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***Case No COMP/M.4734  
- INEOS/ KERLING***

Only the English text is authentic.

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

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Article 8 (1)  
Date: 30/01/2008



COMMISSION OF THE EUROPEAN COMMUNITIES

Brussels, 30/01/2008

C(2008) 379 final

**PUBLIC VERSION**

**COMMISSION DECISION**

**of 30/01/2008**

**declaring a concentration to be compatible with the common market  
and the functioning of the EEA Agreement**

(Case No COMP/M.4734 - Ineos/ Kerling)

**Commission Decision  
of 30.01.2008  
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(Only the English text is authentic)

(Text with EEA relevance)

THE COMMISSION OF THE EUROPEAN COMMUNITIES,

Having regard to the Treaty establishing the European Community,

Having regard to the Agreement on the European Economic Area, and in particular Article 57 thereof,

Having regard to Council Regulation (EC) No 139/2004 of 20.1.2004 on the control of concentrations between undertakings<sup>1</sup>, and in particular Article 8(1) thereof,

Having regard to the Commission's decision of 7 September 2007 to initiate proceedings in this case,

Having regard to the opinion of the Advisory Committee on Concentrations<sup>2</sup>,

Having regard to the final report of the Hearing Officer in this case<sup>3</sup>,

WHEREAS:

- (1) On 19 July 2007, the Commission received a notification of a proposed concentration pursuant to Article 4 of Council Regulation No 139/2004 ("the Merger Regulation") by which the undertaking INEOS Group Limited (the United Kingdom of Great Britain and Northern Ireland, "the United Kingdom"), belonging to the INEOS Group (together "Ineos"), acquires within the meaning of Article 3(1)(b) of the Merger Regulation control of the whole of Kerling ASA ("Kerling", Norway), belonging to the Norsk Hydro Group, by way of purchase of shares.
- (2) After examination of the notification, on 7 September 2007, the Commission found that the notified operation fell within the scope of the Merger Regulation and raised serious doubts as to its compatibility with the common market and with the EEA Agreement and decided to initiate proceedings pursuant to Article 6(1)(c) of the Merger Regulation.

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<sup>1</sup> OJ L 24, 29.1.2004, p. 1

<sup>2</sup> OJ C ...,...200., p....

<sup>3</sup> OJ C ...,...200., p....

- (3) In light of the new evidence obtained during the in-depth market investigation, the Commission has concluded that the notified concentration would not significantly impede effective competition in the common market or a substantial part thereof, and can therefore be declared compatible with the common market and the EEA agreement.

## **I. THE PARTIES**

- (4) Ineos is a leading global manufacturer of petrochemicals, specialty chemicals and oil products. It comprises eighteen businesses and, although it is present in seventeen countries throughout the world, it is mainly active in Europe where it achieves more than two thirds of its turnover.
- (5) Kerling is a subsidiary of Norsk Hydro ASA and comprises the polymer division of the Norsk Hydro group. It is mainly active in the production, marketing and sale of polyvinyl chloride ("PVC") and caustic soda.

## **II. THE OPERATION AND THE CONCENTRATION**

- (6) Pursuant to the Shares Purchase Agreement the parties entered into on 19 May 2007, Ineos will acquire all the shares of Kerling as well as Norsk Hydro ASA's non-controlling minority interest in the joint venture Qatar Vinyl Company Limited. Kerling also owns 50% of Noretyl AS, which operates an ethylene cracker at Rafnes (Norway)<sup>4</sup>.
- (7) As a result of the proposed transaction, Ineos will acquire sole control of Kerling. Therefore, the transaction constitutes a concentration within the meaning of Article 3(1)(b) of the Merger Regulation.

## **III. COMMUNITY DIMENSION**

- (8) The undertakings concerned have a combined aggregate world-wide turnover in excess of EUR 5 000 million (Ineos EUR [...] \* million, Kerling EUR [...] \* million). Each of the undertakings concerned has a Community-wide turnover in excess of EUR 250 million (Ineos [...] \*\*, Kerling [...] \*). The undertakings concerned do not each achieve more than two-thirds of their aggregate Community-wide turnover within one and the same Member State. Therefore, the notified operation has a Community dimension pursuant to Article 1(2) of the Merger Regulation.

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<sup>4</sup> The other 50% is owned by Borealis Norway. Ineos notified to the Commission on 19 July 2007 the proposed acquisition of Borealis Norway, Case No COMP/M.4744 – Ineos/Borealis. A clearance decision was adopted on 24 August 2007. As a result of both transactions, that is to say INEOS/Borealis and INEOS/Kerling, the cracker would become entirely owned by Ineos.

\* Parts of this text have been edited to ensure that confidential information is not disclosed; those parts are enclosed in square brackets and marked with an asterisk.

#### **IV. PROCEDURE**

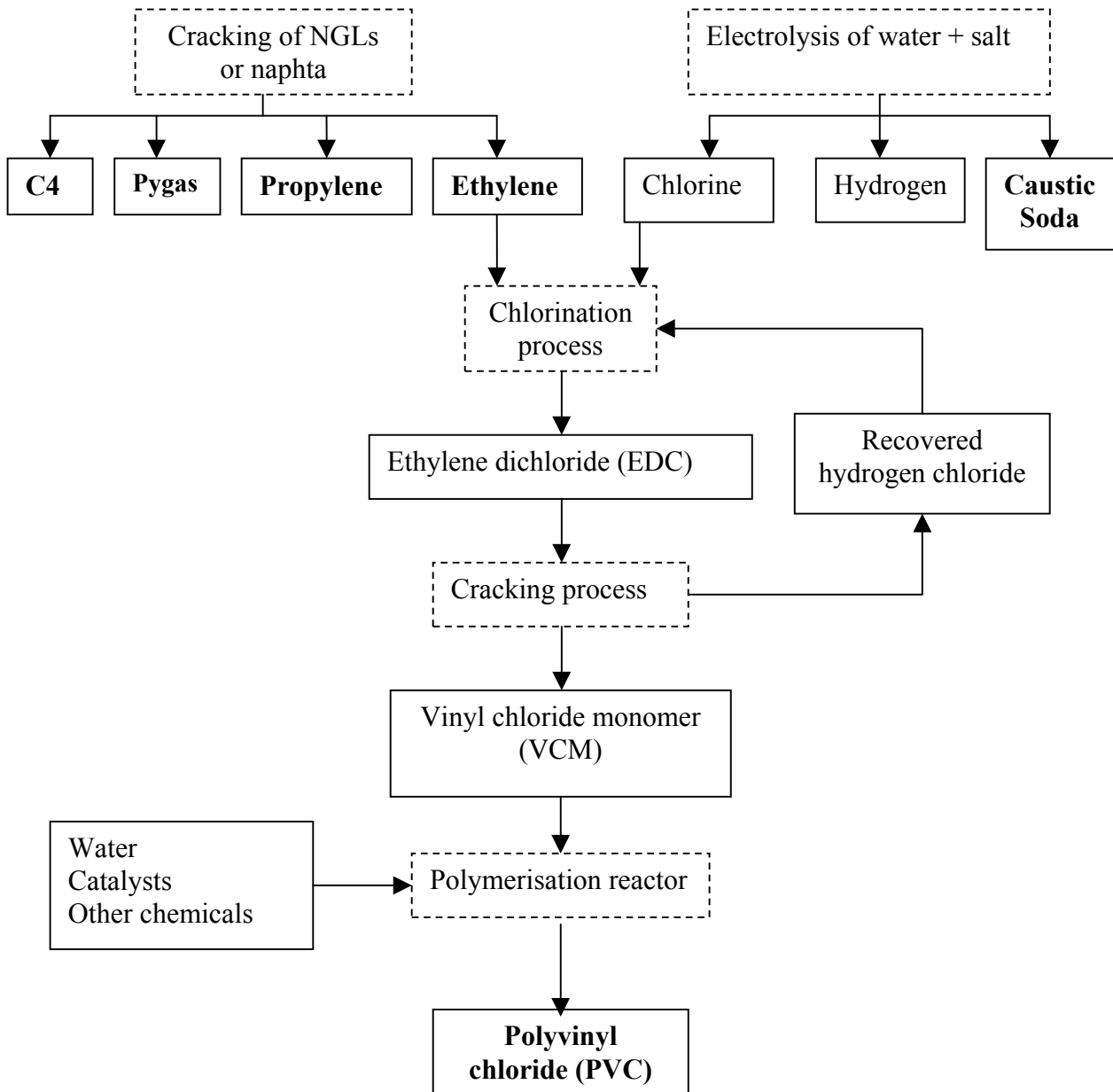
- (9) Based on the results of the first phase market investigation, the Commission concluded that the proposed transaction raised serious doubts as to its compatibility with the common market and the EEA agreement due to competition concerns identified in the United Kingdom for the S PVC market. On 17 August 2007 the parties submitted commitment proposals. [...]\*. The proposed commitment proved to be insufficient to eliminate the serious doubts identified by the Commission. The Commission therefore adopted a decision to open an in-depth investigation of the proposed concentration pursuant to Art 6(1)(c) of the Merger Regulation on 7 September 2007.
- (10) The notifying party submitted its comments on the Article 6(1)(c) Decision on 22 September 2007.
- (11) Following the parties' failure to provide a complete and accurate set of data in their reply to the Commission's request for information of 28 September 2007 pursuant to Article 11(2) of the Merger Regulation, the Commission adopted, pursuant to Article 11(3) of the Merger Regulation, a decision requesting the parties to provide the outstanding information. As a consequence, the time limits provided for by the Merger Regulation were suspended as of 8 October 2007. Upon the receipt of complete and correct information provided by the parties on 29 October 2007, the suspension of the time limits ended on 30 October 2007.

#### **V. RELEVANT MARKETS**

##### **A. INTRODUCTION**

- (12) The transaction concerns in particular the production of polyvinyl chloride ("PVC") and other products related to PVC production. Chart 1 illustrates the various processes and intermediate products involved in the production of PVC.

**Chart 1**



- (13) The production of PVC is an integrated chain of processes with vinyl chloride monomer ("VCM") as a feedstock, which is in turn produced from ethylene. The starting point of the process is the cracking of natural gas liquids ("NGLs") or naphtha in order to produce ethylene and other by-products. The ethylene is chlorinated in order to produce ethylene dichloride ("EDC") which, after a further cracking process, is transformed into VCM, which is in turn polymerised into PVC. The chlorine used in this process is produced through the electrolysis of salt and water which also results in the production of a by-product, "caustic soda", which is sold by the parties on the merchant market.

- (14) A number of the products upstream to the production of PVC are either mostly used by the parties captively (such as VCM) or sold in limited volumes on the merchant market (such as propylene, pygas, crude C4<sup>5</sup>, ethylene and chlorine).
- (15) As explained in more detail in paragraphs 36 to 44, PVC is used for the production of many other downstream products in industry and construction as well as varied consumer applications. However, this decision focuses on Commodity “S PVC” and only the downstream markets in which the parties are active giving rise to vertical relationships: PVC compounds and PVC films.

## **B. RELEVANT PRODUCT MARKETS**

### **1. Commodity S PVC**

- (16) According to the parties, there are two types of PVC depending on the production process used: suspension PVC and emulsion PVC.
- (17) Suspension PVC accounts for about 90% of EEA production. This process consists of the suspension of VCM in water with an initiator. Following a polymerisation process and further processing, suspension PVC is produced in the form of a coarse porous white powder. Suspension PVC is mainly used in the production of plastic products such as PVC tubes, window frames and PVC films.
- (18) Emulsion PVC (“E PVC”) accounts for around 10% of EEA production. Its production process consists of the emulsion of VCM in water together with an initiator. E PVC is also polymerised and further processed but, unlike suspension PVC, takes the form of a very fine and smooth powder which can be sprayed rather than molded or extruded, as it typically occurs with suspension PVC. E PVC is used in applications such as flooring, coated fabrics and automotive sealants.
- (19) Due to the different production processes, suspension PVC and E PVC are produced using different equipment and it is not economically feasible to convert a suspension PVC facility for the production of E PVC and vice versa. This distinction was confirmed in a previous decision of the Commission, which also suggested a further segmentation of both suspension PVC and E-PVC<sup>6</sup>.
- (20) As the parties do not produce E PVC, the assessment concentrates on suspension PVC. There are three types of suspension PVC: extender PVC, specialty suspension Thermoplastic Application (“TA”)-PVC and commodity TA-PVC. In line with the recent product market definitions retained by the Commission in the PVC market<sup>7</sup>, the parties

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<sup>5</sup> Kerling is active in the production of these upstream products through its ownership of 50% of the Noretyl cracker located in Norway. The other 50% of the cracker is owned by Borealis which was acquired by Ineos as part of the transaction Case No COMP/M.4744 INEOS/Borealis. See footnote above.

<sup>6</sup> Further segmentation into: (i) paste PVC (emulsion process or E PVC); (ii) specialty emulsion Thermoplastic Application (“TA”)-PVC (emulsion process or E PVC); (iii) extender PVC (suspension process or S PVC); (iv) specialty suspension TA-PVC (suspension process or S PVC); and (v) commodity TA-PVC (suspension process or S PVC). See: Case No COMP/M.4572 - Vinnolit v Ineos CV Specialty PVC business, 21 May 2007.

<sup>7</sup> Case No COMP/M.4572 – Vinnolit v Ineos CV Specialty PVC business.

suggest that each of these types of suspension PVC should be considered as a separate product market. In the present case, the parties produce only the commodity TA-PVC (hereinafter "commodity S PVC"). The Commission's market investigation does not indicate that a deviation from this product market definition recently retained by the Commission would be warranted in this case.

- (21) There are various grades of commodity S PVC determined by their molecular weight, commonly called K-value. The parties consider that the relevant product market should be defined at the level of S PVC, and that a further segmentation according to the various grades is not appropriate<sup>8</sup>. The various K-grades are all produced using the same equipment and through the same process and all manufacturers can produce a full range of grades of commodity S PVC. Typically, commodity S PVC manufacturers make PVC in the ranges of K55 to K80.<sup>9</sup>
- (22) Different grades of S PVC may correspond to a number of different end-use properties ranging from rigid applications such as pipes, window profiles and molded fittings to more flexible end-applications such as cable insulation and flexible tubes for crystal clear medical products. Each application is not confined to only one type of K-grade.<sup>10</sup> For the majority of these applications (and in particular for those used by the construction industry, for example pipes), S PVC is considered as a fairly homogenous commodity product.<sup>11</sup> Although some customers are more sensitive to the quality of S PVC and can not use off specification S PVC (for example producers of decorative PVC films or wall coverings but also to some extent windows profiles), they do not give clear indications that, from demand-side perspective, S PVC should be further subdivided according to the K-grade.<sup>12</sup>
- (23) Accordingly, the Commission concludes that further product segmentation in this regard is not appropriate. Therefore, for the purposes of this decision, the relevant product market is the market for commodity S PVC.

## **2. Products upstream from S PVC:**

### **2.1. Ethylene, chlorine, VCM and EDC**

- (24) Both chlorine and ethylene are used to make PVC. As explained in paragraph 13, the ethylene is chlorinated in order to produce ethylene dichloride ("EDC") which, after a further cracking process, is transformed into VCM, which is in turn polymerized into PVC.
- (25) Ethylene is produced by steam cracking of gases such as natural gas or refinery gases, including propane and butane. It is used as a raw material for a number of derivatives

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<sup>8</sup> Parties' Response to Article 6(1)(c) Decision, para. 2.3(i).

<sup>9</sup> Parties' Response to questions 1 and 2 of Article 11 Information Request dated 25 October 2007.

<sup>10</sup> Parties' Response to question 1 of Article 11 Information Request dated 25 October 2007.

<sup>11</sup> [Customer]'s minutes of conference call 17 September 2007, [customer's]'s reply to II phase questionnaire to customers S-PVC, question 23.

