



EUROPEAN COMMISSION  
DG Competition

***Case M.9017 - SK  
CAPITAL PARTNERS  
/ SCHENECTADY  
INTERNATIONAL  
GROUP***

Only the English text is available and authentic.

**REGULATION (EC) No 139/2004  
MERGER PROCEDURE**

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Article 6(1)(b) NON-OPPOSITION  
Date: 11/10/2018

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## EUROPEAN COMMISSION

Brussels, 11.10.2018

C(2018) 6796 final

In the published version of this decision, some information has been omitted pursuant to Article 17(2) of Council Regulation (EC) No 139/2004 concerning non-disclosure of business secrets and other confidential information. The omissions are shown thus [...]. Where possible the information omitted has been replaced by ranges of figures or a general description.

PUBLIC VERSION

**To the notifying party**

**Subject: Case M.9017 – SK Capital Partners / Schenectady International Group**

**Commission decision pursuant to Article 6(1)(b) of Council Regulation No 139/2004<sup>1</sup> and Article 57 of the Agreement on the European Economic Area<sup>2</sup>**

Dear Sir or Madam,

- (1) On 6 September 2018, the European Commission ("the Commission") received notification of a proposed concentration pursuant to Article 4 of the Merger Regulation by which SK Capital Partners, LP ("SK Capital", USA) intends to acquire, through its portfolio company Addivant USA Holdings Corp. ("Addivant", USA), sole control over Schenectady International Group, Inc. ("SI Group", USA) within the meaning of Article 3(1)(b) of the Merger Regulation, by way of purchase of shares (the "Transaction").<sup>3</sup> SK Capital is referred to as the "Notifying Party". SK Capital and SI Group are collectively referred to as the "Parties", whilst the undertaking resulting from the Transaction is referred to as "the merged entity".

<sup>1</sup> OJ L 24, 29.1.2004, p. 1 (the 'Merger Regulation'). With effect from 1 December 2009, the Treaty on the Functioning of the European Union ('TFEU') has introduced certain changes, such as the replacement of 'Community' by 'Union' and 'common market' by 'internal market'. The terminology of the TFEU will be used throughout this decision.

<sup>2</sup> OJ L 1, 3.1.1994, p. 3 (the 'EEA Agreement').

<sup>3</sup> Publication in the Official Journal of the European Union No C 325, 14.9.2018, p. 14.

## 1. THE PARTIES

- (2) **SK Capital** is a US-based private investment firm, focused on the specialty materials, chemicals and pharmaceuticals sectors.
- (3) **Addivant** is SK Capital's portfolio company and is a global producer and supplier of specialty additives including antioxidants and intermediates used to improve the production and performance properties of plastics and rubbers.
- (4) **SI Group**, incorporated in the USA, is a privately owned manufacturer and supplier of performance additives and chemical intermediates, active globally.

## 2. THE OPERATION

- (5) The Parties entered into a Merger Agreement on 31 May 2018. For the purpose of the Transaction, SK Capital would acquire, indirectly through Addivant, sole control of SI Group by acquiring all of its shares. At closing of the operation, SK Capital plans to combine its portfolio company Addivant and SI Group.
- (6) The Transaction therefore constitutes a concentration pursuant to Article 3(1)(b) of the Merger Regulation.

## 3. UNION DIMENSION

- (7) The undertakings concerned have a combined aggregate world-wide turnover of more than EUR 2 500 million<sup>4</sup> (SK Capital: EUR [...] million, SI Group: EUR [...] million). The aggregate Union-wide turnover exceeds EUR 100 million in [three Member States]. The turnover of both undertakings exceeds 25 million in each of these countries, and neither SK Capital, nor SI Group generates more than two thirds of their Union-wide turnover within one and the same Member State.
- (8) The Transaction therefore has a Union dimension pursuant to Article 1(3) of the Merger Regulation.

## 4. COMPETITIVE ASSESSMENT

- (9) SK Capital and SI Group have largely complementary portfolios with limited overlaps. More specifically, the Transaction leads to **horizontal overlaps** between the activities of Addivant and SI Group in relation to the supply of antioxidants. Under the retained product market definitions (see below), those

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<sup>4</sup> Turnover calculated in accordance with Article 5 of the Merger Regulation.

overlaps give rise to affected markets only in relation to very specific types (grades) of antioxidants.

- (10) In addition, the Transaction leads to a number of **vertically affected markets** in light of the activities of SK Capital (through its portfolio companies TPC Group and Addivant) and SI Group. These vertical links relate to various specialty chemicals that one Party produces and the other uses as input in the production of a variety of other chemicals. Specifically,
- a. SI Group produces 2,4 di-tert-butylphenol ("**2,4 DTBP**") and 2,6 di-tert-butylphenol ("**2,6 DTBP**"), input chemicals used by Addivant (and SI Group) to produce certain antioxidants;
  - b. SI Group produces 6-tert-Butyl-o-Cresol ("**6-BOC**"), while Addivant uses 6-BOC to produce certain antioxidants;
  - c. SI Group produces o-sec-Butylphenol ("**OSBP**"), an input chemical used by Addivant to produce 2,4-dinitro-6-sec butyl phenol ("**DNPB**");
  - d. SK Capital's portfolio company TPC Group produces Diisobutylene ("**DIB**"), a raw material input used by SI Group to produce 4-tert-Octylphenol ("**PTOP**");
  - e. SK Capital's portfolio company TPC Group produces High Purity Isobutylene ("**HPIB**"), a raw material input used by Addivant for the production several chemical intermediates (i.e. 4-tert-Butylphenol ("**PTBP**"), **2,4 DTBP**, **2,6 DTBP**, phenolic resins and **6-BOC**);
  - f. SK Capital's portfolio company TPC Group supplies Butene-1, a raw material input used by SI Group in the production of two chemical intermediates, namely OSBP and Di-sec-Butylphenol ("**DSBP**").

## **A. Horizontal overlaps**

### **4.1. Antioxidants**

#### *4.1.1. Relevant product markets*

- (11) Antioxidants are chemical additives used primarily in plastic resins that protect polymers from oxygen degradation.
- (12) In its previous decisional practice, the Commission concluded that a distinction could be made between (i) primary antioxidants, which protect polymers during the production and processing stages, and (ii) secondary antioxidants, which are

used to protect polymers once they are manufactured.<sup>5</sup> The Commission also further segmented primary and secondary antioxidants on the basis of their main compound into, on the one hand, (i) amines, and (ii) phenolics (for primary antioxidants); and, on the other hand, into (i) organophosphites ("OPHs"), and (ii) thioesters (for secondary antioxidants).<sup>6</sup>

- (13) In relation to phenolics, the Commission left open the question of whether the market concerned should be segmented even further at the level of antioxidant grades.
- (14) In relation to OPHs, the Commission further distinguished between products sold in solid and liquid form. As regards solid OPHs, it found supply-side substitutability between different grades, thus defining the relevant product market at the level of solid OPHs.<sup>7</sup>
- (15) As shown in the Table below, the Parties' activities overlap only on the markets for phenolics and solid OPHs.

Table 1. Overview of the Parties' activities in the markets for antioxidants

Class	Category	Grade <sup>8</sup>	Addivant	SI Group
Primary antioxidants	Phenolics	1076	✓ through resale only	✓ through resale only
		1010	✓	✓
		1330	✓ through resale only	✓
		3114	✓	✓ through resale only
		245	✓	
		1098	✓	
		1315	✓	
		Other		
	Amines		✓	
Secondary antioxidants	OPHs	Solid	✓	✓
		Liquid	✓	
	Thioesters	✓		

- (16) The Notifying Party did not contest the Commission's precedents and submits that the market for phenolics should not be segmented based on grade in light of demand-side and supply-side substitutability considerations.

5 Cases COMP/M.3805 - *Crompton/Great Lakes*, decision of 15 June 2005, COMP/M.5355 - *BASF/CIBA*, decision of 12 March 2009 and COMP/M.8261 - *Lanxess / Chemtura*, decision of 31 March 2017.

6 *Ibid.*

7 Case COMP/M.3805 - *Crompton/Great Lakes*, decision of 15 June 2005.

8 In line with industry practice, the grades of antioxidants are referred to by the designation given by BASF, which is one of the main producers of antioxidants.

- (17) The market investigation in the present case indicated that it would not be appropriate to depart from Commission's precedents; therefore solid OPHs and phenolics are distinct product markets.
- (18) In relation to the potential segmentation of the phenolic antioxidant market based on grades, the market investigation provided mixed results as to the degree of demand-side substitutability between different grades. As regards the supply-side substitutability, although a few competitors explained that they produce different phenolic grades using dedicated equipment, the market investigation provided indications that it is possible to produce various grades on the same production line and thus to switch easily between the different phenolic products. For example, one competitor stated that "*phenolics can be [produced] on the same dedicated line*",<sup>9</sup> while another actually explained that it does produce BASF 3114 in the same production line than BASF 245.<sup>10</sup>
- (19) In light of the results of the market investigation and taking account of all evidence available to it, the Commission considers that, for the purpose of this Decision, (i) solid OPH antioxidants constitute a relevant product market; and (ii) the question of whether the market for phenolic antioxidants should be segmented on the basis of grades can be left open, since the Transaction does not raise serious doubts as to its compatibility with the internal market, regardless of the exact product market definition.

#### 4.1.2. *Relevant geographic markets*

- (20) In its previous decisional practice,<sup>11</sup> the Commission found that the relevant geographic market for antioxidants (and its sub-segments) is at least EEA-wide in scope.
- (21) The Notifying Party claims that the geographic market is likely to be global but that, in any event, it can be left open in this case since the Transaction does not give rise to any competition concerns at both EEA and global level.
- (22) The results of the market investigation pointed to various elements that could indicate a wider than EEA scope of the markets concerned. The majority of antioxidants producers explained that while there are certain barriers to trade (e.g. import duties, REACH registration), these do not prevent them from selling their products globally.<sup>12</sup> There are no technical characteristics that impede antioxidants to travel long distances and suppliers do serve customers located

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<sup>9</sup> Replies to question 6 of Q1 – questionnaire to producers of antioxidants.

<sup>10</sup> Replies to question 7 of Q1 – questionnaire to producers of antioxidants.

<sup>11</sup> Cases COMP/M.3805 - *Crompton/Great Lakes*, decision of 15 June 2005 and COMP/M.5355 - *BASF/CIBA*, decision of 12 March 2009.

