing duty investigations involving developing countries (as designated by the United States Trade Representative), the statute indicates that the negligibility limits are 4 percent and 9 percent, rather than 3 percent and 7 percent. 19 U.S.C. § 1677(24)(B).

Subject imports from Korea accounted for \*\*\* percent, by quantity, of total U.S. imports of DOTP during June 2015-May 2016, the 12-month period prior to filing of the petition. CR at IV-7; PR at IV-4. Because subject imports from Korea are well above the statutory negligibility threshold, we find that subject imports from Korea are not negligible.

<sup>31</sup> 19 U.S.C. §§ 1671d(b), 1673d(b). The Trade Preferences Extension Act of 2015, Pub. L. 114-27, amended the provisions of the Tariff Act pertaining to Commission determinations of material injury and threat of material injury by reason of subject imports in certain respects. We have applied these amendments here.



like product, but only in the context of U.S. production operations.<sup>32</sup> The statute defines “material injury” as “harm which is not inconsequential, immaterial, or unimportant.”<sup>33</sup> In assessing whether the domestic industry is materially injured by reason of subject imports, we consider all relevant economic factors that bear on the state of the industry in the United States.<sup>34</sup> 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.”<sup>35</sup>

Although the statute requires the Commission to determine whether the domestic industry is “materially injured or threatened with material injury by reason of” unfairly traded imports,<sup>36</sup> it does not define the phrase “by reason of,” indicating that this aspect of the injury analysis is left to the Commission’s reasonable exercise of its discretion.<sup>37</sup> In identifying a causal link, if any, between subject imports and material injury to the domestic industry, the Commission examines the facts of record that relate to the significance of the volume and price effects of the subject imports and any impact of those imports on the condition of the domestic industry. This evaluation under the “by reason of” standard must ensure that subject imports are more than a minimal or tangential cause of injury and that there is a sufficient causal, not merely a temporal, nexus between subject imports and material injury.<sup>38</sup>

In many investigations, there are other economic factors at work, some or all of which may also be having adverse effects on the domestic industry. Such economic factors might include nonsubject imports; changes in technology, demand, or consumer tastes; competition among domestic producers; or management decisions by domestic producers. The legislative history explains that the Commission must examine factors other than subject imports to ensure that it is not attributing injury from other factors to the subject imports, thereby inflating an otherwise tangential cause of injury into one that satisfies the statutory material

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<sup>32</sup> 19 U.S.C. § 1677(7)(B). The Commission “may consider such other economic factors as are relevant to the determination” but shall “identify each {such} factor ... and explain in full its relevance to the determination.” 19 U.S.C. § 1677(7)(B).

<sup>33</sup> 19 U.S.C. § 1677(7)(A).

<sup>34</sup> 19 U.S.C. § 1677(7)(C)(iii).

<sup>35</sup> 19 U.S.C. § 1677(7)(C)(iii).

<sup>36</sup> 19 U.S.C. §§ 1671d(a), 1673d(a).

<sup>37</sup> *Angus Chemical Co. v. United States*, 140 F.3d 1478, 1484-85 (Fed. Cir. 1998) (“{T}he statute does not ‘compel the commissioners’ to employ {a particular methodology}.”), *aff’g*, 944 F. Supp. 943, 951 (Ct. Int’l Trade 1996).

<sup>38</sup> The Federal Circuit, in addressing the causation standard of the statute, observed that “[a]s long as its effects are not merely incidental, tangential, or trivial, the foreign product sold at less than fair value meets the causation requirement.” *Nippon Steel Corp. v. USITC*, 345 F.3d 1379, 1384 (Fed. Cir. 2003). This was further ratified in *Mittal Steel Point Lisas Ltd. v. United States*, 542 F.3d 867, 873 (Fed. Cir. 2008), where the Federal Circuit, quoting *Gerald Metals, Inc. v. United States*, 132 F.3d 716, 722 (Fed. Cir. 1997), stated that “this court requires evidence in the record ‘to show that the harm occurred ‘by reason of’ the LTFV imports, not by reason of a minimal or tangential contribution to material harm caused by LTFV goods.’” *See also Nippon Steel Corp. v. United States*, 458 F.3d 1345, 1357 (Fed. Cir. 2006); *Taiwan Semiconductor Industry Ass’n v. USITC*, 266 F.3d 1339, 1345 (Fed. Cir. 2001).

injury threshold.<sup>39</sup> In performing its examination, however, the Commission need not isolate the injury caused by other factors from injury caused by unfairly traded imports.<sup>40</sup> Nor does the “by reason of” standard require that unfairly traded imports be the “principal” cause of injury or contemplate that injury from unfairly traded imports be weighed against other factors, such as nonsubject imports, which may be contributing to overall injury to an industry.<sup>41</sup> It is clear that the existence of injury caused by other factors does not compel a negative determination.<sup>42</sup>

Assessment of whether material injury to the domestic industry is “by reason of” subject imports “does not require the Commission to address the causation issue in any particular way” as long as “the injury to the domestic industry can reasonably be attributed to the subject imports” and the Commission “ensure{s} that it is not attributing injury from other sources to

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<sup>39</sup> SAA at 851-52 (“{T}he Commission must examine other factors to ensure that it is not attributing injury from other sources to the subject imports.”); S. Rep. 96-249 at 75 (1979) (the Commission “will consider information which indicates that harm is caused by factors other than less-than-fair-value imports.”); H.R. Rep. 96-317 at 47 (1979) (“in examining the overall injury being experienced by a domestic industry, the ITC will take into account evidence presented to it which demonstrates that the harm attributed by the petitioner to the subsidized or dumped imports is attributable to such other factors;” those factors include “the volume and prices of nonsubsidized imports or imports sold at fair value, contraction in demand or changes in patterns of consumption, trade restrictive practices of and competition between the foreign and domestic producers, developments in technology and the export performance and productivity of the domestic industry”); *accord Mittal Steel*, 542 F.3d at 877.

<sup>40</sup> SAA at 851-52 (“{T}he Commission need not isolate the injury caused by other factors from injury caused by unfair imports.”); *Taiwan Semiconductor Industry Ass’n*, 266 F.3d at 1345 (“{T}he Commission need not isolate the injury caused by other factors from injury caused by unfair imports ... . Rather, the Commission must examine other factors to ensure that it is not attributing injury from other sources to the subject imports.” (emphasis in original)); *Asociacion de Productores de Salmon y Trucha de Chile AG v. United States*, 180 F. Supp. 2d 1360, 1375 (Ct. Int’l Trade 2002) (“{t}he Commission is not required to isolate the effects of subject imports from other factors contributing to injury” or make “bright-line distinctions” between the effects of subject imports and other causes.); *see also Softwood Lumber from Canada*, Inv. Nos. 701-TA-414 and 731-TA-928 (Remand), USITC Pub. 3658 at 100-01 (Dec. 2003) (Commission recognized that “{i}f an alleged other factor is found not to have or threaten to have injurious effects to the domestic industry, *i.e.*, it is not an ‘other causal factor,’ then there is nothing to further examine regarding attribution to injury”), *citing Gerald Metals*, 132 F.3d at 722 (the statute “does not suggest that an importer of LTFV goods can escape countervailing duties by finding some tangential or minor cause unrelated to the LTFV goods that contributed to the harmful effects on domestic market prices.”).

<sup>41</sup> S. Rep. 96-249 at 74-75; H.R. Rep. 96-317 at 47.

<sup>42</sup> *See Nippon Steel Corp.*, 345 F.3d at 1381 (“an affirmative material-injury determination under the statute requires no more than a substantial-factor showing. That is, the ‘dumping’ need not be the sole or principal cause of injury.”).

the subject imports.”<sup>43</sup> Indeed, the Federal Circuit has examined and affirmed various Commission methodologies and has disavowed “rigid adherence to a specific formula.”<sup>44</sup>

The Federal Circuit’s decisions in *Gerald Metals*, *Bratsk*, and *Mittal Steel* all involved cases where the relevant “other factor” was the presence in the market of significant volumes of price-competitive nonsubject imports. The Commission interpreted the Federal Circuit’s guidance in *Bratsk* as requiring it to apply a particular additional methodology following its finding of material injury in cases involving commodity products and a significant market presence of price-competitive nonsubject imports.<sup>45</sup> The additional “replacement/benefit” test looked at whether nonsubject imports might have replaced subject imports without any benefit to the U.S. industry. The Commission applied that specific additional test in subsequent cases, including the *Carbon and Certain Alloy Steel Wire Rod from Trinidad and Tobago* determination that underlies the *Mittal Steel* litigation.

*Mittal Steel* clarifies that the Commission’s interpretation of *Bratsk* was too rigid and makes clear that the Federal Circuit does not require the Commission to apply an additional test nor any one specific methodology; instead, the court requires the Commission to have “evidence in the record” to “show that the harm occurred ‘by reason of’ the LTFV imports,” and requires that the Commission not attribute injury from nonsubject imports or other factors to subject imports.<sup>46</sup> Accordingly, we do not consider ourselves required to apply the replacement/benefit test that was included in Commission opinions subsequent to *Bratsk*.

The progression of *Gerald Metals*, *Bratsk*, and *Mittal Steel* clarifies that, in cases involving commodity products where price-competitive nonsubject imports are a significant factor in the U.S. market, the Court will require the Commission to give full consideration, with adequate explanation, to non-attribution issues when it performs its causation analysis.<sup>47</sup>

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<sup>43</sup> *Mittal Steel*, 542 F.3d at 877-78; see also *id.* at 873 (“While the Commission may not enter an affirmative determination unless it finds that a domestic industry is materially injured ‘by reason of’ subject imports, the Commission is not required to follow a single methodology for making that determination ... {and has} broad discretion with respect to its choice of methodology.”) citing *United States Steel Group v. United States*, 96 F.3d 1352, 1362 (Fed. Cir. 1996) and S. Rep. 96-249 at 75. In its decision in *Swiff-Train v. United States*, 793 F.3d 1355 (Fed. Cir. 2015), the Federal Circuit affirmed the Commission’s causation analysis as comports with the Court’s guidance in *Mittal*.

<sup>44</sup> *Nucor Corp. v. United States*, 414 F.3d 1331, 1336, 1341 (Fed. Cir. 2005); see also *Mittal Steel*, 542 F.3d at 879 (“*Bratsk* did not read into the antidumping statute a Procrustean formula for determining whether a domestic injury was ‘by reason’ of subject imports.”).

<sup>45</sup> *Mittal Steel*, 542 F.3d at 875-79.

<sup>46</sup> *Mittal Steel*, 542 F.3d at 873 (quoting from *Gerald Metals*, 132 F.3d at 722), 875-79 & n.2 (recognizing the Commission’s alternative interpretation of *Bratsk* as a reminder to conduct a non-attribution analysis).

<sup>47</sup> To that end, after the Federal Circuit issued its decision in *Bratsk*, the Commission began to present published information or send out information requests in the final phase of investigations to producers in nonsubject countries that accounted for substantial shares of U.S. imports of subject merchandise (if, in fact, there were large nonsubject import suppliers). In order to provide a more complete record for the Commission’s causation analysis, these requests typically seek information on capacity, production, and shipments of the product under investigation in the major source countries that export to the United States. The Commission plans to continue utilizing published or requested (Continued...)

The question of whether the material injury threshold for subject imports is satisfied notwithstanding any injury from other factors is factual, subject to review under the substantial evidence standard.<sup>48</sup> Congress has delegated this factual finding to the Commission because of the agency's institutional expertise in resolving injury issues.<sup>49</sup>

## **B. Conditions of Competition and the Business Cycle**

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

### **1. Demand Considerations**

U.S. demand for DOTP depends on the demand for downstream products that use DOTP. Among the diverse end uses for DOTP are PVC flooring and other types of flooring, PVC compounds, hoses, toys, and other plastic products.<sup>50</sup> The vast majority of responding market participants reported that U.S. demand for DOTP increased over the POI.<sup>51</sup>

A number of firms reported that U.S. demand for DOTP increased due to federal and state regulations that encourage or mandate the use of non-phthalate plasticizers such as DOTP for some end uses instead of ortho-phthalate plasticizers such as DINP.<sup>52</sup> Pursuant to the Consumer Product Safety Improvement Act of 2008, the Consumer Product Safety Commission has banned the use of ortho-phthalate plasticizers in toys and certain child care articles.<sup>53</sup> In addition, pursuant to California's Proposition 65, California regulatory authorities have listed several ortho-phthalate plasticizers, including DINP, as chemicals that may cause cancer, birth defects, or reproductive harm. Under Proposition 65, firms that use such listed chemicals in their products above specified "safe use" levels must post warning labels on the product to inform consumers of the health risks.<sup>54</sup> The record indicates that, in light of these toxicity and regulatory concerns, a number of manufacturers of consumer products and major retailers

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(...Continued)

information in the final phase of investigations in which there are substantial levels of nonsubject imports.

<sup>48</sup> We provide in our respective discussions of volume, price effects, and impact a full analysis of other factors alleged to have caused any material injury experienced by the domestic industry.

<sup>49</sup> *Mittal Steel*, 542 F.3d at 873; *Nippon Steel Corp.*, 458 F.3d at 1350, citing *U.S. Steel Group*, 96 F.3d at 1357; S. Rep. 96-249 at 75 ("The determination of the ITC with respect to causation is ... complex and difficult, and is a matter for the judgment of the ITC.").

<sup>50</sup> CR at II-1, II-9 to II-10; PR at II-1, II-6 to II-7.

<sup>51</sup> CR/PR at Table II-3.

<sup>52</sup> CR at II-12; PR at II-7 to II-8.

<sup>53</sup> CR at I-16, II-13; PR at I-13; II-8.

<sup>54</sup> CR at I-16 to I-17; II-13 to II-14; PR at I-13 to I-14, II-8 to II-9; Hearing Tr. at 27-28 (Cullen).

have shifted from using ortho-phthalate plasticizers such as DINP to using DOTP in major end uses such as flooring products.<sup>55</sup>

Apparent U.S. consumption by quantity increased by \*\*\* percent during the POI, increasing from \*\*\* metric tons in 2014 to \*\*\* metric tons in 2015, and then to \*\*\* metric tons in 2016.<sup>56</sup>

## 2. Supply Considerations

The domestic industry was by far the largest supplier to the U.S. market during the POI. Its share of apparent U.S. consumption increased from \*\*\* percent in 2014 to \*\*\* percent in 2015, and then to \*\*\* percent in 2016.<sup>57</sup>

Eastman was the sole domestic producer of DOTP during the POI. It has DOTP plants at Kingsport, TN and Texas City, TX. Eastman acquired the Texas City plasticizer operation of Sterling Chemicals in 2011, made investments to retrofit the facility, and converted the site to DOTP production. It announced the completion of a capacity expansion product at this facility in 2014, which increased Eastman's overall DOTP production capacity by approximately 15 percent. Eastman's capacity increased by \*\*\* percent over the POI,<sup>58</sup> while its capacity utilization rate increased by \*\*\* percentage points.<sup>59</sup> Eastman produces DOTP using a continuous production process for maximum efficiency.<sup>60</sup> Although BASF was not a domestic producer during the POI, it reported making capital expenditures of over \$\*\*\* during the POI at a facility in Pasadena, TX at which it expects to commence producing DOTP \*\*\*.<sup>61</sup>

The share of apparent U.S. consumption accounted for by subject imports was \*\*\* percent in 2014, \*\*\* percent in 2015, and \*\*\* percent in 2016.<sup>62</sup> Two Korean firms, Aekyung Petrochemical Co., Ltd. and LG Chem, Ltd., together accounted for approximately \*\*\* percent of production of DOTP in Korea in 2016 and approximately \*\*\* percent of U.S. imports of DOTP

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<sup>55</sup> CR at I-19 to I-20, II-13 to II-16; PR at I-14 to I-15, II-8 to II-10; Hearing Tr. at 29-30, 61-62 (Cullen); 105-106 (Frishman); Eastman's Postconference Brief at Exhs. 6-9. According to the testimony of an Eastman witness, switches from DINP to DOTP have been most common for applications that are consumer products involving a high level of human contact, such as flooring products, but much less common for products that do not involve such human contact, such as wire and cable and automotive underbody coatings, which remain major end uses for DINP. Hearing Tr. at 29-30 (Cullen).

<sup>56</sup> CR/PR at Tables IV-5, C-1. Apparent U.S. consumption by value declined by \*\*\* percent during the POI, declining from \$\*\*\* in 2014 to \$\*\*\* in 2015, and then to \$\*\*\* in 2016. *Id.*

<sup>57</sup> CR/PR at Tables IV-5, C-1.

<sup>58</sup> Eastman's capacity increased from \*\*\* metric tons in 2014 to \*\*\* metric tons in 2015 and then to \*\*\* metric tons in 2016. CR/PR at Tables III-3, C-1.

<sup>59</sup> Capacity utilization increased from \*\*\* percent in 2014 to \*\*\* percent in 2015 and then to \*\*\* percent in 2016. CR/PR at Tables III-3, C-1.

<sup>60</sup> CR at III-6; PR at III-3; Hearing Tr. at 23-24 (Parker).

<sup>61</sup> CR at VI-10; PR at VI-4.

<sup>62</sup> CR/PR at Tables IV-5, C-1.

from Korea in 2016.<sup>63</sup> Under the United States-Korea Free Trade Agreement, the applicable duty for U.S. imports of DOTP originating in Korea was eliminated, effective March 15, 2012.<sup>64</sup>

Nonsubject imports were the smallest supplier to the U.S. market during the POI. The share of apparent U.S. consumption accounted for by nonsubject imports declined during the POI from \*\*\* percent in 2014 to \*\*\* percent in 2015, and then to \*\*\* percent in 2016.<sup>65</sup> The largest suppliers of nonsubject imports during the POI were China and Mexico.<sup>66</sup>

### 3. Substitutability and Other Conditions

Based on the record, we find that there is a high degree of substitutability between domestically produced DOTP and DOTP imported from subject sources.<sup>67</sup> Both Eastman and ALAC characterize DOTP as a commodity product.<sup>68</sup> The vast majority of responding market participants reported that domestically produced DOTP and subject imports are “always” or “frequently” interchangeable.<sup>69</sup> In comparing the domestic like product and subject imports with respect to 14 non-price purchasing factors, majorities of purchasers found the products to be “comparable” with respect to each factor.<sup>70</sup>

Sixteen of nineteen purchasers reported that price is a “very important” factor in their purchasing decisions for DOTP, while three purchasers reported that it is “somewhat important.”<sup>71</sup> When ranking the importance of factors in their purchasing decisions, 17 purchasers listed price as among the top three most important factors.<sup>72</sup> In comparing domestically produced DOTP with subject imports, a majority of responding market participants reported that differences other than price were only “sometimes” or “never” important.<sup>73</sup> Based on the record, we find that price is an important factor in purchasing decisions for DOTP.

Raw materials account for a substantial share of the cost of producing DOTP. Eastman’s raw material costs as a share of its cost of goods sold (“COGS”) decreased from \*\*\* percent in 2014 to \*\*\* percent in 2015 and then to \*\*\* percent in 2016.<sup>74</sup> The primary raw materials used

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<sup>63</sup> CR at VII-3; PR at VII-3. A third Korean DOTP producer, Hanwha, declined to submit a questionnaire response to the Commission. CR at VII-3 n.4; PR at VII-3 n.4.

<sup>64</sup> CR at I-8; PR at I-6. The general import duty rate for DOTP is 6.5 percent *ad valorem*. *Id.*

<sup>65</sup> CR/PR at Tables IV-5, C-1.

<sup>66</sup> CR at VII-12; PR at VII-9.

<sup>67</sup> CR at II-18; PR at II-11.

<sup>68</sup> Eastman’s Prehearing Brief at 14-15, 18; Hearing Tr. at 129-130 (Winton); *see Preliminary Determination*, USITC Pub. 4630 at 18.

<sup>69</sup> CR/PR at Table II-9.

<sup>70</sup> CR/PR at Table II-8.

<sup>71</sup> CR/PR at Table II-6. Majorities of purchasers reported that reliability of supply, availability, product consistency, quality meets industry standards, and delivery time were also “very important” factors in their purchasing decisions. *Id.*

<sup>72</sup> CR/PR at Table II-5. Eighteen purchasers listed quality as among the top three factors, and 13 purchasers listed quality as the most important factor. *Id.*

<sup>73</sup> CR/PR at Table II-11.

<sup>74</sup> CR/PR at Table VI-1.

to manufacture DOTP are 2-ethylhexanol (2-EH), dimethyl terephthalate (DMT), and purified terephthalic acid (PTA). U.S. producer Eastman stated that it uses 2-EH and DMT while most other DOTP producers use 2-EH and PTA.<sup>75</sup> 2-EH is made from propylene and other chemicals, while DMT is made from paraxylene and other chemicals.<sup>76</sup> U.S. prices for propylene and paraxylene, both of which are petrochemicals, declined over the POI.<sup>77</sup>

Both Eastman and importers of subject merchandise reported making a majority of their commercial U.S. shipments through spot sales, although Eastman reported \*\*\*, and importers reported \*\*\*.<sup>78</sup> Eastman reported \*\*\*. Eastman estimated that \*\*\*. By contrast, ALAC stated that \*\*\*.<sup>79 80</sup>

While a number of market participants reported that there were no substitutes for DOTP, a majority of responding firms reported that there were substitutes.<sup>81</sup> A number of firms described DINP as a substitute for DOTP, but most of these firms indicated that this interchangeability applied to some but not all or most end-use applications.<sup>82</sup> A smaller number of firms described dioctyl phthalate (DOP) and di(2-propylheptyl) phthalate (DPHP), both ortho-phthalate plasticizers, as substitutes for DOTP in some end-use applications.<sup>83</sup>

U.S. purchasers and importers reported that regulatory concerns, including California's Proposition 65, have limited the substitutability of DINP and DOTP.<sup>84</sup> The record indicates that,

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<sup>75</sup> CR at V-1; PR at V-1.

<sup>76</sup> CR at V-1; PR at V-1. Eastman estimated that propylene accounted for approximately \*\*\* percent of its COGS for DOTP, while paraxylene accounted for approximately \*\*\* percent. CR at V-1 to V-2; PR at V-1.

<sup>77</sup> CR/PR at Figure V-1; CR at V-1, V-3 n.10; PR at V-1, V-2 n.10.

<sup>78</sup> \*\*\* percent of Eastman's U.S. commercial shipments were made through spot sales, while \*\*\* percent were made through long-term contracts, and \*\*\* percent through annual contracts. \*\*\* percent of importers' U.S. commercial shipments were made through spot sales, \*\*\* percent through annual contracts, \*\*\* percent through long-term contracts, and \*\*\* percent through short-term contracts. CR/PR at Table V-2; CR at V-5; PR at V-3.

<sup>79</sup> CR at V-5; PR at V-3.

<sup>80</sup> Vice Chairman Johanson does not join in the rest of these Views. See his Dissenting Views.

<sup>81</sup> \*\*\*, eight importers and five purchasers reported there were no substitutes for DOTP, while ten importers and nine purchasers reported that there were substitutes.

<sup>82</sup> Nine importers and five purchasers described DINP as a substitute for DOTP in some end-use applications, while one importer and four purchasers described it as a substitute for DOTP in most or all end-use applications. One importer, six purchasers, and \*\*\* reported that DINP was not a substitute for DOTP. CR at II-15 and n.21; PR at II-9 and n.21.

<sup>83</sup> Seven importers and four purchasers described DOP as a substitute in some end-use applications for DOTP, and one importer and three purchasers described it as a substitute in most or all end-use applications. By contrast, \*\*\*, three importers, and eight purchasers stated that DOP was not a substitute for DOTP. CR at II-16 and n.22; PR at II-10 and n.22. Seven importers and four purchasers described DPHP as a substitute in some end-use applications for DOTP, and one importer and four purchasers described it as a substitute in most or all end-use applications. By contrast, \*\*\*, three importers, and five purchasers stated that DOP was not a substitute for DOTP. CR at II-17 and n.23; PR at II-10 and n.23.

<sup>84</sup> CR at II-15 to II-16; PR at II-9 to II-10.

in light of the regulatory and toxicity concerns with ortho-phthalates such as DINP, DOP, and DPHP, a number of manufacturers of consumer products and major retailers have made a choice to switch from using ortho-phthalate plasticizers such as DINP to using the non-phthalate plasticizer DOTP in major end uses such as flooring products.<sup>85</sup> Some of these firms have made public announcements that they will only sell flooring products with non-phthalate DOTP and will no longer sell (or are phasing out) flooring products containing toxic ortho-phthalates such as DINP.<sup>86</sup> ALAC asserts that purchasers that have switched from using DINP to using DOTP will quickly switch back to DINP if the price of DOTP becomes too high.<sup>87</sup> However, the record indicates that a number of firms have made public announcements about their switch from using DINP to using DOTP citing their concerns about the toxicity of DINP, making it unlikely that those firms would switch back to DINP because of a price advantage.<sup>88</sup> Moreover, when ALAC stated that it had customers (such as a producer of floor mats) that had switched back from DOTP to DINP, the Commission requested ALAC to provide detailed information identifying customers that had switched from DOTP back to ortho-phthalate plasticizers such as DINP.<sup>89</sup> ALAC responded that it was unable to do so because of its concern that this would violate customer confidences, and instead provided a list of \*\*\* customers that stated that they *could* switch back from DOTP to DINP.<sup>90</sup> A majority of responding firms reported that changes in the price of DINP did not affect DOTP prices.<sup>91</sup>

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<sup>85</sup> CR at I-19 to I-20, II-13 to II-16; PR at I-14 to I-15, II-8 to II-10.

<sup>86</sup> CR at I-19 to I-20; PR at I-14 to I-15 (Armstrong, Hoffman Plastics Compounds, Inc.); Eastman's Postconference Brief at Exh. 6 (Home Depot); Exh. 7 (Lowe's); Exh. 8 (Menards); Exh. 9 (Lumber Liquidators).

<sup>87</sup> ALAC's Prehearing Brief at 7-9; ALAC's Posthearing Brief at 1-2. ALAC argues that some producers of flooring products will choose to switch back to DINP if DOTP prices become too high, either because they are willing to try to sell their product with the warning label affixed under California's Proposition 65, or because they may be able to obtain a "safe use" determination from the California regulatory authorities pursuant to which the warning label would not be required. ALAC's Posthearing Brief at 7-10.

<sup>88</sup> CR at I-19 to I-20; PR at I-14 to I-15; Eastman's Postconference Brief at Exhs. 6-9. An Eastman witness testified that a public shift by a consumer product manufacturer or big box retailer from DINP to DOTP because of toxicity concerns about DINP is effectively irreversible, given the concerns of these firms about the effects of problems with toxic chemicals on the reputation of their corporate brands. Hearing Tr. at 29-30, 61-62 (Cullen).

<sup>89</sup> See Hearing Tr. at 124-125 (Frishman; question of Commissioner Broadbent).

<sup>90</sup> ALAC's Posthearing Brief at 2 and Exh. 1.

<sup>91</sup> \*\*\*, seven importers, and ten purchasers reported that changes in DINP prices had not had an effect on DOTP prices, while three importers and four purchasers reported that changes in DINP prices had had an effect on DOTP prices. CR at II-16; PR at II-10. The vast majority of responding firms reported that changes in the prices of DOP and DPHP had not affected the price of DOTP. CR at II-16 to II-17; PR at II-10 to II-11.



### C. Volume of Subject Imports

Section 771(7)(C)(i) of the Tariff Act provides that the “Commission shall consider whether the volume of imports of the merchandise, or any increase in that volume, either in absolute terms or relative to production or consumption in the United States, is significant.”<sup>92</sup> The volume of subject imports increased by \*\*\* percent during the POI, increasing from \*\*\* metric tons in 2014 to \*\*\* metric tons in 2015, and then to \*\*\* metric tons in 2016.<sup>93</sup> The share of apparent U.S. consumption accounted for by subject imports was \*\*\* percent in 2014, \*\*\* percent in 2015, and \*\*\* percent in 2016.<sup>94</sup>

We conclude that the volume of subject imports is significant both in absolute terms and relative to consumption in the United States, and that the increase in the volume of subject imports is significant in absolute terms.<sup>95</sup>

### D. Price Effects of the Subject Imports

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

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

(II) the effect of imports of such merchandise otherwise depresses prices to a significant degree or prevents price increases, which otherwise would have occurred, to a significant degree.<sup>96</sup>

As addressed in section IV.B.3 above, the record indicates that the domestic like product and subject imports are highly substitutable and that price is important in purchasing decisions. A majority of responding purchasers reported that they always or usually purchase the lowest-priced DOTP that they are offered.<sup>97</sup>

One domestic producer and 12 importers of subject merchandise from Korea provided usable quarterly data on the total quantity and delivered value of their U.S. shipments of two DOTP products to unrelated customers during the POI, although not all firms reported pricing for all products for all quarters.<sup>98 99</sup> Reported pricing data accounted for approximately \*\*\*

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<sup>92</sup> 19 U.S.C. § 1677(7)(C)(i).

<sup>93</sup> CR/PR at Table IV-2.

<sup>94</sup> CR/PR at Tables IV-5, C-1.

<sup>95</sup> ALAC asserts that the increase in subject imports during the POI was \*\*\*. ALAC’s Prehearing Brief at 13-14; ALAC’s Posthearing Brief at 5-6. Because the imports in question by this importer are subject imports, they are properly part of our analysis under the statute.

<sup>96</sup> 19 U.S.C. § 1677(7)(C)(ii).

<sup>97</sup> CR at II-20; PR at II-12 to II-13.