<sup>12</sup> Customers' replies to I phase questionnaire to customers, question. 8, and Customers' replies to II phase questionnaire to customers S PVC, questions 2, 6, 7, 23, 24.



including polyethylene, PVC, ethylene oxide and ethylbenzene. Around 15% of ethylene produced in the EEA is used in PVC.<sup>13</sup>

- (26) In previous decisions<sup>14</sup> the Commission found that ethylene constitutes a distinct product market because the same product specification is suitable for all derivative uses and ethylene cannot be replaced by another product in these applications.
- (27) Chlorine is a building block chemical for many downstream derivatives. It is used in many applications and industries including plastics, refrigerants, pulp and paper. The chlorine used in the PVC process is produced through the electrolysis of salt and water. Around 35% of the chlorine produced in Europe is used for PVC which is by far the largest end use of chlorine. Chlorine is difficult to transport and is hardly ever shipped to make PVC.<sup>15</sup> There is no need to define this market for the purpose of this case, as Kerling does not sell chlorine to third parties<sup>16</sup>.
- (28) The parties submit<sup>17</sup> that while the PVC production chain is physically separable between any of the intermediate products, it is “inseparable” in the sense that the intermediates have little other commercial use. For example, EDC is used to make ethylene amines and some solvents but the vast majority of EDC produced in the world is used to make VCM.
- (29) Almost all VCM produced in the world is consumed to make PVC. There are some other very small specialty chemical uses but these are insignificant in comparison to PVC. VCM can be, and is, transported but it is preferable in the industry to locate PVC plants alongside VCM plants. However, some 25% of European PVC plants are supplied with VCM that is produced off-site (either intra-group or by a third party).<sup>18</sup> As a result, there is a limited merchant market for VCM, with some small European PVC producers (Finnplast, Cires, Hellenic) buying all their requirements from other VCM producers.<sup>19</sup>
- (30) In any event, the question of whether VCM and/or EDC may be real merchant markets and constitute two separate relevant product markets can be left open because the parties use both products mainly captively and have very limited sales to third parties<sup>20</sup> and therefore the transaction does not have any effect on such markets.

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<sup>13</sup> Parties' Response to Article 11 Information Request dated 25 October 2007, question 11.

<sup>14</sup> Case No COMP/M.2345 – DEUTSCHE BP / ERDÖLCHEMIE, 26 April 2001. Case No COMP/M.4005 – INEOS/INNOVENE, 9 December 2005; Case No COMP/M.4094 – INEOS/BP DORMAGEN, 10 August 2006.

<sup>15</sup> Parties' Response to Article 11 Information Request dated 25 October 2007, question 11.

<sup>16</sup> Parties' Response to Commission Information Request of 25 October 2007, para 11.18

<sup>17</sup> Form CO, footnote 3.

<sup>18</sup> Parties' Response to Article 11 Information Request dated 28 September 2007, point 30.4.

<sup>19</sup> Parties' Response to Article 11 Information Request dated 25 October 2007, question 11.

<sup>20</sup> Kerling does not sell EDC to third parties, while Ineos sales are de minimis (<1% in the EEA, Western Europe and North Western Europe). Kerling made some de minimis sales of VCM in 2006, while Ineos' sales were limited to [less than 5]\*% of the EEA demand, which the parties estimate to be [less than 1 000 ]\*kt. Source: Parties' Response to Article 11 Information Request dated 10 December 2007, point 6.

## **2.2. By-products of ethylene production: propylene, C4 and pygas**

- (31) Propylene, pygas and crude C4 are by-products of ethylene. Pygas is produced as a by-product of the cracking process. Propylene is principally produced from naphtha in steam-cracking equipment. Crude C4 is a by-product of the production of ethylene and propylene, and it is used in the production of butadiene and raffinate. In line with previous decisions<sup>21</sup>, the notifying party considers that each of these by-products constitutes a separate relevant product market due to its physical characteristics and the absence of substitutes for its specific uses. The Commission considers that the exact product market definition can be left open in the present decision, since irrespective of the market definition retained, no competition issues arise.

## **2.3. By-product of chlorination process: caustic soda**

- (32) Caustic soda is a by-product derived from the production of chlorine and is generally produced from electrolysis of salt. It exists in liquid and solid forms. Liquid caustic soda has a wide range of applications in the chemical industry, pulp and paper industry, in water treatment, in the production of aluminum, in oil refining as well as in soaps, detergents and textiles. Solid caustic soda is produced from the liquid form through the use of special additional evaporating equipment. It is much less used than the liquid form.<sup>22</sup>
- (33) Previously<sup>23</sup> the Commission has suggested that liquid and solid caustic soda constitute two separate markets. However, the exact scope of the market was left open. Through both phases of the investigation of the proposed concentration, market participants have widely confirmed that liquid and solid caustic soda represent two distinct product markets. This is because they are potentially substitutable for only a limited range of applications<sup>24</sup>, customers generally use only one of the two forms<sup>25</sup>, most of them would need to invest in a dissolving unit to be able to handle solid caustic soda and only few very large customers have the ability to store both types<sup>26</sup>.
- (34) As Kerling does not produce any solid caustic soda, the overlaps between the parties' activities in this product segment relate only to liquid caustic soda. As liquid caustic soda is produced in different qualities, concentration levels and through the use of different technologies (diaphragm, mercury and electrolysis), the Commission sought views from market participants during its second phase investigation as to whether these differences warrant a narrower product market definition. The vast majority of the market participants contacted were of the view that such further product segmentation would not be appropriate

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<sup>21</sup> Cases: COMP/M.4744 - INEOS/Borealis; COMP/M.4041 Basell/ Münchsmünster Cracker and associated assets, 22 December 2005; COMP/M.4426 - SABIC / HUNTSMAN UK, 20 December 2006; Case COMP/M.2806 – SABIC / DSM Petrochemicals, 18 June 2002.

<sup>22</sup> Solvay's answer to question 3 of II phase questionnaire to competitors on caustic soda. Solvay says use of solid caustic soda is marginal (5% globally and 3% of all caustic soda used in EEA).

<sup>23</sup> Case COMP/M M.2690 Solvay/Montedison-Ausimont, 9 April 2002.

<sup>24</sup> Anwill's reply to II phase questionnaire to competitors on caustic soda, question 6 and Helm Skandinavian's reply to II phase questionnaire to customers on caustic soda, question 3.

<sup>25</sup> Dow and Vinnolit's replies to II phase questionnaire to competitors in caustic soda, question 6.

<sup>26</sup> Syndial's reply to II phase questionnaire to competitors in caustic soda, question 6.

because most producers of caustic soda can easily produce and offer different concentrations and caustic soda can be seen as a commodity regardless of the specific technology used in its production.<sup>27</sup>

- (35) The described findings are all supportive of liquid caustic soda forming a distinct market with no further segmentation being appropriate. However, whether liquid and solid caustic soda constitute a single market or two separate markets can be left open in the present case, since the final assessment does not change, regardless of the definition retained.

### **3. Products downstream from S-PVC**

#### **3.1. Compounds**

- (36) The parties submit that S PVC as such cannot be directly used in any application since it needs to be "compounded", that is to say blended with other ingredients such as pigments and other materials which will confer desired characteristics on the final product. Accordingly, the parties claim that compounding is rather an additional service provided to the customer than a market in itself and should not be distinguished as a market separate from that of the production and sale of S PVC. They argue that the production of compounds requires only standard, low-tech and low cost equipment, that customers are generally able to compound PVC in-house and that the production of PVC compounds is most of the time adjusted to meet customer-specific needs. In other words, the parties submit that compounds are an ancillary product offered to customers of S PVC.<sup>28</sup>
- (37) Further, the parties are of the view that the product market definition of PVC compounds can be left open since no competition issues arise on any basis.<sup>29</sup>
- (38) The vast majority of the buyers of PVC compound products indicated to the Commission during its second phase investigation that compounds and commodity S PVC are not substitutable in their production process. They need to receive compounded products since their equipment cannot handle and process the S PVC resin.
- (39) Furthermore, many buyers of compounds have indicated to the Commission that they do not produce compounds themselves because their volume needs are too small to make such investments profitable, they do not have the technical expertise required to produce compounds or they simply do not have the space available to engage in this production activity.<sup>30</sup> Integrating backwards into the production of compounds would not be a suitable option for these customers if they were faced with a small but lasting price increase of compounded S PVC.

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<sup>27</sup> Vinnolit indicated that "*caustic soda produced with the diaphragm technology has usually a lower level of quality and is therefore not used in all applications. However, only 16% of the production capacities in Europe are based on this technology.*" Answer to II Phase questionnaire to competitors in caustic soda, question 8.

<sup>28</sup> Parties' Response to Article 6(1)(c) Decision, para. 7.2.

<sup>29</sup> Parties' Response to Article 6(1)(c) Decision, para. 2.3(ii).

<sup>30</sup> Replies of Condale, FK-Bolaget, Primo, Covisen, Peltor AB, PAL Extrusions, SPP Ltd and Veka to II phase questionnaire to customers of PVC compounds, question 31.

- (40) Within the compound product segment, gelled and dry blend are two different types of compounds that require different production processes and do not have, to a certain extent, similar end-applications, as dry blend compounds can only be used for rigid products.<sup>31</sup> The vast majority of compound customers have indicated to the Commission that gelled and dry blend compounds are not substitutable and that they cannot adapt their production process to use both types of compounds, unless they invest in new equipment.<sup>32</sup> From the supply-side perspective, compound producers have indicated that switching production from one to the other type of compounds could be an expensive proposition particularly for moving away from dry blend to produce gelled compounds which require special and more expensive equipment.<sup>33</sup>
- (41) The information obtained during the second phase of the Commission's investigation supports a conclusion that compounds constitute a distinct market separate from commodity S PVC. It also suggests that dry blend and gelled compounds constitute two distinct relevant product markets that are also separate from commodity S PVC. However, the relevant product market definition in respect of a further segmentation within compounds can be left open since no competition issues arise on any basis.

### **3.2. PVC Films**

- (42) Rigid films may be produced on the basis of different input factors such as PVC, polypropylene and polyethylene. Through processes of calendaring or extrusion moulding, PVC or other thermoplastic materials are made into films which in turn are used to produce many different types of packaging, credit cards and other products.
- (43) Rigid PVC films are produced of S PVC and account for around 10% of S PVC consumption. With respect to rigid PVC films, the notifying party submits that it is in principle possible to delineate further market segments, such as pharmaceutical packaging, print, stationery or smart cards, among others. In the past, the Commission considered a possible segmentation of the market for flexible packaging (for which, among others, commodity S PVC films can be used) according to end-use industries: food; medical supplies; pharmaceuticals (possibly subdivided into mono and duplex films); household products; and other non-food.<sup>34</sup> However, the exact product market definition was left open.
- (44) The market investigation in the current case has given some indications that all rigid PVC films may belong to one product market because of supply-side substitutability.<sup>35</sup> In any case, the precise product market definition can be left open for the purposes of this decision, since irrespective of the exact market definition, the final assessment does not change.

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<sup>31</sup> Reply of 4 Plas Ltd. to II phase questionnaire to competitors on PVC compounds, question 17.

<sup>32</sup> Replies of Alstermo, FK-Bolaget, Thorsman, Bowater, Bridge Thermoplastics and Polypipe to II phase questionnaire to PVC compounds customers, questions 11, 12 and 13.

<sup>33</sup> Reply of Polymer Chemical to II phase questionnaire to competitors on PVC compounds, question 15.

<sup>34</sup> Case No COMP/M. 2441 AMCOR/DANISCO/AHLSTROM, 11 June 2001.

<sup>35</sup> Replies to I phase questionnaire to competitors, question 13 and to I phase questionnaire to customers, question 14.

## **C. RELEVANT GEOGRAPHIC MARKET**

### **1. Commodity S PVC**

#### **1.1. Introduction**

- (45) The main focus of the second phase market investigation has been to determine the geographical scope of the market for S PVC, in particular with respect to certain trade areas for which the first phase market investigation had indicated a national or regional market dimension, namely the United Kingdom, and the Nordic Region comprised of Norway and Sweden. The issue of geographic market definition is crucial for the assessment of the case at hand as the position of the parties is substantially different depending on the market definition. Should the markets be defined as national or regional, the transaction could give rise to competitive concerns firstly in the United Kingdom, where the parties are the only local producers and their combined market share would amount to [60-70]\*% based on the United Kingdom 2006 market size, and secondly in Norway and Sweden, where the combined market share would be [90-100]\*% and [90-100]\*% respectively due to Kerling's very strong market position as the only local producer. However, on an EEA basis, the parties would enjoy a combined market share of merely [20-30]\*%<sup>36</sup> and would be competing with many other competitors with significant market shares.
- (46) The sections below assess the geographic market delineation on the basis of the arguments put forward by the parties and the results of the market investigation, addressing in particular the situation in Norway, Sweden and the United Kingdom.

#### **1.2. EEA or regional European markets**

##### **The parties' views**

- (47) The parties have submitted, first in the Form CO and later in their response to the Commission's 6(1)(c) Decision that the geographic scope of the market for S PVC is EEA-wide.
- (48) The arguments put forward by the parties relate to the fact that S PVC is a commodity product readily and safely transportable and is normally shipped in sacks or tankers. According to the parties, transport costs are not high, representing only around 5% of the ex-factory price and, as a result, there is considerable intra-Community trade.
- (49) Although the Commission has not previously concluded on the geographic scope of the S PVC market, the notifying party submits that the Commission's conclusions in previous cases<sup>37</sup> on the EEA-wide scope of the E PVC market should be applicable to the S PVC market as the two products are closely related, present similar physical attributes and are typically handled in the same manner.

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<sup>36</sup> Based on the parties' data from Form CO and reply to the Commission's 6.1.c decision.

<sup>37</sup> Case No COMP/M. 1469 SOLVAY v BASF, 2 June 1999; Case No COMP/M. 4572 Vinnolit v INEOS CV Specialty PVC busines.

- (50) According to the parties, out of the overall [30 000-40 000]\*kilo-tons (kt) of PVC produced worldwide (out of which around [80-90]\*% is commodity S PVC<sup>38</sup>), [2 500-7 500]\*kt are traded on a global basis. With respect to the EEA, although the overall production capacity would be able to meet demand, there are still some exports and imports from and into the EEA taking place. According to the parties' estimate, PVC<sup>39</sup> imports to the EEA have increased from [50-100]\*kt in 2004 to [100-150]\*kt in 2006, thus representing around [0-5]\*% of the EEA S PVC market (estimated at [5 000-6 000]\*kt for 2006). Similarly, the parties estimate that, for 2006, exports from the EEA to third countries amounted to approximately [500-1 000]\*kt, representing [10-15]\*% of the EEA S PVC market.
- (51) In addition, PVC plants are located in only a few locations throughout the EEA (most of them in North Western Europe) from where S PVC suppliers serve customers throughout the whole EEA. According to the parties, this demonstrates that S PVC can readily be transported over long distances and transport costs do not constitute a barrier to cross-border trade within the EEA.
- (52) Moreover, at a very late stage of the first phase investigation, the notifying party submitted additional information<sup>40</sup> in order to support the EEA-wide geographic market definition. In its submission, the notifying party reiterated its arguments whereby there are significant cross-border trade flows within Europe reflecting low transport costs. According to the data provided, about [2 000-4 000]\*kt (that is to say [50-60]\*% of the EEA demand) have been exported from EEA countries to other EEA countries, and there are significant trade flows between distant countries. The parties also pointed out the incentive of suppliers to keep plants at full capacity, which is an indication of the importance of economies of scale in this industry favouring high levels of production and sales beyond the national boundaries in which the production plants are located.
- (53) The arguments in paragraphs 48 to 52 are reflected in the level of market shares in the various EEA Member States. For example, Ineos, with production plants in Germany, Italy and the United Kingdom, has significant market shares in Belgium ([15-20]\*%), Lithuania ([30-40]\*%), Poland ([20-30]\*%) or even Malta ([40-50]\*%), while Kerling, with production plants in Sweden, Norway and the United Kingdom, has significant market shares in Denmark ([50-60]\*%), Greece ([15-20]\*%), Estonia ([60-70]\*%), Lithuania ([40-50]\*%) and also in Cyprus ([60-70]\*%).<sup>41</sup>
- (54) In the same submission, the parties provided evidence on the correlation of S PVC prices in the EEA<sup>42</sup> based on the parties' net monthly prices in various countries. According to the parties, this new evidence showed that the prices in different EEA countries move together over time, and hence indicate the ability of the product to move freely between countries. It should be noted, however, that the study submitted by the parties was spurious as it failed

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<sup>38</sup> Form CO, page 30.