<sup>12</sup> Replies to question 12 of Q1 – questionnaire to producers of antioxidants.

outside the regions where they produce antioxidants.<sup>13</sup> Customers explained that while proximity of suppliers may be an advantage, it is not a requirement and, in light of the relatively low transportation costs of the products concerned, it is not a crucial characteristic.<sup>14</sup> In addition, according to the market investigation, should the price of antioxidants in the EEA be subject to a small but permanent increase in price, in the order of 5-10%, customers would be promptly purchasing the products concerned from suppliers located outside the EEA.<sup>15</sup>

- (23) In conclusion, the Commission considers that, for the purpose of this Decision, the precise geographic market definition for the markets of (i) solid OPHs, and (ii) phenolics (and its potential sub-segments based on phenolic grades) can be left open, since the Transaction does not raise serious doubts as to its compatibility with the internal market, regardless of any plausible geographic market definition.

#### *4.1.3. Competitive assessment*

- (24) Under Article 2(2) and (3) of the Merger Regulation, the Commission must assess whether a proposed concentration would significantly impede effective competition in the internal market or in a substantial part of it, in particular through the creation or strengthening of a dominant position.
- (25) A merger can entail horizontal effects. In this respect, the Commission Guidelines on the assessment of horizontal mergers under the Merger Regulation ("the Horizontal Merger Guidelines")<sup>16</sup> distinguish between two main ways in which mergers between actual or potential competitors on the same relevant market may significantly impede competition, namely non-coordinated and coordinated effects. Non-coordinated effects may significantly impede competition, eliminating important competitive constraints on one or more firms, which consequently would have increased market power, without resorting to coordinated behaviour.
- (26) This Decision will analyse whether the Transaction is likely to raise serious doubts as to its compatibility with the internal market by the creation of non-coordinated effects in those markets on which the Parties' activities lead to horizontal overlaps.
- (27) The Parties' activities overlap at the level of phenolics and solid OPHs. However, affected markets would arise only at a more granular level, in relation to specific

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<sup>13</sup> Replies to question 11 of Q1 – questionnaire to producers of antioxidants.

<sup>14</sup> Replies to question 15 of Q3 – questionnaire to customers of antioxidants.

<sup>15</sup> Replies to question 12 of Q3 – questionnaire to customers of antioxidants.

<sup>16</sup> Guidelines on the assessment of horizontal mergers under the Council Regulation on the control of concentrations between undertakings, OJ C 31, 5.2.2004 p.5

grades of phenolic antioxidants, that is to say: BASF 1330 (1,3,5-Trimethyl-2,4,6-tris(3,5-di-tert-butyl-4-hydroxybenzyl)benzene) and BASF 3114 (1,3,5-Tris(3,5-di-tert-butyl-4-hydroxybenzyl)isocyanurate). In relation to both grades, only one of the Parties produces the products concerned while the other is active on the market through resale. While the Parties' activities also overlap in relation to the supply of BASF 1076 and BASF 1010, these would not lead to affected markets.

- (28) As shown in the table below, the Parties' combined market shares on the relevant market for solid OPHs are [5-10]% and [10-20]% in the EEA and globally, respectively. Their combined market shares on the relevant market for phenolics are [5-10]% and [10-20]%, in the EEA and globally, respectively.

Table 2: The Parties' and their competitors' market shares (in volume, MT) on the markets for (i) Solid OPHs and (ii) Phenolics in 2017, in the EEA and globally<sup>17</sup>

	Solid OPHs		Phenolics	
	EEA	Global	EEA	Global
<b>SI Group</b>	[0-5]%	[5-10]%	[0-5]%	[0-5]%
<b>Addivant</b>	[0-5]%	[10-20]%	[5-10]%	[5-10]%
<b>COMBINED</b>	<b>[5-10]%</b>	<b>[10-20]%</b>	<b>[5-10]%</b>	<b>[10-20]%</b>
<b>BASF</b>	[30-40]%	[20-30]%	[30-40]%	[20-30]%
<b>Songwon</b>	[20-30] %	[20-30]%	[10-20]%	[10-20]%
<b>Adeka</b>	[5-10]%	[10-20]%	[5-10]%	[5-10]%
<b>Everspring</b>	[0-5]%	[0-5]%	[5-10]%	[5-10]%
<b>Rich Yu</b>	[5-10]%	[5-10]%	[0-5]%	[0-5]%
<b>Others</b>	[20-30]%	[20-30]%	[30-40]%	[30-40]%
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

Source: Form CO

- (29) Based on the relevant product market definitions discussed in Section 4.1.1, the combined market shares of the Parties would exceed 20% only if the market for phenolics were to be narrowly segmented, at the level of grades. In this respect, two potential affected markets would arise: BASF 1330 and BASF 3114.
- (30) BASF 1330 is a niche market that accounts for only 1% of the total demand for phenolic antioxidants.<sup>18</sup> On this potential segment, the Parties' combined market shares would amount to [40-50]% both at EEA and global level, however with a small increment brought about by the Transaction ([0-5]% in the EEA and [0-5]% globally). According to the Parties' estimates, other competitors present on the market include BASF (with a market share of about [10-20]%, both in the EEA and globally) and Songwon ([10-20]% in the EEA and [10-20]% globally), together with other suppliers, mostly located in Asia, some of which do also have

<sup>17</sup> The Notifying Party submits that the market shares of the Parties did not substantially differ in the past three years. Market shares in value would not substantially differ from market shares in volume.

<sup>18</sup> The Notifying Party estimates the total global and EEA market size for BASF 1330 in 2017 to be [...] MT (USD [...]) and [...] MT (USD [...]), respectively.



activities in the EEA. The limited market share of Addivant is explained by the fact that the company does not produce this product internally but sources it from [...] on a spot basis [...].

- (31) BASF 3114 is also a niche market that accounts for only 1% of the total demand for phenolic antioxidants.<sup>19</sup> On this potential segment, the Parties' combined market shares would amount to [30-40]% globally ([20-30]% Addivant and [10-20]% SI Group) and [30-40]% in the EEA ([10-20]% Addivant and [10-20]% SI Group). According to the Parties' estimates, other suppliers present on the market include BASF (with a market share of about [30-40]% in the EEA and [20-30]% globally) and Songwon ([20-30]% in the EEA and [10-20]% globally). In addition, other suppliers, mostly located in Asia, do also have activities in the EEA. SI Group sources its needs for this specific grade of antioxidant from a third party on a non-exclusive basis.
- (32) The majority of market participants responding to the market investigation identified only one of the Parties among the top three suppliers for BASF 1330 and BASF 3114, either in the EEA or globally.<sup>20</sup> Overall, it appears that each of the Parties compete more closely with other suppliers, in particular BASF and Songwon, rather than between themselves, both in relation to the specific grades considered and in relation to phenolic antioxidants overall.<sup>21</sup>
- (33) The market investigation also revealed that besides BASF, Songwon and the Parties, there are alternative suppliers on the market who produce either one of BASF 1330 and BASF 3114, or both. These include in particular Everspring (Taiwan), Rianlon (China), and Jiyi Chemical (China), as well as other resellers such as Adeka and Mitsubishi.
- (34) In addition, the vast majority of customers indicated that switching supplier for phenolics is relatively easy, especially in light of the fact that they have typically qualified already all the main antioxidants suppliers active on the market. The market investigation did not provide indications that this would differ depending on the specific grades considered.<sup>22</sup>
- (35) While some customers have generically mentioned that the Transaction will remove one supplier of antioxidants from the market, the Commission considers that this does not mean that the operation will remove an important competitive constraint. This is first, because in relation to both grades, one of the Parties is

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19 The Notifying Party estimates the total global and EEA market size for BASF 3114 in 2017 to be [...] MT (USD [...]) and [...] MT (USD [...]), respectively.

20 Replies to question 18 of Q1 – questionnaire to producers of antioxidants and replies to question 16 of Q3 – questionnaire to customers of antioxidants.

21 Replies to question 21 of Q3 – questionnaire to customers of antioxidants.

22 Replies to question 22 of Q3 – questionnaire to customers of antioxidants.

active on the markets concerned as a mere reseller based on non-exclusive distribution agreements. Second, as explained above, alternative producers to SI Group and Addivant will remain an important competitive constraint to the merged entity. Finally, some customers actually stated that the Transaction is likely to have pro-competitive effects since it would allow the merged entity to better compete with two major antioxidant suppliers that are able to offer a wide spectrum of phenolic antioxidants, namely BASF and Songwon.<sup>23</sup>

#### 4.1.4. Conclusion on horizontal effects

- (36) For the reasons set out in Section 4.1.3, the Commission concludes that the Transaction does not raise serious doubts as to its compatibility with the internal market in the markets for the supply of solid OPHs and the supply of phenolic antioxidants (and of its plausible segments) both at EEA and global level due to horizontal effects.

### B. Vertical overlaps

- (37) A vertical merger may result in anticompetitive effects due to foreclosure. Foreclosure concerns a situation where the actual or potential rivals' access to supplies or markets is hampered or eliminated as a result of the merger, thereby reducing those companies' ability and/or incentive to compete. Two forms of foreclosure can be distinguished in a vertical relationship: input and customer foreclosure. The first is where the merger is likely to raise the costs of downstream rivals by restricting their access to an important input (input foreclosure). The second is where the merger is likely to foreclose upstream rivals by restricting their access to a sufficient customer base (customer foreclosure).<sup>24</sup>
- (38) Input foreclosure arises where, post-merger, the new entity would be likely to restrict access to the products or services that it would have otherwise supplied absent the merger, thereby raising its downstream rivals' costs by making it harder for them to obtain supplies of the input under similar prices and conditions as absent the merger.<sup>25</sup>
- (39) Customer foreclosure may occur when a supplier integrates with an important customer in the downstream market. Because of this downstream presence, the merged entity may foreclose access to a sufficient customer base to its actual or potential rivals in the upstream market (the input market) and reduce their ability or incentive to compete. In turn, this may raise downstream rivals' costs by

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23 Replies to question 30 of Q3 – questionnaire to customers of antioxidants.