<sup>98</sup> CR at V-7 to V-8; PR at V-4 to V-5. The two pricing products are:

(Continued...)

percent of U.S. producers' U.S. shipments of DOTP and \*\*\* percent of U.S. shipments of subject imports of DOTP from Korea in 2016.<sup>100</sup>

Subject imports undersold the domestic like product in 20 out of 24 overall comparisons, at margins ranging between 1.7 percent and 14.9 percent, and an overall average margin of underselling of 8.2 percent.<sup>101</sup> There was also predominant underselling by quantity, with \*\*\* metric tons of subject imports associated with instances of underselling, as compared to \*\*\* metric tons of subject imports associated with instances of overselling.<sup>102</sup> Thus, 84.0 percent of the quantity of subject imports covered by the Commission's pricing data was sold during quarters in which the average price of these imports was less than that of the comparable domestic product. In light of our findings as to the high degree of substitutability between domestically produced and imported DOTP, and the importance of price in purchasing decisions, we find this pervasive underselling by subject imports to be significant. This finding is supported by information from purchasers.<sup>103</sup>

The margins of underselling by subject imports generally declined over the POI. For product 1, \*\*\*. For product 2, \*\*\*.<sup>104</sup> We find this to be evidence of increasing price competition between the subject imports and the domestic like product over the POI as Eastman lowered its prices to be more competitive with subject imports.<sup>105</sup>

The record indicates that competition from the large and increasing volumes of low-priced subject imports contributed to the decline in the price of the domestic like product during the POI. The prices of both domestically produced DOTP and subject imports from Korea declined \*\*\* over the POI, while apparent U.S. consumption of DOTP continued to increase. The price of domestically produced DOTP declined over the POI by \*\*\* percent for product 1, and by \*\*\* percent for product 2, while the price of subject imports declined over the POI by \*\*\* percent for product 1 and by \*\*\* percent by product 2.<sup>106</sup> Eight purchasers reported that

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(...Continued)

*Product 1* – Diocetyl terephthalate in 20 MT containers, including tank trucks, flexitanks or flexitankers, and/or isotanks.

*Product 2* -- Diocetyl terephthalate in bulk, including railcars and bulk liftings.

CR at V-7; PR at V-4 to V-5.

<sup>99</sup> We collected pricing data on a delivered basis because that reflects the actual pricing in the DOTP industry and provides the most accurate measurement of competition in the market, as the testimony of ALAC's Managing Director confirmed. Hearing Tr. at 145 (Frishman), 177 (O'Brien).

<sup>100</sup> CR at V-8; PR at V-5.

<sup>101</sup> CR/PR at Table V-6.

<sup>102</sup> CR/PR at Table V-6.

<sup>103</sup> Of the ten responding purchasers that reported having purchased subject imports instead of the domestic like product, nine reported that subject imports were priced lower than the domestic like product, and seven reported that price was a primary reason for their decision to purchase subject imports. CR at V-15; PR at V-7; CR/PR at Table V-8.

<sup>104</sup> CR/PR at Tables V-3, V-4.

<sup>105</sup> See also Hearing Tr. at 25-26 (Parker); 31-33 (Cullen); Eastman's Prehearing Brief at 27.

<sup>106</sup> CR/PR at Table V-5.

Eastman reduced its prices in order to compete with lower-priced subject imports, with these price reductions estimated at between 1 percent and 30 percent.<sup>107</sup>

While declining raw material costs also contributed to the decline in Eastman's DOTP prices, as both parties agree,<sup>108</sup> we find that they do not fully explain the magnitude of the decline in DOTP prices. We note that Eastman's unit raw material costs declined over the POI by \$\*\*\* per metric ton, but the decline in the unit value of Eastman's net sales was more than \*\*\* times as great at \$\*\*\* per metric ton.<sup>109</sup> In addition, the prices for two key raw material inputs, propylene and paraxylene, \*\*\* over the course of 2016,<sup>110</sup> whereas Eastman's prices for DOTP \*\*\* in that year.<sup>111</sup> Thus, the decline in Eastman's DOTP prices was \*\*\* larger than the decline in its raw material costs.

We find that DINP prices were not a cause of declining DOTP prices, given that a substantial majority of responding purchasers reported that changes in DINP prices do not affect DOTP prices.<sup>112</sup> Although ALAC argues that DINP prices have an effect on DOTP prices,<sup>113</sup> ALAC did not request and the Commission did not collect pricing data with respect to DINP.<sup>114</sup>

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<sup>107</sup> CR at V-15; PR at V-8; CR/PR at Table V-9. ALAC argues that Eastman is the price leader in the U.S. market, and that subject imports from Korea accordingly follow Eastman's prices. ALAC's Prehearing Brief at 5-6. Eleven purchasers named Eastman as a price leader in the U.S. market, while two named Korean producer LG Chem, Ltd. and two named BASF, an importer of subject merchandise. CR at V-7; PR at V-4 to V-5. However, as discussed above, eight purchasers also reported that Eastman reduced prices to compete with lower-priced subject imports, refuting ALAC's contention that subject imports follow the lead of Eastman with respect to prices. CR at V-15; PR at V-8; CR/PR at Table V-9.

<sup>108</sup> Eastman's Posthearing Brief at 11-14 and Exh. 1 at 2-3 (response to Commissioner Broadbent); ALAC's Prehearing Brief at 6-7; ALAC's Posthearing Brief at 2-4.

<sup>109</sup> The unit value of Eastman's net sales value declined from \$\*\*\* per metric ton in 2014 to \$\*\*\* per metric ton in 2015 and then to \$\*\*\* per metric ton in 2016. CR/PR at Table VI-1. The unit value of Eastman's raw material costs declined from \$\*\*\* per metric ton in 2014 to \$\*\*\* per metric ton in 2015 and then to \$\*\*\* per metric ton in 2016. *Id.* The decline in average unit values was not a result of a difference in product mix, since we have \*\*\* pricing product coverage, CR at V-8; PR at V-5, and U.S. shipment volumes of domestically produced product 1 predominated throughout the POI \*\*\*. CR at V-8; PR at V-5; CR/PR at Tables V-3, V-4.

<sup>110</sup> Between the first and fourth quarters of 2016, prices for propylene increased by \*\*\* percent, and prices for paraxylene increased by \*\*\* percent. CR/PR at Table V-1; Eastman's Posthearing Brief at Exh. 5, Attachment 3.

<sup>111</sup> Between the first and fourth quarters of 2016, Eastman's prices for both product 1 and product 2 increased by \*\*\* percent. CR/PR at Tables V-3, V-4.

<sup>112</sup> \*\*\*, seven importers, and ten purchasers reported that changes in DINP prices had not had an effect on DOTP prices, while three importers and four purchasers reported that changes in DINP prices had had an effect on DOTP prices. CR at II-16; PR at II-10.

<sup>113</sup> ALAC's Prehearing Brief at 7-11.

<sup>114</sup> In the preliminary determination, the Commission stated that it did not have sufficient data in the record to evaluate ALAC's arguments with respect to the relative prices of DOTP and DINP and the effect of DINP prices on DOTP prices. The Commission specifically "invite{d} the parties in their comments on any final phase questionnaires to suggest how the Commission can collect data pertinent to this issue." *Preliminary Determination*, USITC Pub. 4630 at 21-22 n.137. ALAC did not make any (Continued...)

ALAC has instead presented data by market research firm ICIS purporting to show comparative U.S. prices for DINP and DOTP;<sup>115</sup> and ALAC has also compared ICIS data for DINP prices with the Commission's DOTP pricing data and data regarding DOTP raw material costs.<sup>116</sup>

The various comparisons presented by ALAC show at most that the data it presents for DOTP prices and DINP prices appear to follow roughly similar general trends as the data it presents for raw material costs during some portions of the POI, but less so in other portions of the POI.<sup>117</sup> However, ALAC's comparisons also show significant differences during the POI between the DINP prices presented and the DOTP prices presented (whether using ICIS data or the Commission's pricing data). For example, the ICIS data presented by ALAC show \*\*\* in DINP prices during 2014, while the Commission's pricing data presented by ALAC show \*\*\* DOTP prices in 2014. By contrast, the ICIS data show \*\*\* DINP prices between the third quarter of 2015 and the end of the POI, while the Commission's DOTP pricing data presented for this period show \*\*\*.<sup>118</sup> Moreover, the data presented by ALAC do not show any common differential between DINP prices and DOTP prices. ALAC's data using Commission DOTP pricing data show DINP prices to be \*\*\*.<sup>119</sup> Thus, the data presented by ALAC show different trends for DINP and DOTP prices during portions of the POI, and do not show any close relationship between them indicating that changes in DINP prices affected DOTP prices.

In addition, we note that the decline in the U.S. producer's prices occurred within the context of rapidly increasing U.S. demand for DOTP. As discussed above, apparent U.S. consumption increased by \*\*\* percent between 2014 and 2016.<sup>120</sup> The U.S. producer's prices

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(...Continued)

suggestions or comments on the draft questionnaires on this issue or any other issue. See Hearing Tr. at 171-172. The Commission added questions in the final phase questionnaires regarding the effect of changes in prices of DINP and other plasticizers on DOTP prices. See U.S. producers' questionnaire at question III-6; U.S. importers' questionnaire at question III-12; U.S. purchasers' questionnaire at question III-12. EDIS Document No. 605379.

<sup>115</sup> ALAC's Hearing Exhibit (EDIS Document No. 614190).

<sup>116</sup> ALAC's Posthearing Brief at 3; ALAC's Final Comments at 2.

<sup>117</sup> See ALAC's Hearing Exhibit (EDIS Document No. 614190); ALAC's Posthearing Brief at 3.

Although DOTP and DINP are both derived from petrochemical products, they are produced using different inputs. DOTP is produced using 2-EH and DMT or PTA as primary inputs, while DINP uses isononyl alcohol and phthalic anhydride as primary inputs. *Preliminary Determination*, USITC Pub. 4630 at 8; CR at I-17; PR at I-13.

<sup>118</sup> ALAC's Posthearing Brief at 3; ALAC's Final Comments at 2. The ICIS data for DOTP prices presented by ALAC appear to differ substantially from the Commission DOTP pricing data presented by ALAC, raising questions about the accuracy and usefulness of the ICIS data in making pricing comparisons. For example, ALAC's pricing comparison using ICIS data for DOTP prices shows DOTP prices \*\*\* than DINP prices between the second and third quarters of 2014 and shows DOTP prices above DINP prices in the third and fourth quarters of 2016. ALAC's Hearing Exhibit (EDIS Document No. 614190). By contrast, ALAC's pricing comparison using Commission pricing data for DOTP prices shows \*\*\*. ALAC's Posthearing Brief at 3; ALAC's Final Comments at 2.

<sup>119</sup> ALAC's Posthearing Brief at 3; ALAC's Final Comments at 2.

<sup>120</sup> CR/PR at Tables IV-5, C-1.

likely would not have decreased to the extent that they did under such improving demand conditions absent the present of low-priced subject imports in the market.

In sum, the subject imports significantly undersold the domestic like product during the POI. Low-priced subject imports had significant price-depressing effects on the domestic like product. We therefore find that the subject imports had significant price effects.

#### **E. Impact of the Subject Imports<sup>121</sup>**

Section 771(7)(C)(iii) of the Tariff Act provides that examining the impact of subject imports, the Commission “shall evaluate all relevant economic factors which have a bearing on the state of the industry.”<sup>122</sup> These factors include output, sales, inventories, capacity utilization, market share, employment, wages, productivity, gross profits, net profits, operating profits, cash flow, return on investment, return on capital, ability to raise capital, ability to service debts, research and development, and factors affecting domestic prices. No single factor is dispositive and all relevant factors are considered “within the context of the business cycle and conditions of competition that are distinctive to the affected industry.”<sup>123</sup>

During the POI, the domestic industry experienced some favorable conditions, including increasing U.S. demand for DOTP,<sup>124</sup> and declining raw material costs. However, while the domestic industry was able to increase its output, U.S. shipments, net sales quantity, and market share in the growing U.S. market during the POI, its revenues declined, and its financial indicators declined sharply.

The domestic industry’s production, capacity, and capacity utilization all increased during the POI. Capacity rose by \*\*\* percent during the POI, increasing from \*\*\* metric tons in

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<sup>121</sup> The statute instructs the Commission to consider the “magnitude of the dumping margin” in an antidumping proceeding as part of its consideration of the impact of imports. 19 U.S.C. § 1677(7)(C)(iii)(V). In its final determination of sales at less value, Commerce found antidumping duty margins of 2.71 for LG Chem, Ltd.; 4.08 percent for Aekyung Petrochemical Co., Ltd.; and 3.69 percent for all others. *Diocetyl Terephthalate From the Republic of Korea: Final Determination of Sales at Less Than Fair Value and Final Negative Determination of Critical Circumstances*, 82 Fed. Reg. 28824, 28825 (June 26, 2017). We take into account in our analysis the fact that Commerce has made final findings that all subject producers in Korea are selling subject imports in the United States at less than fair value. In addition to this consideration, our impact analysis has considered other factors affecting domestic prices. Our analysis of the significant price effects of subject imports, described in both the price effects discussion and below, is particularly probative to an assessment of the impact of the subject imports.

<sup>122</sup> 19 U.S.C. § 1677(7)(C)(iii); *see also* SAA at 851 and 885 (“In material injury determinations, the Commission considers, in addition to imports, other factors that may be contributing to overall injury. While these factors, in some cases, may account for the injury to the domestic industry, they also may demonstrate that an industry is facing difficulties from a variety of sources and is vulnerable to dumped or subsidized imports.”).

<sup>123</sup> 19 U.S.C. § 1677(7)(C)(iii). This provision was amended by the Trade Preferences Extension Act of 2015, Pub. L. 114-27.

<sup>124</sup> Apparent U.S. consumption by quantity rose by \*\*\* percent during the POI, increasing from \*\*\* metric tons in 2014 to \*\*\* metric tons in 2015, and then to \*\*\* metric tons in 2016. CR/PR at Tables IV-5, C-1.

2014 to \*\*\* metric tons in 2015 and then to \*\*\* metric tons in 2016.<sup>125</sup> Production rose by \*\*\* percent during the POI, increasing from \*\*\* metric tons in 2014 to \*\*\* metric tons in 2015 and then to \*\*\* metric tons in 2016.<sup>126</sup> Capacity utilization increased from \*\*\* percent in 2014 to \*\*\* percent in 2015 and then to \*\*\* percent in 2016.<sup>127</sup>

The domestic industry also had \*\*\* increases in net sales and U.S. shipments. Net sales quantity rose by \*\*\* percent during the POI, increasing from \*\*\* metric tons in 2014 to \*\*\* metric tons in 2015, and then to \*\*\* metric tons in 2016.<sup>128</sup> U.S. shipments rose by \*\*\* percent during the POI, increasing from \*\*\* metric tons in 2014 to \*\*\* metric tons in 2015, and then to \*\*\* metric tons in 2016.<sup>129</sup> The domestic industry's share of apparent U.S. consumption increased from \*\*\* percent in 2014 to \*\*\* percent in 2015, and then to \*\*\* percent in 2016.<sup>130</sup> U.S. producers' ending inventories increased by \*\*\* percent during the POI, increasing from \*\*\* metric tons in 2014 to \*\*\* metric tons in 2015, and then declining to \*\*\* metric tons in 2016.<sup>131</sup>

Employment remained stable over the POI, declining from \*\*\* production-related workers (PRWs) in 2014 to \*\*\* PRWs in 2015 and then increasing to \*\*\* PRWs in 2016.<sup>132</sup> Hours worked increased by \*\*\* percent during the POI, declining from \*\*\* hours in 2014 to \*\*\* hours in 2015, and then increasing to \*\*\* hours in 2016.<sup>133</sup> Wages paid increased by \*\*\* percent during the POI, declining from \$\*\*\* in 2014 to \$\*\*\* in 2015, and then increasing to \$\*\*\* in 2016.<sup>134</sup> Productivity increased by \*\*\* percent during the POI, increasing (in metric tons per hour) from \*\*\* in 2014 to \*\*\* in 2015 and 2016.<sup>135</sup>

Notwithstanding increases in output, the industry's revenues and financial performance deteriorated during the POI. Net sales value declined by \*\*\* percent during the POI, falling from \$\*\*\* in 2014 to \$\*\*\* in 2015, and then to \$\*\*\* in 2016.<sup>136</sup> Total COGS declined by \*\*\* percent during the POI, declining from \$\*\*\* in 2014 to \$\*\*\* in 2015 and then increasing to \$\*\*\* in 2016.<sup>137</sup> Although, as discussed above, raw materials costs fell dramatically during the POI, total COGS declined more modestly because the industry's other factory costs increased \*\*\* in 2016 as its sales volume increased, offsetting the decline in the raw material costs.<sup>138</sup>

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<sup>125</sup> CR/PR at Tables III-3, C-1.

<sup>126</sup> CR/PR at Tables III-3, C-1.

<sup>127</sup> CR/PR at Tables III-3, C-1.

<sup>128</sup> CR/PR at Tables VI-1, C-1.

<sup>129</sup> CR/PR at Tables III-4, C-1.

<sup>130</sup> CR/PR at Tables IV-5, C-1.

<sup>131</sup> CR/PR at Tables III-5, C-1.

<sup>132</sup> CR/PR at Tables III-6, C-1.

<sup>133</sup> CR/PR at Tables III-6, C-1.

<sup>134</sup> CR/PR at Tables III-6, C-1.

<sup>135</sup> CR/PR at Tables III-6, C-1.

<sup>136</sup> CR/PR at Tables VI-1, C-1.

<sup>137</sup> CR/PR at Tables VI-1, C-1.

<sup>138</sup> CR at VI-6; PR at VI-2 to VI-3. Other factory costs declined from \$\*\*\* in 2014 to \$\*\*\* in 2015, and then increased to \$\*\*\* in 2016. Other factory costs as a percentage of COGS increased from \*\*\* percent in 2014 to \*\*\* percent in 2015, and then to \*\*\* percent in 2016. CR/PR at Table VI-1.

The ratio of COGS to net sales increased from \*\*\* percent in 2014 to \*\*\* percent in 2015 and then to \*\*\* percent in 2016.<sup>139</sup> The industry's gross profit fell by \*\*\* percent over the POI, declining from \$\*\*\* in 2014 to \*\*\* in 2015, and then to \$\*\*\* in 2016.<sup>140</sup> The industry's operating income fell by \*\*\* percent over the POI, declining from \$\*\*\* in 2014 to \$\*\*\* in 2015, and then to \$\*\*\* in 2016.<sup>141</sup> The industry's operating income margin declined from \*\*\* percent in 2014 to \*\*\* percent in 2015 and then to \*\*\* percent in 2016.<sup>142</sup> The industry's net income declined from \$\*\*\* in 2014 to \$\*\*\* in 2015, followed by \*\*\* in 2016.<sup>143</sup> Capital expenditures increased from \$\*\*\* in 2014 to \$\*\*\* in 2015, and then declined to \$\*\*\* in 2016.<sup>144</sup> Research and development expenses declined from \$\*\*\* in 2014 to \$\*\*\* in 2015, and then to \$\*\*\* in 2016.<sup>145</sup>

As discussed, the domestic industry's production, net sales quantity, and U.S. shipments increased during the POI. However, these increases were a product of the domestic industry's increased capacity and the growing U.S. market for DOTP, and the domestic industry's need to maintain a high capacity utilization rate given its continuous production process. In light of the impracticability of reducing production, the domestic industry was therefore required to reduce prices as a result of competition from low-priced subject imports. Accordingly, despite the increase of over \*\*\* percent in the domestic industry's net sales quantity, its revenues declined by almost \*\*\* percent, in part because of the price-depressing effects of low-priced subject imports. As the domestic industry's revenues declined, the measures of its profitability declined sharply. The domestic industry's operating income declined by \*\*\* percent over the POI, and its operating income margin declined from \*\*\* percent in 2014 to \*\*\* percent in 2016.

We find that the large and increasing volume of low-priced subject imports depressed the domestic industry's prices and caused the industry's revenues to be lower than they otherwise would have been, leading to a sharp decline in the domestic industry's financial performance over the POI. We accordingly find that the subject imports had a significant impact on the domestic industry.

In our analysis of the impact of subject imports on the domestic industry, we have taken into account whether there are other factors that may have had an adverse impact on the domestic industry during the POI to ensure that we are not attributing injury from other factors to the subject imports. U.S. demand for DOTP was growing during the POI,<sup>146</sup> so changes in demand do not explain the injury to the domestic industry. We have also considered the role of nonsubject imports in this investigation. Nonsubject imports had a small and declining share of the U.S. market during the POI, and the Commission's pricing data indicate that subject imports were priced higher than subject imports and the domestic like product in a majority of

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<sup>139</sup> CR/PR at Tables VI-1, C-1.

<sup>140</sup> CR/PR at Tables VI-1, C-1.

<sup>141</sup> CR/PR at Tables VI-1, C-1.

<sup>142</sup> CR/PR at Tables VI-1, C-1.

<sup>143</sup> CR/PR at Tables VI-1, C-1.

<sup>144</sup> CR/PR at Table VI-4.

<sup>145</sup> CR/PR at Table VI-4.

<sup>146</sup> Apparent U.S. consumption by quantity increased by \*\*\* percent during the POI. CR/PR at Tables IV-5, C-1.

quarterly comparisons during the POI.<sup>147</sup> Accordingly, nonsubject imports do not explain the adverse price effects and consequent impact the domestic industry sustained.

ALAC asserts that the increase in subject imports during the POI was \*\*\*.<sup>148</sup> However, as previously discussed, its imports of DOTP from Korea are subject imports and are properly part of our analysis under the statute. Moreover, even assuming *arguendo* that these imports may ultimately benefit BASF should it commence domestic production operations, the pertinent statutory inquiry is whether “an industry in the United States *is* materially injured ... by reason of imports ...”<sup>149</sup> As explained above, BASF is not now part of the domestic industry, and the subject imports – including those imported by BASF – have had adverse effects on the sole domestic producer. Consequently, BASF’s role in importation does not affect our finding that the subject imports have a significant current impact on the domestic industry.

We note that ALAC has raised questions about certain aspects of Eastman’s financial reporting to the Commission.<sup>150</sup> However, Commission staff verified \*\*\*.<sup>151</sup>

We therefore conclude that the subject imports had a significant impact on the domestic industry.

## V. Conclusion

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

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<sup>147</sup> The market share of nonsubject imports was \*\*\* percent in 2014, \*\*\* percent in 2015, and \*\*\* percent in 2016. CR/PR at Table IV-V. Nonsubject imports were priced higher than the domestic like product in eight of 14 comparisons and higher than subject imports in 12 of 14 comparisons. CR/PR at Table D-3.

<sup>148</sup> ALAC’s Prehearing Brief at 13-14; ALAC’s Posthearing Brief at 5-6.

<sup>149</sup> 19 U.S.C. § 1673d(b)(1).

<sup>150</sup> See ALALC’s Prehearing Brief at 4-5; Hearing Tr. at 186-187 (Winton).

<sup>151</sup> CR at VI-2; PR at VI-1.



## **Dissenting Views of Vice Chairman David S. Johanson**

Based on the record in the final phase of this investigation, I find that an industry in the United States is not materially injured or threatened with material injury by reason of imports of dioctyl terephthalate (DOTP) from Korea found by the U.S. Department of Commerce (Commerce) to be sold in the United States at less than fair value. I join and adopt as my own sections I–IV.B (except where otherwise indicated) of the affirmative majority views.

My separate determination that there is no material injury or threat of material injury by reason of subject imports is based primarily on the following findings: (1) despite declining prices for the U.S. domestic like product, there is a lack of evidence that such declines were caused by subject imports—I find a more compelling alternative explanation to be based on decreasing raw material costs and lower prices for the competing substitute product; (2) there is a lack of evidence indicating that low-priced subject imports led purchasers to shift their purchases to subject imports and away from domestic producers or to reduce their prices in the face of lower-priced offers of subject imports; and (3) the deterioration in the financial performance of the domestic industry was driven by declining domestic prices that were indexed to declining raw material costs and by similarly declining prices for the most commonly considered substitute product.

### **I. Additional Conditions of Competition**

While I concur with the majority’s discussion of substitutability and other factors in section IV.B.3, I include this supplementary discussion because of the additional weight that I place on specific market conditions that I contend significantly influence the price of the domestic like product.

#### **A. Evolution of the U.S. Plasticizer Market**

Eastman began producing DOTP at its Kingsport, Tennessee plant in 1974, but DOTP remained a niche plasticizer<sup>1</sup> until the introduction of a law by the European Union in 2005 restricting the use of ortho-phthalate plasticizers in the manufacture of toys.<sup>2</sup> DOTP, despite containing the name “terephthalate,” is chemically distinct from the restricted ortho-phthalates and is considered a non-phthalate from the regulatory perspective.<sup>3</sup> Ortho-phthalates, such as dioctyl phthalate (DOP, manufactured by Eastman) and diisooctyl phthalate (DINP, manufactured by Exxon Mobil), were “the standard plasticizers since at least the 1950s.”<sup>4</sup> The 2005 EU law “really started to accelerate” the market for non-phthalates such as DOTP,<sup>5</sup> and this was reinforced by the passage in the United States of the Consumer Product Safety

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<sup>1</sup> Tr. at 18 & 59-60 (Gouveia); Tr. at 70 & 90 (Cullen). The staff report covers this history at CR at II-13 to II-15, PR at II-8 to II-9.

<sup>2</sup> Tr. at 60 (Cullen).

<sup>3</sup> CR at I-11, PR at I-7; Tr. at 27 (Cullen); Tr. at 37 (Streatfeild).

<sup>4</sup> Tr. at 27 (Cullen).

<sup>5</sup> Tr. at 60 (Cullen).

Improvement Act, which also restricted the use of ortho-phthalates in toys beginning in 2009.<sup>6</sup> As ortho-phthalates, both DOP (since 1988) and DINP (since the end of 2013) have been listed as chemicals requiring Proposition 65 warning labels as “materials known to the State of California to cause cancer.”<sup>7</sup>

As only a “very, very small proportion of any of the DOTP consumption in North America goes into the manufacture of toys,”<sup>8</sup> a more commercially significant development for the domestic industry producing DOTP occurred in 2010 when U.S. vinyl floor manufacturer Tarkett—in response to growing health concerns—switched from ortho-phthalate to non-phthalate plasticizers.<sup>9</sup> Illustrative of the significant boost that these health and regulatory concerns gave to U.S. DOTP demand is that as late as 2010 “there was basically no Korean DOTP in the {U.S.} market.”<sup>10</sup> The most recent spur to DOTP demand followed the publication of a study in April 2015 by a non-profit organization, the Ecology Center, which pointed to measurable levels of ortho-phthalates in vinyl flooring tiles. In reaction to this publication, several major retailers pledged to offer non-phthalate flooring products almost immediately and eventually to eliminate entirely the use of ortho-phthalates in flooring.<sup>11</sup> All of these factors have contributed to strong growth in U.S. consumption of DOTP with the quantity consumed increasing by \*\*\* percent between 2014 and 2016.<sup>12</sup>

It should be noted, however, that these elimination efforts are voluntary and that the only legal restrictions on ortho-phthalates continues to be their prohibition in children’s toys.<sup>13</sup> With respect to California Proposition 65, sale of products containing ortho-phthalates continues to be allowed, however a “stark” warning label is required.<sup>14</sup> Also, substitution of non-phthalates for ortho-phthalates has largely been limited to sectors in which the end-use products come into human contact.<sup>15</sup> The largest end-use sector for general purpose plasticizers is in wire and cable coatings, where the use of DOTP is “about zero;” likewise for another leading application—automotive underbody coatings.<sup>16</sup> While U.S. consumption of DOTP has increased dramatically, the overall market for plasticizers has been “relatively flat” and “the growth in DOTP demand in North America has been through substitution.”<sup>17</sup> Nor is

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<sup>6</sup> Tr. at 28 (Cullen).

<sup>7</sup> Tr. at 28 (Cullen); Petitioner’s Posthearing Br. at Exhibit 5, Attachment 5, p. 1.

<sup>8</sup> Tr. at 74 (Cullen).

<sup>9</sup> Tr. at 62-63 (Cullen).

<sup>10</sup> Tr. at 24 (Parker).

<sup>11</sup> Tr. at 62 (Cullen). Petitioner’s Posthearing Br. at Exhibit 5, Attachment 6. *See also* Petitioner’s hearing presentation, slides 18-19.

<sup>12</sup> CR/PR at Table C-1.

<sup>13</sup> Tr. at 69 (O’Brien); Tr. at 73 (Cullen). The restriction on use in toys that was imposed in 2009 was the result of a federally legislated ban and was not the outcome of formal findings of a regulatory body. Tr. at 75 (Cullen).

<sup>14</sup> Tr. at 69 (O’Brien).

<sup>15</sup> Tr. at 29 & 62 (Cullen).

<sup>16</sup> Tr. at 30, 53 & 81 (Cullen). \*\*\* Respondents’ Responses to Commissioners’ Questions, Exhibit 3. \*\*\* Respondents’ Responses to Commissioners’ Questions, Exhibit 2.

<sup>17</sup> Tr. at 71 (Cullen).

DOTP the only non-phthalate general purpose plasticizer available; petitioner stated that there are “5 or 6 globally” that could be used, but that they “are not manufactured here and have not been a significant part of the market here.”<sup>18</sup>

The events described above, and the resulting increase in U.S. demand, led Eastman to augment its production capacity via the purchase of the plasticizer manufacturing plant of Sterling Chemicals Inc. in Texas City, Texas, in 2011, converting it to the production of DOTP; Eastman’s Texas plant began shipping DOTP in 2012.<sup>19</sup>

## **B. Competition between DINP and DOTP**

A key point of contention in this investigation is the degree to which the ortho-phthalate DINP and the non-phthalate DOTP compete in the U.S. plasticizer market. Petitioner argues that increased demand for non-phthalate plasticizers originated with the end-use customers themselves, seeking to protect their brands and “eliminate anything that could be used as a potential negative competing against flooring alternatives” such as carpet, tile, and hardwood.<sup>20</sup> Petitioner asserts that once DOTP has replaced DINP for a particular purchaser, “there is no going back” and the two plasticizers are no longer substitutable; petitioner claims there is “no evidence of any customer” ever switching back to DINP after initially moving to DOTP.<sup>21</sup> Petitioner further argues that the decision to use a non-phthalate plasticizer (as opposed to DINP) is “not a price-driven calculation primarily.”<sup>22</sup> Petitioner does concede, however, that price differences between DINP and DOTP could become a factor “at some point”<sup>23</sup> and that DOTP’s ready acceptance by vinyl flooring manufacturers is due, to some extent, to the fact that it “is a viable alternative that’s economically efficient.”<sup>24</sup> If vinyl flooring did not have DOTP as “an economically viable choice,” “they wouldn’t change until there was a regulation.”<sup>25</sup>

Respondent ALAC International, an importer that markets both DINP and DOTP, stated that the “vast majority” of its customers who buy DOTP are customers that used to purchase DINP from them.<sup>26</sup> The growth in DOTP demand is, therefore, not demand growth in the wider plasticizer market, but instead a substitution of one type of plasticizer for another in some end-use segments.<sup>27</sup> Respondent’s argument is that substitution to DOTP by these purchasers was predicated on their ability to “obtain a basically equivalent product at the same price point;” purchasers would need to “look more carefully at the scientific basis” if DOTP were offered at

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<sup>18</sup> Tr. at 68 (Cullen).