<sup>39</sup> These estimates relate to the overall PVC market. However, as the majority of PVC is constituted by commodity S PVC, these estimates can be considered as a good approximation.

<sup>40</sup> Parties' submission of 21 August 2007, section 3 and appendix F and F.2.

<sup>41</sup> Form CO, annex 7.1.

<sup>42</sup> Parties' submission of 21 August 2007, pp. 14 – 16.

to control for common cost factors (that is to say raw material costs, energy cost, etc) and therefore the Commission could not follow this argument.

- (55) In their reply to the Commission's 6(1)(c) Decision<sup>43</sup>, the parties improved their previous submission on price correlation between different European countries, first by controlling for common costs (input costs), and second by performing stationarity tests<sup>44</sup>. The new analysis was based on the parties' monthly average net prices in the countries which are major sales destinations for either Ineos or Kerling<sup>45</sup> in the period from January 2002 to July 2007. The analysis showed a high level of correlation for pairs of countries (with coefficients ranging from [0.5-1.0]\* in case of Austria and Ireland up to [0.5-1.0]\* in case of Germany and the United Kingdom, and Netherlands and Italy). The parties regard these elements as confirming the existence of an EEA S-PVC market, or an S-PVC market which is at least broader than national markets, in particular with respect to the United Kingdom (This is discussed in further detail from paragraph 71 onwards).
- (56) However, this type of price correlation studies checks the price convergence, that is to say an identified relationship between prices in distinct regions. It does not provide information about the elasticity of supply of the different groups of producers.<sup>46</sup> Hence, such tests alone do not provide direct decisive evidence that the producers in different regions belong to the same relevant geographic market from a competition law perspective, although it is clearly an element pointing toward this direction. However when combined with other qualitative evidences, these price correlation studies can serve the purpose of defining the antitrust markets.

### **Results of market investigation and the Commission's assessment**

- (57) During the first phase market investigation, the majority of the S PVC customers<sup>47</sup> pointed out to the Commission that the geographic market relevant to the provision of S PVC was likely to be either EEA-wide or regional, distinguishing in the latter case North Western Europe<sup>48</sup> as the region in which the merger may have an impact.<sup>49</sup> In addition, some

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<sup>43</sup> Parties' reply to the 6(1)(c) Decision of 22 September 2007, CRA study.

<sup>44</sup> Stationarity tests show whether the prices tend to revert to a constant value over time that is to say whether prices obey the law of one price and whether there is a stable long term relationship between prices.

<sup>45</sup> In case of Ineos: Germany, Italy, the UK, Belgium, France, Netherlands, Spain, Ireland and Austria, which account for [the majority]\* of Ineos sales. For Kerling: UK, Sweden, Germany, France, Norway, accounting for [the majority]\* of sales.

<sup>46</sup> An antitrust market essentially delineates the boundaries of the smallest possible market that can be monopolised. Therefore the focus is on market power and ability to monopolize. The relationship between prices in two distinct regions does not provide information about the elasticities of supply of the different groups of producers and therefore by itself is not an indication of the existence of an antitrust market.

<sup>47</sup> This includes the replies from all customers, including UK and Nordic customers, which are separately discussed in sections C and D.

<sup>48</sup> Defined for the purpose of this decision as the region consisting of Belgium, Netherlands, Luxemburg, Germany, France, Ireland, UK, Norway, Sweden and Denmark. Some customers defined an even narrower regional market comprised of Norway, Sweden and Finland, plus either Denmark or the Baltic States (Nordic region).

<sup>49</sup> Out of 15 replies, 6 customers supported an EEA-dimension for the geographic market, 2 did not take a clear position between an EEA-wide or a regional definition, 3 indicated that the market should be considered to be North Western Europe, 1 was in favour of a narrower regional market consisting of the countries located in the

customers from the United Kingdom considered the market to be national due to transport costs and their needs for reliable and timely deliveries. In the Commission's second phase market investigation, which focused mostly on the United Kingdom and Nordic region, although some customers (only United Kingdom customers) still considered the market to be national, the majority of the respondents (including some of the United Kingdom customers) suggested that the market should be defined as either regional (Western Europe, North Western Europe or the Nordic region), EEA-wide or even wider<sup>50</sup>, depending on the location of their plants and their relative sizes. Service reliability issues seemed more acute for large volume requirements than for smaller customers for whom it appeared easier to source even from very distant suppliers. Moreover, it appears that large customers with plants in locations throughout the EEA are negotiating with S PVC suppliers on a Pan European basis giving them an increased leverage to address potential reliability issues at specific locations.

- (58) With respect to competitors, all respondents viewed the market as being EEA-wide<sup>51</sup> although the market investigation indicated that S PVC producers have a tendency and a clear preference to sell the product as close as possible to the production sites. However, the market investigation also confirmed that significant quantities are shipped throughout the EEA –sometimes between distant locations- and that some quantities are shipped from the EEA to further destinations, such as Turkey or Russia, and similarly certain quantities of product are shipped to the EEA from the US or from other non EEA origins.
- (59) The Commission's investigation has therefore focused on the extent to which some producers are more active in certain geographic areas than others, and the factors that explain such focus with a view to assessing whether the S PVC geographical market should be considered as narrower than the EEA.
- (60) While transport costs<sup>52</sup> can vary between [5-10]\*% to [5-10]\*% for a distance of 500 km, they amount to up to [10-15]\*% for 1 500 km and up to around [15-20]\*% for 2 000 km (although these figures may vary depending on the means of transportation). Producers located in Eastern Europe such as Anwil (Poland), Spolana (Czech Republic), Novaky (Slovakia), Borsodchem (Hungary) or Oltchin (Rumania) therefore face a relative competitive disadvantage to economically supply Western countries such as the United Kingdom or Ireland, France, Portugal, Spain, or Nordic countries such as Norway and Sweden *vis-à-vis* producers located in these areas, and *vice versa*. This has been confirmed by most of the Eastern European producers who, although taking the view that the market was EEA-wide, when questioned about their ability/incentives to supply distant

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Nordic region, and 3 customers considered the market to be national as regards the UK. See replies to Questionnaire to customers, question 7.

<sup>50</sup> From the S PVC customers' 21 replies to question 12 of II Phase Questionnaire to S-PVC customers, 8 were of the view that the market was EEA-wide or even wider, 5 that it was regional, 8 that it was national and more specifically UK-limited. This includes 6 replies from customers in the Nordic Region (2- EEA, 4 – regional: either North Western Europe (2) or Nordic Region (2)); 11 answers from UK customers with 8 in favour of national (UK) market, and 3 supporting an EEA or a wider geographic dimension, and 4 replies from customers located in North Western Europe which all supported either an EEA or a wider geographic market definition.

<sup>51</sup> Replies to I phase questionnaire to competitors, question 7.

<sup>52</sup> Replies to second I phase questionnaire to competitors, question 2.



Western/Nordic locations such as the United Kingdom, Norway and Sweden<sup>53</sup>, answered that this would not be profitable for them due to the high transport costs involved.

- (61) However, customers consider that they have competitive alternatives among suppliers located within a range of 1 000-1 500 kilometers (see paragraph 68), which seems to be confirmed by the comparatively high market shares of the parties in Greece or in Cyprus (see paragraph 53), while their production plants are located more than 1 500 kilometers away from these Member States.
- (62) Moreover, although it may be difficult for suppliers located in Eastern Europe to supply very distant locations such as the United Kingdom, Sweden or Norway, the data collected during the market investigation summed up in Table 1, shows considerable trade flows between Eastern and Western Europe. Indeed, trade flows between the two areas appear to represent around [5-10]\*% of the overall intra EEA trade, with Eastern European producers exporting almost twice as much to Western Europe ([5-10]\*%) than Western European producers do export to Eastern Europe ([0-5]\*%). This relative imbalance can however be explained by the fact that the vast majority of demand in the S PVC business is located in Western Europe.

**Table 1**

<b>From region A</b>	<b>To region B</b>	<b>Trade flow (t)</b>	<b>Trade flow/market size of region B (%)</b>
Western Europe	Eastern Europe	[100-200]*	[30-40]*%
Eastern Europe	Western Europe	[200-500]*	[5-10]*%

*Note: Western Europe defined as the Member States of the EU15 + EFTA states  
Central and Eastern Europe defined as the 12 new Member States*

- (63) S PVC is subject to substantial trade flows throughout the EEA, sometimes over very long distances, even if individual producers enjoy a relative competitive advantage within the area closer to their production facilities. In the latter case however, the number and distribution of plants in the EEA creates considerable overlaps between the shipment areas of at least 500 km (up to 1 500 km) around the various plants so that customers have sufficient arbitrage possibilities to ensure homogeneous competitive conditions throughout the EEA. This is consistent with the results of the price correlation (see paragraph 55) submitted by the parties.
- (64) In the light of the foregoing, having regard to:
- (i) the factual elements gathered by the Commission during the market investigation;
  - (ii) the views of the majority of S PVC customers; and
  - (iii) the views of suppliers,

the parties' view that the geographical scope of the market should be defined as being the EEA appears plausible. However, it is not necessary for the purposes of this decision to

<sup>53</sup> Replies to I phase questionnaire to competitors, question 9.

decide whether the market is indeed the EEA or whether it should be further segmented into, for example, Western Europe (defined as EU-15 + 3 EFTA countries) and Central and Eastern Europe (defined as the 12 new Member States) since, even on the basis of the narrowest possible geographic market definition (North Western Europe), the final competitive assessment remains unchanged.

- (65) However, the market investigation revealed that the parties have a particularly strong presence in areas (Norway, Sweden and the United Kingdom)<sup>54</sup> that could constitute separate geographic markets given their specific (isolated) geographic situation. Moreover, one of these areas (the United Kingdom) is the only area in which a majority of customers expressed the view that the geographic scope of the market is national. The Commission has therefore thoroughly assessed during its second phase market investigation the existence or non-existence of fragmented geographic markets with respect to Norway and Sweden as well as the United Kingdom.

### **1.3. Nordic region**

- (66) In order to determine whether Norway and Sweden separately, or the Nordic Region as a whole, constitute separate geographic markets that could be distinguished from neighbouring geographic areas in which the conditions of competition are appreciably different, the Commission assessed the level of trade flows from and into these countries as well as the purchasing patterns of customers located in this area.
- (67) As already mentioned, Kerling is the only local S PVC producer in Sweden and Norway (with market shares of [90-100]\*% and [90-100]\*% respectively). However, various other suppliers, including Ineos (with market shares of around [5-10]\*% and [0-5]\*% respectively), are present in this region via imports. In terms of trade flows to and from Norway and Sweden, it should be pointed out that, as illustrated by the evidence submitted by the parties in the Form CO<sup>55</sup> and in their later submission<sup>56</sup>, the sales made out of Kerling's plants located in Sweden and Norway are evenly spread throughout the EEA, directed mainly to [Western European countries]\*. [Less than 50%]\*of the sales made from, respectively, Kerling's plants in Norway and Sweden are made within these respective countries.
- (68) This evidence is supported by the results of the Commission's market investigation. Although some of the customers located in Norway and Sweden considered the market to be the Nordic region, the majority considered it to be either North-Western Europe or EEA-wide.<sup>57</sup> This is consistent with the fact that these customers consider that S PVC suppliers

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<sup>54</sup> In the UK, the parties would be the only national producers with a combined market share of [60-70]\*%, while in Norway and Sweden only Kerling has production plants and the combined market shares would be [90-100]\*% and [90-100]\*% respectively.

<sup>55</sup> Form CO, Annex 6(1)(c).

<sup>56</sup> Parties' submission of 21 August 2007, p. 13.

<sup>57</sup> Responses to II phase questionnaire to S PVC customers, question 12. Out of six customers located in Norway or/and Sweden that replied to the Commission's request for information, 2 considered that the market is EEA-wide, 2 that it is North-Western Europe and 2 considered the market to be the Nordic region (defined by these customers as Norway, Sweden and Finland, plus either Denmark or the Baltic states).

located 1 000-1 500 km, and in some cases even further away, from their plants could be price competitive with the local supplier.<sup>58</sup> A review of the prices and discounts offered by competing S PVC suppliers suggests that this is in fact often the case.<sup>59</sup>

- (69) Moreover, the majority of the customers located in the Nordic Region already source part of their S PVC requirements from suppliers located in mainland Europe (hereafter referred to as "Continental Europe") amongst which are Shin Etsu (the Netherlands), Vinnolit (Germany) and Solvin (Belgium).<sup>60</sup>
- (70) In light of the factual evidence submitted by the notifying party, and supported by the results of the second phase market investigation, the Commission concludes that all the evidence clearly supports the view that neither the Nordic Region as a whole nor Norway and Sweden separately constitute separate markets within the EEA.

#### **1.4. The United Kingdom**

- (71) As already mentioned, the issue of geographic market definition is crucial for the assessment of the present case in particular with respect to the United Kingdom, as the position of the parties is substantially different depending on whether the market is national or wider than national. Should a national market for the United Kingdom be defined, the parties' (who are the only local producers in the United Kingdom) combined market share would amount to [60-70]\*%<sup>61</sup> based on the volumes sold in 2006.
- (72) The first phase market investigation provided some indications that due to its geographic location and in particular the need to ship supplies across the channel, the United Kingdom market may be separate from the rest of Continental Europe. Accordingly, the Commission has carried out a detailed qualitative and quantitative analysis both from the demand-side and from the supply-side perspective in order to assess whether the conditions of competition in the United Kingdom were sufficiently homogeneous and whether it could be distinguished from neighbouring geographic areas in which the conditions of competition are appreciably different.

#### **Views of the market participants**

- (73) The parties' competitors, as already mentioned in paragraph 58, consider that the market should be defined as EEA-wide and do not consider that the United Kingdom should be treated as a separate market<sup>62</sup>. However, this view was not shared by a majority of United Kingdom customers who replied during the market investigation.

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<sup>58</sup> Responses to II phase questionnaire to S PVC customers, question 39.

<sup>59</sup> Responses to II phase questionnaire to S PVC customers, question 3.

<sup>60</sup> Responses to II phase questionnaire to S PVC customers, question 5.

<sup>61</sup> Based on the data collected during the second phase market investigation, the parties' combined market share in the UK amounts to [60-70]\*% (Ineos: [20-30]\*%, Kerling [35-45]\*%).

<sup>62</sup> Replies to first I phase questionnaire to competitors, question 7.

- (74) During its market investigation the Commission received the replies from 16 United Kingdom based customers<sup>63</sup> representing around [60-70]\* % [...] kt<sup>64</sup> of the United Kingdom S PVC market. The majority of these customers considered the geographic market to be limited to the United Kingdom<sup>65</sup> mainly because of the isolated geographic location of the British Islands. At least some of them (depending on the volume of their annual requirements) claim that they have specific requirements as concerns the flexibility of supply, technical assistance and timely deliveries which suppliers from outside of the United Kingdom would not be in a position to provide with the same degree of reliability of supply as local producers.
- (75) The Commission analysed carefully these arguments in order to assess their impact on the geographic market definition, in particular whether producers located in Continental Europe can be a reliable source of supply for United Kingdom customers and whether the arguments put forward by some United Kingdom customers point to a limitation of trade flows between the United Kingdom and the other Member States.
- (76) The market investigation revealed that the customers' requirements in terms of flexibility and reliability of supply, and consequently their ability to source from suppliers located outside the United Kingdom, tend to depend on the volumes of their annual purchases. Accordingly, in order to establish the purchasing patterns of different United Kingdom customers and draw conclusions with respect to the geographic market definition, the Commission segmented them into two main groups: small customers<sup>66</sup> and large/medium customers<sup>67</sup>. In addition, within the large/medium customers group, a further distinction between pan-European<sup>68</sup> and local<sup>69</sup> was made.