24 Non-Horizontal Guidelines, paragraphs 29–30.

25 Non-Horizontal Guidelines, paragraph 31.

making it harder for them to obtain supplies of the input under similar prices and conditions as absent the merger.<sup>26</sup>

- (40) For an input or customer foreclosure scenario to raise competition concerns, three cumulative factors need to be taken into account: (i) the ability of the merged entity to engage in foreclosure; (ii) the incentives of the merged entity to do so; and (iii) whether a foreclosure strategy would have a significant detrimental effect on competition in the downstream market.<sup>27</sup>
- (41) As explained in recital (9) the Transaction gives rise to vertically affected markets because of the activities of the production by one of the Parties of speciality chemicals that are used by the other Party in the production of a variety of other chemicals. This Decision will analyse whether the Transaction is likely to raise serious doubts as to its compatibility with the internal market due to input or costumer foreclosure in those market where the activities of the Parties are vertically linked.

#### **4.2. 2,4 and 2,6 DTBP as an input material for the production of solid OPH and phenolic antioxidants**

##### *4.2.1. 2,4 and 2,6 DTBP (upstream)*

###### *4.2.1.1. Relevant product market*

- (42) 2,4 and 2,6 DTBP are organic compounds which belong to the broader category of alkylphenols. They are stored in liquid form at high temperatures.
- (43) 2,4 DTBP is mostly used as an intermediate raw material in the production of secondary solid OPHs antioxidants. 2,6 DTPB is mostly used as an intermediate raw material in the production of phenolic antioxidants.<sup>28</sup>
- (44) The Commission has not assessed the markets for 2,4 DTBP and 2,6 DTBP in the past.
- (45) According to the Notifying Party, there are no substitutes for 2,4 DTBP and 2,6 DTBP from a demand-side perspective. However, it argues that there is some supply-side substitutability both between 2,6 and 2,4 DTBP themselves, and between 2,6 and 2,4 DTBP, on the one side, and other alkylphenols chemical products that are manufactured using similar distillation equipment, on the other side.

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<sup>26</sup> Non-Horizontal Guidelines, paragraph 58.

<sup>27</sup> Non-Horizontal Guidelines, paragraphs 32, 59.

<sup>28</sup> According to the data provided by the Parties, virtually all 2,4 DTBP produced in the market (99.6%) is used in solid OPHs, while virtually all 2,6 DTBP produced in the market (95.6%) is used in phenolics.

- (46) The market investigation indicated that there is limited substitutability between 2,4 DTBP and 2,6 DTBP both from the supply side and demand side. On the one hand, producers explained that while it is possible to produce 2,4 and 2,6 DTBP as part of the same manufacturing process, suppliers that have dedicated lines for each type of product cannot easily switch between the two.<sup>29</sup> On the other hand, market participants explained that it not possible to substitute 2,4 and 2,6 DTBP either with each other, or with other chemical products in the production process for solid OPHs and phenolics, respectively.<sup>30</sup> The market investigation did not provide evidence suggesting that further segmentations of the markets concerned should be considered.
- (47) In conclusion, the Commission considers that, for the purpose of this Decision, the question of whether 2,4 and 2,6 DTBP belong to the same product market (potentially including all alkylphenols) can be left open, since the Transaction does not raise serious doubts as to its compatibility with the internal market, regardless of the exact product market definition.

#### 4.2.1.2. Relevant geographic market

- (48) The Notifying Party argues that the markets for 2,4 DTBP and 2,6 DTBP are at least EEA-wide, with indications of the existence of global markets. This would mainly be due to low transportation costs and import duties into the EEA.
- (49) The market investigation provided mixed results as to the geographic scope of the markets for 2,4 and 2,6 DTBP. According to both suppliers and customers, the vast majority of DTBP is sold within the same region as where it is produced.<sup>31</sup>
- (50) The majority of customers responding to the market investigation explained there are some barriers to transport DTBP over long distances, in particular due to transport costs and longer delivery times.<sup>32</sup> Geographic proximity of suppliers is not considered a crucial characteristic when selecting a provider, but in light of the shorter lead times and lower transportation costs, customers do consider it preferable.<sup>33</sup> Customers located in the EEA however also explained that in response to a small but significant non-transitory increase in price (in the order of 5-10%), they would attempt to import DTBP from outside the EEA.<sup>34</sup>

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29 Replies to question 5 of Q2 – questionnaire to DTBP and 6-BOC producers.

30 Replies to questions 10 and 11 of Q2 – questionnaire to DTBP and 6-BOC producers, and replies to questions 28 and 29 of Q2 – questionnaire to DTBP and 6-BOC producers.

31 Replies to questions 12 and 13 of Q2 – questionnaire to DTBP and 6-BOC producers and replies to question 30 (and subquestions) of Q1 – questionnaire to producers of antioxidants.

32 See Question 33 of Q1 – questionnaire to producers of antioxidants.

33 See Question 38 of Q1 – questionnaire to producers of antioxidants. According to a competitor, "DTBP is shipped all over the world, but the transport has to meet specific requirements. According to [...], the product can be shipped in a heated container, or can be shipped and heated upon arrival." (Non-confidential version of the minutes of the conference call with a competitor dated 27 August 2018, para. 13).

34 Replies to questions 18 and 19 of Q2 – questionnaire to DTBP and 6-BOC producers.

(51) In conclusion, the Commission considers that, for the purposes of this Decision, the exact scope of the geographic market definition for the supply of 2,4 and 2,6 DTBP can be left open, since no serious doubts as to the compatibility of the Transaction with the internal market arise, regardless of the geographic scope of the market concerned.

#### 4.2.2. *Phenolic and solid OPH antioxidants (downstream)*

(52) The Commission has defined the relevant product and geographic markets for phenolic and solid OPH antioxidants in Sections 4.1.1 and 4.1.2.

#### 4.2.3. *Competitive assessment*

(53) SI Group produces and supplies 2,4 and 2,6 DTBP, input material used in the production of phenolic and solid OPH antioxidants. Addivant and SI Group use 2,6 DTBP as a critical input to produce phenolic antioxidants and 2,4 DTBP as a critical input to produce solid OPHs antioxidants. While Addivant is not vertically integrated upstream, SI Group produces 2,4 and 2,6 DTBP in the US, Singapore and Europe (Switzerland).

(54) The Transaction therefore gives rise to a vertical relationship between SI Group's activities on the upstream markets for DTBP and the Parties' activities on the downstream markets for phenolic and solid OPH antioxidants.<sup>35</sup>

#### Market structure

(55) As shown in the Table below, on the upstream market for **2,4 DTBP** SI Group holds a market share of [40-50]% worldwide and [70-80]% in the EEA,<sup>36</sup> both in volume and in value. SI Group's main competitors at global level are Tasco and Jiyi Chemical, with market shares of [20-30]% and [10-20]%, respectively. In the EEA, besides SI Group, other two suppliers are active on the market: Sasol ([20-30]% market share) and Sterlitamak ([5-10]%). On the market for **2,6 DTBP** SI Group holds a market share of [40-50]% worldwide and [50-60]% in the EEA,<sup>37</sup> both in volume and in value. Similarly to 2,4 DTBP, SI Group's main competitors globally are Tasco and Jiyi Chemical, with market shares of [20-30]% and [10-20]%, respectively. In the EEA, besides SI Group, other three suppliers are active

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35 The question of whether the market for phenolics should be further segmented based on grades is not relevant for the purpose of the assessment of the present vertical link. This is because any potential foreclosure strategy would concern the different grades of phenolics, and not certain specific grades (such as those where the Parties' activities overlap). Therefore, for the purpose of the competitive assessment, reference will be made to the overall market for the supply of phenolics.

36 Excluding captive sales (both for the Parties and their competitors). If the market for the supply of 2,4 DTBP would cover the EEA and Switzerland, SI Group's market share would be [90-100]%, both in volume and in value. This is explained by the fact that SI Group's main customer in Europe – [customer] – has an antioxidants' plant in Switzerland.

37 Excluding captive sales (both for the Parties and their competitors). If the market for the supply of 2,6 DTBP would cover the EEA and Switzerland, SI Group's market share would be [80-90]% in value and [80-90]% in volume. This is explained by the fact that SI Group's main customer in Europe – [customer] – has an antioxidants' plant in Switzerland.

on the market: Oxiris ([30-40]% market share), Sterlitamak ([10-20]%), and Tasco ([0-5]%).

Table 3: SI Group's and its competitors' market shares (in volume, MT) on the merchant markets for 2,4 DTBP and 2,6 DTBP in 2017<sup>38</sup>

	UPSTREAM			
	2,4 DTBP		2,6 DTBP	
	EEA	Global	EEA	Global
<b>SI Group</b>	<b>[70-80]%</b>	<b>[40-50]%</b>	<b>[50-60]%</b>	<b>[40-50]%</b>
<b>Tasco</b>	[0-5]%	[20-30]%	[0-5]%	[20-30]%
<b>Jiyi Chemical</b>	[0-5]%	[10-20]%	[0-5]%	[10-20]%
<b>Chang Chun</b>	[0-5]%	[5-10]%	[0-5]%	[5-10]%
<b>Zibo</b>	[0-5]%	[0-5]%	[0-5]%	[0-5]%
<b>Sasol</b>	[20-30]%	[0-5]%	[0-5]%	[0-5]%
<b>Oxiris</b>	[0-5]%	[0-5]%	[30-40]%	[0-5]%
<b>Sterlitamak</b>	[5-10]%	[0-5]%	[10-20]%	[0-5]%
<b>Songwon</b>	[0-5]%	[0-5]%	[0-5]%	[0-5]%
<b>Others</b>	[0-5]%	[5-10]%	[0-5]%	[0-5]%
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

Source: Form CO

- (56) On the downstream market for both phenolics and solid OPHs antioxidants, the Parties hold combined market shares below 20% (in volume and value), both at EEA and worldwide level.

Table 4: SI Group's market shares (in volume, MT) on the markets for 2,4 DTBP and 2,6 DTBP and the Parties' market shares (in volume, MT) on the markets for solid OPH and phenolic antioxidants in 2017<sup>39</sup>

	UPSTREAM			
	2,4 DTBP		2,6 DTBP	
	EEA	Global	EEA	Global
<b>SI Group</b>	[70-80]%	[40-50]%	[50-60]%	[40-50]%
	DOWNSTREAM <sup>40</sup>			
	Solid OPHs		Phenolics	
	EEA	Global	EEA	Global
<b>SI Group</b>	[0-5]%	[5-10]%	[0-5]%	[0-5]%
<b>Addivant</b>	[0-5]%	[10-20]%	[5-10]%	[5-10]%
<b>COMBINED</b>	<b>[5-10]%</b>	<b>[10-20]%</b>	<b>[5-10]%</b>	<b>[10-20]%</b>

Source: Form CO

- (57) Since only SI Group is active on the markets for the supply of 2,4 DTBP and 2,6 DTBP, the only change brought about by the Transaction is the increment in the Parties' position on the downstream markets for antioxidants (solid OPHs and

38 The Notifying Party submits that the market shares of the Parties did not substantially differ in the past three years. Market shares in value would not substantially differ from market shares in volume.