<sup>19</sup> Tr. at 22 (Parker).

<sup>20</sup> Tr. at 61 (Cullen); Tr. at 76 (Gouveia).

<sup>21</sup> Tr. at 30, 33 & 99 (Cullen); Tr. at 79 (O’Brien).

<sup>22</sup> Tr. at 72 (O’Brien). *See also* Tr. at 94 (Cullen).

<sup>23</sup> Tr. at 80 (O’Brien).

<sup>24</sup> Tr. at 80 (Gouveia).

<sup>25</sup> Tr. at 80 (Gouveia).

<sup>26</sup> Tr. at 102-03 & 106 (Frishman).

<sup>27</sup> \*\*\* Respondent’s Responses to Commissioners’ Questions, Exhibit 3.

significantly higher prices than DINP.<sup>28</sup> Other non-phthalate plasticizer alternatives have not been adopted by the U.S. market because of their higher cost.<sup>29</sup> Domestic manufacturers of vinyl flooring are “extremely sensitive” to increasing raw material costs because of the availability of competing imported vinyl flooring products.<sup>30</sup> According to ALAC, not only are there purchasers of DOTP who are willing to switch back to DINP if DOTP prices are not competitive, but there are also manufacturers that still have not switched to DOTP and continue to use DINP.<sup>31</sup> ALAC’s witnesses related the story of a U.S. producer of yoga mats that initially switched to DOTP, but then switched back to DINP when it faced competition from imports of yoga mats from China.<sup>32</sup> Some purchasers are willing to sell their products with the California Proposition 65 warning label and other purchasers have obtained “safe use determinations” from the State of California waiving the labeling requirement when DINP levels are below the regulatory threshold.<sup>33</sup> Petitioner conceded that switching between DOTP and DINP does not require any capital expenditures by the customer, rather only a formula change.<sup>34</sup> Questionnaire responses of ten importers and nine purchasers indicated that DINP and DOTP are substitutable to at least some extent in end-use applications.<sup>35</sup> Although the majority of importers and purchasers stated that the price of DINP does not affect the price of DOTP, three importers and four purchasers did say that there was a relationship.<sup>36</sup>

Respondent’s argument was summarized as: “DINP and DOTP were competing for market share, especially in the flooring market, especially in the period . . . through July of 2015, . . . and there was price competition between them. DINP prices were lower because of raw material costs, as DINP prices were lower, if DOTP was gonna be sold, it had to go lower as well.”<sup>37</sup> Respondent argues that this competition between products, and not competition from subject imports, explains the price declines experienced by the domestic industry and the resultant deterioration in financial performance. ALAC further argues that because the increasing demand for DOTP is merely a substitution for DINP within an otherwise stable market for general purpose plasticizers, no upward pressure on prices would be expected.<sup>38</sup>

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<sup>28</sup> Tr. at 106 (Frishman).

<sup>29</sup> Tr. at 118 & 120 (Frishman) (noting that BASF’s DINCH is a “true non-phthalate” but has not gained market acceptance due to its higher cost).

<sup>30</sup> Tr. at 107 (Frishman).

<sup>31</sup> Tr. at 108-09 (Frishman).

<sup>32</sup> Tr. at 124 (Frishman). In Respondent’s posthearing submission, it listed \*\*\*. Respondent’s Responses to Commissioners’ Questions, Attachment 1.

<sup>33</sup> Tr. at 108 (Frishman); Respondent’s Responses to Commissioners’ Questions, 7-9 & Exhibit 7.

<sup>34</sup> Tr. at 100 (Cullen).

<sup>35</sup> CR at II-15; PR at II-9.

<sup>36</sup> CR at II-16 PR at II-10.

<sup>37</sup> Tr. at 159 (Winton).

<sup>38</sup> Tr. at 185-86 (Winton).

## II. No Material Injury By Reason of Subject Imports

### a. Volume of Subject Imports

Section 771(7)(C)(i) of the Tariff Act provides that the “Commission shall consider whether the volume of imports of the merchandise, or any increase in that volume, either in absolute terms or relative to production or consumption in the United States, is significant.”<sup>39</sup>

Subject import volume increased by \*\*\* percent, steadily increasing from \*\*\* mt in 2014 to \*\*\* mt in 2016. Nevertheless, because consumption increased by an even higher percentage, subject import market share steadily declined by \*\*\* percentage points, falling from \*\*\* percent in 2014 to \*\*\* percent in 2016.<sup>40</sup> I therefore conclude that the volume of subject imports is significant both in absolute terms and relative to consumption in the United States and that the increase in the volume of subject imports is significant in absolute terms. Nevertheless, I do not find that the volume of cumulated subject imports or any increase in that volume, either absolutely or relative to U.S consumption, warrants an affirmative determination in light of the conditions of competition in this market and my findings concerning a lack of significant price effects and impact, discussed herein.

### b. Price Effects of Subject Imports

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

- (I) there has been significant price underselling by the imported merchandise as compared with the price of domestic like products of the United States, and
- (II) the effect of imports of such merchandise otherwise depresses prices to a significant degree or prevents price increases, which otherwise would have occurred, to a significant degree.<sup>41</sup>

I agree that the domestic like product and subject imports are highly substitutable and that price is important in purchasing decisions.

*Price underselling:* Pricing data for the two pricing products covered \*\*\* shipments of both the domestic like product and subject imports. Subject imports undersold the domestic like product in 20 out of 24 quarterly comparisons. The average margin of underselling in those 20 quarters was 8.2 percent, with the \*\*\* of the period of investigation, when subject import volume from Korea was \*\*\*.<sup>42</sup> There was also predominant underselling when measured by quantity, with \*\*\* mt of subject imports underselling the domestic like product but only \*\*\* mt overselling.<sup>43</sup> While the data show significant underselling of the domestic like product by

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<sup>39</sup> 19 U.S.C. § 1677(7)(C)(i).

<sup>40</sup> CR/PR at Table C-1.

<sup>41</sup> 19 U.S.C. § 1677(7)(C)(ii).

<sup>42</sup> CR/PR at Tables V-3, V-4, V-5, and C-1.

<sup>43</sup> CR/PR at Table V-6.

subject imports from Korea, I do not find, as discussed herein, that subject imports had significant adverse price effects. The underselling did not lead to significant price depression or suppression or to a significant gain in market share by the subject imports at the expense of the domestic industry, and I do not find that subject imports had a significant adverse impact on the domestic industry's condition.

*Price Depression:* Over the period of investigation, the U.S. price of pricing product one declined by \*\*\* percent and the U.S. price of pricing product two declined by \*\*\* percent.<sup>44</sup> Such declines are consistent with financial data showing that the average unit value (AUV) of the domestic industry's commercial sales declined by \*\*\* percent over the period, that the AUV of U.S. producers' net sales declined by \*\*\* percent, and that the AUV of U.S. producers' U.S. shipments declined by \*\*\* percent.<sup>45</sup> Nevertheless, when asked how aware their purchasers were of raw material cost trends, Petitioner's witness answered "very aware" and stated that as raw material costs "fluctuate on a month-to-month basis . . . prices will move up and down generally with those fluctuations in the raw material prices linked to the price of oil so for example as propylene would move up and down, plasticizer prices would generally move up and down with that material."<sup>46</sup> Petitioner clarified that "in some cases customers will buy in on contracts where the pricing is determined by a raw material formula . . . ."<sup>47</sup> It is highly relevant then that pricing indices for raw materials show propylene declining by slightly more than \*\*\* percent over the period of investigation; paraxylene declined by slightly less than \*\*\* percent.<sup>48</sup> Likewise, the AUV of raw materials purchased by the domestic industry declined by \*\*\* percent over the period of investigation.<sup>49</sup> The fact that prices of DOTP and raw material costs fell by almost the same percentage leads me to conclude that it was the indexing of DOTP prices to price movements of raw materials which is responsible for the full magnitude of the declines, and not subject import pricing. This is not surprising as raw materials are an important component of the net value of DOTP, accounting for between \*\*\* and \*\*\* percent of the net sales value.<sup>50</sup> Further evidence of the primacy of raw material trends is that export AUVs realized by the domestic industry declined by \*\*\* percent over the period of investigation<sup>51</sup>—no link to subject imports was argued to explain this similar degree of decline.

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<sup>44</sup> CR/PR at Table V-5.

<sup>45</sup> CR/PR at Tables III-4 & VI-1.

<sup>46</sup> Tr. at 64-65 (Cullen). *See also* Tr. at 31 (Cullen).

<sup>47</sup> Tr. at 65 (Cullen). Petitioner conceded in its posthearing brief that "[a]pproximately \*\*\* of the price decline in DOTP is due to the decline in raw material prices." Petitioner's Posthearing Br. at 12.

<sup>48</sup> CR/PR at Figure V-1.

<sup>49</sup> CR/PR at Table VI-1.

<sup>50</sup> CR/PR at Table VI-1.

<sup>51</sup> CR/PR at Table C-1. It is also interesting that the AUVs of the domestic industry's internal consumption declined from \$\*\*\* in 2014 to \$\*\*\* in 2016, a decline of \*\*\* percent; the volumes of such internally consumed DOTP were small in relation to commercial sales, but there was no argument made that the valuation of such internal consumption had been influenced by subject import pricing. CR/PR at Table VI-1. Another decline of strikingly similar magnitude is found in the AUVs of global exports of products within HS 2917.39 by Korea, which fell from \$1,584 in 2014 to \$923 in 2016, a decline of 41.7

Given the conditions I describe above governing competition between DOTP and the arguably substitutable DINP, it is important to observe that the prices of DINP trended \*\*\* over the period of investigation and ended the period \*\*\* percent lower than at the start.<sup>52</sup> While it not possible to conclude on this record—and I do not argue—that the absolute dollar price of DINP is driven to be equal to the U.S. price of DOTP, I believe this tight correlation in trends nonetheless strengthens the conclusion that it is declines in raw material prices that are ultimately driving the similar price declines of both plasticizers.<sup>53</sup> Petitioners readily agreed that “at some point” price differences between DOTP and DINP would retard DOTP’s ability to continue to attract new customers away from DINP and that DOTP needed to remain “an economically viable choice” to DINP.<sup>54</sup> I find that DINP’s common raw materials, and its role as a limited substitute for DOTP, mean that DOTP’s price trend must closely follow the trend in DINP’s price. This common causality and the disciplining role of the price of a substitute—and the fact that there is no argument on this record that DINP prices were also being depressed by subject imports of DOTP from Korea—leads me to conclude that subject imports likewise had no price depressing effect on DOTP.

*Price Suppression:* While the COGS-to-net-sales ratio increased steadily by \*\*\* percentage points from \*\*\* percent in 2014 to \*\*\* percent in 2016,<sup>55</sup> I find that price increases were unlikely in light of steadily and substantially falling costs. Therefore, I do not find that subject imports prevented price increases that otherwise would have occurred to a significant degree. While it is true that consumption increased substantially (by \*\*\* percent) over the period of investigation, it is also true, as pointed out above, that demand in the overall plasticizer market was characterized as stable and most new demand for DOTP resulted from purchasers switching out of DINP. As was discussed in the price depression section above, Petitioner conceded that “at some point” differences in the prices of DOTP and DINP would begin to affect adversely sales of DOTP and that DOTP needs to remain “an economically viable choice” to DINP.<sup>56</sup> Given the similarly declining price trend of DINP—a product for which no argument of adverse price effects by subject imports was presented—any price increases for DOTP were unlikely despite increasing demand for DOTP.

*Lost Sales/Lost Revenue:* Petitioner argued that its sales team is told by customers that “the source of competitive bids are Korean producers or U.S. importers selling Korean

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percent. CR/PR at Table VII-5. That this six-digit HS category is over-inclusive, containing out-of-scope merchandise, means that the data are of limited probative value.

<sup>52</sup> Respondent’s Prehearing Br. at Attachment 1. The reported price of DINP declined from \*\*\* cents per pound at the start of 2014 to \*\*\* cents per pound at the end of 2016. I recognize that Petitioner has challenged the reliability of this data. Petitioner’s Posthearing Br. at 4-5. I note that the Commission has relied on ICIS data in the past and, for the limited purposes for which I am citing it, I find it to be sufficiently reliable.

<sup>53</sup> As the \*\*\* Respondents’ Responses to Commissioners’ Questions, Exhibit 3.

<sup>54</sup> Tr. at 80 (Gouveia).

<sup>55</sup> CR/PR at Table C-1.

<sup>56</sup> Tr. at 80 (Gouveia).

product.”<sup>57</sup> Petitioner also stated that it has made “repeated price reductions in direct response to Korean competitive pricing.”<sup>58</sup> Nevertheless, evidence was not presented to substantiate directly these claims; no communications were presented between Eastman and its purchasers citing competing Korean prices and seeking concessions in response. When asked about purchasing patterns over the period, \*\*\* of \*\*\* responding purchasers reported shifting purchases in one direction or the other and of those \*\*\*, \*\*\* reported purchasing more domestic product and less subject imports and \*\*\* reported purchasing more subject imports and less domestic product; in the aggregate, these shifts saw \*\*\* subject imports purchased (\*\*\* of \*\*\* percent) and \*\*\* domestic product purchased (\*\*\* of \*\*\* percent).<sup>59</sup> I do not find this to be persuasive evidence supporting a shift toward subject imports.

On the question of whether they had purchased subject imports instead of domestic product, of the \*\*\* purchasers responding, \*\*\* purchasers agreed; of those \*\*\*, \*\*\* agreed that subject imports are lower priced and \*\*\* further agreed that they had purchased subject imports primarily because of lower prices.<sup>60</sup> The aggregate quantity of subject imports purchased by those \*\*\* purchasers under these stated conditions totaled \*\*\* tons, \*\*\* percent of total subject import volume reported over the period of investigation.<sup>61</sup> A most striking aspect of this record is that, while lost sales are alleged and some arguably confirmed, the domestic industry does not appear to have any necessarily lost sales as the domestic industry’s production, U.S. shipments, and—most importantly—U.S. market share increased steadily over the period. As the domestic industry’s market share increased by \*\*\* percentage points, the domestic industry’s capacity utilization \*\*\* by \*\*\* percentage points, reaching \*\*\* percent—in 2016.<sup>62</sup> It appears that whatever sales might have been lost to subject imports were more than made up for by the domestic industry’s gain of sales elsewhere.

With respect to lost revenues, \*\*\* of the \*\*\* responding purchasers indicated that Eastman had to reduce prices in response to subject import competition and \*\*\* of those offered an estimate of the magnitude of U.S. price reductions; \*\*\* of these \*\*\* estimates were \*\*\*.<sup>63</sup> In circumstances where the U.S. prices of the two pricing products declined by \*\*\* percent and \*\*\* percent, respectively, it does not appear that subject imports accounted for

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<sup>57</sup> Tr. at 20 (Gouveia). See also Tr. at 32 (Cullen).

<sup>58</sup> Tr. at 25 (Parker). See also Tr. at 40 (O’Brien).

<sup>59</sup> CR/PR at Table V-7.

<sup>60</sup> CR/PR at Table V-8.

<sup>61</sup> CR/PR at Tables V-8 and C-1.

<sup>62</sup> CR/PR at Table C-1.

<sup>63</sup> CR/PR at Table V-9. The two highest estimates were offered by: (1) \*\*\* (estimating a \*\*\* percent reduction, truly an outlier), which reported that it had nevertheless switched its purchases in favor of domestic producers over the period by \*\*\* percent (while decreasing subject import purchases by the same percentage) and (2) \*\*\* a purchaser that, despite not having purchased subject imports during the period of investigation, offered a \*\*\* from 2014 to 2016. The third highest estimate (\*\*\* percent) was also reported by a purchaser that did not purchase subject imports over the period, (\*\*\*), and termed its estimate of price reduction as an \*\*\*. CR/PR at Tables V-7, V-8 & V-9. Thus, the most reliable estimates ranged from \*\*\* percent to \*\*\* percent: (in order of increasing estimate) \*\*\*. CR/PR at Table V-9.



more than a trivial amount of the price reduction.<sup>64</sup> This conclusion is bolstered by responses on price leadership, in which only 2 of 18 responding purchasers mentioned a Korean company.<sup>65</sup>

Finally, a comparison by purchasers of prices between U.S.-produced and imported product shows that of 15 responding purchasers, fully 14 believed either that U.S. and Korean prices were comparable (13) or that U.S. prices were lower than Korean prices (1); only 1 purchaser out of 15 believed that Korean prices were lower.<sup>66</sup>

In conclusion, despite predominant underselling, it appears that all but a trivial amount of the price decline experienced by domestic producers is attributable to the strong tendency of the U.S. price to closely follow trends in raw material costs. Negotiations in which purchasers sought indexed reductions in the price of DOTP based on well-known raw material cost reductions led to parallel declines in both. Despite rising U.S. demand for DOTP, the domestic industry was unable to take advantage of this to obtain price increases because increased DOTP demand was largely being drawn away from the consumption of a closely related substitute product, DINP, the price of which was also closely tracking similarly declining raw material costs. Petitioner admitted that the price differential between DOTP and DINP needed to remain fairly close for DOTP to remain an economically viable alternative. Nor did the domestic industry lose sales to subject imports; on the contrary, the domestic industry gained \*\*\* market share over the period, an unusual occurrence for a petitioner. Limited anecdotal evidence of revenues lost to subject import competition point to very small price concessions that account for an insignificant portion of the much larger price declines observed. Finally, the vast majority of purchasers perceived domestic producer and subject import prices to be comparable. Therefore, I do not find that subject imports had significant price depressing or suppressing effects on the prices of the domestic like product.

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<sup>64</sup> \*\*\* stated that domestic producers and subject imports were \*\*\*; \*\*\* stated that based on \*\*\* subject imports were lower priced; \*\*\* stated that \*\*\*; and \*\*\* stated only that there had been \*\*\*. CR/PR at Table V-9.

<sup>65</sup> CR at V-7; PR at V-4. Although two other purchasers mentioned \*\*\*, it is unclear whether its identification as a price leader referenced \*\*\*.

<sup>66</sup> CR/PR at Table II-8.

### c. Impact of Subject Imports<sup>67</sup>

Section 771(7)(C)(iii) of the Tariff Act provides that examining the impact of subject imports, the Commission “shall evaluate all relevant economic factors which have a bearing on the state of the industry.”<sup>68</sup> These factors include output, sales, inventories, capacity utilization, market share, employment, wages, productivity, gross profits, net profits, operating profits, cash flow, return on investment, return on capital, ability to raise capital, ability to service debts, research and development, and factors affecting domestic prices. No single factor is dispositive and all relevant factors are considered “within the context of the business cycle and conditions of competition that are distinctive to the affected industry.”<sup>69</sup>

The domestic industry experienced strong increases in production capacity,<sup>70</sup> production quantity,<sup>71</sup> capacity utilization,<sup>72</sup> U.S. shipment quantity,<sup>73</sup> and net sales quantity<sup>74</sup> due to the increasing U.S. demand for DOTP. Employment measures also showed broad improvement.<sup>75</sup> The domestic industry’s market share also improved steadily by \*\*\* percentage points, from

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<sup>67</sup> The statute instructs the Commission to consider the “magnitude of the dumping margin” in an antidumping proceeding as part of its consideration of the impact of imports. 19 U.S.C. § 1677(7)(C)(iii)(V). In its final determination of sales at less value, Commerce found antidumping duty margins of 2.71 for LG Chem, Ltd.; 4.08 percent for Aekyung Petrochemical Co., Ltd.; and 3.69 percent for all others. *Diocetyl Terephthalate From the Republic of Korea: Final Determination of Sales at Less Than Fair Value and Final Negative Determination of Critical Circumstances*, 82 Fed. Reg. 28824, 28825 (June 26, 2017). I take into account in my analysis the fact that Commerce has made final findings that all subject producers in Korea are selling subject imports in the United States at less than fair value. In addition to this consideration, my impact analysis has considered other factors affecting domestic prices.

<sup>68</sup> 19 U.S.C. § 1677(7)(C)(iii); *see also* SAA at 851 and 885 (“In material injury determinations, the Commission considers, in addition to imports, other factors that may be contributing to overall injury. While these factors, in some cases, may account for the injury to the domestic industry, they also may demonstrate that an industry is facing difficulties from a variety of sources and is vulnerable to dumped or subsidized imports.”).

<sup>69</sup> 19 U.S.C. § 1677(7)(C)(iii). This provision was amended by the Trade Preferences Extension Act of 2015, Pub. L. 114-27.

<sup>70</sup> Capacity increased steadily by \*\*\* percent from \*\*\* mt in 2014 to \*\*\* mt in 2016. CR/PR at Table C-1.

<sup>71</sup> Production increased steadily by \*\*\* percent from \*\*\* mt in 2014 to \*\*\* mt in 2016. CR/PR at Table C-1.

<sup>72</sup> Capacity utilization increased steadily by \*\*\* percentage points from \*\*\* percent in 2014 to \*\*\* percent in 2016. CR/PR at Table C-1.

<sup>73</sup> U.S. shipments increased steadily by \*\*\* percent from \*\*\* mt in 2014 to \*\*\* mt in 2016. CR/PR at Table C-1.

<sup>74</sup> Net sales increased steadily by \*\*\* percent from \*\*\* mt in 2014 to \*\*\* mt in 2016. CR/PR at Table C-1.

<sup>75</sup> PRWs were unchanged from 2014 to 2016 at \*\*\*; hours worked increased by \*\*\* percent from \*\*\* in 2014 to \*\*\* in 2016; wages paid increased by \*\*\* percent from \$\*\*\* in 2014 to \$\*\*\* in 2016, and productivity improved by \*\*\* percent from \*\*\* mt/hour in 2014 to \*\*\* mt/hour in 2016. CR/PR at Table C-1.

\*\*\* percent in 2014 to \*\*\* percent in 2016.<sup>76</sup> Although inventories increased on an absolute basis, they declined as a share of total shipments by the domestic industry.<sup>77</sup>

Eastman's capital expenditures and research and development expenses showed declining trends<sup>78</sup> and, despite the fact that Eastman's production capacity steadily increased over the period by \*\*\* percent,<sup>79</sup> Eastman \*\*\*.<sup>80</sup> I note, however, that the declines in capital and R&D expenditures were \*\*\* when compared to the \$\*\*\* expenditure made by BASF as it establishes its production facility in Texas, which was expected to have already begun production by the time of the Commission's determination.<sup>81</sup> Such a major investment, coming at the same time that Eastman is operating \*\*\*, leads me to discount the significance of the domestic industry's declining investment trends.<sup>82</sup>

The domestic industry's operating income margin was an exception to this improvement, capturing as it does declines in prices realized by the domestic industry. The operating margin declined steadily by \*\*\* percentage points, from \*\*\* percent in 2014 to \*\*\* percent in 2016.<sup>83</sup> I find that this decline in financial performance is a direct result of U.S. prices of DOTP being indexed to raw material costs and having to decline in lock-step with such costs. Referring to Eastman's financial performance, it is clear that the AUVs of commercial sales and raw materials declined by the same \*\*\* percent and that, even with a slight improvement in other unit costs, this coincidence inevitably dragged down the domestic industry's operating income margin.<sup>84</sup>

I find that the predominant source of the adverse trend in the domestic industry's financial performance has been that its unit revenues are being forced, through concessions to purchaser demands, to decline at the same rate as its unit raw material costs (and by the presence in the market of a plausible substitute product the price of which has declined by the

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<sup>76</sup> CR/PR at Table C-1.

<sup>77</sup> Inventories increased irregularly by \*\*\* percent, from \*\*\* mt in 2014 to \*\*\* mt in 2016. The inventories-to-total-shipments ratio, however, declined irregularly by \*\*\* percentage points over the period, from \*\*\* percent in 2014 to \*\*\* percent in 2017. CR/PR at Table C-1.

<sup>78</sup> Capital expenditures declined irregularly over the period by \*\*\* percent, from \$\*\*\* in 2014 to \$\*\*\* in 2016. R&D expenses declined steadily by \*\*\* percent, from \$\*\*\* in 2014 to \$\*\*\* in 2016.

<sup>79</sup> CR/PR at Table C-1. The domestic industry's production capacity increased from \*\*\* mt in 2014 to \*\*\* mt in 2016.

<sup>80</sup> CR/PR at Table VI-7.

<sup>81</sup> CR at VI-10; PR at VI-4.

<sup>82</sup> \*\*\*. \*\*\* U.S. producer questionnaire, at Q I-3.

<sup>83</sup> CR/PR at Table C-1. I note that the margin of underselling by subject imports is inversely correlated with the domestic industry's operating income margin. When the subject import underselling margin (and the subject import market share) was clearly at its highest levels, the domestic industry's operating margin was also at its highest. CR/PR at Tables V-3, V-4, & C-1.

<sup>84</sup> CR/PR at Table VI-1. "Other unit costs" encompass (1) direct labor, (2) other factory costs, and (3) SG&A expenses. (Thus, operating income equals the AUV of net sales minus unit raw material costs and other unit costs.) Over the period, the domestic industry's other unit costs actually improved, declining by \*\*\* percent, from \$\*\*\* in 2014 to \$\*\*\* in 2016.

same percentage). Considering, therefore, that I have previously concluded the role of subject imports in this process of price adjustment to be—at most—minimal, I am unable to conclude that subject imports have had an impact on the domestic industry producing DOTP.

### III. No Threat of Material Injury By Reason of Subject Imports

#### A. Legal Standard

Section 771(7)(F) of the Tariff Act directs the Commission to determine whether the domestic industry is threatened with material injury by reason of the subject imports by analyzing whether “further dumped or subsidized imports are imminent and whether material injury by reason of imports would occur unless an order is issued or a suspension agreement is accepted.”<sup>85</sup> The Commission may not make such a determination “on the basis of mere conjecture or supposition,” and considers the threat factors “as a whole” in making its determination whether dumped or subsidized imports are imminent and whether material injury by reason of subject imports would occur unless an order is issued.<sup>86</sup> In making our determination, we consider all statutory threat factors that are relevant to these investigations.<sup>87</sup>

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<sup>85</sup> 19 U.S.C. § 1677(7)(F)(ii).

<sup>86</sup> 19 U.S.C. § 1677(7)(F)(ii).

<sup>87</sup> These factors are as follows:

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

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

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

(V) inventories of the subject merchandise,

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

...

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

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

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

### a. Likely Volume of Subject Imports

As discussed above, I have found the volume of cumulated subject imports to be significant during the period of investigation. Nevertheless, I also found that the significant subject import volume did not injure the domestic industry.

As detailed above in the material injury section on volume, while subject imports from Korea increased by \*\*\* percent over the period,<sup>88</sup> consumption increased by even more and the domestic industry actually gained market share at the same time that subject imports lost market share. There are two additional important factors, both associated with the impending debut of a second domestic producer, BASF, that lead me to conclude that likely volume will not be significantly higher in the imminent future. The first is that BASF has been \*\*\*.<sup>89</sup> In 2016, \*\*\*.<sup>90</sup> BASF's explanation \*\*\*.<sup>91</sup> BASF expected to begin production of DOTP in \*\*\* with an initial production capacity of \*\*\* mt.<sup>92</sup> Not only will this new production capacity likely \*\*\*,<sup>93</sup> but it will also likely reduce subject imports generally as this new capacity \*\*\* the current volume of subject imports.

The Commission received a good questionnaire response rate from the Korean industry; although one Korean producer of DOTP did not respond to the Commission's questionnaire, the coverage of the Korean industry was nonetheless high, accounting for \*\*\* percent of U.S. imports from Korea and about \*\*\* percent of Korean production.<sup>94</sup> The data reported by the Korean industry show that, although the Korean industry was export-oriented during the period,<sup>95</sup> its capacity utilization increased irregularly over the period, rising to a high level—\*\*\* percent—in 2016.<sup>96</sup> Also, despite the fact that the capacity of the Korean industry increased by \*\*\* percent over the period,<sup>97</sup> production increased even more rapidly, resulting in lower

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(VIII) and (IX) are discussed in the analysis of impact. Statutory factors (I) concerning countervailable subsidies and (VII) concerning agricultural products are inapplicable to this investigation.

<sup>88</sup> The percentage increase in subject imports between 2014 and 2015 (\*\*\* percent) was larger than the increase between 2015 and 2016 (\*\*\* percent). CR/PR at Table C-1.

<sup>89</sup> CR/PR at Table IV-1. See also Respondent's Responses to Commissioners' Questions, at 6.

<sup>90</sup> CR/PR at Table IV-1.

<sup>91</sup> \*\*\* U.S. importer questionnaire, at Q II-4.

<sup>92</sup> \*\*\* U.S. producer questionnaire, at Q II-3c.

<sup>93</sup> \*\*\* U.S. importer questionnaire, at Q II-4.

<sup>94</sup> CR/PR at VII-3 & n.4.

<sup>95</sup> The export orientation of the Korean industry increased irregularly over the period by \*\*\* percentage points, from \*\*\* percent in 2014 to \*\*\* percent in 2016. Responding Korean producers expected their export orientation to decline to \*\*\* percent in 2017. CR/PR at Table VII-3.

<sup>96</sup> Capacity utilization by the Korean industry increased irregularly from \*\*\* percent in 2014 to \*\*\* percent in 2016. Responding Korean producers expected capacity utilization to decline to \*\*\* percent in 2017. CR/PR at Table VII-3.

<sup>97</sup> Korean production capacity increased steadily from \*\*\* mt in 2014 to \*\*\* mt in 2016. CR/PR at Table VII-3.

excess capacity over the period.<sup>98</sup> Inventories held by subject foreign producers declined steadily both absolutely and as a share of the Korean industry's total shipments.<sup>99</sup> For Korean industry exports, the U.S. market is second in importance only to China;<sup>100</sup> nevertheless the United States was the destination for at most \*\*\* percent of the Korean industry's production.<sup>101</sup> While there are no existing antidumping or countervailing duty orders on DOTP from Korea in effect anywhere in the world, there is an ongoing antidumping investigation in Turkey on DOTP from Korea.<sup>102</sup> The data on the Korean industry therefore confirms that, while it is indeed growing, the U.S. and global market for DOTP is growing even faster, meaning that there is comparatively low excess capacity in Korean and that promising third-country markets for Korean exports remain.

