Recommendation by the Persistent Organic Pollutants Review Committee to list short-chain chlorinated paraffins in Annex A to the Convention and draft text of the proposed amendment

Note by the Secretariat

I. Introduction

1. At its eleventh meeting, by its decision POPRC-11/3, the Persistent Organic Pollutants Review Committee adopted a risk profile for short-chain chlorinated paraffins (UNEP/POPS/POPRC.11/10/Add.2) and decided that short-chain chlorinated paraffins were likely, as a result of their long-range environmental transport, to lead to significant adverse human health and environmental effects such that global action was warranted.

2. At its twelfth meeting, by its decision POPRC-12/3, the Committee adopted a risk management evaluation for short-chain chlorinated paraffins (UNEP/POPS/POPRC.12/11/Add.3) and decided, in accordance with paragraph 9 of Article 8 of the Stockholm Convention on Persistent Organic Pollutants, to recommend to the Conference of the Parties to the Stockholm Convention that it consider listing short-chain chlorinated paraffins in Annex A to the Convention, including controls to limit the presence of short-chain chlorinated paraffins in other chlorinated paraffin mixtures, with or without specific exemptions.

3. Pursuant to paragraph 2 of Article 21 of the Convention, on 20 October 2016, more than six months before the eighth meeting of the Conference of the Parties, the Secretariat communicated the Committee’s recommendation on short-chain chlorinated paraffins to the Parties and signatories to the Convention and invited Parties to provide any comments. A compilation of comments received from Parties relating to the proposed listing of short-chain chlorinated paraffins is set out in document UNEP/POPS/COP.8/INF/21. The executive summary of the risk management evaluation on...
short-chain chlorinated paraffins and the decision of the Committee setting out its recommendation are reproduced in the annex to the present note. The executive summary is presented without formal editing.

4. As indicated in paragraph 9 of Article 8 of the Convention, the Conference of the Parties, taking due account of the recommendations of the Committee, including any scientific uncertainty, is to decide, in a precautionary manner, whether to list those chemicals, and specify their related control measures, in Annexes A, B and/or C to the Convention. If the Conference of the Parties decides to list those chemicals in Annexes A, B and/or C, the respective annex or annexes will be amended in accordance with Articles 21 and 22 of the Convention.

II. Proposed action

5. The Conference of the Parties may wish to adopt a decision along the following lines:

The Conference of the Parties,

Having considered the risk profile and the risk management evaluation for short-chain chlorinated paraffins as transmitted by the Persistent Organic Pollutants Review Committee,²

Taking note of the recommendation by the Persistent Organic Pollutants Review Committee that short-chain chlorinated paraffins be listed in Annex A to the Convention with controls to limit the presence of short-chain chlorinated paraffins in other chlorinated paraffin mixtures, with or without specific exemptions, ³

1. Decides to amend part I of Annex A to the Stockholm Convention on Persistent Organic Pollutants to list short-chain chlorinated paraffins therein, [with] [without] specific exemptions [for …] by inserting the following row:

<table>
<thead>
<tr>
<th>Chemical</th>
<th>Activity</th>
<th>Specific exemption</th>
</tr>
</thead>
<tbody>
<tr>
<td>Short-chain chlorinated paraffins (CAS No: 85535-84-8)</td>
<td>Production</td>
<td>[…]</td>
</tr>
<tr>
<td></td>
<td>Use</td>
<td>[…]</td>
</tr>
</tbody>
</table>

2. Also decides to insert a new part … in Annex A as follows:

Part …

Short-chain chlorinated paraffins

[Text to address controls to limit the presence of short-chain chlorinated paraffins in other chlorinated paraffin mixtures].]