39 The Notifying Party submits that the market shares of the Parties did not substantially differ in the past three years. Market shares in value would not substantially differ from market shares in volume.

40 According to the Notifying Party, solid OPH antioxidants are only used in polymers and not in other applications. Moreover, given that virtually all phenolics are used for polymers applications, the market shares reported in the Table refer to antioxidants used in polymers specifically.

phenolics). However, SI Group's activities in antioxidants pre-Transaction are limited and the market share increment brought about by Addivant's activities is in the range of 5-10%.

#### Customer foreclosure

- (58) Addivant does not purchase 2,4 and 2,6 DTBP in the EEA. Its total purchases of 2,4 and 2,6 DTBP in 2017 only represented [10-20]% and [0-5]%, respectively, of the total global demand. In addition, since Addivant already purchases, pre-Transaction, the vast majority of its DTBP needs from SI Group, the operation is unlikely to bring any relevant change. The market investigation did not reveal specific concerns in this respect. In particular, the only supplier of Addivant for DTBP other than SI Group, i.e. Tasco, does not believe the Transaction will have adverse effects on its ability to access DTBP customers.<sup>41</sup>
- (59) In conclusion, in light of the above considerations and taking the outcome of the market investigation into account, the Commission considers that it is unlikely that the Transaction would lead to a significant increase in customer foreclosure risks in relation to the supply of 2,4 and 2,6 DTBP, in the EEA and globally.

#### Input foreclosure

- (60) In the context of the present Decision, input foreclosure relates to the possibility of the merged entity to restrict access to or increase price of inputs to competing phenolics and solid OPH producers, i.e. to restrict access to the DTBP produced by SI Group to Parties' competitors downstream.
- a) Ability to foreclose
- (61) The Notifying Party argues that the merged entity would not have the ability to foreclose its competitors downstream. It submits that [customer] is the only relevant customer purchasing significant quantities of 2,4 DTBP and 2,6 DTBP from SI Group and that input foreclosure concerns should be dismissed in view of the following arguments:
- (i) There are several alternative suppliers for DTBP active either in the EEA and/or globally (such as Tasco, Jiyi Chemical, Sasol, Oxiris, Chang Chun), with [customer] already sourcing from some of them (even for its EEA plants), and no barriers to switch suppliers;
- (ii) The alternative suppliers active on the merchant market have substantial levels of spare capacity;

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41 Replies to question 61 of Q2 - questionnaire to producers of DTBP and 6-BOC.

- (iii) Vertically integrated suppliers that are not active yet on the merchant market could easily start supplying DTBP to third parties; and
  - (iv) [Customer] enjoys a substantial bargaining power, since it is a very important customer for DTBP - as it is the market leader for antioxidants (both in the EEA and globally) - and exerts a credible threat to either backward integrate in the production of DTBP or sponsor the entry and/or expansion of DTBP supplier(s).
  - (v) The contract between SI Group and [customer] for the supply of DTBP in Europe and North America runs until [...] with guaranteed volumes and no possibility to unilaterally increase prices.
- (62) It appears from the evidence available to the Commission that [customer] is indeed the only relevant customer of SI Group for 2,4 and 2,6 DTBP that could be significantly impacted by the Transaction. [Customer] accounts for [a large share] of SI Group's total sales of 2,4 DTBP and [a large share] of its sales of 2,6 DTBP globally. As one respondent to the market investigation noted: "*[Customer] is the only large producer of antioxidants which is not backward integrated upstream and might be impacted by a reduced availability of DTBP*".<sup>42</sup>
- (63) In order for input foreclosure to raise competition concerns, the relevant input must be an important input for the downstream product and the merged entity must have a significant degree of power in the upstream market.<sup>43</sup> In the present case, both conditions are fulfilled since (i) 2,4 DTBP represents up to [50-60]% of the final price of solid OPH antioxidants and 2,6 DTBP represents up to [40-50]% of the final price of phenolic antioxidants;<sup>44</sup> and (ii) SI Group's market share on the market for DTBP is approximately [50-60]% worldwide and goes up to [70-80]% in relation to the supply of 2,4 DTBP in the EEA.
- (64) The results of the market investigation revealed that SI Group is indeed perceived by both customers and suppliers of DTBP as the most important supplier of this product, both in the EEA and globally.<sup>45</sup> However, the market investigation also revealed that several Asian suppliers are active on the global market, and that they produce DTBP with comparable quality to the products manufactured in Europe or the US. In addition, the investigation indicated that DTBP could possibly be

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42 Replies to question 61 of Q2 - questionnaire to producers of DTBP and 6-BOC.

43 Non-horizontal Merger Guidelines, paras. 34 and 35.

44 Annex 47 of the Form CO. This was also confirmed by the market investigation (replies to questions 45 and 46 of Q1 – Questionnaire to producers of antioxidants).

45 Replies to questions 22 and 23 of Q2 – questionnaire to DTBP and 6-BOC producers and replies to question 39 of Q1 – Questionnaire to producers of antioxidants.



imported into the EEA from Asia, and thus, (at least some) Asian suppliers might constitute an alternative source of supply for customers located in the EEA.<sup>46</sup>

- (65) While the market investigation did not confirm the Parties' claim that vertically integrated suppliers of DTBP would have the capacity to supply third parties,<sup>47</sup> it appears that some competitors, such as Tasco in particular, have spare capacity and/or plans of expansion.<sup>48</sup> In addition, it seems that a new player based in India is likely to enter the market for DTBP within the next two to three years.<sup>49</sup>
- (66) Against the above background, the Commission considers that [customer], as the leader on the market for antioxidants (both in the EEA and globally), exerts a credible threat to either backward integrate in the production of DTBP or sponsor the entry and/or expansion of DTBP supplier(s). This was confirmed by [customer] itself which indicated that there are alternatives to SI Group as DTBP supplier, but those alternatives need to be developed further and this might up to three years.<sup>50</sup> Yet, the contract between SI Group and [customer] for the supply of DTBP in Europe and North America runs until [...] with guaranteed volumes and no possibility to unilaterally increase prices, which would give [customer] sufficient time to find alternative suppliers (including sponsoring entry/expansion), or start its own production, in the event the merged entity would reduce its output or attempt to increase the price of DTBP.
- (67) Therefore, it appears more likely than not that the merged entity will not have the ability to foreclosure downstream competitors. In any event, even in the hypothesis that the merged entity would have the ability to foreclose downstream competitors, it will not have the incentive to do so, as explained in the following Section.

b) Incentive to foreclose

- (68) The incentive to foreclose generally depends on the degree to which foreclosure would be profitable.
- (69) The Notifying Party argues that SI Group would not have the incentive to foreclose its competitors downstream in light of the following main arguments:

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46 Replies to question 42 of Q1 – questionnaire to producers of antioxidants.

47 Non-confidential version of the minutes of the conference call with a competitor dated 3 August 2018, para. 14.

48 Replies to question 21 of Q2 – questionnaire to producers DTBP and 6-BOC.

49 Replies to question 30 of Q2 – questionnaire to producers DTBP and 6-BOC.

50 Non-confidential version of the minutes of the conference call with [customer] dated 27 August 2018. During this conference call, [customer] explained that, as part of the alternatives, it could (i) source part of its needs of DTBP from Asian suppliers; and (ii) decide to backward integrate into DTBP if the demand supply balance of the DTBP market would change in such a way to make economically sense for [customer] to invest into the manufacturing of DTBP.

- (i) SI Group already supplies, pre-Transaction, downstream competitors (notably [customer]<sup>51</sup>);
  - (ii) [Customer] is overall a very relevant customer of the combined entity, representing around [a sizeable portion] of its turnover (in the EEA and globally);
  - (iii) Even if the merged entity would prioritise its own downstream production (including [potential] capacity expansions by Addivant for the next 5 years), it would still have substantial spare capacity and will be able to serve all of its existing customers, worldwide; and
  - (iv) Any effort to reduce its presence on the upstream merchant market or to increase its prices would just cause SI Group to lose sales and profits upstream which cannot be compensated in the downstream market. This is because not enough of [customer] lost sales on the downstream market would be diverted to the merged entity, in light of the limited market shares and downstream capacities of the Parties, and the competitiveness of the antioxidants markets.<sup>52</sup>
- (70) Against that background, and following the results of the market investigation, the Commission takes note of the following considerations.
- (71) First, already pre-Transaction SI Group is vertically integrated and nevertheless does supply DTBP to its downstream competitors, and in particular to [customer]. Therefore, the only merger-specific variation brought about by the Transaction is the potential change in incentive to foreclose competitors (and in particular, [customer]), resulting from the acquisition of additional (limited) downstream activities. The question therefore arises whether the additional volumes downstream would provide incentive to internalize more of the upstream capacity. In this context the Commission notes that the merged entity's downstream capacity [...] both in the EEA and globally [...] would [not] be sufficient to absorb a significant proportion of its upstream capacity. In addition, the Notifying Party submits that utilisation rates of the current downstream capacity are [...].<sup>53</sup> Furthermore, the market investigation revealed that expanding antioxidant production capacity to an appreciable extent, e.g. by constructing a new plant, would require significant investments both in terms of time and costs.<sup>54</sup>

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51 With a contract running until [...]. Base prices are [information on prices].