I therefore find that the increase in subject import volume during the period does not indicate a likelihood of any significant increase in subject import volume in the imminent future. Further, the record indicates that increases in subject imports did not result in declines in the domestic industry's output or market share. There is no evidence in the record that these trends will change in the imminent future.

#### **b. Likely Price Effects of Subject Imports**

In my discussion above, I found that underselling by subject imports was prevalent. However, I also found that notwithstanding the increasing volume of subject imports and underselling by those imports during the period of investigation, the subject imports did not have a significant adverse effect on prices for the domestic like product and the domestic industry has not been materially injured by reason of the subject imports. Even if there is some increase in the volumes of low-priced subject imports entering the U.S. market in the imminent future in light of increasing demand, nothing in the record indicates that subject imports will likely depress or suppress domestic prices.

Further, there are indications that after declining steeply throughout 2015, prices for raw materials gradually stabilized in 2016.<sup>103</sup> This should lead to less downward price pressure on the domestic industry in the imminent future. Consistent with this observation, petitioner

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<sup>98</sup> Excess capacity declined by \*\*\* percent over the period, from \*\*\* mt in 2014 to \*\*\* mt in 2016. Responding Korean producers expected excess capacity to increase to \*\*\* mt in 2017. CR/PR at Table VII-3. In 2016, Korean excess capacity would have been equivalent to \*\*\* percent of U.S. consumption. CR/PR at Tables VII-3 and C-1.

<sup>99</sup> CR/PR at Table VII-3. Inventories held by Korean producers declined by \*\*\* percent, from \*\*\* mt in 2014 to \*\*\* mt. As a share of total shipments, these inventories declined from \*\*\* percent in 2014 to \*\*\* percent in 2016.

<sup>100</sup> CR/PR at Table VII-5. This table reports Korean exports of products within HS 2917.39, a broader category than only in-scope DOTP. The table also shows that the four leading destinations for the Korean industry in the European Union (Italy, Spain, the Netherlands, and Belgium) cumulatively account for more export volume than the U.S. market.

<sup>101</sup> CR/PR at Table VII-3.

<sup>102</sup> CR/PR at Table VII-8.

<sup>103</sup> CR/PR at Figure V-1.

reported that it was able to obtain a price increase near the end of the period in September 2016.<sup>104</sup> There was also a significant narrowing of the underselling margins for the two pricing products over the period; for pricing product one, underselling switched to overselling in all quarters of 2016.<sup>105</sup>

I consequently find that imports of the subject merchandise are unlikely to enter at prices that are likely to have a significant depressing or suppressing effect on domestic prices or to increase demand for further imports.

### **c. Likely Impact of Subject Imports**

As I discussed above, the domestic industry has experienced declines in operating income levels, but I have found no significant causal relationship between the subject imports and the domestic industry's performance during the period. Nothing in the record of this investigation gives me reason to believe that any further deterioration of the condition of the domestic industry will be by reason of the subject imports in the imminent future.

As detailed above in the likely price effects section, raw material prices began to stabilize at the end of the period of investigation, leading to the domestic industry being able to obtain a price increase for its DOTP in September 2016. As I have found that it was downward pricing pressures resulting from declining raw material costs that led to the decline in the domestic industry's financial performance, I therefore conclude that stabilization of raw material costs in the imminent future will also lead to relief from the domestic industry's financial challenges.

I further find that subject imports have had no significant actual or 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.<sup>106</sup>

In view of the foregoing, I conclude that an industry in the United States is not threatened with material injury by reason of subject imports.

## **IV. Conclusion**

For the reasons stated above, I determine that an industry in the United States is not materially injured or threatened with material injury by reason of subject imports of DOTP from Korea that are sold in the United States at less than fair value.

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<sup>104</sup> Tr. at 66 (Cullen and Clark).

<sup>105</sup> CR/PR at Tables V-3 & V-4.

<sup>106</sup> As detailed above in the likely volume section, while Eastman has shown some negative trends in capital expenditures and R&D expenses, and has claimed that the impact of subject imports has \*\*\*, the capital expenditures that have been made by BASF \*\*\*.





## PART I: INTRODUCTION

### BACKGROUND

This investigation results from a petition filed with the U.S. Department of Commerce (“Commerce”) and the U.S. International Trade Commission (“USITC” or “Commission”) by Eastman Chemical Company (“Eastman”), Kingsport, Tennessee, on June 30, 2016, 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 dioctyl terephthalate (“DOTP”)<sup>1</sup> from Korea. The following tabulation provides information relating to the background of this investigation.<sup>2 3</sup>

Effective date	Action
June 30, 2016	Petition filed with Commerce and the Commission; institution of the Commission's investigation (81 FR 44329, July 7, 2016)
July 20, 2016	Commerce's notice of initiation (81 FR 49628, July 28, 2016)
August 16, 2016	Commission's preliminary determination (81 FR 55482, August 19, 2016)
February 3, 2017	Commerce's preliminary determination (82 FR 9195)
February 3, 2017	Scheduling of final phase of Commission investigation (82 FR 12841, March 7, 2017)
April 12, 2017	Correction; Scheduling of final phase of Commission investigation (82 FR 17691, April 12, 2017)
June 19, 2017	Commerce's final determination (82 FR 28824, June 26, 2017)
June 13, 2017	Commission's hearing
July 20, 2017	Commission's vote
August 2, 2017	Commission's views

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<sup>1</sup> See the section entitled “The Subject Merchandise” in *Part I* of this report for a complete description of the merchandise subject in this proceeding.

<sup>2</sup> Pertinent *Federal Register* notices are referenced in appendix A, and may be found at the Commission's website ([www.usitc.gov](http://www.usitc.gov)).

<sup>3</sup> A list of witnesses appearing at the hearing is presented in appendix B of this report.

## STATUTORY CRITERIA AND ORGANIZATION OF THE REPORT

### Statutory criteria

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

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

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

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

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

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

### Organization of report

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

### MARKET SUMMARY

DOTP is a colorless, almost odorless, slightly viscous liquid that is used to make resins more flexible and easier to process as plastics. The only known U.S. producer of DOTP is Eastman,<sup>5 6</sup> while the only known producers of DOTP in Korea are Aekyung Petrochemical Co., Ltd. (“Aekyung”), Hanwha Chemical (“Hanwha”), and LG Chem, Ltd. (“LG Chem”). The leading U.S. importers of DOTP from Korea are \*\*\*. Leading importers of product from non-subject countries (primarily China and Mexico) include \*\*\*. U.S. purchasers of DOTP are firms that

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

<sup>5</sup> BASF, based in New Jersey, announced in October 2015 that it would convert a BASF facility in Pasadena, Texas, from production of phthalate plasticizers to production of DOTP. \*\*\*. BASF, “BASF to Produce Palatinol® DOTP in North America,” October 28, 2015; BASF, “BASF CPN Pasadena, Texas Fact Sheet,” n.d., <https://www.basf.com/documents/us/en/Fact-Sheets/PasadenaCPN-Texas-SiteFactSheet.pdf>; \*\*\* U.S. producer questionnaire response, section II-2.

<sup>6</sup> Staff requested information on any other known producers of DOTP in North America. Both Eastman and ALAC responded that they were unaware of any other producers of DOTP in North America. However, based on publicly available information and data collected through questionnaire responses, importer \*\*\*. Petitioner’s posthearing brief, exh. 5, p. 4; Respondent’s posthearing brief, p .5; Mexichem Specialty Compounds, <http://www.mexichemspecialtycompounds.com/technologies/plasticizers> , accessed June 22, 2017; Mexichem Specialty Compound’s importer questionnaire response, section I-5.

produce polyvinyl chloride (“PVC”) flooring, PVC compounds, hoses, toys, and other plastic products; leading purchasers include \*\*\*.

Apparent U.S. consumption of DOTP totaled approximately \*\*\* metric tons (\$\*\*\*) in 2016. The U.S. producer’s U.S. shipments of DOTP totaled \*\*\* metric tons (\$\*\*\*) in 2016, and accounted for \*\*\* percent of apparent U.S. consumption by quantity and \*\*\* percent by value. U.S. shipments of imports from Korea totaled \*\*\* metric tons (\$\*\*\*) in 2016 and accounted for \*\*\* percent of apparent U.S. consumption by quantity and \*\*\* percent by value. U.S. shipments of imports from nonsubject sources totaled \*\*\* metric tons (\$\*\*\*) in 2016 and accounted for \*\*\* percent of apparent U.S. consumption by quantity and \*\*\* percent by value.

### **SUMMARY DATA AND DATA SOURCES**

A summary of data collected in this investigation is presented in appendix C, table C-1. Except as noted, U.S. industry data are based on Eastman’s questionnaire response, which accounted for all known U.S. production of DOTP during 2016. U.S. imports are based on the questionnaire responses of 21 importers that accounted for \*\*\* percent of imports of subject DOTP in 2016. Foreign industry data are based on the questionnaire responses of two firms. According to estimates requested of the responding Korean producers, the reported production of these firms accounts for the vast majority (approximately \*\*\* percent) of overall production of DOTP in Korea. Questionnaire responses from two Korean producers show that their exports to the United States were equivalent to approximately \*\*\* percent of U.S. imports of subject merchandise in 2016.

### **PREVIOUS AND RELATED INVESTIGATIONS**

DOTP has not been the subject of any prior countervailing or antidumping duty investigations in the United States.

### **NATURE AND EXTENT OF SALES AT LTFV**

#### **Sales at LTFV**

On February 3, 2017, Commerce published a notice in the *Federal Register* of its preliminary determination of sales at LTFV with respect to imports from Korea.<sup>7</sup> On June 26, 2017, Commerce published a notice in the *Federal Register* of its final determination of sales at LTFV and its negative determination of critical circumstances with respect to imports of DOTP

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<sup>7</sup> *Diocetyl Terephthalate From the Republic of Korea: Affirmative Preliminary Determination of Sales at Less Than Fair Value, Negative Preliminary Determination of Critical Circumstances, and Postponement of Final Determination*, 82 FR 9195, February 3, 2017.

from Korea.<sup>8</sup> Table I-1 presents Commerce’s dumping margins with respect to imports of product from Korea.

**Table I-1**  
**DOTP: Commerce’s preliminary and final weighted-average LTFV margins with respect to imports from Korea**

Exporter	Producer	Preliminary dumping margin (percent)	Final dumping margin (percent)
Aekyung Petrochemical Co. Ltd.	Aekyung Petrochemical Co. Ltd.	3.96	4.08
LG Chem, Ltd.	LG Chem, Ltd.	5.75	2.71
All others		4.47	3.69

Source: 82 FR 9195, February 3, 2017; 82 FR 28824, June 26, 2017.

## THE SUBJECT MERCHANDISE

### Commerce’s scope

Commerce has defined the scope of this investigation as follows:<sup>9</sup>

*The merchandise covered by this investigation is dioctyl terephthalate (DOTP), regardless of form. DOTP that has been blended with other products is included within this scope when such blends include constituent parts that have not been chemically reacted with each other to produce a different product. For such blends, only the DOTP component of the mixture is covered by the scope of this investigation.*

*DOTP that is otherwise subject to this investigation is not excluded when commingled with DOTP from sources not subject to this investigation. Commingled refers to the mixing of subject and nonsubject DOTP. Only the subject component of such commingled products is covered by the scope of the investigation.*

*DOTP has the general chemical formulation  $C_6H_4(C_8H_{17}COO)_2$  and a chemical name of “bis (2-ethylhexyl) terephthalate” and has a Chemical Abstract Service (CAS) registry number of 6422–86–2. Regardless of the label, all DOTP is covered by this investigation.*

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<sup>8</sup> *Dioctyl Terephthalate From the Republic of Korea: Final Determination of Sales at Less Than Fair Value and Final Negative Determination of Critical Circumstances*, 82 FR 28824, June 26, 2017.

<sup>9</sup> *Dioctyl Terephthalate From the Republic of Korea: Final Determination of Sales at Less Than Fair Value and Final Negative Determination of Critical Circumstances*, 82 FR 28824, June 26, 2017.

*Subject merchandise is currently classified under subheading 2917.39.2000 of the Harmonized Tariff Schedule of the United States (HTSUS). Subject merchandise may also enter under subheadings 2917.39.7000 or 3812.20.1000 of the HTSUS. While the CAS registry number and HTSUS classification are provided for convenience and customs purposes, the written description of the scope of this investigation is dispositive.*

### **Tariff treatment<sup>10</sup>**

Based upon the scope set forth by Commerce, information available to the Commission indicates that the merchandise subject to this investigation is classifiable under subheading 2917.39.20 (“Plasticizers of aromatic polycarboxylic acids, their anhydrides, halides, peroxides, peroxyacids and their derivatives”). The 2017 general rate of duty for this subheading is 6.5 percent ad valorem. The import duty applicable to goods originating in Korea was phased out as provided under the U.S.-Korea Free Trade Agreement. When properly claimed by the importer, the applicable duty on goods originating in Korea is free, effective on and after March 15, 2012. Subject merchandise may also be imported under subheadings 2917.39.70 (“Other aromatic polycarboxylic acids and their derivatives”) or 3812.20.10 (“Compound plasticizers for rubber or plastics, containing any aromatic or modified aromatic plasticizer”). The 2017 general rate of duty for these subheadings is also 6.5 percent ad valorem, and goods originating in Korea are eligible to be imported free of duty, pursuant to the U.S.-Korea Free Trade Agreement.

## **THE PRODUCT**

### **Description and applications**

DOTP is a colorless, almost odorless, slightly viscous liquid that is used to make resins more flexible and easier to process as plastics. It is a synthetic organic chemical and part of a group of chemical products, known as plasticizers, that perform this role in the manufacturing of plastics.

There are dozens of plasticizers (and an even greater number of formulations that contain a blend of plasticizers) available for commercial use, and the decision to use a particular plasticizer is influenced by the physical-chemical interaction of the plasticizer with the resin (primarily PVC resins in the U.S. market);<sup>11</sup> the desired performance characteristics of the

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<sup>10</sup> Decisions on the tariff classification and treatment of imported goods are within the authority of U.S. Customs and Border Protection.

<sup>11</sup> Structural factors that govern compatibility or miscibility, especially molecular size, shape, and polarity, are involved. The solvency and compatibility of a plasticizer with a resin are usually directly related. Primary plasticizers, which rate high for solvency and compatibility, will resist separation from

*(continued...)*

finished product, ranging from stiff to soft; material cost; and the ease and speed of processing.<sup>12</sup> Frequently, a specifically formulated plasticizer will be used to fulfill detailed, unique requirements in the production process or the final product. Table I-2 below lists the most common groups of plasticizers, select products, U.S. producers, and uses within those groups.

Plasticizers can be divided into two groups: phthalates (also called ortho-phthalates) and non-phthalates (also but infrequently called para-phthalates).<sup>13</sup> The “ortho-“ and “para-“ prefixes refer to the plasticizer’s molecular structure, which has a direct relationship to the likelihood that the plasticizer may become separated from the plastic and be a health risk, particularly for children. For example, the plasticizers di-2-ethylhexyl phthalate (DEHP) and DOTP have the same chemical formula (C<sub>24</sub>H<sub>38</sub>O<sub>4</sub>), but their structural differences make DEHP a phthalate plasticizer and DOTP a non-phthalate plasticizer (fig. I-1).<sup>14</sup>

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(...continued)

the resin by heat, liquid extraction, or physical contact. Secondary plasticizers have low solvency and compatibility, and a gradual material separation will take place. \*\*\*.

<sup>12</sup> \*\*\*.

<sup>13</sup> Petition, p. 1.

<sup>14</sup> Grupa Azoty, “Plasticizers: What’s the Difference Between DEHT and DEHP,” October 26, 2015, <http://oxoplast.com/en/plasticizers-what-is-the-difference-between-deht-and-dehp/>.

**Table I-2**  
**DOTP: Plasticizers, by type, product, U.S. producer, and use**

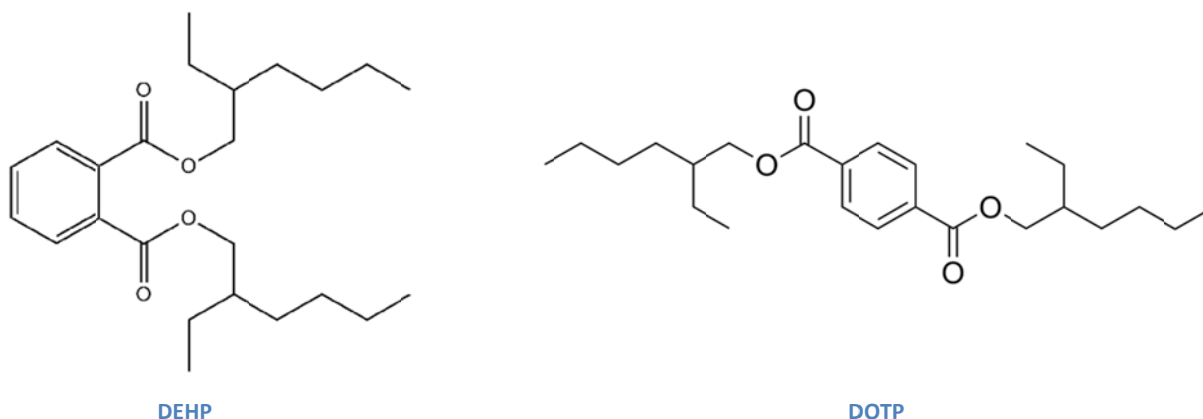
Type	Sample products <sup>1</sup>	U.S. producers	Uses
Nonphthalates	DOTP, DBT	Eastman	Automotive, flooring, hoses, flexible PVC
Aliphatics	DOA/DEHA, DTDA, DINA, DIDA, TEG	BASF, Eastman, ExxonMobil Chemical, Hallstar, Lanxess, Teknor Apex, Vertellus Specialties	Food film applications, outdoor exposure, high temperatures
Benzoates	Dipropylene glycol dibenzoate, diethylene glycol dibenzoate	Eastman, Emerald Performance Materials, ExxonMobil Chemical, Lanxess	Adhesives, caulks, sealants
Citrates	ATBC, TEC	Lanxess, Vertellus Specialties	Cosmetics, PVC
Epoxidized vegetable oils	ESO, ELO	Arkema, Galata Chemicals, Hallstar, Valtris Specialty Chemicals	Food packaging
Halogenated hydrocarbons	---	Chevron Phillips Chemical	Secondary
Hydrocarbons	Naphthenic	ExxonMobil Chemical	Secondary
Phosphates	Triaryl phosphates, alkyl diaryl phosphates	ICL-IP America	Flame retardation
Phthalates	DEHP/DOP, DINP, DIDP, DPHP, DTDP, BBP	BASF, ExxonMobil Chemical, Hallstar, Teknor Apex, Vertellus Specialties	General all-purpose
Polyglycols	PEG	Dow	Adhesives, ceramics, paper products
Trimellitates	TOTM, TINTM, L79TM, L810TM	Eastman, ExxonMobil Chemical, Hallstar, Lanxess, Teknor Apex, Vertellus Specialties	PVC wire insulation, automobile interiors

<sup>1</sup> Sample products by general chemical name, not commercial name. The following acronyms are used: ATBC – Acetyltributylcitrate; BBP – Benzylbutylphthalate; DBT -- Dibutyl Terephthalate; DEHA -- Bis(2-Ethylhexyl) adipate; DEHP -- Bis(2-ethylhexyl) phthalate; DIDA -- Diisodecyl adipate; DIDP -- Diisodecyl phthalate; DINA -- Diisononyl adipate; DINP -- Diisononyl phthalate; DOA -- Bis(2-Ethylhexyl) adipate; DOP -- Bis(2-Ethylhexyl) phthalate; DOTP -- Dioctyl terephthalate; DPHP -- Di(2-propylheptyl) phthalate; DTDA – Ditridecyl adipate; DTDP -- Diisotridecyl phthalate; ELO -- Epoxidized linseed oil; ESO -- Epoxidized soybean oil; L79TM -- L7,9-trimellitate; L810TM -- L8,10-trimellitate; PEG -- Poly(ethylene glycol); TEC -- Triethyl citrate; TEG -- Triethylene glycol; TINTM – Triisononyl trimellitate; TOTM -- Tris (2-Ethylhexyl) trimellitate.

Source: \*\*\*, Arkema, “Vikoflex<sup>®</sup> Epoxidized Vegetable Oils,” <http://www.arkema-america.com/en/products/product-portal/range-viewer/Vikoflex-epoxidized-vegetable-oils/>; BASF, “Plasticizers,” [http://www.plasticizers.basf.com/portal/5/en/dt.jsp?setCursor=1\\_221766&page=plasticizers](http://www.plasticizers.basf.com/portal/5/en/dt.jsp?setCursor=1_221766&page=plasticizers); Chevron Phillips Chemical, “Specialty Chemicals,” <http://www.cpchem.com/bl/nao/en-us/Pages/SpecialtyChemicals.aspx>; Dow Chemical Co., “Dow Ecolibrium<sup>™</sup>,” <http://www.dow.com/ecolibrium/>; Eastman Chemical Co., “Products,” [http://www.eastman.com/Products/Pages/Product\\_Selector.aspx](http://www.eastman.com/Products/Pages/Product_Selector.aspx); Emerald Performance Materials, “Kalama Chemical,” [http://www.emeraldmaterials.com/cms/kalama/page.html?p\\_name=K-FLEX%20Plasticizers](http://www.emeraldmaterials.com/cms/kalama/page.html?p_name=K-FLEX%20Plasticizers); ExxonMobil, “Jayflex<sup>™</sup> Plasticizers,” <http://www.exxonmobilchemical.com/Chem-English/productservices/jayflex-plasticizers.aspx>; Galata Chemicals, “Products,” <http://galatachemicals.com/products.html#epoxy>; Hallstar, “Permanent/Reactive Plasticizers,” <https://www.hallstar.com/areas-of-expertise/permanentreactive-plasticizers/>; Lanxess, <http://lanxess.us/en/home/>; Teknor Apex, “Flexible PVC Compounds,” <https://www.teknorapex.com/flexible-pvc-compounds>; Valtris Specialty Chemicals, “Our Brands and Products,” <http://valtris.com/brands/>; Vertellus Specialties, “Morflex<sup>®</sup> Plasticizers, Sebacates, and Solvents,” <http://www.vertellus.com/products/plastics-polymers/morflex-plasticizers-sebacates-and-solvents>.



**Figure I-1**  
**DOTP: Molecular structures for DEHP and DOTP**



Note: The ortho- and para- designations reflect where the “branches” are attached to the ring.

Source: AccuStandard, “Di(2-ethyl hexyl) phthalate,” June 8, 2017; Wikimedia Commons, “Diocetyl terephthalate,” July 14, 2016, [https://commons.wikimedia.org/wiki/File:Diocetyl\\_terephthalate.svg](https://commons.wikimedia.org/wiki/File:Diocetyl_terephthalate.svg).

Because phthalate plasticizers do not “bond” with the resins when plastics are made, they are more easily released into the environment and inhaled or ingested.<sup>15</sup> Congress passed legislation in 2008 that banned the use of certain phthalates in children’s toys and other products and temporarily banned the use of other phthalates.<sup>16</sup>

All DOTP (fig. I-2) has the same molecular formula ( $C_{24}H_{38}O_4$ ) and structure, and there is no chemical distinction that would prevent DOTP from any source from being used in any application that called for DOTP.<sup>17</sup>

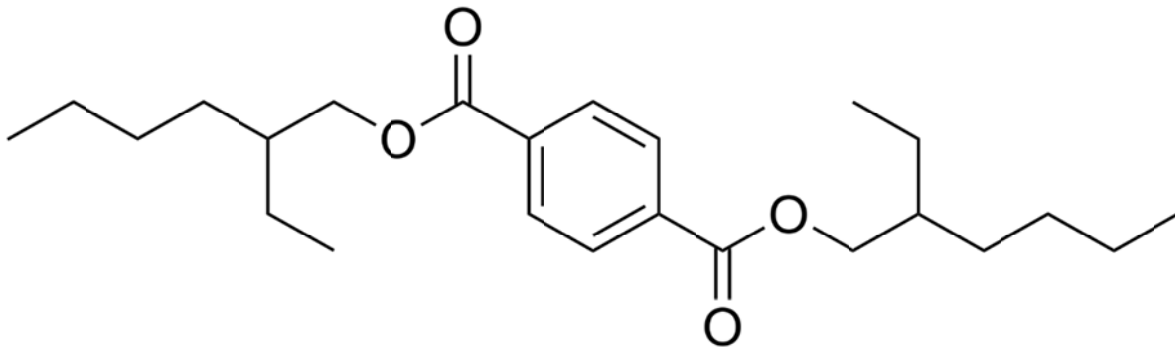
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<sup>15</sup> Randi J. Bertelsen et al., “Urinary Biomarkers for Phthalates Associated With Asthma in Norwegian Children,” *Environmental Health Perspectives* 121, no. 2 (February 2013): 251–256, <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3569683/pdf/ehp.1205256.pdf>.

<sup>16</sup> Kamalick, “US Congress Bans Phthalates in Child Products,” ICIS, July 28, 2008; U.S. Senator Dianne Feinstein, “Congress Approves Nationwide Ban on Phthalates in Children’s Products,” press release, July 31, 2008; U.S. Consumer Product Safety Commission (CPSC), “Phthalates,” page last updated July 7, 2015. According to the CPSC, “the law that makes children's toys and certain child care articles subject to the ban on certain phthalates can be found in section 108 of the Consumer Product Safety Improvement Act of 2008 (CPSIA) (pdf), Pub. L. No. 110-314, 122 Stat. 3016 (August 14, 2008). Additional requirements on the ban on phthalates were added in section 5 of Public Law No. 112-28 (August 12, 2011), which amended the CPSIA.”

<sup>17</sup> For questionnaire responses regarding substitutability issues such as quality and U.S. Food and Drug Administration certification, see Part II.

**Figure I-2**  
**DOTP: Molecular structure**



Source: Wikimedia Commons, [https://commons.wikimedia.org/wiki/File:Diocetyl\\_terephthalate.svg](https://commons.wikimedia.org/wiki/File:Diocetyl_terephthalate.svg), (accessed July 14, 2016).

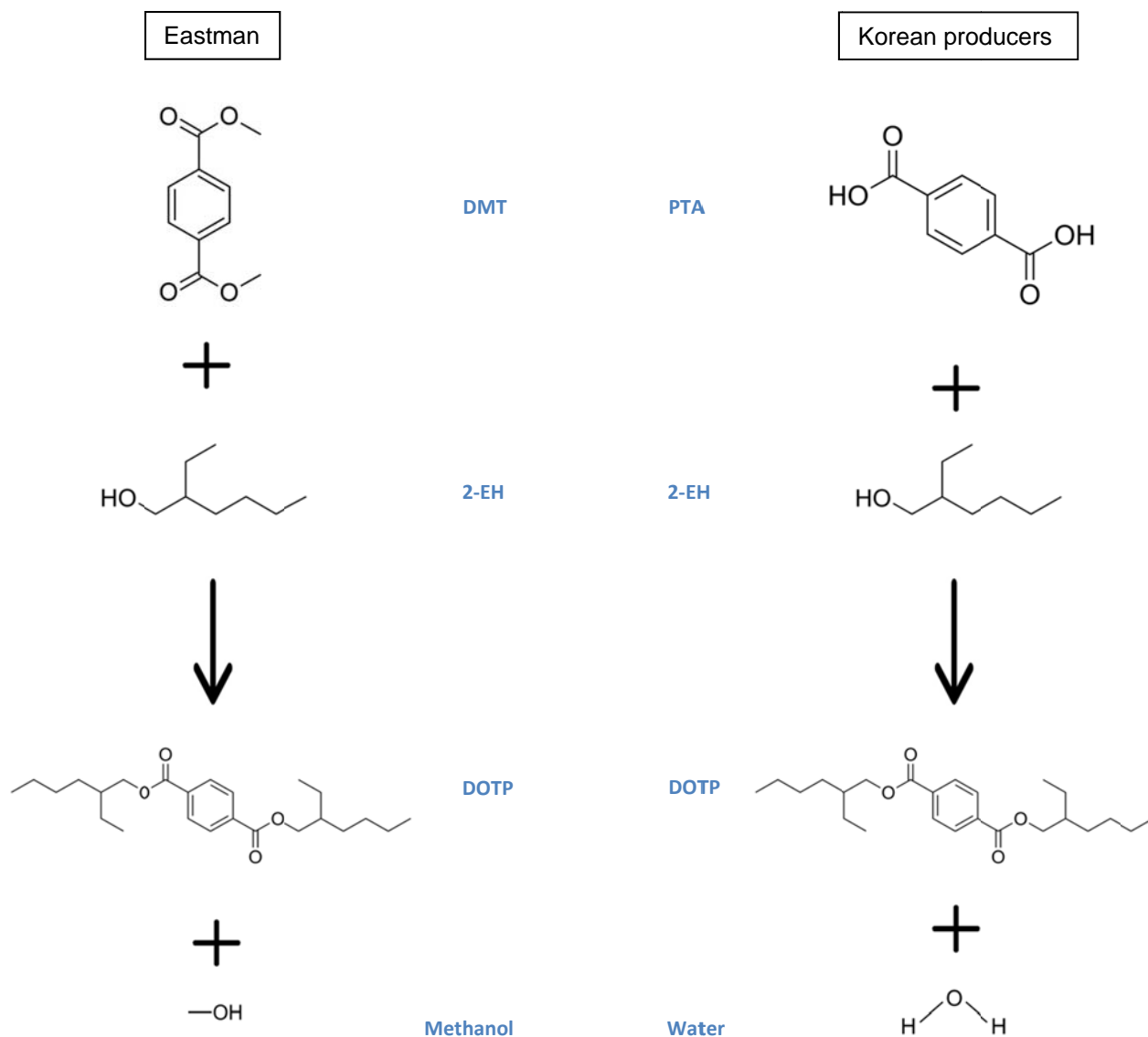
### **Manufacturing processes**

Eastman produces DOTP by reacting dimethyl terephthalate (“DMT”) with 2-ethylhexanol (“2-EH”), with methanol as a by-product. Korean producers reportedly produce DOTP by reacting purified terephthalic acid (“PTA”) with 2-EH, with water as a by-product (figure I-3).<sup>18</sup>

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<sup>18</sup> Petition, p. 9.