#### Small customers

- (77) Small customers<sup>70</sup> consider the S PVC market to be EEA-wide given the fact that all S PVC producers based in the EEA operate across the EEA (and that the imports from outside Europe remain limited).<sup>71</sup> These customers indicated that currently they either source or would be able to source 100% of their needs from outside the United Kingdom.<sup>72</sup> This is due to the fact that smaller volumes appear to be easier to procure than large

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<sup>63</sup> Please note that this includes both the replies to I and II phase questionnaires, as well as minutes of conference calls with various customers located in the UK.

<sup>64</sup> Based on the customers' estimates of their purchases. Total size of the UK market – 547 kt.

<sup>65</sup> 10 out of 16 customers having replied to the Commission's second phase market investigation consider the S PVC market to be national in scope, at least with respect to the UK. See: Replies to II phase questionnaire to S-PVC customers: question 12, Replies to I phase questionnaire to customers, question. 7.

<sup>66</sup> Customers that source less than 10 kt annually in the UK.

<sup>67</sup> Customers that source more than 10 kt annually in the UK, medium are in a range of 10 – 25 kt, large >25 kt.

<sup>68</sup> Defined as those who have plants in more than one country in the EEA.

<sup>69</sup> Defined as customers with plants only in the UK.

<sup>70</sup> The Commission received a relatively small sample of replies from "small customers". Only 4 customers having this profile replied: 1 pan-European, 2 local, 1 trader, in total representing < 3% of the UK market.

<sup>71</sup> Replies to II phase questionnaire to S-PVC customers, question. 12 (Omnova, Renolit)

<sup>72</sup> Replies to II phase phase questionnaire to S-PVC customers, questions: 20, 22 (Omnova, Renolit) and minutes 20 November 2007 (Colorite)

volumes and that the quality specifications of the products from continental suppliers are adequate to their needs.

Large/medium customers<sup>73</sup>

- (78) The views of large/medium customers with respect to the geographic market definition are different from those of small customers. The majority of large/medium customers consider the S PVC geographic market to be United Kingdom-limited.<sup>74</sup> As reasons for this conclusion they cite various factors such as geographical isolation (the need to cross the channel), transport and logistic costs, and most importantly decreased reliability of supply due to these factors.
- (79) All four pan-European customers consider the relevant geographic market to be national (the United Kingdom).<sup>75</sup> They are concerned that the proposed transaction will eliminate the competitive pressure currently existing between Ineos and Kerling.
- (80) The views of local large/medium customers<sup>76</sup> are more balanced. Five out of eight consider the relevant geographic market to be national (the United Kingdom). They are concerned that Ineos may use its alleged dominant position in the United Kingdom to increase prices and dictate the market price to importers who would not be able to exert sufficient pressure to counteract this price increase.
- (81) Reliability of supply appears to be a key concern for some of the large/medium United Kingdom customers and the majority of these customers submitted that they cannot source the totality of their needs from Continental Europe.<sup>77</sup> They claimed that large volumes are more difficult to procure, transport costs are an important factor, and - for some of them – lead time requirements are very strict in terms of timing of deliveries. Consequently these customers indicated that they need one primary supplier located in the United Kingdom, and that importers can provide only complementary volumes.<sup>78</sup>
- (82) This is to some extent confirmed by their current suppliers' structure<sup>79</sup>. Indeed, local producers (Ineos/Kerling) supply a majority, and in some cases all, of the needs of these customers and only the remaining volumes are sourced from the Continent. The reasons given are the alleged current inability/reluctance of Continental suppliers to increase their

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<sup>73</sup> Sample: 12 customers (4 large local, 4 medium local, 4 medium/large pan-european) representing approx. 57% of the UK market.

<sup>74</sup> 9 out of 12. See: Replies to II phase questionnaire to S-PVC customers, question. 12 and/or I phase questionnaire to customers, question 7 and/or minutes of conference calls.

<sup>75</sup> Replies to I phase questionnaires to customers: questions. 7, 33, 34; replies to II phase questionnaire to S-PVC customers, question. 12 and minutes of conference calls.

<sup>76</sup> 8 customers: 4 large, and 4 medium.

<sup>77</sup> See: Replies to II phase questionnaire to S-PVC customers, questions: 20, 22.

<sup>78</sup> One customer acknowledges that the import volume has been relatively stable at 30%. Customers also notice suppliers' tendency to supply close to plants and estimate the maximum distance for deliveries to be about 400/500 km (but some customers were/are supplied although with smaller volumes from more distant plants up to 1 000 km). See: Customers' replies to II phase questionnaire to S-PVC customers, questions: 12, 30-32.

<sup>79</sup> Based on the figures from the customers' replies to II phase questionnaire to S-PVC customers, questions 3, 4 and 14.

supplies to the United Kingdom market<sup>80</sup> due to the tightness of the European S-PVC market, the tendency of Continental suppliers to contract<sup>81</sup> a majority of their volumes, and the limited availability of S-PVC for spot sales.<sup>82</sup> However, some United Kingdom customers believe that the market conditions might change in the near future. Moreover, in the past, some of the customers who now rely on local producers used to source more S-PVC from Continental Europe. Accordingly, the static analysis of the current sourcing patterns of United Kingdom customers should not be directly extrapolated to their future behaviour as will be further explained in paragraphs 90 and 91.

### **Assessment of the market conditions**

- (83) In order to assess whether or not the concerns expressed by United Kingdom customers as regards flexibility and reliability of supply, short lead times and precise timing of deliveries are justified and whether these factors can affect the continental suppliers' ability to supply (or rather to extend the existing current supply of) S PVC to the United Kingdom, the Commission has carried out, firstly, from the demand-side perspective, an assessment of the sourcing and switching patterns of these customers, and secondly, from the supply side point of view, a quantitative and qualitative analysis to assess to what extent Continental suppliers would be in a position to defeat a hypothetical price increase in the United Kingdom (the SSNIP test). This analysis is supported by the qualitative evidence of the current level of imports, transport costs and reported planned capacity expansions compared with demand growth, and the assessment of barriers to expansion in the United Kingdom.

#### *Assessment from the demand-side perspective*

##### *United Kingdom customers' sourcing patterns*

- (84) In order to provide evidence that United Kingdom customers multi-source and are therefore not dependant on the local suppliers (the parties) to such an extent that the latter would be able to unilaterally increase prices, the parties provided an analysis of their United Kingdom customers sourcing patterns.<sup>83</sup> The parties submit that there are limited 'overlaps' between Ineos and Kerling's activities in the United Kingdom in the sense that they rarely both supply the same United Kingdom customers. Based on the parties' submission<sup>84</sup>, only [...] customers are to some extent supplied by both parties (with [...] customers receiving the majority of their needs from the parties, and the remaining [...] customers

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<sup>80</sup> Some customers report that their previous negotiations with Continental suppliers failed due to their inability to supply larger volumes or because prices were too high. See: Replies to II phase, questions. 17, 26, 27.

<sup>81</sup> Contract sales are those sales for which there is an agreement between the supplier and the customers setting out the sale conditions such as the volumes per year to be supplied or the manner in which prices are settled. Spot sales are merely sales at one point in time without the existence of any type of agreement. In the S-PVC industry contracts are usually concluded for 1 year.

<sup>82</sup> Replies [from three customers] to II phase questionnaire for S PVC customers: questions: 7, 9 ,8, 20, 28 and minutes of conference calls.

<sup>83</sup> Their analysis was based on the estimate of the customer's total UK purchases of S-PVC in 2006 and the parties' estimates of the volumes supplied by third party suppliers.

<sup>84</sup> CRAI report, Competition for UK S-PVC customers, November 2007, p. 7.

with very small overlaps) out of [...] United Kingdom customers representing almost all of Ineos and Kerling sales in the United Kingdom<sup>85</sup>.

- (85) The main findings of the parties were that "nearly [60-80]\*% of customers who took volumes from INEOS or Kerling in 2006 (also accounting for over [60-80]\*% of the total United Kingdom merchant demand) bought also from importers and (...) on average these customers took around [30-40]\*% of their requirements from importers (where also sourcing from both Parties), and around [40-60]\*% from importers (where only sourcing from one of the Parties)."<sup>86</sup> The Commission's findings<sup>87</sup> confirmed the parties' claims and the fact that the majority of the United Kingdom customers do multi-source. On the basis of data provided by the parties and corrected by the Commission<sup>88</sup>, the Commission found that in 2006 only [...] out of [...] customers in the sample sourced S PVC from a single source, [...] used dual-sourcing, and the rest ([...] customers) had multi-sourced from a minimum of three suppliers.
- (86) The ability of the United Kingdom customers to multi-source is also confirmed on the basis of the smaller sample of 15 customers that provided the Commission with sufficient data to verify the parties' submission.<sup>89</sup> Out of 15 customers (representing [300-400]\*kt of United Kingdom volumes purchased in 2006) only 4 used a single source, the rest sourced from at least two suppliers. For the percentage of volumes sourced from single, double or multi-source, see Chart 2:

[...]\*

- (87) In particular, with respect to the sourcing patterns of pan-European customers, it has to be noted that although they source a large part of their needs from local United Kingdom producers, they all multi-source (on the basis of pan-European contracts) and as a result at least part of their United Kingdom requirements is sourced from the Continent. One pan-European customer acknowledges that: "*imported volumes do have a presence in the United Kingdom and are also a factor in the United Kingdom market. If Ineos increased prices, continental suppliers would become more interested in the United Kingdom market (...)*".<sup>90</sup>
- (88) On the other hand, local large/medium customers have a tendency to depend more on the supplies from local producers and have on average less suppliers. However, some of these customers source more than 50% of their needs from continental producers and the

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<sup>85</sup> The sample consists of 25 customers for Ineos and 20 for Kerling, accounting for [90-100]\*% and [90-100]\*% respectively of their total UK sales over the period of 2002-2006.

<sup>86</sup> CRAI report, Competition for UK S-PVC customers, p. 8.

<sup>87</sup> It should be noted that the Commission's analysis was based on the replies to its market investigation. In fact, the total sample size which amounts to [500-750]\*kt has been calculated using the figures from the customers' replies to II phase questionnaire to S-PVC customers, question 3, 4 and 14 and completed for the missing customers with the data from the CRAI report, Competition for UK S-PVC customers p. 7.

<sup>88</sup> In terms of volumes, the customers included in the sample sourced [500-750]\*kt in the UK in 2006, with those sourcing from a single supplier purchased [10-30]\*%, with the rest ([70-90]\*%) being purchased by customers sourcing from at least two suppliers.

<sup>89</sup> Customers' replies to II phase questionnaire to S-PVC customers, questions: 3, 4 and 14.

<sup>90</sup> [Customer's], minutes of conference call, 17 September 2007.

Commission has identified two medium sized United Kingdom customers relying for all or almost all of their needs on continental suppliers.

- (89) It should be noted, though, the analysis of the sourcing patterns of United Kingdom customers made in paragraph 84 to 88 offers a rather static picture of the current customers' sources of supply, allowing the Commission to conclude only that United Kingdom customers multi-source from continental suppliers. The Commission has therefore also made an analysis of the past ability of United Kingdom customers to source from the Continent based on previous examples of switching.

*United Kingdom customers' switching patterns*

- (90) The parties have provided evidence of customers' switching patterns in the period from 2002 to 2006.<sup>91</sup> According to this information, Ineos lost [...] small and [...] medium/large customers to importers for some periods within the 2002-06 period. However, in 2005 and 2006 Ineos managed to win back [...] these medium/large customers and [...] these small customers.<sup>92</sup> This information was partly confirmed by the market investigation. One of the customers listed by the parties replied to the market investigation and confirmed that it switched between Ineos and continental suppliers in the past with no significant cost.<sup>93</sup> Another customer from those listed by the parties confirmed that continental suppliers are alternative sources of supply and that switching is possible.<sup>94</sup> Although the switching study does not reflect the entire United Kingdom market, this evidence is indicative of the extent to which importers are present and the competitive pressure they exert in the United Kingdom market.
- (91) In addition, although local medium/large customers mostly consider imports from the Continent to be complementary to local sourcing, it appears that in case of a price increase the majority of them would consider switching on average an additional 20%-30% of their needs to importers, whilst some even indicated that they could switch up to 60%.<sup>95</sup>
- (92) In the light of the above, and despite the answers obtained from some United Kingdom customers in the market investigation stating that they could not switch their entire requirements to importers, it is an established fact that United Kingdom customers do arbitrate between United Kingdom and non-United Kingdom suppliers and that switching of significant volumes between local United Kingdom producers and continental suppliers is a general feature of the United Kingdom S PVC customers' behaviour.

*Assessment from the supply-side perspective*

- (93) The Commission has also assessed, from the supply side perspective, to what extent S PVC producers located in continental Europe would have the ability (and incentive) to expand

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<sup>91</sup> CRAI report, Competition for UK S-PVC customers p. 6.

<sup>92</sup> CRAI report, Competition for UK S-PVC customers pp. 4-6.

<sup>93</sup> Reply to the II phase questionnaire to S-PVC customers, questions: 25, 26, 28.

<sup>94</sup> Reply to I phase questionnaire to competitors, question 10 and reply to II phase questionnaire to competitors S-PVC, question 30.

<sup>95</sup> Replies to the II phase questionnaire, question 30.



their presence on the United Kingdom market and effectively further compete with the merged entity. Should this be the case, it would complement the analysis of demand-related factors and constitute strong evidence pointing towards a geographic market wider than the United Kingdom.

- (94) In order to make this assessment, the Commission has carried out a three steps analysis. In the first step, the Commission has carried out a critical loss analysis, consisting in determining what would be the necessary volumes of S PVC which would need to be lost in response to an attempt by the merging parties to increase prices in the United Kingdom by 5% to 10%, so that such a price increase would become unprofitable. The second step is an estimation of whether the actual loss of volumes in response to an increase of prices (due to customers' switching to alternative suppliers) would be higher than the critical loss and whether the parties' competitors would be in a position to deliver the volumes requested by these customers to the United Kingdom. In the third step, the Commission assessed what happened (how customers and competitors reacted) during an outage that occurred at Ineos' plant located at Barry in 2004 and how importers reacted to an exchange rate shock in 2002/2003. These events provide a natural experiment showing the reactions of the market participants in case of a change in the local supply on the United Kingdom market.

#### *Critical loss analysis*

- (95) Critical loss analysis estimates by how much the sales of a hypothetical monopolist (in this case Ineos' and Kerling's sales in the United Kingdom) would have to fall in order to make a hypothetical price increase unprofitable. The price increase contemplated in this test (the "SSNIP" test<sup>96</sup>) has two opposing effects on the hypothetical monopolist's profits: firstly, it has a negative effect on profits because sales will fall as some consumers substitute rival firms' products in response to the increase in price, and secondly, there is an offsetting positive effect on profits as the hypothetical monopolist now earns higher margins on all of the remaining sales. The critical loss is the reduction in volumes such that these two effects are in balance; so that the hypothetical monopolist is indifferent whether to increase price or not.
- (96) If, when prices increase, the reduction in sales is greater than the critical loss, the negative effect on profits is greater than the positive effect and the price increase would be unprofitable for the parties. This would be a further indication that the relevant geographic market would be wider than the area considered (the United Kingdom) since it shows that customers would be able to switch purchases to alternative areas of supply. If, on the contrary, the reduction in sales is less than the critical loss, the price increase would increase profits for the parties and this would be an indication that the relevant geographic market should not be more broadly defined than the United Kingdom<sup>97</sup>.

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<sup>96</sup> "SSNIP" standing for "small but significant and nontransitory increase in price", defined in the Commission's Notice on the definition of the relevant market for the purposes of Community competition law, OJ C 372/5, 9 December 1997, see recitals 15, 16 and 17.