52 To support their claims, the Notifying Party submitted an economic assessment, including a diversion ratio analysis.

53 Annexes 39 and 51 of the Form CO.

54 Non-confidential version of the minutes of the conference call with a competitor dated 16 August 2018: "[...] a new plant would require an investment of 100 million dollars" and non-confidential version of the minutes of the conference call with a competitor dated 3 August 2018: "(...) the Parties are a small player on the market for antioxidants and they would need to

- (72) Second, based on the data provided by the Parties, the total upstream effective production capacity of SI Group would be sufficient to supply all of its current customers for 2,4 and 2,6 DTPB, even under the assumption that both Addivant and SI Group were to absorb their respective maximum capacity downstream [...]. In addition, based on the data provided, the merged entity would have sufficient effective capacity to keep supplying all of its customers in the EEA and Switzerland from its European production plant (located in Switzerland).
- (73) Third, although Addivant's profit margins on the downstream markets are [...] than SI Group's, the merged entity's upstream and downstream profit margins would not be significantly different. This means that the potential increase in profit margins resulting from additional downstream sales is unlikely, per se, to change the incentive for the merged entity to supply competitors with the upstream products in any appreciable manner. Moreover, it should be noted that [customer] represents about [a sizeable portion] of the merged entity's total sales (both in the EEA and globally) and [a large portion] of SI Group's intermediate plastics additives business' operational margin and volumes sold (2017 data). Therefore, any loss of DTBP sales to [customer], if not compensated with sufficient gains downstream, is likely to have an adverse impact on the merged entity's operations overall.
- (74) Fourth, the Commission notes that, as explained in Section 4.1.3, Addivant and SI Group are not among the main suppliers of antioxidants either in the EEA or globally. [Capacity information] and they face several players active on the market, including top suppliers like BASF and Songwon. Therefore, should the merged entity decide to reduce output on the upstream merchant market, it is unlikely that its loss of sales upstream would be compensated by an increase in sales downstream. This is because [competitor's] hypothetical loss of sales in the antioxidant markets (due to a hypothetical foreclosure) is unlikely to be diverted to a significant extent to the merged entity. This is because Addivant is not a particularly close competitor to [competitor's]. Indeed, based on the results of the market investigation, it is more likely that [competitor's] lost sales would be diverted to other players, such as Songwon, who compete more closely with [competitor] (see Section 4.1.3) and is vertically integrated, i.e. does not depend on SI Group for the supply of DTBP materials.
- (75) Fifth, the Commission notes that, generally speaking, the past behaviour can also provide useful guidance to understand the likely impact of a transaction in some situations. In this respect, it should be noted that SI Group acquired its downstream antioxidant business from Albemarle in 2014. Conceptually, the situation was similar to that of the present Transaction in the sense that vertical

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*make significant investments [EUR 200-300 million] in order to increase their production capacity downstream and absorb their entire production of 2,4 and 2,6 DTBP."*

integration could have given SI Group an incentive to manipulate supply of 2,6 and 2,4 DTBP to favour its newly acquired antioxidant business and to disadvantage Albermarle's competitors (including Addivant and [customer]). However, after the operation, SI Group continued to supply both Addivant and [customer] with DTBP products, without increasing prices. As already explained, the change in downstream activities brought by the present acquisition is limited, thus it is more likely than not that the merged entity will behave as it did in the past in comparable situations.

- (76) Finally, while some market participants expressed generic concerns in relation to the merged entity becoming more vertically integrated, it appears that such concerns relate more specifically to the fact that the merged entity may become more competitive on the downstream markets, in light of cost advantages. This is particularly the case because, as explained above, [customer] is the only customer purchasing significant quantities of DTBP from SI Group. In relation to the impact of the Transaction, [customer] explained that they "*do not expect SIG to stop supplying [customer] completely. Short term, it would be very difficult for SIG to allocate their DTBP capacities to other antioxidant producers. This may change in case SK Capital would decide to expand further their antioxidant production capacity and SIG would allocate their DTBP capacities for captive use*".<sup>55</sup> In light of the [...] plans [...] of the merged entity over the next five years on the downstream markets, the high costs to engage in significant expansion capacity strategies downstream, and the fact that [customer] is protected for the next [...] by its contract with SI Group, it appears unlikely that the merged entity could absorb its captive production of DTBP to any significant extent.
- (77) In light of the above, the Commission considers that the Transaction is unlikely to change the incentives for the merged entity to supply upstream products (2,4 and 2,6 DTBP) to its downstream competitors.
- (78) In light of the above considerations and of the outcome of the market investigation, the Commission considers that the Transaction does not give rise to serious doubts as to its compatibility with the internal market in relation to the vertical relationship between the supply of 2,4 and 2,6 DTBP (upstream) and the supply of phenolic and solid OPH antioxidants (downstream).

#### **4.3. 6-BOC as an input material for the production of phenolic antioxidants**

- (79) The Transaction gives rise to a vertical overlap between SI Group's upstream supply of 6-BOC and Addivant's downstream production of primary phenolic antioxidants.

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55 Non-confidential version of the minutes of the conference call with [customer] dated 27 August 2018, page 4.

#### 4.3.1. 6-BOC (upstream product)

- (80) **6-BOC** is a chemical intermediate belonging to the wider chemical group of alkyphenol that is used in the downstream production of specific grades of phenolic antioxidants. Addivant uses 6-BOC for its downstream production of a specific grade of phenolic antioxidant (BASF 245)<sup>56</sup> used in the production of polyethylene cables. To the best of the Notifying Party's knowledge, 6-BOC is also used as an input chemical for the production of another grade of phenolic antioxidant (BASF 80)<sup>57</sup>, which is used for the stabilization of polyolefins and other plastics.<sup>58</sup>
- (81) The Commission has not previously analysed the market for 6-BOC.
- (82) With respect to the product market definition, the Notifying Party considers that the question of whether 6-BOC represents a product market on its own or whether it is part of a wider product market can be left open. The market investigation provided evidence that 6-BOC cannot be replaced by other chemicals in the production process of the finished goods it is used for, pointing toward a relevant market at the product level.<sup>59</sup>
- (83) In conclusion, for the purpose of the present case, the exact scope of the product market definition for 6-BOC can be left open, since the Transaction does not raise serious doubts as to its compatibility with the internal market, regardless of the product market definition.
- (84) With respect to the geographic market definition, while the Notifying Party ultimately believes that the precise scope of the market can be left open, it considers the geographic market to be global, since 6-BOC is easily transportable and transport costs and import duties into the EEA are low. This finding was confirmed by the results of the market investigation.<sup>60</sup>
- (85) In conclusion, the Commission considers that, for the purposes of this Decision, the exact scope of the geographic market definition for the supply of 6-BOC can be left open, since no serious doubts as to the compatibility of the Transaction with the internal market arise, regardless of the geographic scope of the market concerned.

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56 Chemical Name: Ethylene bis(oxyethylene) bis-(3-(5-tert-butyl-4-hydroxym-tolyl)propionate.

57 Chemical Name: 3,9-bis{2-[3-(3-tert-butyl-4-hydroxy-5-methylphenyl)propionyloxy]-1,1-dimethyl}-2,4,8,10-tetraoxaspiro[5,5]undecane.

58 SK Capital does not produce BASF 80. SI Group neither produces BASF 245 nor BASF 80.

To the best of the Notifying Party's knowledge, BASF 80 and BASF 245 are the only products using 6-BOC as an input material for their production.

59 Replies to question 65 (and sub-questions) of Q1 – questionnaire to producers of antioxidants.

60 Replies to questions 67 and 68 of Q1 – questionnaire to producers of antioxidants.

#### 4.3.2. Phenolic antioxidants (downstream product)

(86) The Commission has defined the relevant product and geographic market for phenolic antioxidants in Sections 4.1.1 and 4.1.2.

#### 4.3.3. Competitive assessment

(87) SI Group sells 6-BOC to Addivant on a spot basis for its production of BASF 245. SI Group had [...] sales of 6-BOC to Addivant in 2017 and has made [...] sales of this chemical to Addivant in 2018 (amounting to [...] of SI Group's total sales of 6-BOC in 2018).

(88) On the upstream market for 6-BOC, SI Group had a market share of [20-30]% worldwide in 2017 and was the only supplier of 6-BOC in the EEA over the period 2015-2017. The market investigation revealed that SI Group's market share worldwide is likely to have been underestimated, fact that will be taken into account in the competitive analysis.

(89) On the downstream market for phenolic antioxidants, the Parties' combined market share remains below [10-20]% (in volume and in value), both globally and in the EEA over the period 2015-2017. On the narrower hypothetical market for BASF 245, the Notifying Party estimates its market share to be below [0-5]%, both at EEA and global level.

(90) Based on the available evidence, the Commission considers that the Transaction will not result in either input or customer foreclosure for the following reasons.

(91) Input foreclosure is unlikely in the EEA given the fact that Addivant is the only customer of 6-BOC in the EEA and it already sources the entirety of its needs from SI Group.<sup>61</sup> At worldwide level, even though the market investigation revealed that SI Group's market share is likely to have been underestimated, it also showed that there are sufficient alternative suppliers of 6-BOC on the market to which customers could turn to.<sup>62</sup> In any event, SI Group's sales to Addivant (which is sourcing the entirety of its needs from SI Group) are so marginal (EUR [...]) compared to its total sales of 6-BOC (EUR [...]) that any input foreclosure strategy would only result in significant loss of profits for SI Group.

(92) Similarly, customer foreclosure is unlikely to occur since Addivant represents less than [0-5]% of the total demand for 6-BOC, which it entirely sourced from SI Group, its only approved supplier. Suppliers of 6-BOC will therefore have a large array of customers to turn.

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61 SI Group supplies [...]. The current contract runs until [...] with [information on prices].

62 Replies to question 79 of Q1 – questionnaire to producers of antioxidants.

- (93) In light of the above considerations, the Commission conclusively considers that the Transaction does not raise serious doubts as to its compatibility with the internal market with respect to the vertical relationship between SI Group's supply of 6-BOC (upstream) and the Parties' production of phenolic antioxidants (downstream) under any of the alternative market definitions.

#### **4.4. OSBP as an input material for the production of DNBP**

##### *4.4.1. OSBP (upstream)*

- (94) **OSBP** is an industrial chemical raw material belonging to the wider chemical group of alkylphenols that is manufactured by reacting Butene-1 with phenol. OSBP is used in dyeing and as a chemical intermediate for the production of polymer inhibitors (such as DNBP), pesticides, fuel additives and stabiliser intermediates. SI Group produces OSBP at two production sites in Switzerland and the United States.
- (95) The Commission has not previously analysed the market for OSBP.
- (96) With respect to the product market definition, the Notifying Party considers that the question of whether OSBP represents a product market on its own or whether it is part of a wider product market can be left open. The market investigation provided evidence that OSBP cannot be replaced by other chemicals in the production of the downstream applications but was inconclusive on the question of whether the OSBP market should be further segmented.<sup>63</sup>
- (97) In conclusion, the Commission considers that, for the purpose of the present case, the precise product market definition can be left open, since the Transaction does not raise serious doubts as to its compatibility with the internal market, regardless of the exact product market definition.
- (98) With respect to the geographic market definition, while the Notifying Party ultimately believes that the precise scope of the market can be left open, it considers the geographic market to be global, since OSBP is easily transportable and transport costs and import duties into the EEA are low. SI Group further submits that approximately [20-30]% of the OSBP it produced outside the EEA was sold into the EEA over the period 2015-2017.
- (99) The results of the market investigation did not entirely support the Notifying Party's views. If customers confirmed that there are no specific technical characteristics of OSBP that would impact its transportation across regions,<sup>64</sup> the

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63 Replies to questions 5 and 6 of Q7 – questionnaire to customers of OSBP and producers of polymer inhibitors.