² UNEP/POPS/POPRC.11/10/Add.2 and UNEP/POPS/POPRC.12/11/Add.3.
³ UNEP/POPS/COP.8/14.
Annex

Risk management evaluation on short-chain chlorinated paraffins and the recommendations of the Persistent Organic Pollutants Review Committee

I. Executive summary of the risk management evaluation on short-chain chlorinated paraffins

1. In 2006, the European Union and its Member States submitted a proposal to list short-chain chlorinated paraffins (SCCPs) to Annex A, B and/or C of the Stockholm Convention pursuant to paragraph 1 of Article 8 of the Convention. At its second meeting, the Persistent Organic Pollutants Review Committee concluded that SCCPs meet all of the screening criteria specified in Annex D. The risk profile for SCCPs was adopted at the eleventh meeting, in October 2015, where the Committee decided:
   (a) That SCCPs are likely, as a result of their long-range environmental transport, to lead to significant adverse human health and environmental effects such that global action is warranted;
   (b) To prepare a risk management evaluation that includes an analysis of possible control measures for SCCPs; and
   (c) To invite parties and observers to submit to the Secretariat the information specified in Annex F of the Convention.

2. SCCPs are chlorinated paraffin mixtures that are viscous, colourless or yellowish dense oils (Environment Canada 2008). Consistent with the risk profile, the risk management evaluation focuses on SCCPs (Alkanes, C_{10-13}, chloro) with greater than 48% chlorination by weight. Chlorinated paraffins (CPs) are produced by the chlorination of a hydrocarbon feedstock consisting of n-alkanes. The feedstock used determines the carbon chain lengths that are contained in the product. Traditionally, three different carbon chain length feedstocks are used to manufacture CPs: short-chain (C_{10-13}), medium-chain (C_{14-17}), and long-chain (C_{18+}). More recently in North America, manufacturers have further divided long-chain feedstocks (C_{18+}) into those used to produce LCCPs (C_{18-20}) and those used to produce very long-chain CPs (C_{20+}) (United States submission May 2016). In other regions, the chain length composition of feedstocks can vary significantly, for example, China produces a CP mixture with chain lengths ranging from C_{10} to C_{20} (World Chlorine Council submission February 2016). As such, the feedstocks used to manufacture CP mixtures may contain other carbon chain lengths outside the defined ranges, which affect the composition of the CP mixture that is produced (UNEP/POPS/POPRC.6/INF/15). A wide ranging feedstock (i.e., C_{10} to C_{20}) or a feedstock that contains trace amounts of short-chain lengths may result in CP mixtures that contain SCCPs.

3. SCCPs were, and continue to be, used primarily in metalworking applications and in polyvinyl chloride (PVC) plastics. Other uses described in the risk profile include using SCCPs in paints, adhesives and sealants, leather fat liquors, plastics, and as flame retardants in rubber, textiles and polymeric materials (UNEP/POPS/POPRC.11/10/Add.2). SCCPs may be released into the environment at all life cycle stages: during production, storage, transportation, use, and disposal of SCCPs and products that contain SCCPs. Although data are limited, major sources of release of SCCPs are likely the formulation and manufacturing of products containing SCCPs, such as PVC plastics, and use in metalworking fluids (UNEP/POPS/POPRC.11/10/Add.2).

4. The production of SCCPs has decreased globally as jurisdictions have established control measures (UNEP/POPS/POPRC.11/10/Add.2). According to information provided in Annex E, Annex F, comment submissions and the risk profile, SCCPs were reported to be produced in Brazil, and were reported to be imported by Albania, Argentina, Australia, Republic of Korea, Croatia, Argentina, Dominican Republic, Ecuador and Mexico. No other production information was obtained from Annex F submissions or during the literature search. While historical use of SCCPs was high, reductions have been noted in recent years in some countries. More recently, production volumes of CP mixtures that may include SCCPs increased. Control actions for SCCPs have been proposed and implemented in Albania, Canada, EU member states, Norway and the United States. Inspection and enforcement activities carried out in Austria, Germany, Norway and Sweden where SCCPs are banned have found the continued presence of SCCPs in articles.

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1. UNEP/POPS/POPRC.12/11/Add.3.
5. It has been demonstrated that technically feasible alternatives are commercially available for all known uses of SCCPs. Information on the economic feasibility and accessibility of these alternatives in developing countries is not available. All uses of SCCPs have been phased out in Canada, EU member states, Norway and the United States, for years. More recently, the remaining uses of SCCPs in rubber conveyor belts and dam sealants have been replaced with viable alternatives in the EU (EC 2015). In addition, a decrease in SCCP consumption for conveyor belts, as well as dam sealants, has been observed which indicates that technically feasible alternatives exist, are accessible and available (Denmark 2014).