<sup>97</sup> If the firms in the provisional market can price discriminate among customers in their customer base, the critical loss analysis is still a useful tool but the analysis should distinguish the provisional class of inelastic customers

*i) Estimate of the critical loss*

- (97) On the basis of the data collected from the parties during the market investigation<sup>98</sup>, the Commission has estimated the critical loss for the year 2006.
- (98) Tables 2 and 3 show the results for two different ways of calculating the critical loss: the break even critical loss ("BECL") and the profit maximisation critical loss ("PMCL"). In addition, for each method, the results are presented for two different hypotheses on variable costs: the first one being the variable costs provided by the parties, and the second one deducting some of the variable costs which in fact were fixed costs<sup>99</sup>.

**Table 2: Break Even Critical Loss (BECL)**

Hypothesis	Price increase	
	5%	10%
Hp 1	[50-100]*kt	[100-150]*kt
Hp 2	[0-50]*kt	[50-100]*kt

**Table 3: Profit Maximisation Critical Loss (PMCL)**

Hypothesis	Price increase			
	Linear estimate		Isoelastic estimate	
	5%	10%	5%	10%
Hp 1	[50-100]*kt	[...]*kt	[...]*kt	[...]*kt
Hp 2	[0-50]*kt	[50-100]*kt	[0-50]*kt	[...]*kt

- (99) These results are within a range of [0-50]\*kt (for the lowest value) to [100-150]\*kt (the highest value) which appears to be quite a broad range. However, it has to be taken into

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and be modified accordingly. In this specific case, the analysis of margins reveals that there are little differences by customer category or volume requirements. Discounts appear to be granted indiscriminately across consumers and S-PVC pricing is based on market indexes and is highly correlated with ethylene prices. This evidence points towards the parties' inability to price discriminate.

<sup>98</sup> Parties' reply to article 11 information request of 28 September 2007.

<sup>99</sup> Variable costs affect the margin computation and therefore the final result of the critical loss. The first hypothesis is based on the costs provided by the parties and used by them for the computation of margins. However the parties explained to the Commission that in their computation of variable costs there was a component which is in fact fixed, leading to an overestimation of the variable costs. The parties stated that the proportion of these fixed costs accounted for [20-30]\*% of the overall variable costs estimate provided. The second hypothesis is therefore based on the variable costs discounting the fixed part estimated by the parties.

account that this includes the more extreme values of both hypotheses taken together and two scenarios of price increases. If the results are looked at in the context of each hypothesis and price increase separately, the ranges are much more homogeneous.

(100) In addition, it should be noted that the estimate resulting from the first hypothesis is probably overestimated, as it includes a high proportion of costs which are fixed and not variable. Consequently, assuming that the second hypothesis is closer to the real variable costs, a loss of [50-100]\*kt would be enough so as to render a 10% price increase unprofitable. These volumes represent around [10-20]\*% of the United Kingdom market size.

*ii) Estimate of the actual loss and competitors' ability to supply the United Kingdom*

(101) A way to assess the actual loss that would take place in response to a price increase between 5% and 10% is by estimating the elasticity of the merging parties' S PVC partial residual demand. The evaluation of the post-merger elasticity is equivalent to assessing the post-merger constraint on the merged entity by third party importers.<sup>100</sup>

(102) In order to undertake the relevant econometric exercise, the Commission requested from the parties the necessary data and validated them as suitable for the analysis. However, the econometric analysis carried out by the Commission turned out to be statistically non-significant, meaning that it has not been possible to estimate the elasticity of the partial residual demand in a way that can be considered, from an econometric point of view, as a reasonable and robust estimate.

(103) In order to fully evaluate the effect of the present merger, the Commission also tried to combine the estimation of the partial residual demand with the estimation of the residual demand of each merging party.<sup>101</sup> A comparison of the partial residual demand elasticity and the residual demand elasticity would allow estimating the gain of the merger for each merging party. This is equivalent to evaluating the reduction of competitive pressure, if any, exerted by the third party importers on the merging parties.<sup>102</sup> However, despite having the appropriate data provided by the parties, the econometric analysis carried out by the Commission also in this case turned out to be statistically non-significant and therefore insufficient for the purpose of drawing conclusions.

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<sup>100</sup> The partial residual demand estimation evaluates the competitive response of importers to one of the merging firm's price increase assuming that the other merging firm behaves as part of a cartel (that is to say, does not undercut the price increase). A formal and consolidated mathematical implementation of the structural model leads to the econometric function regressing the price of each merging firm against the firm's own UK sales, the other merging firm's UK sales, variables that shift demands, exogenous variables that shift supply and non-merging suppliers' input costs.

<sup>101</sup> Contrary to the partial residual demand, the residual demand assumes all the firms in the UK market, including the other merging firm, behave independently. Therefore, the estimation of the residual demand elasticity of each merging party is equivalent to an evaluation of the pre-merger (current) elasticity that each merging firm faces in the UK S PVC market when behaving independently.

<sup>102</sup> The formal and consolidated mathematical derivation of the structural model is similar to the partial residual demand estimation and the specification of the residual demand equation is equal to the partial one without the other merging firm's UK sales.

- (104) The Commission considers that these non-conclusive results are mainly due to the fact that the prices of S PVC are mostly driven by the ethylene price, which is the main input in the production of S PVC.
- (105) Given the non-conclusive results derived from the econometric analysis, the Commission has focused its assessment on other quantitative and qualitative evidence gathered during the market investigation in order to assess whether the estimated volumes needed to defeat a potential price increase by the merging parties can be provided by the Continental suppliers. Accordingly, in the following sections, the Commission has checked the current level of imports, the role of importers, Continental suppliers' ability to expand their sales in the United Kingdom, transport costs and the future expansions of capacities.

*Level and role of imports in the United Kingdom market*

- (106) The first phase market investigation provided indications that the imports to the United Kingdom might rather be complementary to the local production and may not constitute a viable and reliable alternative to the supply by local producers. Accordingly, the Commission has analysed in detail the level of imports to the United Kingdom market during the last five years, as well as the role they play for each customer's supply requirements.

*i) Level of imports*

- (107) Imports from third party Continental producers accounted for [30-40]\*% of all the sales of S-PVC made in the United Kingdom in 2006, plus an additional [0-5]\*% from Ineos and Kerling's imports. The level of imports to the United Kingdom made by Continental suppliers other than the parties has been consistently strong over the last five years, ranging from [30-40]\*% to [35-45]\*%<sup>103</sup>. This is in itself an indication of a market which is wider than the United Kingdom only, and is illustrated in Table 4 showing the evolution of imports during the last five years:

**Table 4**

<b>Year</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>
Market size (kt)	[500-550]*	[550-600]*	[550-600]*	[500-550]*	[500-550]*
Competitors' Imports (kt)	[200-250]*	[200-250]*	[200-250]*	[150-200]*	[150-200]*
Imports (%)	[30-40]*%	[30-40]*%	[30-40]*%	[30-40]*%	[30-40]*%

<sup>103</sup> The % figures are calculated on the basis of a total market size excluding internal sales.

(108) Moreover, it should be noted that importers are not a fragmented fringe. With production facilities located in the Benelux, LVM, Solvin and Shin Etsu have been the three major exporters of S-PVC to the United Kingdom over this period, accounting for [85-95]\*% of all the imports made to the United Kingdom in 2006, while the French producer Arkema and a German producer, Vinnolit, have also exported S-PVC to United Kingdom customers over the last five years.

**Table 5**

<i>2006 United Kingdom Market</i>	
<i>Competitors</i>	<i>share (%)</i>
Ineos	[20-30]*%
Kerling	[40-50]*%
<b>TOTAL</b>	<b>[60-80]*%</b>
Arkema (%)	[...]%
LVM (%)	[...]%
Solvin (%)	[...]%
Vinnolit (%)	[...]%
Shin Etsu (%)	[...]%
<b>TOTAL IMPORTS</b>	<b>34.05%</b>

*ii) The role of imports in the United Kingdom customers' requirements*

(109) As mentioned in paragraphs 84 to 89, according to the market investigation conducted by the Commission, the majority of the parties' United Kingdom customers multi-source and often purchase substantial volumes from Continental suppliers<sup>104</sup>. According to the data provided by the parties, their respective customers overlap only to a limited extent whilst most of them purchase also from Continental suppliers<sup>105</sup>. In addition, there are customers who do or in the past used to source the totality of their requirements from Continental suppliers.

(110) Based on the analysis of sales, prices and margins<sup>106</sup> across customer categories it appears that Kerling has focused over time on serving contract customers, in particular customers based in the United Kingdom. In contrast, Ineos has since 2004 reduced its sales to contract customers whilst Ineos sales to the spot market have increased consistently. On the basis of

<sup>104</sup> Response to the Commission's Request for Information of 27 September 2007, questions 4 and 14. In fact, [majority]\* out of 15 customers that replied to the Commission's market investigation do source volumes from the Continent. See also Parties' Reply to the 6(1)(c) Decision, Annex 2 where the parties state that out of their 38 main combined customers, 24 multisource internationally.

<sup>105</sup> Parties' submission of 21 August, appendix E. In fact, out of Ineos' 25 key customers, only [...] purchase also from Kerling and only [...] customers use Ineos either as a sole supplier or dual source from Kerling. The situation is similar in Kerling's case, out of Kerling's [...] key customers [...] purchase also from Ineos and only [...] use Kerling as a sole supplier.

<sup>106</sup> Parties' reply to article 11 request of 28 September 2007. The data set included the parties' monthly data for a period of 5 years (2002 – 2006) relating to their sales and costs in the UK. For ethylene prices monthly prices reported by Harriman were used.

the information available<sup>107</sup>, importers concentrate on contract sales, which would mean that their offer is rather a closer substitute to Kerling than Ineos. Moreover, importers lost some volumes to Kerling since the beginning of 2005.<sup>108</sup> This is indicative of importers exerting competitive pressure on the merging parties, but more particularly on Kerling.

- (111) Furthermore, imports appear to exert an important constraint in particular on Kerling's prices. The competitive pressure exerted by imports was analysed by checking the relationship between the parties' prices and the level of imports.<sup>109</sup> As regards Kerling prices, a negative correlation was found, indicating that Kerling is constrained by the imported quantity. This confirms the impression derived from the assessment of sales that importers exert a competitive constraint on Kerling.
- (112) In conclusion, it appears that imports of S PVC to the United Kingdom have consistently accounted for a considerable share of the United Kingdom market, which demonstrates that customers do consider them as a reliable source of supply alternative to the local production. It can also be concluded that the majority of customers already relies on imported volumes and would consider switching further for a significant part of their requirements in case the locally established producer was to increase prices to a small but significant extent on a non-transitory basis.

*Absence of barriers to expansion*

- (113) Besides the current level of imports, the Commission has also analysed whether the imports could potentially increase, notably in case Continental suppliers would have to satisfy additional United Kingdom demand and to what extent they could reproduce a "local producer like" organisation and service.
- (114) It is true that, as previously explained in the section dealing with the concerns expressed by customers, aspects such as reliability and timely supply are important factors that some customers take into account when selecting a supplier. Therefore, given the specificities of deliveries across the channel when compared with deliveries on the continent or within the United Kingdom, national producers could have a significant competitive advantage that cannot be matched by their competitors.
- (115) The market investigation has revealed, however, that this is not the case. First, as explained in paragraph 107, the level of imports to the United Kingdom is very high (in the last five years in a range of [30-40]\*%), which is clearly a strong indication that any alleged competitive advantage derived from national production is not particularly relevant. Even

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<sup>107</sup> Note that regarding importers there is not extensive information available to understand the split of importers' sales in UK. On the base of the response to article 11, [competitor's]'s split of imports over the time frame considered is stable with around 99% for contracts. For [competitor's] the split between contract and spot is stable at around 90%/10%. [competitor] has only contract sales while [competitor] has only spot. Information on other importers' split is not available.

<sup>108</sup> The evolution of sales in the last two years suggests that [competitor] has lost sales to Kerling in the first half of 2006 but then Kerling lost sales to [competitor] in the second half. This was also confirmed by the interviewed customers: during the last 3 years, some customers switched their suppliers; however this was more in favour of Kerling and to the expense of Continental suppliers (and in some cases Ineos).

<sup>109</sup> The analysis relates the shifts in prices against the shifts in imports taken as an aggregate.

more importantly, the investigation has revealed that by setting up local storage facilities in the United Kingdom, continental producers can guarantee to United Kingdom customers the required levels of flexibility and timely deliveries and that this is a feasible, low-cost and successful strategy.

- (116) Therefore, the Commission considers that, apart from production limitations, there are no other aspects that would limit the expansion of sales by Continental producers in the United Kingdom.

*Transport costs do not constitute a barrier to supply the United Kingdom*

- (117) In order to determine the scope of the relevant geographic market, the Commission has also assessed the Continental supplier's ability to supply the customers located in the United Kingdom, and in particular the costs associated with this, should the price in the United Kingdom increase.
- (118) The Commission has tested whether a potential 5-10% price increase in the United Kingdom would attract additional imports from Continental suppliers. In order to assess the Continental suppliers' ability to supply the United Kingdom market by either switching part of their current supplies from their customers located in continental Europe in favour of United Kingdom customers, or by directing their spare capacity to the United Kingdom market, the Commission analysed the costs these suppliers would incur following this strategy.
- (119) The Commission's market investigation has initially given strong indications that, for the same distance, Continental suppliers' transport costs for deliveries to the United Kingdom are higher than for deliveries within Continental Europe (given the geographic situation of the United Kingdom, and the logistic costs associated with the crossing of the channel in particular) and therefore the Continental suppliers would have a limited ability to supply the United Kingdom market at competitive prices. The Commission has therefore carried out an analysis in order to estimate by how much the average prices in the United Kingdom would have to increase in order to compensate for the extra transport costs to put the Continental producers in a neutral position from the profitability point of view to supply either their current customers in Continental Europe or customers in the United Kingdom.
- (120) The Commission has based this analysis on the data collected during the market investigation concerning prices, transport costs, other costs, profits per ton sold and estimates of transport costs to the United Kingdom, both from the parties and from their main competitors in Western Europe which either already supply or have expressed their willingness to supply the United Kingdom market in case of a price increase.
- (121) The results show that, depending on the supplier considered, a United Kingdom price increase ranging between 2% to 8% would be sufficient to render most of the Continental producers' sales equally profitable in the United Kingdom and in Continental Europe as it would compensate for the extra transport costs which Continental suppliers would have to incur to sell in the United Kingdom.
- (122) In the light of the foregoing, transport costs, although naturally higher (given the logistic costs associated with the handling of the product in the ports) for customers located in the

United Kingdom than for customers located at the same distance in continental Europe, do not appear to constitute either a barrier to entry, as evidenced by the strong presence of imports, or a significant barrier for expansion of imports to the United Kingdom, from the suppliers' perspective.

*Supply/demand balance and expected spare production capacity*

- (123) Although the assessment of the expected spare production capacity in a given market is normally linked with the assessment of the impact on competition of a given merger rather than with the geographic market definition, the Commission considers that in this case this information can also be useful in order to determine whether planned uncommitted capacity expansions are large enough to secure that competitors importing from the continent to the United Kingdom would be able to meet the volumes estimated in the critical loss part in order to render a 5-10% price increase by a hypothetical monopolist unprofitable. It would not be necessary for competitors to have spare capacity for them to do so. Instead they may divert a part of their production previously supplying Continental Europe so as to meet additional demand at higher prices in the United Kingdom in case a locally established producer would increase prices to a small but significant extent on a non-transitory basis. However, the existence of such spare capacities in the absence of significant barriers to entry/expansion would certainly increase the likelihood for the competitive reaction of competitors located in Continental Europe to be timely and significant enough to defeat any attempt to raise prices in the United Kingdom.
- (124) In order to estimate the spare production capacity that may be expected to be available in the near future and which could be devoted to supplies into the United Kingdom, the Commission has carried out a prospective analysis based, on one hand, on the available estimates of a CMAI report<sup>110</sup> on the market supply/demand balance, and on the other hand, on its own estimate of the current and future spare production capacity taking into account the expected growth of the demand in Western Europe (including the United Kingdom), and the reported planned and not already committed net expansion of production capacities for those competitors that the Commission considers to be able and willing to supply the United Kingdom market.
- (125) With respect to the spare capacity readily available to supply the United Kingdom market, the Commission's investigation has confirmed that only suppliers with their production capacities located comparatively close to the United Kingdom (rather than all EEA producers) would be ready to supply the United Kingdom in case of a small but significant non-transitory United Kingdom price increase. Other competitors located in Eastern Europe consider in general that they are too far away from the United Kingdom and that price increases in the range of 5%-10% would not compensate for the higher transport costs which they would have to incur. Thus, despite the hypothetical price increase, it would remain more profitable for them to supply other areas than the United Kingdom.
- (126) In addition, among the competitors located in Western Europe, some of them (normally those located farther away from the United Kingdom, in Southern Europe in particular)

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<sup>110</sup> CMAI Report: 2007 World Vinyls Analysis, Houston, USA, October 2006.



have not supplied any volumes to the United Kingdom over the last three or more years, and when they have done so, the volumes have been negligible.