64 Replies to question 8 of Q7 – questionnaire to customers of OSBP and producers of polymer inhibitors.

market investigation also revealed that the need for a REACH-registration for this specific product limits in practice customers' possibility to import OSBP into the EEA.<sup>65</sup> Indeed, SI Group is the only company which is REACH-registered and therefore allowed to sell OSBP in the EEA.<sup>66</sup>

- (100) In light of the above, and on the basis of the information made available to it, the Commission considers that the market is likely to be EEA in scope.
- (101) In conclusion, the Commission considers that, for the purposes of the present case, the exact scope of the geographic market definition for the supply of OSBP can be left open, since no serious doubts as to the compatibility of the Transaction with the internal market arise, regardless of the geographic scope of the market concerned.

#### 4.4.2. *DNBP (downstream)*

- (102) **DNBP** a type of polymer inhibitor that is used to stabilize the styrene monomer. It can be sold “neat” or in diluted form. Addivant produces [...] its DNBP in [...].
- (103) The Commission has not previously analysed the market for DNBP.
- (104) With respect to the product market definition, the Notifying Party argues that demand and supply side substitutability exist with other polymer inhibitors. According to the Notifying Party, other polymer inhibitors, such as dinotrophenols, stable free radicals, and a new green polymer inhibitor produced by Suez<sup>67</sup>, can be used by customers to stabilize the styrene monomer, and producers of DNBP can easily switch production to other polymer inhibitors (for example, Addivant understands that Chinese suppliers of dinotrophenols have recently switched to the production of DNBP). However, the Notifying Party submits that the product market should be considered at the product level (that is, DNBP), without the need to segment it further according to the form (neat or diluted) of the DNBP.
- (105) The market investigation did not support the Parties' view with respect to the supply-side substitutability. Specifically, suppliers also explained that DNBP is manufactured with the use of dedicated equipment<sup>68</sup>. However, the market investigation provided evidence that there are alternative products to DNBP that

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65 Replies to question 10 of Q7 – questionnaire to customers of OSBP and producers of polymer inhibitors.

66 Replies to question 19 of Q7 – questionnaire to customers of OSBP and producers of polymer inhibitors.

67 The Notifying Party explains that two of Addivant's customers moved from its product to this new green chemistry product in the last 12 months.

68 Replies to question 27 of Q7 – questionnaire to customers of OSBP and producers of polymer inhibitors.



can be used as retarders in the production of styrene monomer but they are largely more expensive and less effective.<sup>69</sup>

- (106) In conclusion, the Commission considers that, for the purpose of the present case, the precise product market definition can be left open, since the Transaction does not raise serious doubts as to its compatibility with the internal market, regardless of the exact product market definition.
- (107) With respect to the geographic market definition, the Notifying Party submits that the market for DNBP is regional in scope since DNBP is a very dangerous material, especially in contact with water. As a result, shipping large quantities of DNBP is risky, expensive and takes a long time with ocean freight. The results of the market investigation did not support the Notifying Party's views on the geographic market and provided evidence pointing toward the existence of a global market: according to market participants, DNBP can be transported easily and transportations costs are low.<sup>70</sup>
- (108) In conclusion, the Commission considers that, for the purposes of the present case, the exact scope of the geographic market definition for the supply of DNBP can be left open, since no serious doubts as to the compatibility of the Transaction with the internal market arise, regardless of the geographic scope of the market concerned.

#### 4.4.3. *Competitive assessment*

- (109) The Notifying Party submits that input foreclosure concerns should be dismissed in view of the multiple other sources of supply of OSBP available globally. Similarly, the Notifying Party argues that customer foreclosure concerns should be dismissed given that Addivant is not a critical path for OSBP suppliers to reach the marketplace.<sup>71</sup>
- (110) On the upstream market for OSBP, SI Group holds a market share of [40-50]% in volume and [40-50]% in value worldwide in 2017.<sup>72</sup> The market investigation however revealed that SI Group's market share worldwide is likely to have been underestimated, fact that will be taken into account in the Commission's assessment. According to the information gathered during the market investigation, SI Group is the only company which is REACH-registered and therefore, the only supplier of OSBP in the EEA.

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69 Replies to question 30 of Q7 – questionnaire to customers of OSBP and producers of polymer inhibitors.

70 Replies to questions 33 and 34 of Q7 – questionnaire to customers of OSBP and producers of polymer inhibitors.

71 Form CO, para. 206.

72 SI Group estimates its global market share on the OSBP market to be [30-40]% in 2015 and [30-40]% in 2016 (in volume). The Notifying Party submits that market shares in value would not substantially differ from market shares in volume.

- (111) On the downstream market for DNBP, Addivant holds a market share of [20-30]% (in volume) worldwide in 2017 and is not active in the EEA.<sup>73</sup>
- (112) With respect to input foreclosure, while the result of the market investigation indicated that the implementation of input foreclosure strategies post-Transaction was unlikely to materialise, it also elicited potential concerns in relation to the price of OSBP since purchasers of this product whose plants are located in the EEA do not have alternative suppliers to SI Group.
- (113) The Commission considers however that the concerns expressed with respect to the price increase of SI Group's OSBP are not merger specific, since already pre-Transaction, SI Group is the only supplier of OSBP in the EEA and could therefore have raised its prices. Moreover, it is unclear how the combination with Addivant's relatively limited DNBP production, would affect the merged entity's incentives to foreclose its downstream competitors. Already pre-Transaction, Addivant purchases [...] of its OSBP's needs for the production of its [...] of DNBP (in 2017) from SI Group.<sup>74</sup> Since Addivant would in any event not be able to absorb all of SI Group's production of OSBP (SI Group's sales to Addivant represent [...] of its total sales of OSBP), it would therefore be hardly profitable for SI Group to discontinue the supplies of its other customers. This is confirmed by respondents to the market investigation which indicated that that the merged entity's production capacity of DNBP would most likely not be sufficient to absorb the upstream production.<sup>75</sup>
- (114) Furthermore, the Commission takes the view that it is unlikely that the Transaction will result in customer foreclosure given that Addivant represents just around [20-30]% of the total global demand for OSBP. Suppliers of OSBP will have a large array of customers to turn to globally, i.e. Addivant's competitors of DNBP such as Nufarm, Nalco, Jilin Jiuxin, etc. but also producers of pesticides, fuel additives and stabiliser intermediates.<sup>76</sup> Finally, since Addivant sells all its DNBP in the United States, the Transaction will not bring about any changes for producers of DNBP located in the EEA.
- (115) Hence, the Commission concludes that SI Group will unlikely have the ability or the incentive to engage in input and customer foreclosures following the implementation of the Transaction and, in any event, any such strategy is unlikely to result in significant anticompetitive effects.

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73 The Notifying Party submits that the market shares of Addivant on the DNBP market did not substantially differ in the past three years. Market shares in value would not substantially differ from market shares in volume.

74 In this respect, it should be noted that Addivant produced DNBP in 2017 at a capacity utilization rate of approximately [...] and [...] capacity expansion.

75 Replies to question 40 of Q7 – questionnaire to customers of OSBP and producers of polymer inhibitors.

76 Form CO, paras 200 and 206.

(116) In light of the above considerations, the Commission considers that the Transaction does not raise serious doubts as to its compatibility with the internal market with respect to the vertical relationship between SI Group's supply of OSBP (upstream) and Addivant's production of DNBP (downstream) under any of the alternative market definitions.

#### **4.5. DIB as an input material for the production of PTOp**

(117) The Transaction gives rise to a vertical overlap between TPC Group (one of SK Capital's portfolio companies) upstream supply of DIB and SI Group's downstream production of PTOp.

##### *4.5.1. DIB (upstream product)*

(118) **DIB** is a raw material input produced by dimerizing isobutylene in the presence of an acidic catalyst to form a mixture of C8 olefins with an isoparaffin structure. The primary application of DIB is the downstream production of phenolic resins (60%), with the downstream production of other chemical products (including PTOp) representing the remaining usage (40%).

(119) The Commission has not previously analysed the market for DIB.

(120) With respect to the product market definition, the Notifying Party considers that the market can be defined at the product level for DIB since there are no variations of DIB that would require any further segmentation. The market investigation supported the views and the Notifying Party and revealed that there is limited demand-side substitutability between DIB and other chemicals since customers of DIB cannot replace this product with any other material for the production of its downstream applications.<sup>77</sup> Suppliers also explained that DIB is produced in dedicated plants (together with DIB's co-products) and that switching production to/from other products would not be easy.<sup>78</sup> The market investigation was inconclusive on the question of whether the relevant market should be further segmented.<sup>79</sup>

(121) In conclusion, the Commission considers that, for the purpose of this Decision, the exact scope of the product market definition for the supply of DIB can be left open, since the Transaction does not raise serious doubts as to its compatibility with the internal market, regardless of the product market definition.

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<sup>77</sup> Replies to question 5 of Q10 – questionnaire to customers of diisobutylene.

<sup>78</sup> Replies to questions 6 and 7 of Q5 – questionnaire to producers of diisobutylene.

<sup>79</sup> Replies to question 8 of Q5 – questionnaire to producers of diisobutylene and replies to question 6 of Q10 – questionnaire to customers of diisobutylene.

- (122) With respect to the geographic market definition, while the Notifying Party ultimately believes that the precise scope of the market can be left open, it considers the geographic market to be regional, since transportation is generally not commercially viable and producers supply a large proportion of their volumes in the region in which their production site is located.
- (123) The market investigation provided evidence that the market is likely to be regional in scope. Customers responding to the market investigation explained that contracts are typically concluded on a regional basis and that transportation costs account for a significant portion of the sale price of DIB.<sup>80</sup> However, the market investigation also provided evidence pointing toward the existence of a global market: suppliers consider that there are no technical characteristics that impede DIB to travel long distances<sup>81</sup> and customers indicated that, should the price of the product in the EEA be subject to a small but permanent increase in price, in the order of 5-10%, they would consider purchasing the products concerned from suppliers located outside the EEA.<sup>82</sup>
- (124) In conclusion, the Commission considers that, for the purposes of the present case, the exact scope of the geographic market definition for the supply of DIB can be left open, since no serious doubts as to the compatibility of the Transaction with the internal market arise, regardless of the geographic scope of the market concerned.