**Figure I-3**  
**DOTP: Mechanisms for production by Eastman and Korean producers**



Source: Wikimedia Commons, [https://commons.wikimedia.org/wiki/File:Diocetyl\\_terephthalate.svg](https://commons.wikimedia.org/wiki/File:Diocetyl_terephthalate.svg), [https://commons.wikimedia.org/wiki/File:Terephthalic\\_acid\\_200.svg](https://commons.wikimedia.org/wiki/File:Terephthalic_acid_200.svg), <https://commons.wikimedia.org/wiki/File:2-Ethylhexanol.png>, <https://upload.wikimedia.org/wikipedia/commons/3/35/Methanol-2D-skeletal.png> (accessed July 14, 2016); PrepChem, <http://www.prepchem.com/synthesis-of-dimethyl-terephthalate/> (accessed July 14, 2016); Skeptics Stack Exchange, <http://skeptics.stackexchange.com/questions/19979/do-water-molecules-change-when-you-talk-to-them> (accessed July 14, 2016).

## DOMESTIC LIKE PRODUCT ISSUES

In the preliminary phase of this investigation, Petitioner Eastman proposed that the domestic like product should be defined as DOTP, co-extensive with Commerce's scope.<sup>19</sup> Respondent ALAC argued that the domestic like product should comprise diisononyl phthalate ("DINP") and DOTP.<sup>20</sup>

The Commission, for the purposes of its preliminary determination, defined a single like product corresponding to the scope of the investigation. Specifically, the Commission concluded:

The record in the preliminary phase of this investigation indicates that there are some similarities between DOTP and DINP; both products are general purpose plasticizers and can be used interchangeably in the manufacture of flooring and most flexible PVC products, and both are sold through the same channels of distribution. Nevertheless, the record also indicates that this does not distinguish DOTP and DINP from several other products that do not fall within respondent's proposed domestic like product definition. Moreover, there is no dispute that DOTP and DINP are different chemicals that are produced using different inputs, production processes, and manufacturing facilities. They also fall in different plasticizer categories; DINP is a phthalate plasticizer that is subject to federal and state regulation due to its toxicological profile whereas DOTP is a non-phthalate plasticizer that has received positive risk assessments from government agencies and is considered to be a safe alternative to phthalate plasticizers. The record indicates that these distinctions lead producers and purchasers to perceive DOTP and DINP to be distinct products. Consequently, the current record indicates that there is a clear dividing line between DOTP and DINP.<sup>21</sup>

### Physical characteristics and uses

The product described in the scope of the investigation is DOTP, which has the chemical formulation  $C_6H_4(C_8H_{17}COO)_2$  (or, written in a different manner,  $C_{22}H_{38}O_4$ ) and a CAS registry 21number of 6422-86-2.<sup>22</sup> DINP, on the other hand, has the chemical formulation  $C_{26}H_{42}O_4$  and a CAS registry number of 28553-12-0.<sup>23</sup>

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<sup>19</sup> Petition, pp. 8-10; and petitioner's postconference brief, p. 1.

<sup>20</sup> Respondent's postconference brief, pp. 9-16.

<sup>21</sup> *Diocetyl Terephthalate (DOTP) From Korea, Inv. No. 731-TA-1330 (Preliminary)*, USITC Publication 4630, p. 15.

<sup>22</sup> *Diocetyl Terephthalate (DOTP) From Korea, Inv. No. 731-TA-1330 (Preliminary)*, USITC Publication 4630, p. I-5 and I-8.

<sup>23</sup> *Ibid*, p. I-10.

DOTP and DINP are general purpose plasticizers and consequently have similar end uses in flooring and PVC applications.<sup>24</sup> The record indicates, however, that there are several products in addition to DOTP and DINP that are used in these applications.<sup>25</sup> One characteristic that distinguishes DOTP from DINP is toxicity. Unlike DOTP, a non-phthalate plasticizer with a clean toxicological profile<sup>26</sup> and positive risk assessments from several government agencies, DINP is a phthalate plasticizer that has become subject to an increasing number of federal and state regulations due to carcinogenic and reproductive concerns.<sup>27</sup> Specifically, the U.S. Consumer Product Safety Commission (“CPSC”) has banned phthalate plasticizers in toys and child care articles pursuant to the Consumer Product and Safety Improvement Act of 2008 (“CPSIA”).<sup>28</sup> Additionally, California has listed several phthalate plasticizers including DINP on its Proposition 65 list of chemicals, which alerts consumers to chemicals that may cause cancer, birth defects, or reproductive harm.<sup>29</sup> As discussed below, certain purchasers have also indicated a preference for non-phthalate plasticizers, which further restricts the end use for DINP.

### **Manufacturing facilities and production employees**

DOTP and DINP are different chemicals and are produced using different inputs and production processes.<sup>30</sup> Specifically, DOTP is produced using 2-ethylhexanol (“2-EH”) and dimethyl terephthalate (“DMT”) or purified terephthalic acid (“PTA”) as primary inputs.<sup>31</sup> Alternatively, DINP requires isononyl alcohol and phthalic anhydride as primary inputs.<sup>32</sup> Eastman is the sole U.S. producer of DOTP. It produces DOTP at its Kingsport, Tennessee and Texas City, Texas facilities and dedicates those production lines to the production of DOTP.<sup>33</sup> Eastman does not produce DINP and contends that although its DOTP facilities could potentially produce other products, the existing equipment would require significant capital expenditure

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<sup>24</sup> Respondent postconference brief, p. 11.

<sup>25</sup> Di(2-propylheptyl) phthalate (“DPHP”) and bio-plasticizers are also used in flooring applications. DPHP and dioctyl phthalate (“DOP”) are also used in PVC applications. DPHP, DOP, and linear phthalates are also used as plasticizers. *Dioctyl Terephthalate (DOTP) from Korea, Inv. No. 731-TA-1330 (Preliminary)*, USITC Publication 4630, August 2016, p. II-7.

<sup>26</sup> DOTP is described as having a “clean toxicological profile” because there is no evidence that it causes any adverse toxicity effects. Petition, p. 15, exh. Gen-2.

<sup>27</sup> Petition, p. 15, exh. Gen-2; Preliminary conference transcript, p. 25-26 (Cullen), 33-34 (Yobst), 85 (Fisher).

<sup>28</sup> Petition, p.15, Ex. Gen-2; Conference transcript, p. 33 (Yobst).

<sup>29</sup> *Dioctyl Terephthalate (DOTP) from Korea, Inv. No. 731-TA-1330 (Preliminary)*, USITC Publication 4630, August 2016, p. II-6.

<sup>30</sup> Respondent postconference brief, p. 15.

<sup>31</sup> Preliminary conference transcript, p. 23 (Cullen).

<sup>32</sup> Eastman Supplemental Questionnaire Response, section V-1 (July 28, 2016).

<sup>33</sup> Preliminary conference transcript, p. 23, pp. 49-50 (Cullen).

and modification due to its current inability to process the various raw materials and by-products associated with other plasticizers.<sup>34</sup>

### Interchangeability

Eastman argued that DOTP and DINP are distinct chemical products that are not interchangeable because DINP is subject to regulatory restrictions.<sup>35</sup> By contrast, ALAC contended that DOTP and DINP are highly interchangeable because both are used as a general purpose plasticizer in flexible PVC applications and regulations impose only minor limitations on DINP's interchangeability with DOTP.<sup>36 37 38</sup> The record indicated that although purchasers may prefer to use DOTP over DINP due to the regulatory pressures on DINP, the two products are largely interchangeable because both may be used as general purpose plasticizers in most PVC applications; federal regulation bans DINP use only in children's toys or child care articles.<sup>39</sup> As previously stated, however, there are several products in addition to DINP that may be substituted for DOTP in flooring and PVC applications.<sup>40</sup> Toy and child care applications account for a \*\*\* share of Eastman's U.S. shipments of DOTP.<sup>41</sup>

### Customer and producer perceptions

Eastman argued that producers and customers perceive DOTP and DINP as different products.<sup>42</sup> Specifically, Eastman, the sole domestic producer of DOTP, maintained that it sells and markets DOTP as a non-phthalate plasticizer.<sup>43</sup> In marketing literature available on its website, Eastman stressed that it produces "non-phthalate plasticizers," "non-phthalate alternatives," or "non-phthalate solutions" that can be safely used in PVC products.<sup>44</sup> Additionally, in other literature entitled "Why Eastman 168 is a nonphthalate plasticizer," also available on its website, Eastman provided a detailed discussion of existing scientific literature and environmental, food, drug, cosmetics, and consumer protection laws that treat DOTP as a separate product from phthalate plasticizers such as DINP.<sup>45</sup>

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<sup>34</sup> Preliminary conference transcript, p. 23, 49-51 (Cullen).

<sup>35</sup> Hearing transcript, pp. 27-30 (Cullen).

<sup>36</sup> Respondent postconference brief, pp. 10-11.

<sup>37</sup> Respondent prehearing brief, pp. 2-3.

<sup>38</sup> Hearing transcript, p. 108 (Frishman).

<sup>39</sup> Preliminary conference transcript, pp. 93, 96 (Fisher); Hearing transcript, p. 13 (Winton).

<sup>40</sup> *Diocetyl Terephthalate (DOTP) from Korea, Inv. No. 731-TA-1330 (Preliminary)*, USITC Publication 4630, August 2016, p. II-7.

<sup>41</sup> \*\*\* email message to USITC staff, August 3, 2016.

<sup>42</sup> Preliminary conference transcript, p. 26 (Cullen).

<sup>43</sup> Eastman Supplemental Questionnaire Response, section V-1 (July 28, 2016).

<sup>44</sup> Petitioner postconference brief, exh. 3.

<sup>45</sup> Petition at exh. Gen-2. Additionally, literature published by ExxonMobil Chemical Company, a

(continued...)

Information on the record regarding customer perceptions indicates that customers recognize the difference between DOTP and DINP. Although ALAC contended that it is unclear whether or to what extent consumers perceive DOTP and DINP as distinct products based on their environmental profiles, it conceded customers have shifted from using DINP to DOTP in their products due to the regulatory pressures on DINP.<sup>46</sup> Specifically, ALAC acknowledged that the “regulated phthalate compliance is key to some customers,” and that consumer products manufacturers have made a marketing choice to shift toward the use of DOTP in end uses such as flooring, a significant segment of the U.S. market.<sup>47</sup> For example, Armstrong, a major flooring manufacturer and Hoffman Plastics Compounds, Inc. (“Hoffman Plastics”), \*\*\*,<sup>48</sup> emphasize that their products contain non-phthalate plasticizers.<sup>49</sup> Armstrong’s 2016 flooring catalog explains that its products “contain no Ortho-Phthalates”,<sup>50</sup> while on the home page of its website, Hoffman Plastics states that it “is proud to announce all of our flexible compounds contain non-phthalate or phthalate free plasticizers. Our compounds conform with {European Chemicals Agency}, {Registration, Evaluation, Authorization and Restriction of Chemicals}, {Restriction of Hazardous Substances Directive}, and more.”<sup>51</sup> Additionally, major retailers such as Lowe’s, Home Depot, Menard’s, and Lumber Liquidators have begun to phase out the use of phthalate plasticizers in favor of DOTP in flooring products.<sup>52</sup> This evidence supports the view that purchasers are able to differentiate between the two products and that they perceive DOTP to be a safe non-phthalate plasticizer alternative to DINP.

### **Channels of distribution**

Eastman and ALAC agreed that DOTP and DINP are sold through similar channels of distribution. Both products are sold to distributors and end users.<sup>53</sup>

### **Price**

Eastman and ALAC disagreed on whether DOTP commands higher prices than DINP. Eastman contended that DOTP has historically been sold at a premium to DINP due to the fact

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(...continued)

producer of DINP, distinguishes non-phthalate plasticizers as “specialty products.” Respondent postconference brief, Ex. 3.

<sup>46</sup> Preliminary conference transcript, pp. 32-33 (Yobst), p. 65 (Cullen), p. 85, p. 93 (Fisher).

<sup>47</sup> Preliminary conference transcript, p. 96 (Fisher).

<sup>48</sup> *Diocetyl Terephthalate (DOTP) from Korea, Inv. No. 731-TA-1330 (Preliminary)*, USITC Publication 4630, August 2016, Table V-7.

<sup>49</sup> Petitioner’s hearing exhibit, p. 18.

<sup>50</sup> *Hoffman website*, <http://www.hoffmanplastic.com>, retrieved August 8, 2016.

<sup>51</sup> *Ibid.*

<sup>52</sup> Preliminary conference transcript, p. 33 (Yobst) and p. 93 (Fisher); Hearing transcript, p. 106 (Frishman); Hearing transcript, p. 46 (Rogers), p. 72 (O’Brien), and p. 106 (Frishman).

<sup>53</sup> Eastman Supplemental Questionnaire Response, section V-1 (July 28, 2016); Respondent postconference brief, p.15.

that DOTP is a non-phthalate plasticizer.<sup>54</sup> ALAC, however, contended that no significant price differential exists between DOTP and DINP because they are highly interchangeable and subject to similar market dynamics.<sup>55</sup> <sup>56</sup> The pricing data in the record are limited to DOTP products. Moreover, as previously stated, Eastman, the sole domestic DOTP producer, does not produce DINP.

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<sup>54</sup> Eastman Supplemental Questionnaire Response, section V-1 (July 28, 2016).

<sup>55</sup> Respondent postconference brief, p. 16.

<sup>56</sup> Hearing transcript, p. 13 (Winton).



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

### **U.S. MARKET CHARACTERISTICS**

DOTP is a plasticizer that is used in the production of PVC (polyvinyl chloride) flooring, PVC compounds, hoses, toys, and other plastic products. DOTP has experienced increased demand in the last several years as regulatory provisions and consumer perceptions have driven its use as a replacement for other plasticizers, some of which may have detrimental health effects. Apparent U.S. consumption of DOTP increased by more than \*\*\* percent during 2014-16.

U.S. producers, importers, and purchasers were asked if there had been any significant changes in the product range, mix, or marketing of DOTP since January 1, 2014. \*\*\* thirteen importers indicated that there had not been. Six importers stated that there had, citing increased purchaser preference for DOTP (see substitute products, below), increased U.S. production of luxury vinyl tile (see demand trends, below), and \*\*\*.

### **U.S. PURCHASERS**

The Commission received 20 questionnaire responses from firms that bought DOTP during 2014-16.<sup>1</sup> Thirteen responding purchasers are PVC or vinyl flooring manufacturers, three are other end users,<sup>2</sup> and five are distributors. Distributor purchasers reported selling to plastic compounders, masterbatch producers, rubber manufacturers, and other distributors. Four of the distributor purchasers reported competing with their suppliers for sales to customers, although \*\*\* characterized such occasions as “limited.” Thirteen purchasers were located in the Midwest or South, although others were located in New England, \*\*\*. Purchaser \*\*\* is \*\*\*.

Responding U.S. purchasers reported purchases amounting to approximately 40 percent of total apparent U.S. consumption of DOTP in 2016. Fifteen purchasers listed U.S. producer Eastman as a supplier in 2016.

### **CHANNELS OF DISTRIBUTION**

The U.S. producer and importers of DOTP from Korea sold mainly to end users, as shown in table II-1.

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<sup>1</sup> Of the 20 responding purchasers, 18 purchased domestic DOTP, 12 purchased imports of the subject merchandise from Korea, and 2 purchased imports of DOTP from other sources. Six had purchased at least some material of unknown origin.

<sup>2</sup> \*\*\*.

**Table II-1**

**DOTP: U.S. producer's and importers' U.S. commercial shipments, by sources and channels of distribution, 2014-2016**

\* \* \* \* \*

**GEOGRAPHIC DISTRIBUTION**

U.S. producer Eastman reported selling DOTP to \*\*\* (table II-2). Importers of Korean product reported selling to most regions, except for the Mountain region. For Eastman, approximately \*\*\* of its sales were within 100 miles of its production facility, \*\*\* percent were between 101 and 1,000 miles, and \*\*\* percent were over 1,000 miles. Importers sold \*\*\* percent of their Korean product within 100 miles of their U.S. point of shipment, \*\*\* percent between 101 and 1,000 miles, and \*\*\* percent over 1,000 miles.

**Table II-2**

**DOTP: Geographic market areas in the United States served by U.S. producer and importers**

<b>Region</b>	<b>U.S. producer</b>	<b>Importers</b>
Northeast	***	8
Midwest	***	8
Southeast	***	10
Central Southwest	***	6
Mountain	***	0
Pacific Coast	***	9
Other <sup>1</sup>	***	0
All regions (except Other)	***	0
Reporting firms	***	13

<sup>1</sup> All other U.S. markets, including AK, HI, PR, and VI.

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

**SUPPLY AND DEMAND CONSIDERATIONS**

**U.S. supply**

**Domestic production**

Based on available information, the U.S. producer of DOTP has the ability to respond to changes in demand with moderate-to-large changes in the quantity of shipments of U.S.-produced DOTP to the U.S. market. The main contributing factors to this degree of responsiveness of supply are the recent addition of substantial capacity, \*\*\*, constrained by \*\*\* capacity utilization.

### ***Industry capacity***

Domestic capacity increased from over \*\*\* metric tons in 2014 to over \*\*\* metric tons in 2015 due to \*\*\*. Additionally, BASF is scheduled to open a new DOTP production plant in Pasadena, Texas in \*\*\* 2017.<sup>3</sup> For more information on this, see Part III.

However, these recent capacity increases are accompanied by a \*\*\* level of capacity utilization, suggesting that Eastman may have only a moderate ability to increase production of DOTP in response to an increase in prices, \*\*\*.

### ***Alternative markets***

The U.S. producer's exports are a large percentage (approximately \*\*\* in 2016) of its total shipments, and decreased \*\*\* in terms of quantity over 2014-2016. The U.S. producer's export shipments likely indicate that it may have substantial ability to shift shipments between the U.S. market and other markets in response to price changes.

### ***Inventory levels***

The U.S. producer's inventories increased from 2014 to 2015, and then fell somewhat in 2016 while remaining above 2014 levels. Relative to total shipments, the U.S. producer's inventory levels were between \*\*\* from 2014 to 2016. These inventory levels suggest that the U.S. producer may have some ability to respond to changes in demand with changes in the quantity shipped from inventories.

### ***Production alternatives***

U.S. producer Eastman stated that it \*\*\*.

### ***Supply constraints***

U.S. producer Eastman stated that it \*\*\* refused, declined, or been unable to supply DOTP since January 1, 2014. Eleven purchasers stated that the availability of U.S. produced DOTP has not changed since 2014, while eight indicated that it had, mostly citing increased U.S. capacity at Eastman. However, in answer to another question, purchaser \*\*\* stated that the provisional antidumping duty has allowed Eastman to have a domestic monopoly on DOTP.

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<sup>3</sup> ICIS, "OUTLOOK '17: US plasticizers face shortages, new capacity," December 22, 2016. <https://www.icis.com/resources/news/2016/12/28/10064206/outlook-17-us-plasticizers-face-shortages-new-capacity/> downloaded April 18, 2017, and \*\*\*.

## **Subject imports from Korea<sup>4</sup>**

Based on available information, producers of DOTP from Korea have the ability to respond to changes in demand with large changes in the quantity of shipments of DOTP to the U.S. market. The main contributing factors to this degree of responsiveness of supply are the ability to shift shipments from alternate markets, mitigated by high capacity utilization, limited ability to shift production to or from alternate products, and low inventories.

### ***Industry capacity***

Korean capacity utilization was between \*\*\* and \*\*\* percent over 2014-2016, reaching \*\*\* percent in 2016. Capacity increased by over \*\*\* percent over the same period. This relatively high level of capacity utilization, combined with demonstrated ability to increase capacity, suggests that Korean producers may have some ability to increase production of DOTP in response to an increase in prices, based mostly on any ability to increase capacity.

### ***Alternative markets***

Korean shipments to markets other than the United States, as a percentage of total shipments, represented between \*\*\* and \*\*\* percent of total shipments by Korean producers over 2014-2016. These high levels of exports to third countries indicate that Korean producers may have substantial ability to shift shipments between domestic or other markets and the U.S. market in response to price changes.

### ***Inventory levels***

Responding Korean foreign firms' inventories declined to less than \*\*\* percent of total shipments in 2016. These inventory levels suggest that Korean producers may have very limited ability to respond to changes in demand with changes in the quantity shipped from inventories.

### ***Production alternatives***

Responding foreign producers stated that they had limited production alternatives to DOTP.

### ***Supply constraints***

Sixteen importers stated that they had not refused, declined, or been unable to supply customers with DOTP since January 1, 2014. However, three stated that they had. \*\*\* reported being unable to meet a customer's price requirement. \*\*\* reported that it temporarily limited

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<sup>4</sup> For data on the number of responding foreign firms and their share of U.S. imports from Korea, please refer to Part I, "Summary Data and Data Sources."

customers' sales volumes in May and June 2016 due to \*\*\*. However, once product arrived, the limitation was ended. \*\*\* stated that DOTP supply has been severely tight since the imposition of provisional antidumping duties in October 2016. It added that an explosion at BASF's European plant (also in October 2016) had added to tightness in global supply, and that \*\*\* had had to put its own customers on allocation.<sup>5 6</sup>

Nine purchasers indicated that the availability of subject imports in the U.S. market had not changed since January 1, 2014. However, eight indicated that it had, with most citing increased supply from Korea. \*\*\*, though, stated that since the provisional antidumping duties went into effect, imports from Korea had nearly ceased.

### **Nonsubject imports**

Nonsubject imports accounted for \*\*\* percent of total U.S. imports in 2016. Importers reported importing DOTP from China, India, Mexico, and Taiwan. Five purchasers indicated that the availability of imports of DOTP from nonsubject countries had not changed since January 1, 2014, but five indicated that it had. Most of the latter cited increased imports, but \*\*\* stated that supply from China had tightened due to conditions in the Chinese domestic market.

\*\*\*.

### **Supply constraints**

Purchasers were asked if any firm had refused, declined, or been unable to supply them with DOTP since January 1, 2014. Fifteen purchasers answered that no firm had done so. Four did report experiencing supply constraints. Three of these firms (\*\*\*) stated that the provisional antidumping duties had constrained subject imports, with \*\*\* adding that the order had given Eastman a domestic monopoly. \*\*\* added that the West Coast port shutdown in 2015 had caused supply problems. \*\*\* stated that issues with the supply of feedstocks from the European Union had caused U.S. DOTP supply tightness in January-April 2017.

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<sup>5</sup> The petitioner questioned whether BASF produced DOTP in Europe, but stated that the BASF explosion may have led to a temporary increase in European demand for DOTP as a substitute for the lost supply of other plasticizers. According to the documents submitted by petitioners, BASF did not name DOTP as a product it produced in Europe, but did state that it produces propylene there. See petitioner's posthearing brief, exhibit 1, pp. 6-7, and attachment 2. In reference to a separate incident in Europe, ALAC also cited the declaration of force majeure by European chemical producer Evonik in May 2017 as reducing European supply of DINP. Hearing transcript, p. 123 (Wei), and ALAC's posthearing brief, p. 5 and attachment 6.

<sup>6</sup> Additionally, \*\*\*, stated that it had been \*\*\*.

## New suppliers

Thirteen purchasers were not aware of any new suppliers that have entered the market since January 1, 2014. Six did report new suppliers, mostly citing importers of Korean, Chinese, or Taiwan material.

## U.S. demand

Based on available information, the overall demand for DOTP is likely to experience moderate changes in response to changes in price. The main contributing factors are the somewhat limited substitutability in certain applications and DOTP's limited-to-moderate share of the cost of most end-use products. Demand elasticity also appears to be somewhat limited by regulatory limits on substitute products.

## End uses and cost share

U.S. demand for DOTP depends on the demand for U.S.-produced downstream products, which in the case of DOTP, are highly diverse.<sup>7</sup> U.S. producer Eastman indicated that end uses included \*\*\* and other PVC uses,<sup>8</sup> in which DOTP accounted for approximately \*\*\* and \*\*\* percent of the respective end-use products.<sup>9</sup> It added that DOTP accounts for a lower share (\*\*\* percent) of the total cost of \*\*\* end uses. Other reported end uses (by Eastman and importers) include PVC and other types of flooring, other PVC products (such as PVC compounding and flexible PVC), hose, wire and cable, rubber, toys, ink, coatings, adhesives, sealants, and elastomers.<sup>10</sup>

Importers' and purchasers' reported average cost shares for some end uses as follows:

- Flooring: \*\*\* percent
- PVC flooring: \*\*\* percent
- Sheet vinyl: \*\*\* percent
- Carpet tile: \*\*\* percent
- Vinyl flooring: \*\*\* percent
- Luxury vinyl tile: \*\*\* percent
- PVC compounding: \*\*\* percent
- Flexible film: \*\*\* percent

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<sup>7</sup> Hearing transcript, p. 53 (Cullen).

<sup>8</sup> \*\*\*, see also conference transcript, pp. 17-19 (Parker), and hearing transcript, p. 53 (Cullen).

<sup>9</sup> \*\*\*.

<sup>10</sup> Importer ALAC indicated that end uses for the DOTP it sold included \*\*\*. See ALAC's request to supplement information in posthearing submission, June 23, 2017.

- Hose: \*\*\* percent
- Toys: \*\*\* percent

Additionally, Eastman provided a chart dividing up its estimated total volume of 2016 sales of DOTP by end-use segment. The chart showed that \*\*\*.<sup>11</sup>

### **Business cycles**

\*\*\* eight importers, and six purchasers indicated that the DOTP market was subject to business cycles or conditions of competition. However, 11 importers and 13 purchasers stated that it was not, or that they did not know.

\*\*\* described building and construction cycles as affecting the DOTP market. \*\*\* also described the DOTP market as having experienced only limited growth for 40 years, until about five years ago, after which the market has grown substantially. \*\*\* cited the substitution of DOTP for phthalate plasticizers (see below) as the reason for the recent growth.

Three importers and three purchasers described seasonal peaks in demand, but did not elaborate. Six importers and five purchasers<sup>12</sup> described other distinctive conditions of competition, such as DOTP replacing substitutes (see below) or competing with other bio-plasticizers, as well as a general increase in global demand for DOTP.

\*\*\* eight purchasers, and five importers described the conditions of competition in the DOTP market as having changed since January 1, 2014, citing many of the same reasons (DOTP competing with and replacing other bio-plasticizers, the provisional antidumping order, and the expected opening of the BASF plant in Texas) as discussed earlier and/or below. However, three importers and seven purchasers indicated that there had not been any changes to the conditions of competition in the DOTP market since 2014.

### **Demand trends**

Most firms reported an increase in U.S. demand for DOTP since January 1, 2016 (table II-3). \*\*\* described U.S. demand as having increased substantially since 2010 due to Federal and state regulations that encourage or mandate the use of non-phthalate plasticizers (such as DOTP) instead of ortho-phthalate plasticizers. (See also substitute products, below.) Importers and purchasers described an increase in demand mostly for the same reason, although \*\*\* added that the transition to DOTP has gone slowly because of imports of downstream luxury vinyl tile (LVT) from China, Korea, and the EU. However, it added that U.S. LVT production will likely begin soon, using DOTP. Purchaser \*\*\* also described higher demand for DOTP from LVT production.

\*\*\* stated that demand outside the United States had followed similar growth trends as U.S. demand had. Importers and purchasers also described Asian and European markets as

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<sup>11</sup> See petitioner's posthearing brief, exhibit 1, page 1.

<sup>12</sup> Additionally, purchaser \*\*\*.

moving toward DOTP from its substitutes, although purchaser \*\*\* stated that downstream products from Asia often show up in the U.S. market without proper labeling of DINP (diisononyl phthalate- see substitute products, below). At the hearing, ALAC described European demand as likely to be strong due to European producer OXEA exiting DOTP production, and Asian demand likely to be strong due to demand from Asian flooring manufacturers.<sup>13</sup>

**Table II-3**  
**DOTP: Firms' responses regarding U.S. demand and demand outside the United States**

Item	Increase	No change	Decrease	Fluctuate
<b>Demand in the United States</b>				
U.S. producer	***	***	***	***
Importers	14	1	1	1
Purchasers	11	1	3	0
<b>Demand outside the United States</b>				
U.S. producer	***	***	***	***
Importers	9	1	0	2
Purchasers	4	2	0	2

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

A plurality (seven) of purchasers reported that demand for their final products incorporating DOTP had increased since January 1, 2014. Three indicated that it had fluctuated, three indicated that it had decreased, and one indicated that it had stayed the same. Nine purchasers stated that changes in demand for their final products had affected their demand for DOTP, while five stated that there had not been such an effect. Those describing an effect usually cited formulation changes (see substitute products below), although one also cited an increase in demand for luxury vinyl tile.

### Substitute products

Although there are several functional substitutes for DOTP, their use may be somewhat limited due to regulations and consumer preferences. \*\*\*, eight importers, and five purchasers reported that there were no substitutes for DOTP. Ten importers and nine purchasers reported that there were substitutes, as discussed below.

In the preliminary phase, market participants reported that DOTP had experienced a substantial upswing in demand since 2010 because DOTP has begun to replace ortho-phthalates (such as DINP) for at least three reasons. First, DOTP is viewed favorably by several countries' regulatory authorities. Second, the U.S. Consumer Product Safety Commission has banned ortho-phthalates in toys for children under three years old. Third, DINP has been a "listed" chemical under California's Proposition 65 since 2014,<sup>14</sup> which requires that firms notify consumers about any listed chemicals in their products because those chemicals are known to cause cancer and/or birth defects.

<sup>13</sup> Hearing transcript, pp. 111-112 (Frishman).

<sup>14</sup> Hearing transcript, p. 104 (Frishman).