(127) On the basis of firstly, the data on imports over the last years<sup>111</sup> and secondly, the replies to the market investigation to a specific question regarding the ability/willingness to supply the United Kingdom in case prices were to increase by 5%-10% in that area<sup>112</sup>, as well as thirdly, the analysis of transport costs as set out in paragraphs 122 to 127, the Commission considers that the competitors that are, or would be, able and willing to supply the United Kingdom market are LVM, Vinnolit, Arkema, Solvin, Shin Etsu, Vestolit and Borsodchem from their plants closest to the United Kingdom<sup>113</sup>.

(128) Further, on the basis of the data on S PVC production capacity gathered during the market investigation, the estimated current spare capacity of these competitors would approximately be [50-70] kt/year. Table 6 shows a summary of the aggregate production and spare capacity for the parties, for the parties' Western competitors considered to be able to constrain the parties' behavior in the United Kingdom, for the remaining EEA competitors and for the EEA as a whole.

**Table 6: EEA production and spare capacity - 2006**

	Production capacity (kt/year)	Percentage of EEA production capacity	Spare production capacity (kt/year)	Percentage of EEA spare production capacity
Ineos	[...]*	[10-20]*%	[25-30]*	[10-15]*%
Kerling	[...]*	[0-10]*%	0	0%
<b>Combined</b>	[...]*	[20-30]*%	[25-30]*	[10-15]*%
<b>Western Competitors considered</b>	[...]*	[50-60]*%	<b>[50-70]</b>	<b>[15-25]</b>
Rest EEA	[...]*	[10-20]*%	[170-190]	[65-75]
Total EEA	[...]*	100%	268	100%

(129) Given that the United Kingdom market size is [500-750]\*kt, the current spare capacity of those competitors which, according to the Commission, would be in a position to supply the United Kingdom represents more than [5-10]\*% of the United Kingdom market.

(130) With respect to future developments, taking account of the reported expected capacity expansions and closures, the Commissions' own estimate is that by the end of 2011 those

<sup>111</sup> Replies to II phase questionnaire to competitors, question 18.

<sup>112</sup> Replies to first I phase questionnaire to competitors, question 9.

<sup>113</sup> Finplast (Finland), Aiscondel (Spain) and Cires (Portugal, a JV in which Shin Etsu, Kerling and Mitsui have a 26,2% shareholding each), have been excluded given their location, far away from United Kingdom.

Continental suppliers able and willing to supply the United Kingdom will have, in the aggregate, an additional production capacity of [160-200] kt which, combined with the current [50-70] kt, results in an extra capacity of around [210-270] kt.

- (131) Regarding demand growth, it is estimated<sup>114</sup> that, although S PVC domestic demand will grow over the coming years in Western Europe by around [0-5]\*% per year, the total demand (domestic + exports) will decrease by around [0-5]\*%. This is because it is expected that while imports into Western Europe will increase significantly, exports will decrease significantly. Table 7 is an extract of the expected average growth rate of the supply/demand balance until 2011 based on an industry report<sup>115</sup> provided by the parties.

**Table 7**

	<b>Average annual growth rate 2001-06 (%)</b>	<b>Average annual growth rate 2006-11 (%)</b>
<b><u>Supply</u></b>		
Domestic production	+0.9	-0.7
Imports	-8.2	+5.9
Total supply <sup>116</sup>	+0.3	-0.3
<b><u>Demand</u></b>		
Domestic demand (Western European customers)	-0.3	+0.5
Exports	+5.6	-6.5
Total demand	+0.3	-0.3

- (132) From the figures provided in paragraph 131, it can be concluded that the domestic production in Western Europe is expected to decrease slightly (-[0-1]\*% per year) over the coming years, in particular due to the impact of imports. This fact will lead to a slight increase in spare capacity available in the market, even without the expected expansions reported to the Commission. Table 8, indicating the expected capacity utilisation rate based on the total nameplate capacity and on the expected production of Western European producers, shows this fact indicating a slight decrease in the capacity utilisation rate:

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<sup>114</sup> CMAI report.

<sup>115</sup> CMAI report.

<sup>116</sup> In these figures, in addition to S PVC, emulsion PVC, copolymers and specialty PVC are included. However, the CMAI report itself states that the volumes of copolymers and other specialties of S PVC represent a very small amount compared with the overall S PVC market. In addition, emulsion PVC only represents around 12% of the total domestic production considered. The Commission considers therefore that the average growth rates provided by the said report can be considered as a reasonable estimate for the S PVC market.

**Table 8: Expected yearly capacity utilisation rate: 2006-2011 – Western Europe**

	2006	2007	2008	2009	2010	2011
Utilisation rate	[90-100]*%	[90-100]*%	[80-90]*%	[80-90]*%	[80-90]*%	[80-90]*%

(133) In view of these estimates, the Commission has considered a hypothetical worst case scenario in which the effect of imports in Western Europe is much smaller than expected so that, keeping exports constant, all domestic demand would have to be supplied by the domestic production. This would yield an average growth rate of around 0.5% to be covered by such domestic production.

(134) Given that the size of the Western European market for 2006 is around [4 750-5 000]\*kt<sup>117</sup>, the expected demand by the end of 2011 would be, under this scenario, between [4 800-5 100]\* kt, with an additional increase of the domestic demand of [100-200]\*kt.

(135) In the light of these figures, the Commission considers that the current spare capacity plus the expected capacity expansions in Western Europe (around [200-300] kt) would be more than enough to compensate the expected growth of the market of Western Europe as a whole ([100-150]\*kt), leaving a spare production capacity of around [100-150]\*kt to supply the United Kingdom in case prices were to increase in that country, which represents around [20-30]\*% of the expected United Kingdom market size by 2011<sup>118</sup>.

(136) This level of spare production capacity is above the critical loss level estimated in paragraph 100 to be around [0-100]\*kt

(137) Moreover, this constitutes a conservative estimate for several reasons:

- (a) The basic assumption is that third party competitors would not also reallocate currently committed production to potentially more profitable United Kingdom sales, but would only make use of their spare capacity.
- (b) The analysis has focussed on the expected spare capacity of only those Western European producers which would be in a position to supply the United Kingdom, but there are other Western European producers (such as Cires, Aiscondel or Finplast) which may also have additional spare capacity or may carry out capacity expansions and which have not been taken into account.
- (c) The increased competitive pressure to be exerted by imports into Western Europe has probably been underestimated.

<sup>117</sup> Market size for EEA-15, Form CO p.59.

<sup>118</sup> Based on a UK market growth rate similar to the average growth rate considered for the EEA in the above scenario, that is to say +0.5%.

- (d) The reported plans for capacity expansions were made at current United Kingdom price levels; should prices increase in the United Kingdom, continental suppliers would have further incentives to increase capacity if necessary so as to take advantage of more profitable United Kingdom prices.
- (138) The capacity expansion plans reported in paragraph 137 concern only those for which competitors reported that the decision to expand has already been taken. Also, the Commission considers that the corresponding additional production is not already committed to a specific customer given the dynamics of the industry, namely that contracts are normally concluded only for one year while the capacity expansions are expected to come on stream beyond that time frame, at a time for which suppliers/customers have not yet committed themselves. It is to be noted that although the building of any new VCM/PVC production facility entails a very significant investment, capacity expansion of existing production facilities is comparatively cheap as it is achieved through technical adjustments and modernisation so as to remove existing bottlenecks. Both the parties and competitors have considerably increased their production capacity in the past through such “de-bottlenecking” and there is a consensus that there is still a large potential for further de-bottlenecking, making capacity expansion relatively easy and cheap.
- (139) In the light of the foregoing, the Commission considers that, from the production point of view, Continental suppliers do have and will have in the future the ability to effectively compete for the S PVC customers located in the United Kingdom.

*Natural experiment: outage at Ineos' plants in the United Kingdom*

- (140) The Commission, in order to complement its analysis of the ability and ease for continental suppliers to supply United Kingdom customers, has analysed a natural experiment in the form of an outage in one of the parties' United Kingdom plants. This type of natural experiment, although it does not in itself provide sufficiently conclusive evidence with respect to the geographic market definition, provides for a picture of the flows of the product between regions during an unexpected event, namely the extent to which a shortage in supply is counterbalanced by local and external producers. This in turn can constitute an indication of the patterns of supply and demand within the United Kingdom, should United Kingdom production output be restricted or the price of United Kingdom produced S PVC be increased on a longer term basis.
- (141) Ineos' plant in Barry (the United Kingdom) was partially shutdown unexpectedly in June 2004 which also affected the level of production at the second Ineos' United Kingdom plant, in Runcorn. This outage incident substantially affected the volume of S PVC produced by Ineos in the United Kingdom for a period of five months during which this plant was producing at approximately [50-60]\*% of its capacity as opposed to [80-100]\*% under normal conditions. This outage incident has provided an experimental base for analyzing the competitors' reactions in relation to the supply of S-PVC in and into the United Kingdom.
- (142) Outages can offer competitors opportunities to increase sales and obtain higher margins on the additional sales, assuming they have the ability to expand output or otherwise reallocate

sales to affected customers. An analysis of the evolution of volumes, prices and margins over this period can therefore provide additional evidence on the scope of the geographic market and in particular whether the geographic market is limited to the United Kingdom or rather wider than the United Kingdom.

(143) Charts 3 and 4 show the price difference between Kerling's and Ineos' prices depending on the level of outage at the Runcorn and Barry plants (measured as a percentage of the maximum theoretical proven capacity).

**Chart 3**

**Chart 4**

[...]\*

(144) If it were possible for Kerling to exploit an outage leading to a significant reduction in supply from the Ineos' production, one would expect to find a positive correlation between the price difference and the level of reduction of Ineos' supplies, thereby showing Kerling's ability to increase prices whenever Ineos experiences difficulties to supply its customers. This hypothesis has not been confirmed by the above data, which might indicate that Kerling has not been able to exploit Ineos' production shortages. However, as indicated in paragraph 146, the outage took place within a general trend of price increases and therefore there may be various other reasons why a price effect has not been identified. Thus, on the basis of this evidence alone the Commission cannot conclude on Kerling's ability/inability to take advantage of Ineos' outages.

(145) Nevertheless, the Commission notices that the volumes lost by Ineos were not completely captured by Kerling since customers looked for alternative sources of supply provided by imports. In fact, more of these sales were captured by the importers than by Kerling. Chart 5 represents the quantity time series in the time frame of the outage showing a drop in Ineos' sales and the increase in Kerling's sales and third party imports (the dashed line indicates the month in which the outage took place). This decrease of Ineos supplies and increase of Kerling and importers' supplies is very likely to be linked with the outage that affected Ineos' plants.

**Chart 5**

[...]\*

(146) With respect to the impact on prices, it is difficult to draw any definite conclusion because the outage took place within a general trend of price increases. This can be seen in Charts 6 and 7 showing the trend of prices over the last five years and the impact on prices during the time frame of the outage.

**Chart 6**

[...]\*

### Chart 7

[...]\*

- (147) In any event, it seems that at the time of the outage there were no significant reactions of Ineos and Kerling prices that appear to significantly deviate from the upward trend.
- (148) However, if the evolution of margins during the outage is assessed (see Chart 8), it can be observed that Kerling's margins did not rise over this period, which is a clear indication that Kerling was constrained by importers.

### Chart 8

[...]\*

- (149) The assessment of Ineos' outage in mid 2004 therefore suggests that, apart from Kerling, importers are in a position to swiftly react to any attempts of Ineos to reduce output so as to increase prices. This provides further evidence that both Ineos and Kerling are constrained by importers, even in the event of an output shortage, which suggests that the market is wider than the United Kingdom.

#### *Parties' converging margins over time*

- (150) Based on the parties' data analysed by the Commission, a computation of the parties' margins over the relevant period shows [...]\*. In the absence of an effective competitive constraint by third parties importing into the United Kingdom, in a market where each supplier has different production costs (as it is the case with Ineos and Kerling), and individually decides about production and capacities, economic theory suggests that there should be an evidence of asymmetric margins across local suppliers. However, this evidence of converging margins indicates that third parties importing into the United Kingdom market exert a competitive constraint on the parties which speaks in favour of a geographic market wider than the United Kingdom.

#### *Price correlation/stationarity analysis and impact of exchange rate changes on import*

- (151) As mentioned in paragraphs 54 and 55, the parties submitted evidence of a S-PVC price correlation in different EEA-countries.<sup>119</sup> Specifically for the United Kingdom, the parties' analysis shows that: firstly, price correlations between the United Kingdom and other countries are relatively high both for Ineos and Kerling (with coefficients ranging from [0.5-1]\* for Austria to [0.5-10]\* for Germany in case of Ineos, and from [0.5-10]\* for Norway to [0.5-10]\* in France in case of Kerling) and this is so even when common costs are controlled for; secondly, the correlations between the United Kingdom and Continental European countries are not significantly lower than those between neighboring Continental European countries; and thirdly, relative net prices between the United Kingdom and other countries are stationary<sup>120</sup> for most of the analysed countries. Accordingly, it appears that

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<sup>119</sup> The parties' reply to the 6(1)(c) Decision of 22 September 2007, CRA study.

<sup>120</sup> Stationarity tests show whether the prices tend to revert to a constant value over time that is to say whether prices obey the law of one price and whether there is stable long term relationship between prices.

the prices in the United Kingdom move together with the prices in the rest of the EEA countries, which is indicative of a market which is wider than the United Kingdom.

- (152) In the parties' latest submission<sup>121</sup> they also analysed the results of the correlation and stationarity analysis in the light of a sharp depreciation of the sterling during 2002 and the first quarter of 2003. The parties state that if the United Kingdom is in the same geographic market as Continental Europe the sterling depreciation should not have had any long-run effect upon prices of S PVC in Continental Europe relative to the United Kingdom prices. The parties show that after a short-term reaction there were indeed no long-run effects on relative prices. The Commission believes that even when combined with the evidence of correlation and stationarity this fact does not fully prove the hypothesis of S PVC market wider than the United Kingdom. However, import trends during the period of the sterling depreciation were slowly declining which is supportive of assuming a certain degree of elasticity of supply (customers reacted by decreasing their imports from Continental Europe). Accordingly, this evidence taken together supports the wider geographic definition of the S PVC market.

### *Conclusion*

- (153) The Commission has carefully assessed the information provided by market players during its market investigation and the arguments put forward by the notifying party and has come to the conclusion that the market conditions in the Nordic Region and the United Kingdom do not present characteristics that point towards separate markets within the EEA. Instead, the mentioned facts demonstrate that the scope of the geographic market is wider than the United Kingdom, and wider than the Nordic region, and is at least North Western Europe. As a result, it is therefore not warranted to carry out a competitive assessment focusing solely on these two areas (the United Kingdom and the Nordic region). As explained in paragraph 64, it is not necessary for the purposes of this decision to conclude on the exact scope of the geographic market (North Western Europe, Western Europe or the EEA), as the assessment of the present transaction does not change irrespective of the exact geographic market definition retained.