6. Two information sources note that the technical feasibility of some alternatives in paint and coating applications is unclear. Both studies also note the possible increased cost of manufacturing and using chemical alternatives to SCCPs. The exact impact of switching to alternative chemicals and processes is expected to be unique to each situation, and can be difficult to predict when market and cost information is insufficient. Given that no adverse economic effects have been reported by parties that have successfully enacted prohibitions on SCCPs (Canada, EU member states and Norway), or from jurisdictions where SCCPs are no longer in use (United States of America), it can be concluded that alternatives are widely available for all applications.

7. Information provided by most parties and observers does not indicate that negative economic impacts are anticipated if SCCPs are listed to the Convention, excluding China and the Russian Federation. China and the Russian Federation indicate that listing SCCPs is expected to increase costs and result in negative impacts to the chlorinated paraffin industry, as well as to the manufacturers of the raw materials and the downstream products industry (China Annex F 2015 submission; Russian Federation submission April 2016).

8. Listing SCCPs to the Convention in Annex A or B to eliminate or restrict the production and use of SCCPs is expected to result in benefits to human health, the environment, agriculture and biota. It is not possible to quantify the benefits of eliminating or restricting SCCPs; however, they are considered to be significant given the costs associated with the significant adverse effects on human health and the environment that are likely to result from the continued production and use of SCCPs.

9. No party or observer submitted information to propose or justify the need for a specific exemption or acceptable purpose in the listing of SCCPs to the Convention. Consideration could be given to including a specific exemption to assist parties with their transition to alternative substances; however, no party has identified a specific use where flexibility in the recommended control measure is required.

10. SCCPs maybe unintentionally produced during the manufacture of other CP mixtures. To provide additional protection of human health and the environment from exposure to SCCPs, a listing to the Convention could include controls for SCCP impurities in other CP mixtures. The purpose of the controls would be to minimize the amount of SCCPs contained in other CP mixtures, which would reduce both human and environmental exposures. Canada and EU member states have taken measures to limit the content of SCCPs in other CP mixtures, which demonstrates that this control measure is technically feasible. In addition, MCCPs and other CP mixtures are often used as alternatives to SCCPs in many applications; therefore, as the use of SCCPs is phased out the production and use of MCCPs and other CP mixtures could increase. This further emphasizes the need to develop other alternatives or methods, and promote best available techniques to limit the presence of SCCPs in other CP mixtures.

11. Having prepared a risk management evaluation and considered the management options, the Persistent Organic Pollutants Review Committee recommends, in accordance with paragraph 9 of Article 8 of the Convention, that the Conference of the Parties to the Stockholm Convention consider listing and specifying the related control measures for SCCPs in Annex A including controls to limit the presence of SCCPs in other CP mixtures, with or without specific exemptions.
II. Decision setting out the recommendation of the Committee

POPRC-12/3: Short-chain chlorinated paraffins

The Persistent Organic Pollutants Review Committee,

Having concluded in its decision POPRC-2/8 that short-chain chlorinated paraffins meet the criteria set out in Annex D to the Stockholm Convention,

Having evaluated the risk profile for short-chain chlorinated paraffins adopted by the Committee at its eleventh meeting in accordance with paragraph 6 of Article 8 of the Convention,

Having decided in its decision POPRC-11/3 that short-chain chlorinated paraffins are likely, as a result of their long-range environmental transport, to lead to significant adverse human health and environmental effects such that global action is warranted,

Having completed the risk management evaluation for short-chain chlorinated paraffins in accordance with paragraph 7(a) of Article 8 of the Stockholm Convention,

1. Adopts the risk management evaluation for short-chain chlorinated paraffins;³

2. Decides, in accordance with paragraph 9 of Article 8 of the Convention, to recommend to the Conference of the Parties that it consider listing short-chain chlorinated paraffins in Annex A to the Convention, including controls to limit the presence of short-chain chlorinated paraffins in other chlorinated paraffin mixtures, with or without specific exemptions.

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² UNEP/POPS/POPRC.11/10/Add.2.
³ UNEP/POPS/POPRC.12/11/Add.3.