Over several decades, the predominant plasticizer in the U.S. market has switched from being DOP (dioctyl phthalate), to DINP, and now for some uses, to DOTP. ALAC described Eastman as historically the main producer of DOP, once the principal plasticizer available in the U.S. market until regulatory pressures over DOP's possible toxicity emerged. ALAC stated that Exxon Mobil then introduced DINP, which at the time had no such toxicity concerns and was less expensive. ALAC stated that DINP then replaced DOP in most plasticizer applications except a few that required DOP for specific performance reasons.<sup>15</sup>

Eastman described purchasers as historically preferring DINP to DOTP, before recent concerns over possible DINP toxicity emerged, starting in 2005-2010 with European concerns about the use of DINP in toys.<sup>16</sup> It described the change from DINP to DOTP, spurred by DINP's listing under California's Proposition 65, as rapidly completed after the publication of an April 2015 report by nonprofit group The Ecology Center. This report found the presence of possibly toxic phthalates in flooring products at several large retailers, but offered praise for The Home Depot for its efforts to phase out the sale of flooring products made with such phthalates.<sup>17</sup> Eastman added that while DINP is easier for some purchasers to use than DOTP, purchasers that have switched from DINP to DOTP typically have brand equity in their end-use products, and do not want to sully their brand with concerns over the toxicity of DINP. It continued that purchasers for end uses where toxicity is not a high concern, such as covering for wires that are usually behind walls, have continued to use DINP.<sup>18</sup>

Eastman stated that end users that have switched from DINP to DOTP cannot return to DINP because of their concern over DINP's potential toxicity, including their marketing of their own products as not containing DINP.<sup>19</sup> However, ALAC stated that end users only switched slowly from DINP to DOTP, and remain willing to switch back if the price premium for DOTP were too large.<sup>20</sup>

In this final phase, the U.S. producer, importers, and purchasers were asked about three specific potential substitute products: DINP (diisononyl phthalate); DOP (dioctyl phthalate); and DPHP (di(2-propylheptyl) phthalate). The following section discusses their responses regarding each potential substitute product.

In its questionnaire response, regarding DINP as a potential substitute for DOTP, \*\*\* stated that DINP was not a substitute for DOTP. \*\*\* elaborated that DINP is a phthalate, and so DOTP is chosen when a non-phthalate is required. Nine importers and five purchasers described DINP as a substitute in some end-use applications for DOTP, and one importer and four purchasers described it as a substitute in most or all end-use applications for DOTP.<sup>21</sup>

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<sup>15</sup> Hearing transcript, pp. 103-104 (Frishman).

<sup>16</sup> Hearing transcript, p. 60 (Cullen).

<sup>17</sup> Hearing transcript, p. 34 (Cullen), and petitioner's posthearing brief, attachment 6.

<sup>18</sup> Hearing transcript, pp. 28-29 (Cullen).

<sup>19</sup> Hearing transcript, pp. 28-29, 61-62 (Cullen), pp. 46-47 (Rogers), and p. 76 (Gouveia).

<sup>20</sup> Hearing transcript, pp. 105-16, 124 (Frishman).

<sup>21</sup> One importer and six purchasers stated that DINP was not a substitute for DOTP. However, these may include some firms that already stated there were no substitutes for DOTP.

Purchasers and importers attributed the limitation of DINP as a substitute for DOTP to the favorability of DOTP in meeting regulations, including California's Proposition 65 and corporate policies. Importer \*\*\* stated that aside from regulations, it is "extremely" easy to interchange DOTP and DINP, and purchaser \*\*\* stated that it had used DINP extensively in the recent past.

\*\*\*, seven importers, and ten purchasers stated that changes in the price of DINP had not affected the price of DOTP, but three importers and four purchasers stated that such changes had. Purchaser \*\*\* described DINP and DOTP as competing in the flooring market, where purchasers had used them interchangeably (with DINP usually lower priced) before the recent regulatory changes. Importer \*\*\* stated that no matter which plasticizer is used, the downstream products using such plasticizers need to be priced competitively. It added that some DINP end users chose to label their products as containing DINP (as required by regulation) rather than switch to DOTP.

Regarding DOP as a potential substitute for DOTP, \*\*\* stated that DOP was not a substitute for DOTP. \*\*\* elaborated that DOP is a phthalate, and so DOTP is chosen when a non-phthalate is required. Seven importers and four purchasers described DOP as a substitute in some end-use applications for DOTP, and one importer and three purchasers regarded it as a substitute in most or all.<sup>22</sup> Purchasers and importers attributed the limitations of DOP as a substitute for DOTP to regulatory restrictions, due to the nature of DOP as a possible carcinogen. Eight importers and 12 purchasers stated that changes in the price of DOP had not affected the price of DOTP, but one importer stated that such changes had, without elaborating.

Regarding DPHP as a potential substitute for DOTP, \*\*\* stated that DPHP was not a substitute for DOTP. \*\*\* elaborated that DPHP is a phthalate, and so DOTP is chosen when a non-phthalate is required. Seven importers and four purchasers described DPHP as a substitute in some end-use applications for DOTP, but one importer and four purchasers described it as a substitute in most applications.<sup>23</sup> Purchasers and importers described the limitations of DPHP as a substitute for DOTP as including (1) the recent regulatory changes favoring DOTP, (2) the possibility of requiring formulation changes to switch, (3) the perception that DOTP does not perform as well as DPHP in some applications, or (4) the higher cost of DPHP compared to DOTP. Eight importers and 10 purchasers stated that changes in the price of DPHP had not affected the price of DOTP, but one importer and one purchaser stated that such changes had. Purchaser \*\*\* elaborated that DPHP price increases (and the shutdown of a BASF DPHP plant in 2015) had made DOTP a more competitive substitute. ALAC described BASF as exiting DPHP production in order to focus on DOTP.<sup>24</sup>

The U.S. producer, importers, and purchasers were also asked if there were any other potential substitutes for DOTP. Four importers and three purchasers stated that there were,

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<sup>22</sup> Three importers and eight purchasers stated that DOP was not a substitute for DOTP. However, these may include some firms that already stated there were no substitutes for DOTP.

<sup>23</sup> Three importers and five purchasers stated that DPHP was not a substitute for DOTP. However, these may include some firms that already stated there were no substitutes for DOTP.

<sup>24</sup> Hearing transcript, p. 120 (Wei).

including other bio-plasticizers. Three importers stated that these other substitutes were substitutes in some applications, and one importer stated that they were in most. Purchaser \*\*\* stated that most alternatives work well, but are cost prohibitive.

### **SUBSTITUTABILITY ISSUES**

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

#### **Lead times**

DOTP is primarily sold from inventory. U.S. producer Eastman reported that \*\*\* percent of its commercial shipments were \*\*\*, with an average lead time of 20 days. Importers reported that 75.8 percent of their commercial shipments were from inventories, with an average lead time of 7 days, while 18.9 percent were produced-to-order, with lead times averaging 40 days. The remaining 5.4 percent of their commercial shipments came from foreign inventories, with lead times averaging 51 days.

#### **Knowledge of country sources**

Nineteen purchasers indicated they had marketing/pricing knowledge of domestic product, 13 of Korean product, and 8 of product from nonsubject countries, including China, Colombia, India, Mexico, and Taiwan.

As shown in table II-4, most purchasers and their customers only sometimes or never make purchasing decisions based on the producer or country of origin. No purchaser reported that its customers always or usually make their purchasing decisions based on the producer or country of origin of DOTP. Of the purchasers that reported that they at least sometimes make decisions based the manufacturer, most cited issues such as quality, service, and meeting standards as reasons to do so. However, \*\*\*, which answered that it always makes decision based on producer, added that it generally has no problem qualifying new suppliers. The five purchasers that reported always or usually making decisions based on country indicated that their preference for U.S. product, quality, response time, and/or availability issues led them to do so.

**Table II-4**  
**DOTP: Purchasing decisions based on producer and country of origin**

<b>Purchaser/Customer Decision</b>	<b>Always</b>	<b>Usually</b>	<b>Sometimes</b>	<b>Never</b>
Purchaser makes decision based on producer	5	2	3	9
Purchaser's customers make decision based on producer	0	0	5	10
Purchaser makes decision based on country	3	2	3	11
Purchaser's customers make decision based on country	0	0	5	9

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

## Factors affecting purchasing decisions

The most often cited top three factors firms consider in their purchasing decisions for DOTP were quality (18 firms), price (17 firms), and availability (13 firms), as shown in table II-5. When asked to describe what characteristics they consider when determining the quality of DOTP, purchasers named numerous characteristics, including purity, clarity, consistency (especially from shipment to shipment), viscosity, and meeting industry standards.

**Table II-5**

**DOTP: Ranking of factors used in purchasing decisions as reported by U.S. purchasers, by factor**

Factor	First	Second	Third	Total
Quality	13	2	3	18
Price/cost	3	7	7	17
Availability/supply	0	7	6	13
Other <sup>1</sup>	3	3	3	NA

<sup>1</sup> Other factors include relationship with supplier, general market preference for DOTP over other plasticizers, and packaging.

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

Purchasers were asked if they or their customers ever specifically ordered DOTP from one country over other sources of supply. Fourteen purchasers stated that they did not, but five stated that they did. Three of these indicated a preference for U.S. product for reasons of quality, logistics, and transportation costs. However, one purchaser indicated a preference for Korean product in order to have an alternative source of supply.

Nine purchasers reported that they usually purchase the lowest-priced DOTP that they are offered, four stated that they sometimes did, two stated that they always did, and three stated that they never did.

When asked if they purchased DOTP from one source although a comparable product was available at a lower price from another source, 14 purchasers reported their reasons for doing so, including availability, contracts, credit terms, supplier relationship, lead time, qualified product, and preference for U.S. product. Purchasers were also asked if certain types of product were only available from a single source. Sixteen answered no, but three described particular products. Two indicated U.S.-produced products (an Eastman product and medical-grade DOTP) and the third stated that bulk DOTP was generally only available from importers.<sup>25</sup>

### Importance of specified purchase factors

Purchasers were asked to rate the importance of 15 factors in their purchasing decisions (table II-6). Availability and reliability were ranked as “very important” by the most purchasers,

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<sup>25</sup> Purchasers were also asked, if they purchased DOTP from only one country, why they did so. Two responded that they did so because of a preference for domestic material. Five others indicated that they did so, with some explaining that they were satisfied with the quality and/or logistics of their supplier. \*\*\* indicated that it did so because Eastman is a domestic monopoly.

although price, product consistency, quality meeting industry standards, and delivery time were also described as very important by at least 14 purchasers.

**Table II-6**  
**DOTP: Importance of purchase factors, as reported by U.S. purchasers, by factor**

Factor	Very important	Somewhat important	Not important
Availability	18	1	0
Delivery terms	9	10	0
Delivery time	14	5	0
Discounts offered	8	8	3
Extension of credit	7	11	1
Minimum quantity requirements	5	8	6
Packaging	8	9	1
Price	16	3	0
Product consistency	16	3	0
Product range	3	8	7
Quality meets industry standards	16	3	0
Quality exceeds industry standards	6	7	6
Reliability of supply	19	0	0
Technical support/service	5	13	1
U.S. transportation costs	8	9	1

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

### Supplier certification

Fifteen responding purchasers indicated that they require their suppliers to become certified or qualified to sell DOTP to their firm, while four stated that they do not. Most purchasers reported that the time to qualify a new supplier ranged from 30 to 180 days. Qualification can involve lab testing, factory testing (including with larger lots), and assessing the suppliers' facilities. Product and supplier assessment includes looking at quality, purity, reliability, availability, and transportation time.

Fifteen purchasers reported that no domestic or foreign supplier had failed in its attempt to qualify product, or had lost its approved status since January 1, 2014. However, three reported such failures involving material from \*\*\* due to \*\*\*, price, and lack of Food and Drug Administration (FDA) approval.

### Changes in purchasing patterns

Purchasers generally indicated that they had increased their purchases of DOTP, and many had changed suppliers. Purchasers were asked about changes in their purchasing patterns from different sources since 2014 (table II-7); reasons reported for changes in sourcing included increased demand and final product formulation changes favoring DOTP (see substitute products).

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

<b>Source of purchases</b>	<b>Did not purchase</b>	<b>Decreased</b>	<b>Increased</b>	<b>Constant</b>	<b>Fluctuated</b>
United States	0	3	10	3	2
Korea	4	3	10	0	0
Other	7	1	2	0	0
Sources unknown	8	0	1	1	0

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

Twelve purchasers reported that they had changed suppliers since January 1, 2014, while seven stated that they had not. \*\*\* reported adding or seeking to add suppliers to diversify supply sources. Others reported both adding and dropping suppliers (including Eastman, BASF, and ALAC) for reasons of price and/or availability.

**Importance of purchasing domestic product**

Purchasing DOTP from domestic sources was not a priority nor a requirement for most purchasers. Sixteen purchasers reported that purchasing U.S.-produced product was not an important factor in their purchasing decisions for at least 95 percent of their 2016 purchases. (Another listed the percentage at 75 percent.) Three reported that domestic product was required by law (for 1 to 5 percent of their purchases), one reported domestic product was required by its customers (for \*\*\* percent of its purchases), and two reported other preferences for domestic product. Reasons cited for preferring domestic product included: promoting U.S.-made products; quality; and logistics.

**Comparisons of domestic products, subject imports, and nonsubject imports**

Purchasers were asked for a country-by-country comparison on the same 15 factors (table II-8) for which they were asked to rate the importance. Most purchasers reported that U.S., Korean, and nonsubject-country product were comparable on all factors. However, a minority of purchasers also described U.S. product as superior to Korean and nonsubject-country product in many factors, including in technical support, U.S. transportation costs, delivery terms, and delivery time.

**Table II-8****DOTP: Purchasers' comparisons between U.S.-produced and imported product**

Factor	U.S. vs. Korea			U.S. vs. nonsubject			Korea vs. nonsubject		
	S	C	I	S	C	I	S	C	I
Availability	4	11	0	2	6	1	1	8	2
Delivery terms	5	10	0	1	7	1	0	9	2
Delivery time	5	10	0	2	6	1	0	9	2
Discounts offered	4	9	2	1	5	3	0	9	2
Extension of credit	3	12	0	0	9	0	0	8	3
Minimum quantity requirements	4	8	2	1	5	3	0	7	3
Packaging	3	11	0	2	6	1	0	8	2
Price <sup>1</sup>	1	13	1	1	8	0	2	8	1
Product consistency	4	11	0	2	7	0	0	10	1
Product range	4	9	1	3	6	0	0	9	2
Quality meets industry standards	3	12	0	1	8	0	0	10	1
Quality exceeds industry standards	4	9	1	1	8	0	1	9	1
Reliability of supply	4	10	1	2	7	0	0	9	2
Technical support/service	6	8	1	4	4	1	0	8	3
U.S. transportation costs <sup>1</sup>	5	10	0	1	8	0	0	9	2

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

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

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

### Comparison of U.S.-produced and imported product

In order to determine whether U.S.-produced DOTP can generally be used in the same applications as imports from Korea, The U.S. producer, importers, and purchasers were asked whether the products can always, frequently, sometimes, or never be used interchangeably. As shown in table II-9, most questionnaire respondents described DOTP from different sources as "always" or "frequently" interchangeable.

**Table II-9****DOTP: Interchangeability between DOTP produced in the United States and in other countries, by country pair**

Country pair	Number of U.S. producers reporting				Number of U.S. importers reporting				Number of purchasers reporting			
	A	F	S	N	A	F	S	N	A	F	S	N
<b>U.S. vs. subject country:</b> U.S. vs. Korea	***	***	***	***	9	5	1	0	6	8	2	0
<b>Nonsubject countries comparisons:</b> U.S. vs. nonsubject	***	***	***	***	10	5	0	0	3	5	2	0
Korea vs. nonsubject	***	***	***	***	8	4	0	0	4	4	1	0

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

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

However, additional comments focused on issues that limit interchangeability. Importer \*\*\* stated that in theory, U.S. and Korean DOTP should be interchangeable. However, it noted that U.S. material has been FDA approved, while Korean material has not been, meaning it cannot be used in some applications. \*\*\* also noted that for accountability reasons, users do not like to mix product from different sources, so changing from one source to another would require expensive tank cleaning. Importer \*\*\* stated that Korean producers supply a \*\*\*. Importer \*\*\* stated that it only has one customer that can use both U.S. product and \*\*\*.

As can be seen from table II-10, 16 responding purchasers reported that domestically produced product always met minimum quality specifications. Eleven responding purchasers reported that the Korean DOTP always met minimum quality specifications.

**Table II-10**  
**DOTP: Ability to meet minimum quality specifications, by source<sup>1</sup>**

Source	Always	Usually	Sometimes	Rarely or never
United States	16	3	0	0
Korea	11	3	0	0
All other	6	2	0	1

<sup>1</sup> Purchasers were asked how often domestically produced or imported DOTP meets minimum quality specifications for their own or their customers' uses.

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

In addition, producers, importers, and purchasers were asked to assess how often differences other than price were significant in sales of DOTP from the United States, subject, or nonsubject countries. As seen in table II-11, a majority of most questionnaire respondents characterized such differences between U.S. and Korean material as "sometimes" or "never" important, although purchasers were more likely to find that such differences were "always" or "frequently" important for comparisons with DOTP from nonsubject countries.

**Table II-11**  
**DOTP: Significance of differences other than price between DOTP produced in the United States and in other countries, by country pair**

Country pair	Number of U.S. producers reporting				Number of U.S. importers reporting				Number of purchasers reporting			
	A	F	S	N	A	F	S	N	A	F	S	N
<b>U.S. vs. subject countries:</b> U.S. vs. Korea	***	***	***	***	3	2	4	5	3	4	6	3
<b>Nonsubject countries comparisons:</b> U.S. vs. nonsubject	***	***	***	***	5	1	5	5	3	3	5	1
Korea vs. nonsubject	***	***	***	***	3	1	4	4	3	2	3	1

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

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

Additional comments focused on areas where differences other than price were important in sales of DOTP. Importer \*\*\* stated that the Chinese product it imports has a lead



time and freight cost disadvantage relative to U.S. product. On the other hand, importer \*\*\* stated that transportation costs from Asia to the U.S. West Coast can sometimes be less than transportation costs from the U.S. East Coast to the U.S. West Coast. Importer \*\*\* stated that qualification and application on its production line are significant non-price differences. Importer \*\*\* stated that its customers had told it that they preferred \*\*\* imported product for several reasons: they want alternative sources of supply; \*\*\*; DOTP buyers also require \*\*\*; \*\*\*; and \*\*\* assists large and small customers with supply issues.

Among purchasers, \*\*\* stated that supply continuity is very important, and that importers of product from Korea and China have the capability to maintain supply continuity. \*\*\* stated that consistent quality, availability, and delivery are always important in comparing product from different countries. \*\*\* stated that cost, quality, and delivery are at acceptable levels from multiple sources, but more imports are needed in the U.S. market.

## **ELASTICITY ESTIMATES**

This section discusses elasticity estimates; parties were encouraged to comment on these estimates as an attachment to their prehearing or posthearing brief. None did so.<sup>26</sup>

### **U.S. supply elasticity**

The domestic supply elasticity<sup>27</sup> for DOTP measures the sensitivity of the quantity supplied by U.S. producers to changes in the U.S. market price of DOTP. The elasticity of domestic supply depends on several factors including the level of excess capacity, the ease with which producers can alter capacity, producers' ability to shift to production of other products, the existence of inventories, and the availability of alternate markets for U.S.-produced DOTP. Analysis of these factors above indicates that the U.S. industry has a moderate ability to increase or decrease shipments to the U.S. market; an estimate in the range of 2 to 4 is suggested.

### **U.S. demand elasticity**

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

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<sup>26</sup> At the hearing, counsel for ALAC seemed to dispute briefly staff's estimate of the elasticity of substitution. Hearing transcript, p. 136 (Winton).

<sup>27</sup> A supply function is not defined in the case of a non-competitive market.

### **Substitution elasticity**

The elasticity of substitution depends upon the extent of product differentiation between the domestic and imported products.<sup>28</sup> Product differentiation, in turn, depends upon such factors as quality (e.g., chemistry, appearance, etc.) and conditions of sale (e.g., availability, sales terms/ discounts/ promotions, etc.). Based on available information, the elasticity of substitution between U.S.-produced DOTP and imported DOTP is likely to be in the range of 4 to 8.

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<sup>28</sup> The substitution elasticity measures the responsiveness of the relative U.S. consumption levels of the subject imports and the domestic like products to changes in their relative prices. This reflects how easily purchasers switch from the U.S. product to the subject products (or vice versa) when prices change.

## PART III: U.S. PRODUCER’S PRODUCTION, SHIPMENTS, AND EMPLOYMENT

The Commission analyzes a number of factors in making injury determinations (see 19 U.S.C. §§ 1677(7)(B) and 1677(7)(C)). Information on the dumping margins was presented in *Part I* of this report and information on the volume and pricing of imports of the subject merchandise is presented in *Part IV* and *Part V*. Information on the other factors specified is presented in this section and/or *Part VI* and (except as noted) is based on the questionnaire response of Eastman that accounted for all known U.S. production of DOTP during 2016.<sup>1</sup>

### U.S. PRODUCER

The Commission issued a U.S. producer questionnaire to one firm based on information contained in the petition. Petitioner Eastman provided usable data on its productive operations. Staff believes that this response represents all known U.S. production of DOTP.

Table III-1 lists the U.S. producer of DOTP, its production locations, position on the petition, and share of total production.

**Table III-1**  
**DOTP: U.S. producer of DOTP, its position on the petition, production locations, and share of reported production, 2016**

Firm	Position on petition	Production locations	Share of production (percent)
Eastman	Support	Kingsport, TN Texas City, TX	100.0
Total			100.0

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

Eastman is not owned, in whole or in part, by any other firm, and is not related to any U.S. importers or foreign producers of subject merchandise. In addition, as discussed in greater detail below, Eastman did not directly import the subject merchandise nor purchase the subject merchandise from U.S. importers.

Table III-2 presents Eastman’s reported changes in operations since January 1, 2014.

**Table III-2**  
**DOTP: U.S. producer’s reported changes in operations, since January 1, 2014**

\* \* \* \* \*

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<sup>1</sup> BASF, based in New Jersey, announced in October 2015 that it would convert a BASF facility in Pasadena, Texas, from production of phthalate plasticizers to production of DOTP. \*\*\*. BASF, “BASF to Produce Palatinol® DOTP in North America,” October 28, 2015; BASF, “BASF CPN Pasadena, Texas Fact Sheet,” n.d., <https://www.basf.com/documents/us/en/Fact-Sheets/PasadenaCPN-Texas-SiteFactSheet.pdf>; \*\*\* U.S. producer questionnaire response, section II-2.

Eastman experienced several changes to operations in recent years. In 2011, Eastman acquired the plasticizer operations of Sterling Chemicals Incorporated (“Sterling”) in Texas City, Texas for 100 million dollars. Eastman then made additional investments in order to retrofit the facility, modify the idled plasticizer unit and convert the site to DOTP production.<sup>2</sup> Eastman testified that it rehired previously laid off employees and converted the facility into a productive asset.<sup>3</sup> At the time of the original investment, Eastman characterized the DOTP market as growing due to increased demand from changes in customer perception regarding phthalate plasticizers.<sup>4</sup>

In 2014, Eastman announced the completion of a capacity expansion project at its manufacturing facility in Texas City, Texas, which increased the overall capacity of DOTP production approximately 15 percent.<sup>5</sup> Further expansions were planned and expected to be completed in 2016, but Eastman made the decision to cancel additional projects and investments.<sup>6</sup> Petitioner counsel testified there was no commercial justification to expand due to a decrease in profitability.<sup>7</sup>

### U.S. PRODUCTION, CAPACITY, AND CAPACITY UTILIZATION

Table III-3 and figure III-1 present Eastman’s production, capacity, and capacity utilization. Overall, capacity and production increased between 2014 and 2016, by \*\*\* percent and \*\*\* percent, respectively.

**Table III-3**  
**DOTP: U.S. producer’s production, capacity, and capacity utilization, 2014-16**

\* \* \* \* \*

**Figure III-1**  
**DOTP: U.S. producer’s production, capacity, and capacity utilization, 2014-16**

\* \* \* \* \*

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<sup>2</sup> Hearing transcript, pp. 22-23 (Parker).

<sup>3</sup> Ibid.

<sup>4</sup> Hearing transcript, p. 22 (Parker).

<sup>5</sup> Hearing transcript, p. 34 (Cullen); *Eastman webpage*, [http://www.eastman.com/Company/News\\_Center/2014/Pages/Eastman-Plasticizer-Expansion-Complete.aspx](http://www.eastman.com/Company/News_Center/2014/Pages/Eastman-Plasticizer-Expansion-Complete.aspx), accessed June 22, 2017.

<sup>6</sup> Hearing transcript, pp. 34 (Cullen), 175-176 (O’Brien); Eastman producer questionnaire, section II-2-7.

<sup>7</sup> Hearing transcript, pp. 175-176 (O’Brien); Eastman producer questionnaire, section II-2-7.

According to Eastman, increased market demand was \*\*\*.<sup>8</sup><sup>9</sup> Eastman attributed the increase in production capacity from 2014 to 2015 to \*\*\*<sup>10</sup> while the increase from 2015 to 2016 resulted from \*\*\*.<sup>11</sup> Capacity utilization increased by \*\*\* percentage points during 2014-16. In 2011, Eastman acquired Sterling Chemical, Inc.'s plasticizer manufacturing assets in Texas City, Texas and converted the equipment to produce DOTP, which began in April 2012.<sup>12</sup> Since 2013, Eastman reported modest capacity expansions in its Kingsport, Tennessee and Texas City, Texas facilities, most of which involved eliminating bottlenecks in the production process.<sup>13</sup> In September 2014, Eastman announced the completion of its DOTP capacity expansion in its Texas City, Texas facility, which increased Eastman's total DOTP capacity by approximately 15 percent, and announced plans for further DOTP capacity expansion by mid-2016.<sup>14</sup> However, Eastman has put on hold its plans for further expansion due to the deteriorating profitability it attributes to low-priced Korean imports.<sup>15</sup>

Eastman's production is calculated \*\*\*.<sup>16</sup> Petitioner reports that efficient DOTP production requires continuous operations, 24 hours per day, seven days per week. Although Eastman can adjust this process to account for weak demand, it causes inefficiencies that raise production costs.<sup>17</sup>

The Commission asked Eastman to report constraints on its capacity to produce DOTP. Eastman stated that \*\*\*.<sup>18</sup> Eastman reported that switching its production of DOTP to other chemicals would take extensive modification, capital investment, and time. In general, converting a dedicated chemical plant to manufacture another product would take millions of dollars to implement.<sup>19</sup> Additionally, Eastman reported that the \*\*\* would affect the firm's ability to shift production capacity between products.

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<sup>8</sup> \*\*\* email message to USITC staff, May 2, 2017.

<sup>9</sup> Hearing transcript, p. 55 (O'Brien).

<sup>10</sup> \*\*\* email message to USITC staff, May 2, 2017.

<sup>11</sup> Eastman's producer questionnaire response, section II-3d.

<sup>12</sup> Conference transcript, pp. 16-17 (Parker).

<sup>13</sup> *Diocetyl Terephthalate (DOTP) from Korea, Inv. No. 731-TA-1330 (Final)*, USITC Publication 4630, August 2016, p. III-2.

<sup>14</sup> "Eastman Plasticizer Expansion Complete," News Release, accessed August 3, 2016, [http://www.eastman.com/Company/News\\_Center/2014/Pages/Eastman-Plasticizer-Expansion-Complete.aspx](http://www.eastman.com/Company/News_Center/2014/Pages/Eastman-Plasticizer-Expansion-Complete.aspx).

<sup>15</sup> Conference transcript, pp. 18-19 (Parker), and 29 (Cullen); Hearing transcript, pp. 175-176 (O'Brien).

<sup>16</sup> Eastman's producer questionnaire response, section II-3b.

<sup>17</sup> Petition, p. 15.

<sup>18</sup> Eastman's producer questionnaire response, section II-3d.

<sup>19</sup> Conference transcript, pp. 50-51 (Cullen).

## Alternative products

Eastman did not produce any alternative products on the same equipment as DOTP during the period for which data were collected.<sup>20</sup>

## U.S. PRODUCER'S U.S. SHIPMENTS AND EXPORTS

Table III-4 presents Eastman's U.S. shipments, export shipments, and total shipments.

**Table III-4**

**DOTP: U.S. producer's U.S. shipments, exports shipments, and total shipments, 2014-16**

\* \* \* \* \*

Eastman ships \*\*\* of its DOTP domestically, although a \*\*\* portion of its DOTP is exported. The quantity of total shipments increased by \*\*\* percent from 2014 to 2016 while the value decreased by \*\*\* percent over the same period.

Eastman's U.S. commercial shipments increased by \*\*\* percent from 2014-16, largely driven by growing market demand. \*\*\*.<sup>21</sup> The value of Eastman's U.S. commercial shipments decreased by \*\*\* percent from 2014 to 2015 and then increased by \*\*\* percent from 2015 to 2016. The unit values of Eastman's U.S. commercial shipments decreased by \*\*\* percent from 2014 to 2016.

Eastman reported exporting shipments of DOTP to \*\*\*. Eastman's exports shipments decreased \*\*\* percent from 2014 to 2015, but then increased by \*\*\* percent from 2015 to 2016 for an overall \*\*\* percent decrease during 2014-16. The value of export shipments also declined over the period of investigation, decreasing by \*\*\* percent from 2014 to 2016. Eastman attributed the decrease in export shipments to \*\*\*.<sup>22</sup>

## U.S. PRODUCER'S INVENTORIES

Table III-5 presents Eastman's end-of-period inventories and the ratio of these inventories to Eastman's production, U.S. shipments, and total shipments. Eastman's inventories increased by \*\*\* percent from 2014 to 2016. Eastman's ratio of end-of-period inventories to production decreased \*\*\* percentage points from 2014 to 2016, while the ratio of end-of-period inventories to U.S. shipments decreased by \*\*\* percentage points.

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<sup>20</sup> Ibid, p. 23 (Cullen).

<sup>21</sup> \*\*\* email message to USITC staff, May 2, 2017.

<sup>22</sup> Ibid.

**Table III-5**  
**DOTP: U.S. producer's inventories, 2014-16**

\* \* \* \* \*

**U.S. PRODUCER'S IMPORTS AND PURCHASES**

Eastman did not import or purchase DOTP during the period for which data were collected.

**U.S. EMPLOYMENT, WAGES, AND PRODUCTIVITY**

Table III-6 shows Eastman's employment-related data. The level of production and related workers (PRWs) decreased by \*\*\* percent from 2014 to 2015, but then increased by \*\*\* percent from 2015 to 2016. Total hours worked decreased \*\*\* percent from 2014 to 2015, but then increased by \*\*\* percent from 2015 to 2016. Wages paid decreased by \*\*\* percent from 2014 to 2015, but then increased by \*\*\* percent from 2015 to 2016. Hourly wages paid decreased by \*\*\* percent from 2014 to 2016. Productivity increased from \*\*\* metric tons per hour to \*\*\* metric tons per hour from 2014 to 2015 and then remained unchanged from 2015 to 2016.