## **2. Products upstream from S PVC:**

### **2.1. Ethylene**

- (154) Ethylene can be distributed either by pipeline or via refrigerated ships to an import terminal. The Commission has previously considered that the geographic market for ethylene may be European-wide.<sup>122</sup> It has also suggested that the geographic market for ethylene may be delineated by the available pipeline network.<sup>123</sup> For the purposes of this decision the exact geographic market definition can be left open, as, irrespective of the market definition retained, the competitive assessment does not change.

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<sup>121</sup> Parties' submission of 12 November 2007: CRAI report, p. 11.

<sup>122</sup> Case No COMP/ M.4094 - INEOS / BP Dormagen.

<sup>123</sup> Case No COMP/ M.4401 – Basell / Münchsmünster Cracker and associated assets.

## **2.2. By-products of ethylene production: propylene, C4 and pygas**

- (155) With regard to propylene, crude C4 and pygas the notifying party has provided information on the parties' activities at EEA level (for propylene and C4) and at Western Europe level (for pygas). This is in line with previous Commission decisions<sup>124</sup> where the relevant geographic market has been considered either EEA-wide or Western European-wide in scope (comprising EU-15 and the three EFTA States).
- (156) For the purposes of this decision it can be left open whether the geographic market definitions for the products concerned comprise only Western Europe or the whole of the EEA since, irrespective of the market definition retained, the present assessment does not change.

## **2.3. By-product of chlorisation process: caustic soda**

- (157) The notifying party submits that the geographic scope of the market for liquid caustic soda is at least EEA-wide given the significant inter-Community trade and even inter-continental trade. The EEA-wide scope of the caustic soda market seems to be supported by the fact that Ineos sells caustic soda throughout most of the EEA from facilities located in the United Kingdom and Germany. Moreover, the notifying party claims that prices are quite homogeneous throughout the EEA (which was confirmed by the market investigation), and any potential differences in prices are the result of the relative sizes of customers rather than regional differences.
- (158) However, the transportation costs represent around 10%-20% of the total cost and therefore there is a tendency to sell caustic soda as close as possible to the place of production. Moreover, some customers suggested that the market may be regional, due to relatively high transportation costs. Several respondents consider that the market could even be national in the case of the United Kingdom because it is an island where there is only one local producer.
- (159) In past decisions, the Commission, while leaving the exact geographic market definition open, has not excluded in its competition assessment a national dimension<sup>125</sup>. However, in a more recent decision the Commission considered the market for caustic soda to be wider than national, and most likely EEA-wide due to the significant level of imports and homogeneity of prices.<sup>126</sup>
- (160) The first phase market investigation has largely confirmed the EEA-wide scope of the market for caustic soda as the product moves freely between the Member States and sometimes even beyond to cover any imbalances in supply. It appears from the market investigation that there are also some imports/exports from and to North and South America.

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<sup>124</sup> Cases COMP/M.4744 - INEOS/Borealis; COMP/M.4426 - SABIC / HUNTSMAN UK; COMP/M.4041 – Basell/Münchsmünster Cracker and associated assets; COMP/M. M. 2297 – BP/Solvay - (PP); COMP/M.1671 – Dow Chemical/Union Carbide.

<sup>125</sup> Case COMP/M.2690 - Solvay /Montedison-Ausimont, paragraph 97.

<sup>126</sup> Case COMP/M. 3543 PKN Orlen/Unipetrol.



- (161) During the second phase of the market investigation, the vast majority of customers and competitors have expressed the view that the relevant geographic market for caustic soda was much wider than national in scope. They pointed out to the Commission that caustic soda was a global commodity, that there have been significant shipments between neighbouring countries and that distant suppliers can provide reliable services by simply making storage tanks available within trucking distance to customers location.<sup>127</sup>
- (162) In any event, the exact scope of the geographic market, which has been left open by the Commission in previous cases, can also be left open for the purposes of this decision since, irrespective of the market definition retained, the assessment does not change.

### **3. Products Downstream from S-PVC**

#### **3.1. Compounds**

- (163) As the parties do not consider the S PVC compounds market as a separate relevant market, they did not submit any proposal with respect to the geographic market definition.
- (164) According to the Commission's market investigation, it appears that the market for S PVC compounds is at least EEA-wide. With respect to competitors, their views are mixed as they consider the market to be either world-wide, regional (some suggest a supply radius of 1 500 km from the production plants) or in some cases national<sup>128</sup>. However, transport costs are relatively low and amount on average to [0-10]\*% depending on the distance of shipment<sup>129</sup>. Moreover, the majority of customers that responded to the Commission's market investigation indicated that the market is either world-wide or EEA-wide<sup>130</sup>.
- (165) Therefore, the Commission concludes that the scope of the geographic market is wider than national and that it is not necessary for the purpose of this decision to conclude on the exact scope of the geographic market (North Western Europe, Western Europe or the EEA) as the assessment of the present transaction does not change irrespective of the exact geographic market definition retained.

#### **3.2. PVC Films**

- (166) The notifying party submits that the geographic scope of the rigid PVC films market is at least EEA wide and, for certain end-products, even global, as was concluded by the

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<sup>127</sup> See in particular responses of Sodra and Stora Enso to II phase questionnaire to caustic soda customers, question 15 and responses to II phase questionnaire to competitors in caustic soda, questions 13 and 14.

<sup>128</sup> Replies to II phase questionnaire to competitors on PVC Compounds, question 20. Out of 8 competitors that answered to the Commission's market investigation, 3 considered the market to be regional, 3 national, 1 world-wide and 1 did not answer this question.

<sup>129</sup> Replies to II phase questionnaire to competitors on PVC Compounds, question 27.

<sup>130</sup> Replies to II phase questionnaire to customers on PVC Compounds, question 15. In fact, out of 21 S PVC compounds customers that replied to the Commission's market investigation 12 consider the geographic scope of the S PVC compounds market to be world-wide and 5 EEA-wide.

Commission with regard to flexible packaging.<sup>131</sup> The parties' claim was confirmed by the market investigation.

(167) For the purposes of this decision it is not necessary to conclude on the precise geographic market definition for these products since, irrespective of the market definition retained, the present assessment does not change.

## VI. COMPETITIVE ASSESSMENT

### **1. Commodity S PVC**

#### **1.1. Market overview EEA/Western Europe**

##### *EEA*

(168) In 2006, the total size of the PVC demand (comprising S PVC, PVC specialties and copolymers as well as emulsion PVC)<sup>132</sup> in the EEA was [6 000-7 000]\*kt. This is a modest increase of [0-5]\*% from 2001. The total domestic demand of PVC in the EEA is forecasted to increase by [5-10]\*% up to [6 000-7 000]\*kt in 2011, that is to say, an average annual growth rate of around 1%, with the vast majority of this increase to come from Central and Eastern European countries which represent about [10-15]\*% of the EEA market. The major end-use market for PVC in the EEA is the construction industry, which will continue to dominate demand over the forecast years.

##### *Western Europe*

(169) Domestic demand demonstrated slightly negative growth (- 0.3% annually) between 2001 and 2006 (from [5 000-6 000]\*kt to [5 000-6 000]\*kt). As to the forecast, however, domestic demand is estimated to show an annual growth of [<1%]\*% through 2011 when it is forecasted to reach [5 000-6 000]\*kt, while overall demand (domestic demand + exports) should modestly decrease by 0.3% annually. Therefore, domestic production is expected to decrease by around -[<1%]\*% annually.

(170) Western Europe is a net exporter of PVC with a production of [5 000-6 000]\*kt in 2006. Approximately [30-40]\*% of Western European PVC is produced in Germany and [20-30]\*% in France. PVC imports are modest as they represent only [0-5]\*% of the total West European supply.

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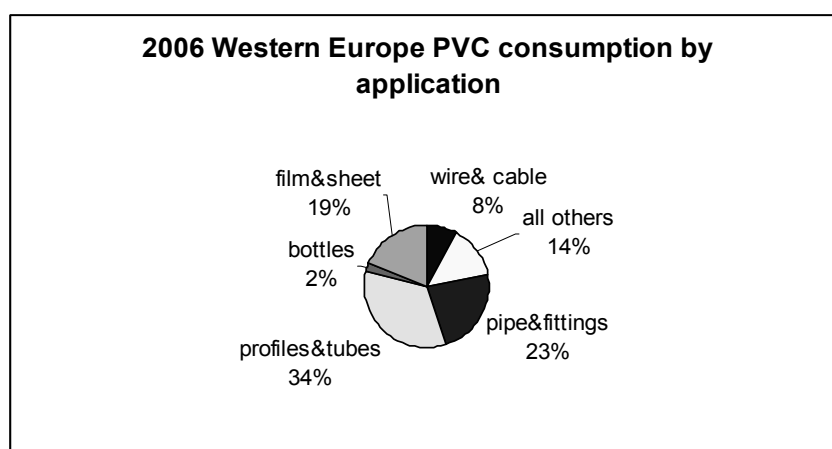
<sup>131</sup> Case COMP/M. 2441 AMCOR/DANISCO/AHLSTROM.

<sup>132</sup> CMAI report. The figures are provided in an aggregated manner for PVC because the report does not provide these data only for S PVC. In any event, given that, according to the same report, emulsion production in the EEA represents around 12% of the total production and that the volumes of copolymers and other specialties of S PVC represent a very small amount compared with the overall S PVC market, the reported results can be considered as an approximation for the S PVC market.

(171) Contract PVC prices have increased from an average of EUR [...] per metric ton delivered in 2004 to an expected average of EUR [...] per metric ton delivered in 2006. This increase is caused by increases in raw material prices, improved demand and tighter supply/demand balances.<sup>133</sup>

(172) In the same way as for the EEA as a whole, the major end-use market for PVC in Western Europe is the construction industry, which will continue to dominate demand over the forecast years. The pipe sector used to be the biggest end user of PVC in the region, but in recent years, rigid profiles (34%) are the largest application. Other significant applications of PVC are Film & Sheet (19%) and Wire & Cable (8%). See Chart 9<sup>134</sup>:

**Chart 9**



Source: CMAI: 2007 World Vinyls Analysis, Houston, USA, October 2006

## 1.2. Market structure

(173) Should an EEA-wide geographic market definition be considered, the combined market share of the parties post transaction would amount to [20-30]\*% in terms of capacity (Ineos [15-20]\*%, Kerling [5-10]\*%) and [20-30]\*% in terms of sales. The combined entity would continue to compete with a number of suppliers such as Solvin [10-15]\*%, Arkema [10-15]\*%, LVM [5-10]\*%, Shin Etsu [5-10]\*%, and Vinnolit [5-10]\*%, the remaining [20-30]\*% being in the hands of smaller S PVC producers with market shares below 5%.<sup>135</sup>

**Table 9: 2006 EEA Sales Market share (%)**

Ineos	[15-20]*%
Kerling	[5-10]*%
<b>COMBINED</b>	<b>[20-30]*%</b>
Solvin	[10-15]*%
Arkema	[10-15]*%
LVM	[5-10]*%

<sup>133</sup> CMAI Report.

<sup>134</sup> CMAI Report, p. 129.

<sup>135</sup> Form CO, pp.34-35.

ShinEtsu	[5-10]*%
Vinnolit	[5-10]*%
others	[20-30]*%
<hr/>	
TOTAL	100%
<hr/>	

Source: Form CO, p.34-35<sup>136</sup>

- (174) Should the relevant geographic market be regional and defined as Western Europe , the market shares would remain within the same ranges: the combined entity would enjoy a market share of [20-30]\*% and would continue to face strong competitors such as Solvin, Arkema, LVM, Shin Etsu and Vinnolit with similar market shares as indicated in paragraph 173.<sup>137</sup>
- (175) Should the narrowest relevant geographic market be considered, that is to say North Western Europe, the combined market share would be below [30-40]\*% (Ineos [15-20]\*%, Kerling [10-20]\*%) and the combined entity would continue to face strong competitive pressure from the same competitors such as Shin Etsu [10-15]\*%, LVM [10-15]\*%, Vinnolit [5-10]\*%, Solvin [5-10]\*%, and Arkema [5-10]\*%.<sup>138</sup>
- (176) Based on an EEA-wide geographic market, the Herfindhal-Hirschman Index ("HHI") would increase from [...] up to [...]\*<sup>139</sup> and the increase in the delta would be around [...]\*. On a Western European geographic market basis, the HHI would increase from [...] up to [...]\* resulting in a delta increase of [...]\*. On a North West European geographic market basis, the HHI would increase from [...] up to [...]\* with a delta of [...]\*. These changes of concentration levels, although exceeding the level at which they could indicate a clear absence of competition concerns<sup>140</sup>, are moderate.

### 1.3. Unilateral Effects

- (177) Based on the information collected during the in-depth market investigation, data submitted by the notifying party and independent third party reports, it appears unlikely that the combined entity would be able to unilaterally exercise market power on an EEA-wide or a West/North West European market.
- (178) First, it should be noted that the combined market share of the parties on a Western European or EEA-wide market for S-PVC would be just slightly higher than [20-30]\*%,

<sup>136</sup> The market shares provided in the table are based on figures including the volumes of S PVC used in compounds. However, these market shares are very similar to the market shares calculated by the Commission on the basis of the merchant sales of the S PVC alone obtained during the market investigation. For example, the parties' combined market share on this basis is [20-30]\*% while including compounds is [20-30]\*%, and similar results are obtained for the competitors.

<sup>137</sup> In terms of sales, Form CO, p.36

<sup>138</sup> Parties' reply to Article 11 request of 11 December 2007, point 8.

<sup>139</sup> Form CO, p.60.

<sup>140</sup> Guidelines on the assessment of horizontal mergers under the Council Regulation on the control of concentrations between undertakings, OJ C 31 of 5 February 2004,, paragraphs 19-21.

the level under which, in the absence of other factors, the Commission normally presumes an absence of anti-competitive effects.<sup>141</sup>

- (179) In addition, the production capacity data submitted by the parties and obtained during the market investigation indicate that both the current capacities and capacities available in the future will not be in the hands of the merged entity to an extent that gives rise to competition concerns, but rather in the hands of its competitors. The combined entity currently has an estimated spare capacity representing about [5-10]\*% of the EEA and about [15-20]\*% of the Western Europe spare capacity level, the rest being in the hands of alternative suppliers, and it appears that these proportions will be maintained in the future. Moreover, given the increased pressure of imports in the European market as forecasted, the combined parties' market share is likely to decrease over the next few years.
- (180) Furthermore, the market investigation confirmed that the majority of customers multi-source, and have short-term contracts (one year on average) which allow them to switch their suppliers easily in case of a price increase.
- (181) Given the moderate level of the combined market share of the parties, their even lower share of the existing and future spare production capacity and the relative ease with which customers can switch all or a substantial portion of their sourcing needs to competing suppliers, it is unlikely that Ineos would have post transaction the ability to exercise market power, be it in the EEA or in a (North) Western Europe market.

#### **1.4. Coordinated Effects**

- (182) A merger in a concentrated market may significantly impede effective competition because it can, under certain circumstances, increase the likelihood of coordinated effects, including price increases, even without the market participants entering into an agreement or resorting to a concerted practice within the meaning of Article 81 of the Treaty<sup>142</sup>.
- (183) The smaller the number of competitors left in a market after a merger, the easier it is for coordinated effects to occur, thereby reducing the intensity of competition on the market. Taking into account the facts of the case at hand, six significant competitors will remain in the market post transaction which means that the possibility that this transaction could facilitate coordinated effects is rather remote.
- (184) This conclusion is further supported by the fact, confirmed by the market investigation, that prices are negotiated confidentially and on a bilateral basis between S PVC suppliers and customers. While industry price indices are published, they are just indicators and represent only the starting point of such negotiations which are aimed at determining volume rebates, pricing levels and various pricing adjustment mechanisms depending on factors such as annual volumes, distance from the production plant or payment conditions. Moreover, most customers negotiate or seek price offers from many competing suppliers every month,

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<sup>141</sup> Guidelines on the assessment of horizontal mergers under the Council Regulation on the control of concentrations between undertakings, paragraph 18.