#### 4.5.2. *PTOP (downstream product)*

- (125) **PTOP** is a chemical intermediate mainly used in the downstream production of UV stabilizers. PTOp belongs to the chemical group of alkylphenols and is manufactured by reacting DIB with phenol.
- (126) The Commission has not previously analysed the market for PTOp.
- (127) With respect to the product market definition, the Notifying Party considers that the question of whether PTOp represents a product market on its own or whether other products should be considered as belonging to the product market can be left open. The market investigation indicated that the product does not have close substitutes for its downstream applications but was inconclusive on the question of whether the relevant market should be further segmented.<sup>83</sup>
- (128) In conclusion, the Commission considers that, for the purpose of the present case, the exact scope of the product market definition for the supply of PTOp can be

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80 Replies to questions 9 and 11 of Q10 – questionnaire to customers of diisobutylene.

81 Replies to question 11 of Q5 – questionnaire to producers of diisobutylene.

82 Replies to question 10 of Q10 – questionnaire to customers of diisobutylene.

83 Replies to questions 23 and 24 of Q10 – questionnaire to customers of diisobutylene.

left open, since the Transaction does not raise serious doubts as to its compatibility with the internal market, regardless of the product market definition.

- (129) With respect to the geographic market definition, while the Notifying Party considers the geographic market to be global, since the product is easily transportable and transport costs and import duties into the EEA are low. The results of the market investigation did not provide any evidence indicating that the market should be defined at a narrower level.
- (130) In conclusion, the Commission considers that, for the purposes of the present case, the exact scope of the geographic market definition for the supply of PTOB can be left open, since no serious doubts as to the compatibility of the Transaction with the internal market arise, regardless of the geographic scope of the market concerned.

#### 4.5.3. *Competitive assessment*

- (131) The Notifying Party submits that input foreclosure concerns should be dismissed in view of the multiple other source of supply for DIB available on the market. Similarly, the Notifying Party argues that customer foreclosure concerns should be dismissed given that SIG is not a critical path for DIB customers to reach the market place and that SK Capital's joint control over TPC Group precludes any foreclosure strategy.
- (132) On the upstream market for DIB, TPC Group estimates its market share to be below 30% (both in volume and in value) at worldwide level in 2017; TPC Group does not supply DIB in the EEA. On the downstream market for PTOB, SI Group estimates its global shares to be [40-50]% in 2017. Its EEA share is minimal (less than [0-5]%).<sup>84</sup>
- (133) Based on the information made available to it, the Commission considers that the Transaction will not result in either input or customer foreclosure for the following reasons.
- (134) The Commission takes the view that based on the limited activities of TPC Group worldwide on the upstream market for DIB and the presence of a number of alternative suppliers such as Ineos, LyondellBasell, Itamitsu or Maruzen, it is unlikely that the merged entity will have the ability to engage in input foreclosure strategies post-Transaction. This is further substantiated by the fact that,

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<sup>84</sup> The Notifying Party submits that the market shares of TPC Group on the DIB market and SI Group's market share on the PTOB market did not substantially differ in the past three years. Market shares in value would not substantially differ from market shares in volume.

according to one respondent to the market investigation, the supply of DIB is currently exceeding demand.<sup>85</sup>

- (135) With respect to customer foreclosure, suppliers of DIB raised the risk that SI Group could start purchasing the entirety of its needs from TPC Group. One respondent also pointed out that TPC Group could increase its production capacity of DIB in order to meet the needs of SI Group, which would impact the sales of competing DIB's suppliers. However, the Commission considers that it is unlikely that the Transaction will result in customer foreclosure given that PTOP is only one of many applications for DIB, which means that suppliers of DIB will have a large array of customers to turn to globally: not only other PTOP producers, but also producers of phenolic resins.<sup>86</sup> In this respect, the Notifying Party submitted that SI Group's total purchases of DIB represent just [20-30]% of the total demand for DIB, amount of purchases which, in any event, significantly exceed the value of TPC Group's total production of DIB.<sup>87</sup>
- (136) Furthermore, since TPC Group sells the entirety of its production of DIB (including to SI Group) outside the EEA and that SI Group had marginal sales of PTOP in the EEA in 2017 with a market share of less than [0-5]%, the Transaction is unlikely to result in significant anticompetitive effects in the EEA.
- (137) In light of the above considerations, the Commission concludes that the Transaction does not raise serious doubts as to its compatibility with the internal market with respect to the vertical relationship between TPC Group's supply of DIB (upstream) and SI Group's production of PTOP (downstream) under any of the alternative market definitions.

#### **4.6. Butene-1 as an input material for the production of OSBP and DSBP**

##### *4.6.1. Butene-1 (downstream product)*

- (138) **Butene-1** is a derivative of butylene used in a number of end-uses including polyethylene and chemical intermediates for antioxidants. It is a derivative of butylene, four-carbon mono-olefins that are produced in various hydrocarbon processes. The Commission has not previously analysed the market for Butene-1.
- (139) With respect to the product market definition, while the Notifying Party explains that Butene-1 is broadly substitutable with other chemical products such as

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<sup>85</sup> Replies to question 18 of Q5 – questionnaire to producers of diisobutylene.

<sup>86</sup> It should be noted that SI Group is also active in the production of phenolic resins, which also use DIB as an input material for their production. However, since SI Group's total purchases of DIB represent just around [...] of total demand in the upstream market, it can reasonably be assumed that risks of customers' foreclosure are unlikely to arise.

<sup>87</sup> Form CO, para. 215. In addition, the Notifying Party notes that expansion of capacity would require significant investments in terms of time and costs. The Notifying Party also submits that TPC Group [...].

hexene and octane, it ultimately considers that the market can be defined at the product level for Butene-1, without the need for any further segmentation.<sup>88</sup>

- (140) The results of the market investigation were inclusive, but provided some evidence that Butene-1 may be manufactured with the same technology and equipment as other chemical products belonging to family of butylene; therefore, a certain degree of supply-side substitutability may exist.<sup>89</sup>
- (141) In conclusion, the Commission considers that, for the purpose of the present case, the exact scope of the product market definition for the supply of Butene-1 can be left open, since the Transaction does not raise serious doubts as to its compatibility with the internal market, regardless of the product market definition.
- (142) The Parties consider the geographic market for Butene-1 to be regional, since transportation over long distances is generally not commercially viable and producers supply a large proportion of their volumes in the regions in which their production site is located.
- (143) The results of the market investigation indicated that the Butene-1 is generally sold within the same region as where the manufacturer's production site is located. According to the respondents, the transportation costs of Butene-1 over long distances are significant, which limits trade across continents.<sup>90</sup>
- (144) In conclusion, the Commission considers that, for the purposes of the present case, the exact scope of the geographic market definition for the supply of Butene-1 can be left open, since no serious doubts as to the compatibility of the Transaction with the internal market arise, regardless of the geographic scope of the market concerned.

#### 4.6.2. *OSBP and DSBP (downstream products)*

- (145) The Commission has defined the market for **OSBP** in Section 4.4.1.
- (146) **DSBP** is a raw material belonging to the chemical group of alkylphenols that is manufactured by reacting Butene-1 with phenol. According to the Notifying Party's best knowledge, SI Group is the only producer of DSBP worldwide.

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88 Form CO, para. 232. The Notifying Party considers that while butene-1 is offered in slightly different purity grades, all suppliers offer these purity grades and so a narrower segmentation of the market is not necessary.

89 Replies to questions 6 and 7 of Q4 – questionnaire to producers of Butene-1.

90 Replies to questions 11 and 12 of Q4 – questionnaire to producers of Butene-1. One respondent indicated that: "Butene-1 is a liquefied gas that has to be transported in pressurized (and partly cooled) vessels. Deep sea transport is expensive and limits trade between the continents".

- (147) The Commission has not previously analysed the market for DSBP.
- (148) With respect to the product market definition, the Notifying Party considers that while DSBP belongs to the broader chemical group of alkyphenols, the market can be considered at the product level for DSBP. The Notifying Party further argues that it would not be appropriate to segment DSBP either based on grade or other criteria
- (149) In conclusion, for the purpose of the present case, the precise product market definition for DSBP can be left open, since the transaction does not raise serious doubts as to its compatibility with the internal market, regardless of the exact product market definition.
- (150) With respect to the geographic market definition, while the Notifying Party considers that the exact geographic market definition can ultimately be left open, it considers the market to be global, since the product is easily transportable, and transport costs and import duties into the EEA are low.
- (151) In conclusion, the Commission considers that, for the purposes of the present case, the exact scope of the geographic market definition for the supply of DSBP can be left open, since no serious doubts as to the compatibility of the Transaction with the internal market arise, regardless of the geographic scope of the market concerned.

#### 4.6.3. *Competitive assessment*

- (152) The Notifying Party submits that input foreclosure concerns should be dismissed in view of the number of alternative suppliers will remain active on the market post-Transaction. Similarly, the Notifying Party argues that customer foreclosure concerns should be dismissed given that SI Group represents only a minor share of the total demand for Butene-1.
- (153) On the upstream market for Butene-1, TPC Group's has no activities in the EEA and estimates its market share at global level to be below 30% (both in volume and value).<sup>91</sup>
- (154) On the downstream markets, SI Group holds a market share of [40-50]% in volume and [40-50]% in value on the global market for OSBP<sup>92</sup> and estimates its market share in the EEA to be around [90-100]%. To the best of its knowledge, SI Group is the only supplier of DSBP worldwide (and therefore in the EEA).

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91 The Notifying Party submits that the market shares of TPC Group on the market for Butene-1 did not substantially differ in the past three years.

92 As already explained, the market investigation however revealed that SI Group's market share worldwide is likely to be underestimated, fact that will be taken into account in the Commission's competitive assessment.