**Table III-6**  
**DOTP: Average number of production and related workers, hours worked, wages paid to such employees, hourly wages, productivity, and unit labor costs, 2014-16**

\* \* \* \* \*





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

### **U.S. IMPORTERS**

The Commission issued importer questionnaires to 56 firms believed to be importers of subject DOTP, as well as to all U.S. producers of DOTP.<sup>1</sup> Usable questionnaire responses were received from 21 companies, representing \*\*\* percent of U.S. imports of DOTP from Korea and \*\*\* percent of imports of DOTP from all other sources in 2016.<sup>2 3</sup> Table IV-1 lists all responding U.S. importers of DOTP from Korea and other sources, their locations, and their shares of U.S. imports, in 2016.

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<sup>1</sup> The Commission issued questionnaires to those firms identified in the petition, along with firms that, based on a review of data provided by \*\*\*, may have accounted for more than one percent of total imports under HTS subheading 2917.39 in 2016.

<sup>2</sup> Nineteen firms reported they do not import DOTP.

<sup>3</sup> HTS subheadings 2917.39.20, 2917.39.70 and 3812.20.10 are broad basket categories. HTS subheading 2917.39.20 includes other plasticizers. HTS subheading 2917.39.70 includes other aromatic polycarboxylic acids, their anhydrides, halides, peroxides, peroxyacids and other derivatives. HTS subheading 3812.20.10 includes compound plasticizers for rubber or plastics containing any aromatic or modified aromatic plasticizer.

**Table IV-1  
DOTP: U.S. importers, their headquarters, and share of total imports by source, 2016**

Firm	Headquarters	Share of imports by source (percent)		
		Korea	All other sources	Total imports
ALAC	New York, NY	***	***	***
BASF <sup>1</sup>	Florham Park, NJ	***	***	***
Beauflor <sup>2</sup>	White, GA	***	***	***
Charkit	South Norwalk, CT	***	***	***
Chembank	Closter, NJ	***	***	***
Chemsynergy <sup>3</sup>	Wilmington, DE	***	***	***
Greenchem	West Palm Beach, FL	***	***	***
ICC Chemical	New York, NY	***	***	***
Innua <sup>4</sup>	Wilmington, DE	***	***	***
LG Chem <sup>5</sup>	Atlanta, GA	***	***	***
Mexichem <sup>6</sup>	Leominster, MA	***	***	***
Miami Chemical	Miami, FL	***	***	***
Mitsubishi <sup>7</sup>	Newark, NJ	***	***	***
Nox Global <sup>8</sup>	Fostoria, OH	***	***	***
Oxea <sup>9</sup>	Dallas, TX	***	***	***
Sanyo <sup>10</sup>	New York, NY	***	***	***
Silver Fern	Seattle, WA	***	***	***
Soyventis	Fairfield, NJ	***	***	***
The Chemical Company	Jamestown, RI	***	***	***
Tricon <sup>11</sup>	Houston, TX	***	***	***
Univar <sup>12</sup>	Downers Grove, IL	***	***	***
Total		***	***	***

<sup>1</sup> BASF Corporation is \*\*\*.

<sup>2</sup> Beauflor USA, LLC is \*\*\*.

<sup>3</sup> Chemsynergy Limited is \*\*\*.

<sup>4</sup> Innua USA Inc. is \*\*\*.

<sup>5</sup> LG Chem America, Inc is \*\*\*.

<sup>6</sup> Mexichem Specialty Compounds is \*\*\*.

<sup>7</sup> Mitsubishi International PolymerTrade Corporation is \*\*\*.

<sup>8</sup> Nox US, LLC is \*\*\*.

<sup>9</sup> Oxea Corporation is \*\*\*.

<sup>10</sup> Sanyo Corporation of America is \*\*\*.

<sup>11</sup> Tricon International Ltd. is \*\*\*.

<sup>12</sup> Univar USA Inc. is \*\*\*.

Note. -- \*\*\*

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

## U.S. IMPORTS

Table IV-2 and figure IV-1 present data for U.S. imports of DOTP from Korea and all other sources. Imports of DOTP from Korea exceeded those from nonsubject sources in each period for which data were collected. In the aggregate, U.S. imports increased by \*\*\* percent during 2014-16. Subject imports from Korea, however, increased by \*\*\* percent during 2014-16, while imports from nonsubject sources decreased by \*\*\* percent over the same period.

**Table IV-2**  
**DOTP: U.S. imports, by source, 2014-16**

\* \* \* \* \*

**Figure IV-1**  
**DOTP: U.S. import volumes and prices, 2014-16**

\* \* \* \* \*

Table IV-3 presents data for U.S. importers' shipments of DOTP from Korea. Internal consumption remained relatively low from 2014 to 2015, but increased sharply from 2015 to 2016. In 2016, \*\*\*<sup>4</sup>.

**Table IV-3**  
**DOTP: U.S. importers' U.S. shipments, export shipments, and total shipments of U.S. imports from Korea, 2014-16**

\* \* \* \* \*

Table IV-4 presents data for U.S. importers' shipments of DOTP from all other sources.

**Table IV-4**  
**DOTP: U.S. importers' U.S. shipments, export shipments, and total shipments of U.S. imports from all other sources, 2014-16**

\* \* \* \* \*

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<sup>4</sup> \*\*\*.

## NEGLIGENCE

The statute requires that an investigation be terminated without an injury determination if imports of the subject merchandise are found to be negligible.<sup>5</sup> Negligible imports are generally defined in the Tariff Act of 1930, as amended, as imports from a country of merchandise corresponding to a domestic like product where such imports account for less than 3 percent of the volume of all such merchandise imported into the United States in the most recent 12-month period for which data are available that precedes the filing of the petition or the initiation of the investigation. However, if there are imports of such merchandise from a number of countries subject to investigations initiated on the same day that individually account for less than 3 percent of the total volume of the subject merchandise, and if the imports from those countries collectively account for more than 7 percent of the volume of all such merchandise imported into the United States during the applicable 12-month period, then imports from such countries are deemed not to be negligible.<sup>6</sup> Imports from Korea accounted for \*\*\* percent of total imports of DOTP by quantity from June 2015 to May 2016.

## APPARENT U.S. CONSUMPTION AND U.S. MARKET SHARES

Table IV-5 and figure IV-2 present data on apparent U.S. consumption and U.S. market shares for DOTP. From 2014 to 2016, apparent U.S. consumption increased by \*\*\* percent based on quantity. Apparent consumption measured by value decreased by \*\*\* percent from 2014 to 2015, then decreased by \*\*\* percent from 2015 to 2016, and decreased overall by \*\*\* percent from 2014-16. Petitioners reported that \*\*\*.<sup>7</sup> Additionally, importer ALAC reported that \*\*\*.<sup>8</sup>

**Table IV-5**  
**DOTP: Apparent U.S. consumption, 2014-16**

\* \* \* \* \*

**Figure IV-2**  
**DOTP: Apparent U.S. consumption, 2014-16**

\* \* \* \* \*

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<sup>5</sup> Sections 703(a)(1), 705(b)(1), 733(a)(1), and 735(b)(1) of the Act (19 U.S.C. §§ 1671b(a)(1), 1671d(b)(1), 1673b(a)(1), and 1673d(b)(1)).

<sup>6</sup> Section 771 (24) of the Act (19 U.S.C § 1677(24)).

<sup>7</sup> \*\*\* email message to USITC staff, May 2, 2017.

<sup>8</sup> \*\*\* email message to USITC staff, April 19, 2017.

## PART V: PRICING DATA

### FACTORS AFFECTING PRICES

#### Raw material costs

Raw materials represent a substantial share of the cost of producing DOTP. Eastman's raw materials costs as a share of its cost of goods sold (COGS) decreased in each year from a high of \*\*\* percent in 2014 to \*\*\* percent in 2015 and to \*\*\* percent in 2016.

The primary raw materials used to manufacture DOTP are 2-ethylhexanol (2-EH), dimethyl terephthalate (DMT), and purified terephthalic acid (PTA). U.S. producer Eastman stated that it uses 2-EH and DMT while most other DOTP producers use 2-EH and PTA.<sup>1</sup> Eastman also stated that it was one of the last producers of DMT worldwide. Most other global DOTP producers likely use PTA because it is more readily available in the market than DMT.<sup>2</sup>

2-EH is made from propylene and other chemicals, while DMT and PTA are made from paraxylene and other chemicals. Propylene and paraxylene are both petrochemicals. Eastman stated that the prices of paraxylene and propylene are the best proxies for the prices of raw materials used to make DOTP.<sup>3</sup> However, Eastman also noted that \*\*\*.<sup>4</sup> Overall, Eastman estimated that propylene accounted for approximately \*\*\* percent of its COGS for DOTP, while paraxylene represented approximately \*\*\* percent.<sup>5</sup>

Data on the trends in the prices of propylene and paraxylene are presented in figure V-1. Eastman stated that while raw material price declines explain \*\*\* of the price decline in DOTP, overall DOTP prices fell more than its raw material costs did.<sup>6</sup> It added that it attempted to raise prices in April 2016 to cover rising raw material prices, but was unable to do so.<sup>7</sup> It reported somewhat more success with an attempted price increase in September 2016.<sup>8</sup>

**Figure V-1**  
**DOTP: Trends in the prices of propylene and paraxylene, January 2014 to April 2017.**

\* \* \* \* \*

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<sup>1</sup> The petitioner stated that most major producers of DOTP use either a transesterification method or a direct esterification method. Eastman uses the transesterification method, which uses DMT. Other producers use the direct esterification method, which uses PTA.

<sup>2</sup> Conference transcript, pp. 23-24 and 52 (Cullen).

<sup>3</sup> Hearing transcript, p. 64 (Gouveia).

<sup>4</sup> Petitioner's posthearing brief, exhibit 1, p. 3.

<sup>5</sup> Petitioner's posthearing brief, exhibit 5, p. 1.

<sup>6</sup> Petitioner's posthearing brief, exhibit 1, p. 3.

<sup>7</sup> Hearing transcript, pp. 65-66 (Cullen and O'Brien) and petitioner's posthearing brief, exhibit 1, p. 6.

<sup>8</sup> Hearing transcript, p. 65 (Cullen and Clark).

Additionally, nine importers described DOTP raw material prices as having decreased since January 1, 2014, one described raw material prices as unchanged, and four stated that raw materials prices had fluctuated with no clear trend.<sup>9</sup> Five importers described the decreasing price of raw materials, either 2-EH, PTA, or crude oil, as having reduced the price of DOTP. Eastman also described raw materials prices as having \*\*\*.<sup>10</sup>

### **Transportation costs to the U.S. market**

Transportation costs for DOTP shipped from Korea to the United States averaged 5.6 percent during 2016. These estimates were derived from official import data and represent the transportation and other charges on imports.<sup>11</sup>

### **U.S. inland transportation costs**

U.S. producer Eastman reported that \*\*\*. Thirteen responding importers of Korean product reported that they typically arrange transportation to their customers, while four stated that their purchasers arrange transportation. Seven importers indicated that they ship Korean DOTP to U.S. customers from their point of importation, while six shipped from a storage facility.

Eastman reported that its U.S. inland transportation costs were approximately \*\*\* percent. Seven importers of Korean product reported costs of 1 to 5 percent, four reported costs of 8 to 10 percent, and two reported costs of 27 to 35 percent.<sup>12</sup>

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<sup>9</sup> Three importers also stated that raw materials prices had risen; however, from additional comments, at least two of these were likely referring to DOTP- their raw material- prices having risen in 2016.

<sup>10</sup> Combined, propylene and paraxylene accounted for approximately \*\*\* percent of the cost of DOTP. From the beginning of 2014 to the beginning of 2016, the cost of propylene declined over \*\*\* percent and the cost of paraxylene declined over \*\*\* percent before each rose somewhat over 2016 and early 2017. (See Figure V-1.) U.S. prices for DOTP fell between \*\*\* and \*\*\* percent over January-March 2014 until October-December 2016. (See Table V-5, below.) Petitioner states that while raw material price declines account for approximately \*\*\* of the price decline in DOTP, its sales revenue declined by “far more” than its costs. See petitioner’s posthearing brief, p. 11.

<sup>11</sup> The estimated transportation costs were obtained by subtracting the customs value from the c.i.f. value of the imports for 2016 and then dividing by the customs value based on the HTS subheading 2917.39.2000.

<sup>12</sup> ALAC stated that it receives DOTP in bulk ocean vessels delivering to its terminal in New Jersey, and then ships truckloads of DOTP to customers with short lead times. It stated that it used to have a terminal in Savannah, Georgia as well, but found it could not compete for customers in the Southeast region with low prices allegedly offered by Eastman. Thus, it stated that it is focusing on the mid-Atlantic and Northeast regions. Hearing transcript, p. 103 (Frishman).

## PRICING PRACTICES

### Pricing methods

U.S. producer Eastman and importers reported using transaction-by-transaction negotiations, contracts, \*\*\*, as shown in table V-1. Eastman stated that it \*\*\*. The three importers that used contracts also used transaction-by-transaction negotiations.

**Table V-1**  
**DOTP: U.S. producer’s and importers’ reported price setting methods, by number of responding firms<sup>1</sup>**

Method	U.S. producer	Importers
Transaction-by-transaction	***	19
Contract	***	3
Set price list	***	0
Other	***	0
Responding firms	***	19

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

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

Additionally, \*\*\*.<sup>13</sup> \*\*\*.<sup>14</sup>

Seventeen purchasers indicated that their purchases of DOTP typically involved negotiations, while two stated that their purchases did not. Three purchasers stated that they quote competitors’ prices in negotiations, while two stated that they did not, and one stated that it discusses competing bids only in general terms. Purchasers reported that negotiations can cover issues including price, delivery terms, quality, volume rebates, availability, and being an approved supplier.

As shown in table V-2, the U.S. producer and U.S. importers reported their 2016 U.S. commercial shipments of DOTP by type of sale. The U.S. producer and importers reported selling the majority of their product in the spot market, although \*\*\*.

**Table V-2**  
**DOTP: U.S. producer’s and importers’ shares of U.S. commercial shipments by type of sale, 2016**

\* \* \* \* \*

Eastman reported that its \*\*\*. \*\*\*.<sup>15</sup> Two importers reported that price renegotiation was possible on short-term contracts, but one stated that it was not on long-term contracts and one stated that it was not on annual contracts. One importer reported that its annual contracts

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<sup>13</sup> Petitioner’s posthearing brief, exhibit 5, p. 3. In response to another question, purchaser \*\*\*.

<sup>14</sup> Posthearing brief of ALAC, p. 2.

<sup>15</sup> See email from \*\*\*.

fix quantity only, while two stated that their short-term contracts fixed price and quantity. No importers reported meet-or-release provisions on short-term or annual contracts, but one indicated there are such provisions in long-term contracts.

Three purchasers reported that they purchase product daily, ten purchase weekly, four purchase monthly, and two purchase quarterly. Eleven responding purchasers reported that their purchasing frequency had not changed since 2014, but eight stated that it had, mostly citing increased purchases due to increased demand for DOTP (see part II). Eighteen purchasers reported contacting one to five suppliers before making a purchase, with ten of those indicating they contacted up to three suppliers or fewer.

### **Sales terms and discounts**

U.S. producer Eastman typically quotes prices on a \*\*\* basis. Twelve importers \*\*\* quote prices on a delivered basis, while three do so on an f.o.b. basis. Eastman \*\*\*. Fifteen importers reported having no regular discount policy, while three reported offering quantity and/or annual total volume discounts. \*\*\* 13 importers reported sales terms of net 30 days, with \*\*\*. Two importers reported sales terms of net 60 days, and one reported net 15 days.

### **Price leadership**

Purchasers were asked to name any price leaders (defined as firms that initiate price changes or have a significant impact on price) in the U.S. DOTP industry. Eleven purchasers named Eastman, with some citing it for leading prices down and others for keeping prices high or dictating terms as a sole supplier. Three purchasers described Eastman as initiating price changes. Two purchasers named BASF (due to its capacity) and two cited LG due to its low prices or bidding for their business.

### **PRICE DATA**

The Commission requested the U.S. producer and importers to provide quarterly data for the total quantity and delivered value of the following DOTP products shipped to unrelated U.S. customers during 2014-16.

**Product 1.**-- Diocetyl terephthalate in 20 MT containers, including tank trucks, flexitanks or flexitainers, and/or isotanks.

**Product 2.**-- Diocetyl terephthalate in bulk, including railcars and bulk liftings.



The difference in the pricing products reflects the most common ways that DOTP is sold. Purchasers were asked if their firm generally purchases DOTP in 20 MT containers (product 1) or in bulk (product 2), or both. Eight reported purchasing product 1, five reported purchasing product 2, and six reported purchasing both. Additionally, one purchaser reported purchasing in totes and drums, and another by tank truck. Purchasers were also asked why they purchased DOTP in the form they did. Those purchasing product 1 cited a lack of rail access, limited on-site storage capacity, their own indifference to packaging, and the speed of delivery of DOTP as product 1. Those purchasing product 2 cited their own high-volume demand or lower prices for bulk.

One U.S. producer and 12 importers provided usable pricing data for sales of the requested products, although not all firms reported pricing for all products for all quarters.<sup>16</sup> Pricing data reported by these firms accounted for approximately \*\*\* percent of the U.S. producer's U.S. shipments of product and \*\*\* percent of U.S. shipments of subject imports from Korea in 2016.

Price data for products 1-2 are presented in tables V-3 to V-4 and figures V-2 to V-3. Prices for both products from the United States and Korea declined over 2014 to 2016, and volumes of product 1 were higher than volumes for product 2 for shipments of U.S. product. Nonsubject country prices are presented in Appendix D.

**Table V-3**  
**DOTP: Weighted-average delivered prices and quantities of domestic and imported product 1 and margins of underselling/(overselling), by quarters, January 2014-December 2016**

\* \* \* \* \*

**Table V-4**  
**DOTP: Weighted-average delivered prices and quantities of domestic and imported product 2 and margins of underselling/(overselling), by quarters, January 2014-December 2016**

\* \* \* \* \*

**Figure V-2**  
**DOTP: Weighted-average prices and quantities of domestic and imported product 1, by quarters, January 2014-December 2016**

\* \* \* \* \*

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<sup>16</sup> Per-unit pricing data are calculated from total quantity and total value data provided by the U.S. producer and importers. The precision and variation of these figures may be affected by rounding, limited quantities, and producer or importer estimates. Pricing were requested on a delivered basis and in metric tons, whereas in the preliminary phase data were collected on an f.o.b. shipment basis and in short tons. This change was requested by petitioner to reflect the way DOTP is usually sold in the U.S. market. See petitioner's comments on draft questionnaires, February 17, 2017.

**Figure V-3**  
**DOTP: Weighted-average prices and quantities of domestic and imported product 2, by quarters, January 2014-December 2016**

\* \* \* \* \*

**Price trends**

In general, prices decreased during 2014-16. Table V-5 summarizes the price trends, by country and by product. Domestic price decreases ranged from \*\*\* to \*\*\* percent during 2014-16 while import price decreases ranged from \*\*\* to \*\*\* percent.

**Table V-5**  
**DOTP: Summary of weighted-average delivered prices for products 1-2 from the United States and Korea**

Item	Number of quarters	Low price (per metric ton)	High price (per metric ton)	Change in price <sup>1</sup> (percent)
<b>Product 1</b>				
United States	12	***	***	***
Korea	12	***	***	***
<b>Product 2</b>				
United States	12	***	***	***
Korea	12	***	***	***

<sup>1</sup> Percentage change from the first quarter in which data were available to the last quarter in which price data were available.

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

**Price comparisons**

As shown in table V-6, prices for DOTP imported from Korea were below those for U.S.-produced product in 20 of 24 instances (\*\*\*) metric tons); margins of underselling ranged from 1.7 to 14.9 percent. In the remaining 4 instances (\*\*\*) metric tons), prices for DOTP from Korea were between 2.0 and 4.4 percent above prices for the domestic product.

**Table V-6**

**DOTP: Instances of underselling/overselling and the range and average of margins, by country, January 2014-December 2016**

Source	Underselling				
	Number of quarters	Quantity <sup>1</sup> (units)	Average margin (percent)	Margin range (percent)	
				Min	Max
Korea	20	***	8.2	1.7	14.9
Source	(Overselling)				
	Number of quarters	Quantity <sup>1</sup> (units)	Average margin (percent)	Margin range (percent)	
				Min	Max
Korea	4	***	(3.2)	(2.0)	(4.4)

<sup>1</sup> These data include only quarters in which there is a comparison between the U.S. and subject product.

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

### LOST SALES AND LOST REVENUE

In the preliminary phase of the investigation, the Commission requested that the U.S. producer of DOTP report purchasers where it experienced instances of lost sales or revenue due to competition from imports of DOTP from Korea during January 2013-March 2015. U.S. producer Eastman \*\*\*. Eastman identified 11 firms where it lost sales or revenue (\*\*\*). Eastman was also asked to provide information regarding the timing, method of sale, and product type related to the lost sales and lost revenue allegations. Eastman listed \*\*\*. The methods of sale listed by Eastman were \*\*\*.

In the final phase of the investigation, the responding U.S. producer Eastman reported that \*\*\*. With its producer's questionnaire, \*\*\*.

Staff contacted 44 purchasers and received responses from 20 purchasers.<sup>17</sup> Responding purchasers reported purchasing 60,497 MT of DOTP during 2016 (table V-7).

Of the 20 responding purchasers, 10 reported that, since 2014, they had purchased imported DOTP from Korea instead of U.S.-produced product (table V-8). Nine of these purchasers reported that subject import prices were lower than U.S.-produced product, and seven of these purchasers reported (for these 6,255 MT of DOTP) that price was a primary reason for the decision to purchase imported product rather than U.S.-produced product. Purchasers identified supply diversification, quality, and availability as non-price reasons for purchasing imported rather than U.S.-produced product.

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<sup>17</sup> Purchaser \*\*\* submitted lost sales lost revenue survey responses in the preliminary phase, but did not submit purchaser questionnaire responses in the final phase. Additionally, the purchasers' questionnaire erroneously sought purchaser purchase data only through 2015. Staff followed up with responding purchasers and received 2016 purchase data from most purchasers. However, \*\*\*, none of which are large purchasers (of the \*\*\*, only \*\*\* had purchased as much as \*\*\*), did not respond to the request for follow-up data. These firms are included in tables V-8 and V-9 but not in table V-7.

Of the 15 responding purchasers, eight reported that U.S. producers had reduced prices in order to compete with lower-priced imports from subject countries (table V-9; four reported that they did not know). The reported estimated price reduction ranged from 1 to 30 percent. In describing the price reductions over 2014-2016, purchasers attributed them to competition between U.S. and Korean product, falling prices of raw materials, and previous competition with DINP.

**Table V-7**  
**DOTP: Purchasers' responses to purchasing patterns**

\* \* \* \* \*

**Table V-8**  
**DOTP: Purchasers' responses to purchasing subject imports instead of domestic product**

\* \* \* \* \*

**Table V-9**  
**DOTP: Purchasers' responses to U.S. producer price reductions**

\* \* \* \* \*

## PART VI: FINANCIAL EXPERIENCE OF THE U.S. PRODUCER

### BACKGROUND

Eastman, the sole known U.S. producer of DOTP, provided usable financial data on its operations producing and selling DOTP.<sup>1</sup> Eastman is a global specialty chemical company that produces a wide range of advanced materials, chemicals, and fibers.<sup>2</sup> The firm has produced DOTP since 1974 at its plant at Kingsport, Tennessee and since April 2012 at its plant at Texas City, Texas.<sup>3</sup> As highlighted in the firm's public reports, Eastman anticipates growth in flexible plastic products used in sensitive applications. In these applications because of regulatory and consumer concerns, Eastman's DOTP is perceived to be a primary non-phthalate alternative to phthalate plasticizers traditionally used in flooring, toys, child care articles, medical packaging and devices, and food contact items.<sup>4</sup>

Staff verified the financial data reported in \*\*\*'s U.S. producers' questionnaire with its accounting records. The verification adjustments were incorporated into this report. \*\*\*.

### OPERATIONS ON DOTP

Eastman provided data on its \*\*\*. Table VI-1 presents Eastman's reported data on operations in relation to DOTP over the period examined.

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<sup>1</sup> Eastman has a fiscal year that ends on December 31. The data reported in the trade and financial sections of its questionnaire response reconciled.

<sup>2</sup> Overall, Eastman reported sales revenue of \$9.0 billion and earnings from continuing operations of \$859 million in 2016. Eastman's 2016 Form 10-K, p. 29 (as filed). The unit producing plasticizers, including DOTP, was included in Eastman's Chemical Intermediates (CI) reporting segment through the end of fiscal year 2016. Eastman's 2016 Form 10-K, p. 12-13 (as filed). The CI segment reported sales of \$2.5 billion and operating earnings of \$171 million in 2016, accounting for approximately 28.3 percent of Eastman's total sales by segment and 11.0 percent of Eastman's total operating earnings by segment. Eastman's 2016 Form 10-K, p. 120 (as filed). Plasticizers accounted for approximately 20 percent of CI segment sales in 2016 (20 percent in 2015 and 21 percent in 2014). Eastman's 2016 Form 10-K, p. 13 (as filed).

<sup>3</sup> Conference transcript, p. 16 (Parker). Eastman purchased the Texas City, Texas plant from Sterling Chemical in 2011 in order to increase production of non-phthalate plasticizers, primarily DOTP. Eastman modified the layout and plant equipment and started producing DOTP at the Texas City plant in April 2012. Conference transcript, p. 49 (Cullen).

<sup>4</sup> Eastman's 2015 Form 10-K, p. 12 (as filed). In this regard Eastman stated that it has expanded its Eastman 168® non-phthalate plasticizers manufacturing capacity at its Texas City, Texas site to meet expected plasticizer demand growth and has options to further expand this capacity.

**Table VI-1**  
**DOTP: Results of operations of Eastman, 2014-16**

\* \* \* \* \*

Table VI-2 shows the change in unit values for DOTP data presented in table VI-1 between yearly periods. Most of the numbers shown are negative, indicating a downward trend, namely, that the number was lower in the succeeding period than in the preceding period.

**Table VI-2**  
**DOTP: Change in unit values, between fiscal years 2014-16**

\* \* \* \* \*

**Net sales**

Based on the data in table VI-1, total net sales by quantity increased steadily from 2014 to 2016. However, total net sales by value fell from 2014 to 2016. The unit value of total net sales (dollars per metric ton) fell between the full yearly periods (\*\*\*). These changes are indicated in table VI-2.

**Costs and expenses**

Based on the data in table VI-1, total and per unit COGS fell from 2014 to 2016, while the ratio of COGS to total net sales rose steadily during this time. This is an indication that sales values declined more than COGS (table VI-2).

As shown in table VI-1, raw material costs represented the largest component of COGS, accounting for between \*\*\* percent (2016) and \*\*\* percent (2014) of total COGS. Raw material costs decreased from 2014 to 2016. Expressed on a per-unit basis, raw material costs declined (as sales quantities increased) from 2014 to 2016 as well. Raw material costs declined during this period due to \*\*\*.<sup>5</sup>

Raw material costs (and selling prices) fluctuated with the prices of petrochemical products, according to testimony at the staff conference.<sup>6</sup> Eastman personnel testified that the firm produces DOTP by combining dimethyl terephthalate (DMT) with 2-ethylhexanol (2-EH) in a transesterification process, and that Eastman produces both input raw materials.<sup>7</sup>

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<sup>5</sup> Email from \*\*\*, May 3, 2017.

<sup>6</sup> Conference transcript, p. 29 (Cullen).

<sup>7</sup> Ibid., p. 23 (Cullen). Methanol is combined with purified terephthalic acid (PTA) (both of which are made at the Kingsport, Tennessee plant) to produce DMT. Methanol is reclaimed and recycled back into the production process. \*\*\*. Propylene is combined with certain other chemicals to produce 2-EH at Longview, Texas and is imported from Eastman's Singapore plant. Conference transcript, p. 23 (Cullen) and Petition, Exh. Gen-12, flowchart of production process. As explained at the staff conference, the

(continued...)

Other factory costs were the second largest component of COGS, accounting for between \*\*\* (in 2014) percent and \*\*\* percent (in 2016), while direct labor accounted for between \*\*\* percent (in 2014) and \*\*\* percent (in 2015 and 2016). \*\*\*<sup>8</sup> \*\*\*.<sup>9</sup>

### **SG&A expenses and operating income or (loss)**

Based on the data in table VI-1, Eastman's SG&A expense ratio (i.e., total SG&A expenses divided by total net sales) moved within a relatively narrow range, from \*\*\* in 2015.

Gross profit substantially decreased from \*\*\* in 2014 to \*\*\* in 2016 whereas SG&A expense moved in a narrow range from \*\*\* in 2014 to \*\*\* in 2016. Therefore, operating income decreased from \*\*\* in 2014 to \*\*\* in 2016.

### **Interest expense and net income or (loss)**

Based on the data in table VI-1, Eastman's interest expense increased from \*\*\* in 2014 to \*\*\* in 2016. Net income followed the same trend as operating income decreasing from an income of \*\*\* in 2014 to a loss of \*\*\* in 2016.

### **Variance analysis**

A variance analysis is presented in table VI-3.<sup>10</sup> The information for this variance analysis is derived from table VI-1. The analysis in table VI-3 indicates that Eastman's operating income \*\*\*.

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(...continued)

inputs for DMT, PTA, and 2-EH are petrochemical derivatives. DMT and PTA are produced from paraxylene, itself produced from crude petroleum refining. 2-EH's main input is propylene, which is produced as a byproduct of oil refining or by cracking naphta or shale gas or derived from natural gas or syngas. Conference transcript , pp. 66-67 (Cullen).

<sup>8</sup> \*\*\*. Eastman included these adjustments in its response to Commissioner Williamson's question. Petitioner's posthearing brief, exh. 1, p. 5.

<sup>9</sup> Email from \*\*\*, May 8, 2017.