<sup>142</sup> Guidelines on the assessment of horizontal mergers under the Council Regulation on the control of concentrations between undertakings, paragraph. 39.

making it all the more difficult for industry participants to adhere to a common pattern. This mechanism of price setting renders the S PVC market rather non-transparent despite the homogeneity of the products sold, which increases the difficulties in monitoring competitors' behavior.

(185) In the light of the above, the Commission concludes that the proposed transaction is not likely to give rise to any coordinated effects.

## **2. Products upstream from S PVC**

### **2.1. Ethylene**

(186) Whilst Ineos' ethylene production capacity amounts to approximately [10-15]\*% of the total European production capacity, its share on the merchant market is very limited and amounts to only [5-10]\*%.<sup>143</sup> Kerling's presence on the ethylene market is even smaller as its production amounts to a share of [0-5]\*% of the European production and [<1]\*% of the merchant sales.<sup>144</sup>

(187) Dow ([10-15]\*%), ENI ([10-15]\*%), Total ([10-15]\*%) and Sabic ([5-10]\*%) are other significant producers of ethylene in Europe. Further suppliers of ethylene to third parties include Ruhr Oel, Shell, OMV and many others.<sup>145</sup>

(188) Moreover, should the geographic market be delineated by the area covered by the pipeline network<sup>146</sup>, there would be no overlap between the parties.<sup>147</sup>

(189) Given the parties' relatively modest share of the European production capacity, their even smaller share of the merchant market and the presence of many alternative sources of supply which are currently used by competing S-PVC producers, it can be concluded that competitive access to ethylene for competing S-PVC suppliers would not be foreclosed as a result of this proposed concentration.

### **2.2. By-products of ethylene production: propylene, C4 and pygas<sup>148</sup>**

(190) Ineos is not active in the merchant market of pygas and uses all its production captively. For propylene, the parties' combined capacity does not exceed 10% and their combined sales are below [0-5]\*% in Western Europe.<sup>149</sup> Moreover, Kerling's only customer on the

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<sup>143</sup> Parties' Response to Commission's Information Request of 10 December 2007, point 7. This figure includes also sales made from the cracker acquired by Ineos as a result of the acquisition of Borealis, Norway.

<sup>144</sup> Parties' Response to Commission's Information Request of 25 October 2007, para. 11.3 to 11.9.

<sup>145</sup> Parties' Response to Commission's Information Request of 25 October 2007, para. 11.7 and 11.9 and Parties' Response to Commission Information Request of 10 December 2007, point 7.

<sup>146</sup> Case M.4401 – Basell / Münchsmünster Cracker and associated assets, para. 10-13.

<sup>147</sup> Parties' Response to Commission's Information Request of 25 October 2007, para. 11.9(B).

<sup>148</sup> The data considered include also sales made from the cracker acquired by Ineos as a result of the acquisition of Borealis, Norway.

<sup>149</sup> Parties' Response to Commission's Information Request of 18 December 2007

EEA merchant market for propylene and pygas is Ineos<sup>150</sup>. Thus, the proposed transaction does not affect any markets for propylene or pygas.

- (191) Ineos' production capacity of crude C4 represents around [15-20]\*% of EEA-wide capacity. Ineos sales only limited amounts of C4 (less than [0-5]\*%). Kerling's production capacity of C4 is much smaller and represents only about [ $<1$ ]\*% of the EEA-wide production capacity. Kerling' sales of this product account for about [0-5]\*% of the EEA-wide merchant market for C4.<sup>151</sup> The parties' position does not change significantly if the geographic market is defined as Western Europe.<sup>152</sup>
- (192) The Commission has not uncovered any substantive concerns or information to the effect that the proposed transaction could have any significant effect on competition in the production and sale of propylene, crude C4 and pygas. For all of these reasons, the Commission concludes that the proposed concentration would not impede effective competition in the production or sale of these three products.

### **2.3. By-product of chlorination process: caustic soda**

- (193) The parties' combined market share in liquid caustic soda would be approximately [10-15]\*% on an EEA-wide basis<sup>153</sup>. The notifying party claims that there are over 40 players active on the merchant market for liquid caustic soda with Dow remaining the market leader post-transaction with nearly [15-20]\*% market share followed closely by Solvay ([10-15]\*%). Bayer, Akzo Nobel, Arkema, Vinnolit, BASF, Syndial, Anwil and Tessenderlo are also significant competitors on this market.<sup>154</sup>
- (194) The parties' presence is greater in certain parts of the EEA where the parties' combined shares of sales would range from [40-50]\*%, [40-50]\*% and [50-60]\*% in Norway, Sweden and Denmark respectively up to [50-60]\*% in the United Kingdom.
- (195) As regards the Nordic region, larger customers in this region have clearly indicated to the Commission during its second phase investigation that the proposed transaction would not be of any concern to them. They are multi-sourcing and are already currently using, to a large extent in certain cases, alternative suppliers of liquid caustic soda located either locally or in Germany. Moreover, they have all stated that they would have the ability to switch to alternative suppliers should they be faced with a 5-10% price increase from their current suppliers.<sup>155</sup>
- (196) A few smaller customers have expressed rather unsubstantiated concerns that the transaction will reduce the number of suppliers. However, some of them have also indicated that increased volumes can be imported from the European continent even though

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<sup>150</sup> Parties' Response to Article 6(1)(c) Decision, para 9.2(i).

<sup>151</sup> Form CO, para. 162-164.

<sup>152</sup> Parties' Response to Commission's Information Request of 18 December 2007

<sup>153</sup> Parties' Response to Article 6(1)(c) Decision, para. 82.

<sup>154</sup> Form CO, para. 228, p. 56.

<sup>155</sup> Replies of Helm Skandinavian, Iggesund, Stora Enzo, Borregaard, Danisco and Sodra to II phase questionnaire to customers of caustic soda, question 19. See also their responses to questions 26, 27 and 28.

this may require building a tank to increase storage capacity. Some have also raised concerns based on the uncertainty as to whether investments will be made in one of the parties' caustic soda plant to convert it from mercury to membrane cells in order to continue operations<sup>156</sup>. However, these latest concerns are not directly related to the proposed transaction and therefore are not merger specific.

(197) Moreover, the impact of the merger is not likely to be significant in the Nordic region or Denmark. In Norway and Sweden, despite the combined market share being relatively high, Ineos' position is rather limited with market shares of about [5-10]\*% to [5-10]\*% respectively. Moreover, given the small size of the markets (Norway represents around [0-5]\*% of the EEA market and Sweden around [5-10]\*%) there are no reasons to conclude that alternative producers would not be in a position to replace the limited position of Ineos in such markets. In particular in Sweden, where the market share is higher, the merged entity will face competition from various competitors such as Akzo [30-40]\*%, Solvay [10-15]\*%, Dow [5-10]\*% or Bayer [0-5]\*%. In Denmark, where the market share is also larger (Ineos [10-15]\*%, Kerling [30-40]\*%), it has to be taken into account that the Danish market is again very small representing less than 1% of the EEA consumption and that there is no local production so that all caustic soda is imported. Therefore, there are no reasons to conclude that alternative producers would not be in a position to export into Denmark the (small) volumes necessary to keep the Danish market in the same competitive conditions as it is now.

(198) As regards the United Kingdom, only few customers of liquid caustic soda have replied to the second phase questionnaire sent by the Commission.<sup>157</sup> They expressed concerns that Ineos has become the only domestic United Kingdom producer of liquid caustic soda<sup>158</sup> as a result of several recent plant closures in the United Kingdom.<sup>159</sup> These customers have pointed out that Ineos has enjoyed a significant transport cost advantage over competing importers. The Commission notes however that the proposed transaction would not change anything in that regard as Kerling has no caustic soda production facilities in the United Kingdom. In line with this, one of these customers summarised the situation as follows: *"However, it should be noted that because of the recent reduction in supplier numbers Ineos already has a virtual monopoly in locations that are remote from the 'shore tanks' that facilitate imports. In these locations, such as our Darly Site, while the proposed merger will certainly not improve the situation given the market dominance that Ineos enjoy, it could be argued that the additional effect will be marginal."*<sup>160</sup> Other than Kerling, significant competing importers of caustic soda into the United Kingdom include Arkema [5-10]\*%, Dow [5-10]\*% and Solvay [0-5]\*%.<sup>161</sup> Geographically, these competitors are certainly not disadvantaged vis-à-vis Kerling for supplying caustic soda to United Kingdom customers.

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<sup>156</sup> Reply of [customer] to II phase questionnaire to customers of caustic soda, questions 26, 27 and 28.

<sup>157</sup> Only 3 out of 12. In addition, there was one reseller of Kerling's caustic soda.

<sup>158</sup> This confirms the statement made by the parties in paragraph 8.3(i) of their Response to the effect that Kerling has no liquid caustic soda production facilities in the UK.

<sup>159</sup> Replies to II phase questionnaire to customers of caustic soda, question 21.

<sup>160</sup> Response of DSM Nutritional Products to II phase questionnaire to caustic soda customers, question 26.

<sup>161</sup> Form CO, p. 55.



- (199) Moreover, it has to be taken into account that caustic soda is a by-product of the chlorine production (see Chart 1), a basic raw material for S PVC production. Therefore, the parties would not have the incentive to decrease caustic soda production to increase prices since this strategy would negatively affect their production of S PVC. In particular, for each tonne of caustic soda withdrawn from the market, around 1.47 tonnes of S PVC should also be withdrawn, while EEA average gross margins of S PVC are higher ([...]\*/tonne in 2006) than for caustic soda ([...]\*/tonne in 2006).
- (200) The second phase of the market investigation does not indicate that the proposed transaction can significantly affect the competition in the provision of liquid caustic soda in the EEA or any substantial part of it, even on the basis of national markets. Many of the customers who replied to the Commission's questionnaire conveyed that they have the ability to move significant volumes to alternative suppliers if required. As for customers located in more remote areas, the market investigation has revealed that they would not lose a significant competitive alternative as a result of the proposed transaction.
- (201) In the light of the foregoing, the Commission concludes that the proposed acquisition of Kerling by Ineos will not impede effective competition in the supply of liquid caustic soda in the EEA or any substantial part thereof, irrespective of the geographic market definition.

### **3. Products downstream from S-PVC**

#### **3.1. S-PVC Compounds**

##### *Horizontal issues*

- (202) Unlike for the S PVC production, the market for the production and sale of compounds is much more fragmented with a larger number of suppliers of varying sizes competing against each other<sup>162</sup> and a number of manufacturers who produce compounds in-house. Moreover, the majority of these competitors are not integrated upstream into the production of S PVC.
- (203) According to the parties' estimate, their combined market share on the overall S PVC compounds market in terms of sales on an EEA-wide basis would be less than [10-20]\*%<sup>163</sup>. The parties' combined market share would be very similar in Western Europe ([20-30]\*%) or in North-Western Europe ([20-30]\*%)<sup>164</sup>, the narrowest possible geographic market for compounds. If dry blend and gelled compounds would be considered two separate product markets, it should first be noted that the proposed transaction would not change significantly the market structure in relation to the supply of dry blend compounds as Ineos' current share of the sales of this product is only [0-5]\*% to [0-5]\*% in either of the three alternative geographic markets referred to. With respect to gelled

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<sup>162</sup> In paragraph 7.3 of their Response to the Article 6(1)(c) Decision, the parties indicate that there are 150 specialist compounders in the EEA.

<sup>163</sup> Parties' Response to Article 6(1)(c) Decision, para. 7.3

<sup>164</sup> Parties' Response to question 2 of Article 11 information request of 7 December 2007. Western Europe comprises EU-15 pre-2004 countries + 3 EFTA countries and North-Western Europe comprises Ireland, UK, France, Benelux, Germany, Denmark, Norway and Sweden.

compounds, the parties' combined market share would range between [15-20]\*% and [15-20]\*% on whichever of these three geographic market alternatives.

- (204) Moreover, it should be noted that the production of S PVC compounds is a mechanical process that is not nearly as capital intensive as the production of S PVC. Accordingly, the barriers to entry are very low which has enabled many firms to compete on a much lower scale and larger compounds customers to invest in the equipment necessary to start their own in-house production.

#### *Vertical issues*

- (205) During the market investigation some competitors of the parties on the S PVC compounds market, in particular non-integrated compounders which are the parties' customers for S PVC (the main raw material for the production of compounds) have expressed concerns that the combined entity will be in a position to leverage its market power on the S PVC market into the market for S PVC compounds by foreclosing access to S PVC resin.
- (206) However, from the information obtained by the Commission during its second phase market investigation it appears that Ineos will not be in a position to curtail supplies of S-PVC to non-integrated compounders as Ineos will not enjoy market power on the S PVC market where it will be constrained post-merger by a number of competitors active throughout the EEA (see assessment of S PVC). The market investigation showed that the majority of independent compounders either multisource or source from suppliers other than the parties when it comes to their S PVC requirements, and that these suppliers are based in the EEA or even world-wide. Accordingly, Ineos will not be in a position to foreclose its competitors on the downstream market for S PVC compounds who will continue to have a choice from a number of alternative S PVC suppliers active throughout the EEA.
- (207) In light of the above and in view of the limited horizontal overlap and the absence of substantial vertical issues, it is unlikely that the present transaction will have anticompetitive effects on the S PVC compounds market regardless of the precise geographic market definition.

### **3.2. PVC Films**

#### *Horizontal issues*

- (208) Downstream from S PVC, Ineos is active on the market for the production of rigid PVC films. However, Kerling is not active in the production or sale of PVC films. Hence, the proposed concentration would not remove a competitor in the supply of this product.

#### *Vertical issues*

- (209) As indicated previously in the product market section, rigid films are produced from different input factors including S PVC. The Commission has therefore investigated

whether the proposed concentration could have any significant effect on competition with respect to this vertical relationship between S PVC and rigid PVC films.

- (210) On the basis of a broad market definition comprising all rigid films (including inter alia PVC, PET, polypropylene and polyethylene films), Ineos has a market share of [5-10]\*% in terms of both volume and value in the EEA. Should narrower market segments for rigid S PVC films be considered, Ineos market shares are below [20-30]\*% in all segments except for the pharma-mono and pharma-duplex films segments where it has shares of [30-40]\*% and [30-40]\*% respectively.
- (211) The parties submit that none (or only to a very limited extent) of the main competitors of Ineos on the downstream rigid PVC films market currently sources its S PVC requirements from Kerling. Therefore, according to the parties, the ability of the new entity to restrict access to S PVC and thus foreclose its competitors on the downstream rigid PVC films market would be limited.
- (212) Moreover, the share of the sales of S PVC accounted for by the merging entity would be around [30-40]\*% depending on whether the geographic market is defined as being the EEA, Western Europe or North Western Europe. For the reasons explained in other parts of this Decision, the Commission has concluded that the proposed concentration will not impede effective competition in the provision of S PVC. Thus, it follows that Ineos competitors in the downstream market of rigid PVC films would continue to have the ability to source S PVC at competitive conditions and remain effective competitors to Ineos in the provision of rigid film products.

## **VII. CONCLUSION**

- (213) For the reasons set out above it must be concluded that the proposed concentration does not significantly impede effective competition in the common market or a substantial part of it, in particular as a result of the creation or strengthening of a dominant position. The concentration should therefore be declared compatible with the common market pursuant to Article 8 (1) of the Merger Regulation and with the EEA Agreement pursuant to Article 57 thereof,

HAS ADOPTED THIS DECISION:

*Article 1*

The notified operation whereby Ineos acquires sole control of Kerling within the meaning of Article 3(1)(b) of the Merger Regulation is hereby declared compatible with the common market and the functioning of the EEA Agreement.

*Article 2*

This decision is addressed to:

**INEOS GROUP LIMITED**  
Hawkslease, Chapel Lane, Lyndhurst  
UK SO43 7 FG Hampshire  
United Kingdom

Done at Brussels, 30.012008

For the Commission  
(Signed)  
Neelie KROES  
Member of the Commission

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