- (155) The Commission takes the view that based on the limited activities of TPC Group on the upstream market for Butene-1 at worldwide level (and absence in the EEA) and the presence of a number of alternative suppliers such as Evonik, Shell, Chevron Phillips Chemical or Versalis,<sup>93</sup> the merged entity will not have the ability to engage in input foreclosure strategies post-Transaction. Moreover, given the minimal nature of SI Group's purchases of Butene-1 compared to TPC Group's total Butene-1 sales<sup>94</sup> it would be hardly profitable for SI Group to discontinue the supplies of its other customers as SI Group would in any event not be able to absorb all of TPC Group's production of Butene-1. The market investigation did not reveal any competition concerns with regard to input foreclosure.<sup>95</sup>
- (156) Furthermore, the Commission considers that it is unlikely that the Transaction will result in customer foreclosure given that a variety of alternative customers for Butene-1 will remain active on the market, representing an adequate customer base for upstream suppliers. Indeed, since SI Group's purchases of Butene-1 represent only around [...] of TPC Group's total Butene-1 sales (in value) and around [0-5]% of total Butene-1's demand (globally), risks of customer foreclosure are unlikely to arise. Suppliers responding to the market investigation did not raise concerns in relation to the Transaction.<sup>96</sup>
- (157) In light of the above considerations, the Commission concludes that the Transaction does not raise serious doubts as to its compatibility with the internal market with respect to the vertical relationship between TPC Group's supply of Butene-1 (upstream) and SI Group's production of OSBP and DSBP (downstream) under any of the alternative market definitions.

#### **4.7. HPIB as an input material for the production of several chemical intermediates**

- (158) The Transaction gives rise to a vertical overlap between TPC Group's upstream supply of HPIB and Addivant's downstream production of PTBP, 2,6 DTBP, 2,4 DTBP, 6-BOC and phenolic resins.

##### *4.7.1. HPIB (upstream)*

- (159) HPIB (Chemical name: High Purity Isobutylene) is an olefinic hydrocarbon produced by dehydration of tert-butanol. It is one type of isobutylene used in the

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93 Form CO, para. 238 and replies to question 15 of Q4 – questionnaire to producers of Butene-1.

94 SI Group's purchases of Butene-1 represent only around [...] of TPC Group's total Butene-1 sales (in value) and around [0-5]% of total Butene-1 demand (globally).

95 Replies to question 15 of Q4 – questionnaire to producers of Butene-1.

96 Replies to questions 17 and 18 of Q4 – questionnaire to producers of Butene-1.

production of a number of chemical intermediates. The Commission has not previously analysed the market for HPIB.

- (160) With respect to the product market definition, the Notifying Party explains that, while HPIB belongs to the broader chemical group of isobutylene, on a conservative basis, the relevant product market can be defined at the product level.
- (161) The results of the market investigation indicated that there is limited demand-side substitutability since customers of HPIB cannot replace this product with any other material for the production of its downstream applications.<sup>97</sup> Suppliers also explained that HPIB is manufactured with the use of dedicated equipment and switching production to/from other products would not be easy.<sup>98</sup> The market investigation did not provide evidence that the relevant market should be further segmented.
- (162) In conclusion, the Commission considers that, for the purpose of the present case, the exact scope of the product market definition for the supply of HPIB can be left open, since the Transaction does not raise serious doubts as to its compatibility with the internal market, regardless of the product market definition.
- (163) With respect to the geographic market definition, the Notifying Party claims that the relevant geographic market can be defined regional in scope since long-distance transportation of the product concerned is generally not commercially viable and producers supply a large proportion of their volumes in the region where their production sites are located.
- (164) The market investigation provided evidence that the market is likely to be regional in scope. Customers responding to the market investigation explained that there are technical barriers that prevent HPIB to travel outside the EEA and that contracts are typically concluded on a regional basis.<sup>99</sup> This was confirmed by competitors as well.<sup>100</sup>
- (165) In conclusion, the Commission considers that, for the purposes of the present case, the exact scope of the geographic market definition for the supply of HPIB can be left open, since no serious doubts as to the compatibility of the Transaction with the internal market arise, regardless of the geographic scope of the market concerned.

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97 Replies to question 5 of Q8 – questionnaire to customers of high purity isobutylene.

98 Replies to questions 6 and 7 of Q9 – questionnaire to producers of high purity isobutylene.

99 Replies to questions 8 and 11 of Q8 – questionnaire to customers of high purity isobutylene.

100 Replies to questions 9 and 11 of Q9 – questionnaire to producers of high purity isobutylene.

#### 4.7.2. *Chemical intermediates (downstream)*

- (166) In relation to the downstream applications of HPIB, the markets for 2,6 DTBP, 2,4 DTBP and 6-BOC have been discussed in Sections 4.2 and 4.3. In addition: (i) PTBP is a chemical intermediate that belongs to the group of alkylphenols and is manufactured by reacting phenol with HPIB; (ii) phenolic resins are synthetic polymers that are used as heat-resistant binders in a wide variety of applications, including special resins.
- (167) With respect to the product market definition, the Notifying Party claims that the relevant product markets can be defined at the product level. In particular, in relation to phenolic resins, the Notifying Party submits that no further segmentation based either on grade or other criteria would be appropriate.
- (168) The results of the market investigation in relation to 2,6 DTBP, 2,4 DTBP and 6-BOC have been discussed in Sections 4.2 and 4.3. As regards PTBP, the market investigation provided some evidence that it can hardly be replaced by other products and that suppliers use dedicated equipment for the manufacturing of this chemical, while being able to supply different grades with the same production equipment.<sup>101</sup> As regards phenolic resins, the results of market investigation were inconclusive.<sup>102</sup>
- (169) In conclusion, the Commission considers that, for the purpose of the present case, the exact scope of the product market definitions for the supply of 2,6 DTBP, 2,4 DTBP, 6-BOC, PTBP and phenolic resins can be left open, since no serious doubts as to the compatibility of the Transaction with the internal market arise, regardless of the production market definitions.
- (170) With respect to the geographic market definition, the Notifying Parties' views in relation to 2,6 DTBP, 2,4 DTBP and 6-BOC have been discussed in Sections 4.2 and 4.3. In relation to PTBP and phenolic resins, the Notifying Party argues that the relevant markets are at least EEA-wide and possibly global, since the products are easily transportable, and transport costs and import duties are low.
- (171) The results of the market investigation in relation to 2,6 DTBP, 2,4 DTBP and 6-BOC have been discussed in Sections 4.2 and 4.3. As regards PTBP, the results of the market investigation were in line with the Notifying Parties' views.<sup>103</sup> As regards phenolic resins, the results of market investigation were inconclusive.<sup>104</sup>

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101 Replies to question 25 of Q8 – questionnaire to customers of high purity isobutylene.

102 Replies to question 39 of Q8 – questionnaire to customers of high purity isobutylene.

103 Replies to questions 29 to 34 of Q8 – questionnaire to customers of high purity isobutylene.

104 Replies to questions 43 to 48 of Q8 – questionnaire to customers of high purity isobutylene.

(172) In conclusion, the Commission considers that, for the purposes of the present case, the exact scope of the geographic market definition can be left open, since no serious doubts as to the compatibility of the Transaction with the internal market arise, regardless of the geographic scope of the market concerned.

#### 4.7.3. *Competitive assessment*

(173) On the upstream HPIB market, TPC Group holds a market share (in volume and in value) well below 30% both in the EEA (below [0-5]%) and globally.<sup>105</sup>

(174) On the downstream markets where SI Group is active:

- a) 2,4 DTBP – SI Group has a market share of [70-80]% in the EEA and of [30-40]% globally (in volume and value);
- b) 2,6 DTBP – SI Group has a market share of [50-60]% in the EEA (in volume and value) and of [30-40]% (in value) / [40-50]% (in volume) globally;
- c) 6-BOC – SI Group has a market share of [40-50]% globally (in volume and value). No sales occurred in the EEA in the period 2015-2017.
- d) PTBP – SI Group has a market share of [30-40]% in the EEA and [40-50]% globally (in volume and value)<sup>106</sup>;
- e) Phenolic resins – SI Group has a market share of less than 30% both in the EEA and globally (in volume and value)<sup>107</sup>.

(175) In the upstream market for the supply of HPIB, where the TPC Group' market share is below 30%, irrespective of the geographic scope of the market, a number of alternative suppliers such as LyondellBasell, Evonik Industries and Enterprise Products will remain on the market<sup>108</sup>, exerting competitive pressure on the combined entity. Therefore, it is unlikely that the Transaction will lead to input foreclosure risks.

(176) Moreover, the Commission notes that, based on the information submitted by the Parties, the applications for which SI Group purchases HPIB (namely, 2,6 DTBP, 2,4 DTBP, PTBP, 6-BOC and phenolic resins) account for [30-40]% of the total demand for HPIB, which means that suppliers of HPIB have a large array of

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<sup>105</sup> The Notifying Party submits that the market shares of TPC Group on the market for HPIB did not substantially differ in the past three years.

<sup>106</sup> The Notifying Party submits that the market shares of SI Group on the market for PTBP did not substantially differ in the past three years.

<sup>107</sup> The Notifying Party submits that the market shares of SI Group on the market for phenolic resins did not substantially differ in the past three years.

<sup>108</sup> Replies to question 16 of Q8 – questionnaire to customers of high purity isobutylene.

customers to turn to. This is further substantiated by the fact that SI Group's purchases represent only [0-5]% of the total demand for HPIB. Therefore, it is unlikely that the Transaction will lead to customer foreclosure risks.

(177) Overall, customers responding to the market investigation did not raise concerns in relation to the proposed Transaction.<sup>109</sup> Competitors also confirmed they would generally be able to find alternative customers to SI Group, especially in the EEA.<sup>110</sup>

(178) In light of the above considerations, the Commission concludes that the Transaction does not raise serious doubts as to its compatibility with the internal market with respect to the vertical relationship between TPC Group's supply of HPIB (upstream) and SI Group's production of 2,6 DTBP, 2,4 DTBP, 6-BOC, PTBP, and phenolic resins (downstream) under any plausible market definitions.

#### **4.8. Conclusion on vertical effects**

(179) For the reasons set out in Sections 4.2 to 4.7, the Commission concludes that the Transaction does not raise serious doubts as to its compatibility with the internal market due to vertical effects.

### **5. CONCLUSION**

(180) For the above reasons, the Commission has decided not to oppose the notified operation and to declare it compatible with the internal market and with the EEA Agreement. This decision is adopted in application of Article 6(1)(b) of the Merger Regulation and Article 57 of the EEA Agreement.

*For the Commission*

*(Signed)*

*Margrethe VESTAGER*

*Member of the Commission*

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<sup>109</sup> Replies to question 22 of Q8 – questionnaire to customers of high purity isobutylene.

<sup>110</sup> Replies to question 15 of Q9 – questionnaire to producers of high purity isobutylene.