<sup>10</sup> The Commission's variance analysis is calculated in three parts: sales variance, cost of sales variance (COGS variance), and SG&A expense variance. Each part consists of a price variance (in the case of the sales variance) or a cost or expense variance (in the case of the COGS and SG&A expense variance), and a volume variance. The sales or cost/expense variance is calculated as the change in unit price or per-unit cost/expense times the new volume, while the volume variance is calculated as the change in volume times the old unit price or per-unit cost/expense. Summarized at the bottom of the table, the price variance is from sales; the cost/expense variance is the sum of those items from COGS and SG&A variances, respectively, and the volume variance is the sum of the volume components of the net sales, COGS, and SG&A expense variances. The overall volume component of the variance analysis is generally small.

**Table VI-3**  
**DOTP: Variance analysis on the operations of Eastman, between fiscal years 2014-16**

\* \* \* \* \*

**CAPITAL EXPENDITURES AND RESEARCH AND DEVELOPMENT EXPENSES**

Total capital expenditures slightly increased from 2014 to 2015 and substantially decreased from 2015 to 2016. Eastman explained that capital expenditures from 2015 to 2016 \*\*\*.<sup>11</sup> Research and development (“R&D”) expenses slightly decreased from 2014 to 2016. Eastman explained that its capital expenditures were \*\*\*, while R&D expenses were described as \*\*\*.<sup>12</sup> Table VI-4 presents Eastman’s reported capital expenditures and R&D expenses.

**Table VI-4**  
**DOTP: Eastman’s capital expenditures and R&D expenses, fiscal years 2014-16**

\* \* \* \* \*

\*\*\*. These were \$\*\*\* in 2014, \$\*\*\* in 2015, and \$\*\*\* in 2016.<sup>13</sup>

**ASSETS AND RETURN ON ASSETS**

Table VI-5 presents data on Eastman’s total net assets and the ratios of operating income or (loss) to total net assets. \*\*\*.<sup>14</sup> \*\*\*.<sup>15</sup> The data for operating income are from table VI-1, and the ratios of those indicators to total net assets followed the table VI-1 data.

**Table VI-5**  
**DOTP: Eastman’s total assets and ratios of income to assets, 2014-16**

\* \* \* \* \*

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<sup>11</sup> Email from \*\*\*, May 5, 2017.

<sup>12</sup> U.S. Producers’ questionnaire (preliminary phase) of \*\*\*, section III-13.

<sup>13</sup> U.S. producers’ questionnaire of \*\*\*, section III-14.

<sup>14</sup> Email from \*\*\*, May 3, 2017.

<sup>15</sup> Ibid., May 8, 2017.



## CAPITAL AND INVESTMENT

The Commission requested the U.S. producer of DOTP to describe any actual or potential negative effects of imports of DOTP from Korea on the firm's growth, investment, ability to raise capital, development and production efforts, or the scale of capital investments. Table VI-6 tabulates Eastman's response on actual negative effects on investment, growth, and development while table VI-7 presents its narrative responses to these items.

### Table VI-6

**DOTP: Actual and anticipated negative effects of imports on investment and growth and development**

\* \* \* \* \*

### Table VI-7

**DOTP: Narrative responses by Eastman regarding actual and anticipated negative effects of imports from subject sources on investment, growth, and development since January 1, 2014**

\* \* \* \* \*



## PART VII: THREAT CONSIDERATIONS AND INFORMATION ON NONSUBJECT COUNTRIES

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

*In determining whether an industry in the United States is threatened with material injury by reason of imports (or sales for importation) of the subject merchandise, the Commission shall consider, among other relevant economic factors<sup>1</sup>--*

- (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,*

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

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

Information on the volume and pricing of imports of the subject merchandise is presented in *Parts IV* and *V*; and information on the effects of imports of the subject merchandise on U.S. producers' existing development and production efforts is presented in *Part VI*. Information on inventories of the subject merchandise; foreign producers' operations, including the potential for "product-shifting;" any other threat indicators, if applicable; and any dumping in third-country markets, follows. Also presented in this section of the report is information obtained for consideration by the Commission on nonsubject countries.

### **THE INDUSTRY IN KOREA**

The Commission issued foreign producers' or exporters' questionnaires to three firms believed to produce and/or export DOTP from Korea.<sup>3</sup> Usable responses to the Commission's questionnaire were received from two firms: Aekyung Petrochemical Co., Ltd. ("Aekyung") and

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<sup>2</sup> 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."

<sup>3</sup> These firms were identified through a review of information submitted in the petition and contained in \*\*\* records.

LG Chem, Ltd. (“LG Chem”).<sup>4</sup> These firms’ exports to the United States accounted for approximately \*\*\* percent of U.S. imports of DOTP from Korea in 2016. According to estimates requested of the responding Korean producers, the production of DOTP in Korea reported in this Part of the report accounts for approximately \*\*\* percent of overall production of DOTP in Korea. Table VII-1 presents information on the DOTP operations of the responding producers and exporters in Korea.

**Table VII-1**  
**DOTP: Summary data for producers in Korea, 2016**

\* \* \* \* \*

Aekyung Petrochemical Co., Ltd., an affiliated company of the Aekyung Group, is headquartered in Seoul, Korea and focuses on the research and development, production and sale of petrochemicals worldwide.<sup>5</sup> The firm reported \$646.55 million in sales in 2016.<sup>6</sup> The firm produces DOTP in Korea at its \*\*\* plant and reported that DOTP can be produced at its facility in \*\*\*.<sup>7</sup> Aekyung estimated that it accounted for approximately \*\*\* percent of DOTP production in Korea in 2016. Aekyung also estimated that it exported \*\*\* percent of the total exports of DOTP from Korea to the United States in 2016.

LG Chem, Ltd., an affiliated company of LG Group, is headquartered in Seoul, Korea and operates five business units (1) basic chemicals and materials, (2) energy solutions, (3) IT and electronics materials, (4) advanced materials, and (5) life sciences which produce an array of products such as PVC/plasticizers, rubber, automotive and lithium-ion batteries, LCD glass substrates, OLED materials, and pharmaceutical products. The firm employs 26,660 people worldwide and reported global sales of \$18.5 billion in 2016.<sup>8,9</sup> The firm produces DOTP in Korea at its \*\*\* and \*\*\* plants.<sup>10</sup> LG Chem estimated that it accounted for approximately \*\*\* percent of DOTP production in Korea in 2016. LG Chem also estimated that it exported \*\*\* percent of the total exports of DOTP from Korea to the United States in 2016.

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<sup>4</sup> Staff made several attempts to collect a questionnaire submission from Hanwha, but the firm refused to cooperate and declined to submit a questionnaire response. Email correspondence with \*\*\*, April 28, 2017.

<sup>5</sup> <http://www.aekyung.co.kr/EN/about/history.do>, <http://www.akp.co.kr/eng/product/product01.asp>, <http://www.akp.co.kr/eng/rnd/rnd01.asp>, retrieved April 27, 2017.

<sup>6</sup> <http://www.businesskorea.co.kr/english/news/industry/14322-technology-export-russia-aekyung-petrochemical-export-eco-friendly-plasticizer>, retrieved April 28, 2017.

<sup>7</sup> Aekyung’s foreign producer questionnaire response, question I-2 and I-3.

<sup>8</sup> <http://www.lgchem.com/global/lg-chem-company/about-lg-chem/overview>, [http://www.lgchem.com/upload/2017\\_Introducing\\_LGChem\\_EN.pdf](http://www.lgchem.com/upload/2017_Introducing_LGChem_EN.pdf), retrieved April 27, 2017.

<sup>9</sup> <http://www.lgcorp.com/about/affiliatesList.dev>, retrieved April 28, 2017.

<sup>10</sup> LG Chem’s foreign producer questionnaire response, question II4-c and II-4e.

## Changes in operations

As presented in table VII-2 producers in Korea reported several operational and organizational changes since January 1, 2014.

### Table VII-2

**DOTP: Reported changes in operations by producers in Korea, since January 1, 2014**

\* \* \* \* \*

## Operations on DOTP

Table VII-3 presents information on the DOTP operations of the responding producers and exporters in Korea. Reported capacity increased by \*\*\* percent from 2014-16. Aekyung reported \*\*\*.

Production of the two Korean firms increased by \*\*\* percent from 2014-16. Capacity utilization fluctuated throughout 2014-16, decreasing from \*\*\* percent to \*\*\* percent from 2014 to 2015 and then increasing to \*\*\* percent from 2015 to 2016. Capacity utilization for these firms is projected to be \*\*\* and \*\*\* percent in 2017 and 2018, respectively.

### Table VII-3

**DOTP: Data on industry in Korea, 2014-16 and projection calendar years 2017 and 2018**

\* \* \* \* \*

## Alternative products

As shown in table VII-4, responding Korean firms produced other products on the same equipment and machinery used to produce DOTP. \*\*\* reported that it also produces \*\*\* on the same equipment and machinery used to produce DOTP. These products represented a \*\*\* share of \*\*\* overall production, accounting for no more than \*\*\* percent of its overall production since 2014. DOTP accounted for \*\*\* percent of \*\*\* production in 2016.

### Table VII-4

**DOTP: Overall capacity and production on the same equipment as in-scope production by producers in Korea, 2014-16**

\* \* \* \* \*

## Korean exports by destination markets

Table VII-5 presents data from the *Global Trade Atlas* ("GTA") on Korean exports of a variety of chemicals, including DOTP classifiable in HTS subheading 2917.39. HTS subheading 2917.39 is a residual basket category that covers other aromatic polycarboxylic acids, their anhydrides, halides, peroxides, peroxyacids and other derivatives, not just the subject product. China, the largest destination for Korean exports of polycarboxylic acids, their anhydrides,

halides, peroxides, peroxyacids and other derivatives, accounted for 39.9 percent of its exports in 2016. The United States accounted for the second largest share of exports, 13.2 percent in 2016, and all other countries accounted for less than 10 percent of exports from Korea under HTS subheading 2917.39.

**Table VII-5:  
Certain polycarboxylic acids and certain forms and derivatives: Korea exports by destination market, 2014-16**

Destination market	Calendar year		
	2014	2015	2016
	<b>Quantity (metric tons)</b>		
Korea exports to the United States	20,661	27,615	29,962
Korea exports to other major destination markets.--			
China	67,463	84,689	90,364
India	241	11,233	21,647
Vietnam	15,079	16,093	16,892
Italy	7,124	9,044	11,837
Spain	6,022	7,661	10,094
Turkey	9,962	20,302	7,891
Netherlands	3,262	3,364	7,011
Belgium	2,695	2,484	5,294
All other destination markets	26,775	26,234	25,410
Total Korea exports	159,284	208,719	226,402
	<b>Value (1,000 dollars)</b>		
Korea exports to the United States	32,381	30,847	28,012
Korea exports to other major destination markets.--			
China	105,547	94,334	82,718
India	443	11,658	17,710
Vietnam	23,902	17,527	15,637
Italy	11,051	9,482	10,338
Spain	9,389	8,156	8,712
Turkey	15,378	22,841	7,035
Netherlands	5,423	3,812	6,388
Belgium	4,208	2,630	4,729
All other destination markets	44,606	34,194	27,768
Total Korea exports	252,329	235,481	209,045

Table continued on next page.



**Table VII-5--Continued**  
**Certain polycarboxylic acids and certain forms and derivatives: Korea exports by destination market, 2014-16**

Destination market	Calendar year		
	2014	2015	2016
	<b>Unit value (dollars per metric ton)</b>		
Korea exports to the United States	1,567	1,117	935
Korea exports to other major destination markets.--			
China	1,565	1,114	915
India	1,842	1,038	818
Vietnam	1,585	1,089	926
Italy	1,551	1,048	873
Spain	1,559	1,065	863
Turkey	1,544	1,125	891
Netherlands	1,662	1,133	911
Belgium	1,561	1,059	893
All other destination markets	1,666	1,303	1,093
Total Korea exports	1,584	1,128	923
	<b>Share of quantity (percent)</b>		
Korea exports to the United States	13.0	13.2	13.2
Korea exports to other major destination markets.--			
China	42.4	40.6	39.9
India	0.2	5.4	9.6
Vietnam	9.5	7.7	7.5
Italy	4.5	4.3	5.2
Spain	3.8	3.7	4.5
Turkey	6.3	9.7	3.5
Netherlands	2.0	1.6	3.1
Belgium	1.7	1.2	2.3
All other destination markets	16.8	12.6	11.2
Total Korea exports	100.0	100.0	100.0

Note: Data includes DOTP and a variety of chemicals other than DOTP. HTS subheading 2917.39 is a basket category and may cover a significant amount of non-subject merchandise.

Source: Official Korea exports statistics under HTS subheading 2917.39 as reported by Korea's Customs and Trade Development Institution in the IHS/GTA database, accessed April 21, 2017. HTS subheading 2917.39 is a basket category and may cover a significant amount of non-subject merchandise.

## U.S. INVENTORIES OF IMPORTED MERCHANDISE

Table VII-6 presents data on U.S. importers' reported inventories of DOTP. U.S. importers' end-of-period inventories of U.S. imports of DOTP from Korea increased by \*\*\* percent from 2014 to 2016. U.S. importers' end-of-period inventories of U.S. imports of DOTP from all other sources also decreased by \*\*\* percent from 2014 to 2016.

**Table VII-6**  
**DOTP: U.S. importers' end-of-period inventories of imports by source, 2014-16**

\* \* \* \* \*

## U.S. IMPORTERS' OUTSTANDING ORDERS

The Commission requested importers to indicate whether they imported or arranged for the importation of DOTP from Korea after December 31, 2016. \*\*\*. Table VII-7 presents U.S. imports of DOTP from Korea subsequent to December 31, 2016.

**Table VII-7**  
**DOTP: Arranged imports since December 31, 2016**

\* \* \* \* \*

## ANTIDUMPING OR COUNTERVAILING DUTY ORDERS IN THIRD-COUNTRY MARKETS

Table VII-8 presents information on antidumping or countervailing duty orders in third-country markets and, pending investigations, as well as the type of trade remedy action and the year in which orders were issued.<sup>11</sup> There has been one unfair trade remedy investigation in Turkey on DOTP from Korea during the period of investigation.

**Table VII-8**  
**DOTP: Trade remedy proceedings on DOTP from Korea in third countries, by type of action and date of orders**

Country imposing remedy	Type of remedy	Year of orders
Turkey <sup>1</sup>	Pending antidumping investigation	n/a

<sup>1</sup> Turkey initiated an antidumping investigation on November 23, 2016 and as of May 2017, no measures, either preliminary or final, had been imposed.

Source: World Trade Organization, Semi-Annual Report under Article 16.4 of the Agreement.

<sup>11</sup> World Trade Organization, Semi-Annual Report under Article 16.4 of the Agreement: Turkey, G/ADP/N/294/TUR, March 2, 2017, p. 4.

## INFORMATION ON NONSUBJECT COUNTRIES

In assessing whether the domestic industry is materially injured or threatened with material injury “by reason of subject imports,” the legislative history states “that the Commission must examine all relevant evidence, including any known factors, other than the dumped or subsidized imports, that may be injuring the domestic industry, and that the Commission must examine those other factors (including non-subject imports) ‘to ensure that it is not attributing injury from other sources to the subject imports.’”<sup>12</sup>

During the period being examined, the top suppliers of nonsubject U.S. imports of DOTP were China and Mexico. U.S. firms also reported DOTP imports from Germany, Hong Kong, India, and Taiwan. There are reportedly two companies in Mexico, one company in France, one company with one plant each in the Netherlands and Germany, one company in Poland, six companies in Turkey, and 24 companies in China that produce DOTP, together accounting for all nonsubject worldwide production of DOTP as of March 2015.<sup>13</sup>

Tables VII-9 and VII-10 present global exports for a variety of chemicals and chemical mixtures, including DOTP and mixtures containing DOTP, by country, during 2014-16, classifiable in HTS subheadings 2917.39 and 3812.20, respectively.

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<sup>12</sup> *Mittal Steel Point Lisas Ltd. v. United States*, Slip Op. 2007-1552 at 17 (Fed. Cir. Sept. 18, 2008), quoting from Statement of Administrative Action on Uruguay Round Agreements Act, H.R. Rep. 103-316, Vol. I at 851-52; see also *Bratsk Aluminum Smelter v. United States*, 444 F.3d 1369 (Fed. Cir. 2006).

<sup>13</sup> \*\*\*.

**Table VII-9**  
**Certain polycarboxylic acids and certain forms and derivatives: Global exports by reporting country, 2014-16**

Exporter	Calendar year		
	2014	2015	2016
	<b>Quantity (metric tons)</b>		
United States	112,409	123,117	115,792
Korea	159,284	208,719	226,402
All other major reporting exporters.--			
Taiwan	150,305	169,199	171,373
China	77,033	78,462	88,208
Japan	76,628	56,697	60,123
Belgium	58,842	58,619	52,108
Netherlands	45,698	45,731	50,051
Italy	29,563	29,292	33,650
India	29,635	35,090	32,245
Poland	7,742	18,064	28,808
All other exporters	76,236	61,746	73,463
Total global exports	823,374	884,737	932,224
	<b>Value (1,000 dollars)</b>		
United States	267,726	278,232	212,272
Korea	252,329	235,481	209,045
All other major reporting exporters.--			
Taiwan	206,633	192,923	220,382
China	224,186	245,111	214,062
Japan	134,382	90,110	103,373
Belgium	98,381	81,722	80,236
Netherlands	96,674	68,844	65,070
Italy	83,623	76,426	82,954
India	71,855	79,524	64,437
Poland	13,229	22,283	29,850
All other exporters	205,305	157,661	166,694
Total global exports	1,654,322	1,528,317	1,448,375

Table continued on next page.

**Table VII-9--Continued**  
**Certain polycarboxylic acids and certain forms and derivatives: Global exports by reporting country, 2014-16**

Exporter	Calendar year		
	2014	2015	2016
	<b>Unit value (dollars per metric ton)</b>		
United States	2,382	2,260	1,833
Korea	1,584	1,128	923
All other major reporting exporters.--			
Taiwan	1,375	1,140	1,286
China	2,910	3,124	2,427
Japan	1,754	1,589	1,719
Belgium	1,672	1,394	1,540
Netherlands	2,116	1,505	1,300
Italy	2,829	2,609	2,465
India	2,425	2,266	1,998
Poland	1,709	1,234	1,036
All other exporters	2,693	2,553	2,269
Total global exports	2,009	1,727	1,554
	<b>Share of quantity (percent)</b>		
United States	13.7	13.9	12.4
Korea	19.3	23.6	24.3
All other major reporting exporters.--			
Taiwan	18.3	19.1	18.4
China	9.4	8.9	9.5
Japan	9.3	6.4	6.4
Belgium	7.1	6.6	5.6
Netherlands	5.6	5.2	5.4
Italy	3.6	3.3	3.6
India	3.6	4.0	3.5
Poland	0.9	2.0	3.1
All other exporters	9.3	7.0	7.9
Total global exports	100.0	100.0	100.0

Note: Data includes DOTP and a variety of chemicals other than DOTP. HTS subheading 2917.39 is a basket category and may cover a significant amount of non-subject merchandise.

Source: Official export statistics under HTS subheading 2917.39 as reported by various national statistical authorities in the IHS/GTA database, accessed April 29, 2017.

**Table VII-10**  
**Compound plasticizers for rubber or plastics: Global exports by reporting country, 2014-16**

Exporter	Calendar year		
	2014	2015	2016
	<b>Quantity (metric tons)</b>		
United States	17,414	28,109	32,286
Korea	2,666	1,850	2,284
All other major reporting exporters.--			
Germany	60,917	60,945	61,720
Canada	27,313	26,393	27,848
Estonia	17,085	17,085	16,300
China	13,740	12,927	13,174
Argentina	22,897	11,158	9,614
Hong Kong	14,012	9,342	8,642
Taiwan	6,286	5,639	8,502
Netherlands	5,187	9,655	7,850
All other exporters	34,198	41,671	32,630
Total global exports	221,715	224,774	220,849
	<b>Value (1,000 dollars)</b>		
United States	60,168	73,602	78,573
Korea	8,694	4,163	3,233
All other major reporting exporters.--			
Germany	165,683	141,769	138,813
Canada	71,956	67,452	57,083
Estonia	30,290	25,177	22,636
China	25,313	23,617	25,580
Argentina	28,630	12,449	9,820
Hong Kong	29,439	19,380	17,786
Taiwan	14,070	11,148	13,068
Netherlands	10,692	15,990	11,712
All other exporters	73,068	77,864	72,622
Total global exports	518,003	472,611	450,926

Table continued on next page.

**Table VII-10--Continued**  
**Compound plasticizers for rubber or plastics: Global exports by reporting country, 2014-16**

Exporter	Calendar year		
	2014	2015	2016
	<b>Unit value (dollars per metric ton)</b>		
United States	3,455	2,618	2,434
Korea	3,261	2,250	1,416
All other major reporting exporters.--			
Germany	2,720	2,326	2,249
Canada	2,634	2,556	2,050
Estonia	1,773	1,474	1,389
China	1,842	1,827	1,942
Argentina	1,250	1,116	1,021
Hong Kong	2,101	2,075	2,058
Taiwan	2,238	1,977	1,537
Netherlands	2,061	1,656	1,492
All other exporters	2,137	1,869	2,226
Total global exports	2,336	2,103	2,042
	<b>Share of quantity (percent)</b>		
United States	7.9	12.5	14.6
Korea	1.2	0.8	1.0
All other major reporting exporters.--			
Germany	27.5	27.1	27.9
Canada	12.3	11.7	12.6
Estonia	7.7	7.6	7.4
China	6.2	5.8	6.0
Argentina	10.3	5.0	4.4
Hong Kong	6.3	4.2	3.9
Taiwan	2.8	2.5	3.8
Netherlands	2.3	4.3	3.6
All other exporters	15.4	18.5	14.8
Total global exports	100.0	100.0	100.0

Note: Data includes mixtures containing DOTP and certain chemical mixtures other than mixtures containing DOTP. HTS subheading 3812.20 is a basket category and may cover both subject and non-subject merchandise.

Source: Official export statistics under HTS subheading 3812.20 as reported by various national statistical authorities in the IHS/GTA database, accessed April 29, 2017.





**APPENDIX A**

***FEDERAL REGISTER NOTICES***



The Commission makes available notices relevant to its investigations and reviews on its website, [www.usitc.gov](http://www.usitc.gov). In addition, the following tabulation presents, in chronological order, *Federal Register* notices issued by the Commission and Commerce during the current proceeding.

Citation	Title	Link
81 FR 44329, July 7, 2016	<i>Diethyl Terephthalate (DOTP) From Korea; Institution of Antidumping Duty Investigation and Scheduling of Preliminary Phase Investigation</i>	<a href="https://www.gpo.gov/fdsys/pkg/FR-2016-07-07/pdf/2016-16062.pdf">https://www.gpo.gov/fdsys/pkg/FR-2016-07-07/pdf/2016-16062.pdf</a>
81 FR 49628, July 28, 2016	<i>Diethyl Terephthalate From the Republic of Korea: Initiation of Less-Than-Fair-Value Investigation</i>	<a href="https://www.gpo.gov/fdsys/pkg/FR-2016-07-28/pdf/2016-17806.pdf">https://www.gpo.gov/fdsys/pkg/FR-2016-07-28/pdf/2016-17806.pdf</a>
81 FR 55482, August 19, 2016	<i>Diethyl Terephthalate (DOTP) From Korea; Determination</i>	<a href="https://www.gpo.gov/fdsys/pkg/FR-2016-08-19/pdf/2016-19817.pdf">https://www.gpo.gov/fdsys/pkg/FR-2016-08-19/pdf/2016-19817.pdf</a>
81 FR 79435, November 14, 2016	<i>Diethyl Terephthalate From the Republic of Korea: Postponement of Preliminary Determination of Antidumping Duty Investigation</i>	<a href="https://www.gpo.gov/fdsys/pkg/FR-2016-11-14/pdf/2016-27262.pdf">https://www.gpo.gov/fdsys/pkg/FR-2016-11-14/pdf/2016-27262.pdf</a>
82 FR 9195, February 3, 2017	<i>Diethyl Terephthalate From the Republic of Korea: Affirmative Preliminary Determination of Sales at Less Than Fair Value, Negative Preliminary Determination of Critical Circumstances, and Postponement of Final Determination</i>	<a href="https://www.gpo.gov/fdsys/pkg/FR-2017-02-03/pdf/2017-02250.pdf">https://www.gpo.gov/fdsys/pkg/FR-2017-02-03/pdf/2017-02250.pdf</a>
82 FR 12841, March 7, 2017	<i>Diethyl Terephthalate (DOTP) From Korea: Scheduling of the Final Phase of an Antidumping Duty Investigation</i>	<a href="https://www.gpo.gov/fdsys/pkg/FR-2017-03-07/pdf/2017-04438.pdf">https://www.gpo.gov/fdsys/pkg/FR-2017-03-07/pdf/2017-04438.pdf</a>
82 FR 17691, April 12, 2017	<i>Diethyl Terephthalate (DOTP) From Korea; Correction; Scheduling of the Final Phase of an Antidumping Duty Investigation (Corrected Notice)</i>	<a href="https://www.gpo.gov/fdsys/pkg/FR-2017-04-12/pdf/2017-07394.pdf">https://www.gpo.gov/fdsys/pkg/FR-2017-04-12/pdf/2017-07394.pdf</a>
82 FR 28824, June 26, 2017	<i>Diethyl Terephthalate From the Republic of Korea: Final Determination of Sales at Less Than Fair Value and Final Negative Determination of Critical Circumstances</i>	<a href="https://www.gpo.gov/fdsys/pkg/FR-2017-06-26/pdf/2017-13285.pdf">https://www.gpo.gov/fdsys/pkg/FR-2017-06-26/pdf/2017-13285.pdf</a>



**APPENDIX B**

**LIST OF HEARING WITNESSES**



## CALENDAR OF PUBLIC HEARING

Those listed below appeared as witnesses at the United States International Trade Commission's hearing:

**Subject:** Dioctyl Terephthalate (DOTP) from Korea  
**Inv. No.:** 731-TA-1330 (Final)  
**Date and Time:** June 13, 2017 - 9:30 a.m.

Sessions were held in connection with this investigation in the Main Hearing Room (room 101), 500 E Street, SW, Washington, DC.

### **OPENING REMARKS:**

Petitioner (**Christine M. Streatfeild**, Baker & McKenzie LLP)  
Respondent (**Jeffrey M. Winton**, Law Office of Jeffrey M. Winton PLLC)

### **In Support to the Imposition of Antidumping Duty Order:**

Baker & McKenzie LLP  
Washington, DC  
on behalf of

Eastman Chemical Company ("Eastman")

**Colin Gouveia**, Vice President *and* General Manager for Chemical Intermediates, Eastman

**Cari Jo Parker**, Vice President, Advanced Materials and Fibers Manufacturing, Eastman

**Dr. Stephen R. Cullen**, Business Unit Director, Oxo and Plasticizers, Chemical Intermediates Business Organization, Eastman

**Jason Clark**, Business Unit Manager, General Purpose Plasticizers, Eastman

**Thomas Rogers**, Economist, Capital Trade, Inc.

**Kevin M. O'Brien** )  
 ) – OF COUNSEL  
**Christine M. Streatfeild** )

**In Opposition to the Imposition of  
Antidumping Duty Order:**

Jeffrey M. Winton PLLC  
Washington, DC  
on behalf of

ALAC International Inc. (“ALAC”)

**Lily Frishman**, Managing Director, ALAC

**Aaron Wei**, Managing Director, ALAC

**Jeffrey M. Winton** ) – OF COUNSEL

**REBUTTAL/CLOSING REMARKS:**

Petitioner (**Kevin M. O’Brien**, Baker & McKenzie LLP)  
Respondent (**Jeffrey M. Winton**, Jeffrey M. Winton PLLC)

**-END-**



**APPENDIX C**  
**SUMMARY DATA**



**Table C-1**  
**DOTP: Summary data concerning the U.S. market, 2014-16**

\* \* \* \* \*

**Table C-1 – Continued**  
**DOTP: Summary data concerning the U.S. market, 2014-16**

\* \* \* \* \*

**APPENDIX D**  
**NONSUBJECT COUNTRY PRICE DATA**



Nonsubject imports accounted for \*\*\* percent of U.S. DOTP consumption in 2016. Seven importers reported price data for nonsubject imports from all countries other than Korea. Countries for which data were provided were China, India, Mexico, and Taiwan. (Three importers provided pricing data for two countries combined.) Price data reported by these firms accounted for \*\*\* percent of shipments of all other countries' exports of DOTP to the United States during 2016.<sup>1</sup> These price items and accompanying data are comparable to those presented in tables V-3 and V-4. Price and quantity data for all other countries are shown in tables D-1 and D-2, and in figures D-1 and D-2 (with domestic and subject sources).

In comparing nonsubject country pricing data with U.S. producer pricing data, prices for DOTP imported from nonsubject countries were lower than prices for U.S.-produced product in 6 instances and higher in 8 instances. In comparing nonsubject country pricing data with subject country pricing data, prices for product imported from nonsubject countries were lower than prices for product imported from Korea in 2 instances and higher in 12 instances. A summary of price differentials is presented in table D-3.

**Table D-1**  
**DOTP: Weighted-average delivered prices and quantities of imported product 1, by quarters, January 2014-December 2016**

\* \* \* \* \*

**Table D-2**  
**DOTP: Weighted-average delivered prices and quantities of imported product 2, by quarters, January 2014-December 2016**

\* \* \* \* \*

**Figure D-1**  
**DOTP: Weighted-average delivered prices and quantities of domestic and imported product 1, by quarters, January 2014-December 2016**

\* \* \* \* \*

**Figure D-2**  
**DOTP: Weighted-average delivered prices and quantities of domestic and imported product 2, by quarters, January 2014-December 2016**

\* \* \* \* \*

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<sup>1</sup> \*\*\*, importers that provided data on imports of nonsubject product, did not provide pricing data for nonsubject imports.

**Table D-3**  
**DOTP: Summary of underselling/(overselling), by country, January 2014-December 2016**

Comparison	Total number of comparisons	Nonsubject lower than comparison		Nonsubject higher than comparison	
		Number of quarters	Quantity ( <i>metric tons</i> )	Number of quarters	Quantity ( <i>metric tons</i> )
<b>Nonsubject vs United States:</b> Nonsubject countries vs. United States	14	6	2,739	8	2,055
<b>Nonsubject vs subject countries:</b> Nonsubject countries vs. Korea	14	2	371	12	4,422

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



