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**Stockholm Convention on Persistent Organic Pollutants**

**Conference of the Parties of the Stockholm Convention on Persistent Organic Pollutants**
**Fourth meeting**
Geneva, 4–8 May 2009
Item 5 (e) of the provisional agenda*

**Matters for consideration or action by the Conference of the Parties: listing chemicals in Annexes A, B or C of the Convention**

# Recommendations of the Persistent Organic Pollutants Review Committee of the Stockholm Convention to amend Annexes A, B or C of the Convention

## Note by the Secretariat

1. As referred to in paragraph 4 of document UNEP/POPS/COP.4/16, the recommendations of the Persistent Organic Pollutants Review Committee of the Stockholm Convention for listing chemicals in Annexes A, B or C of the Convention are provided in the present note.

2. The Committee decided at its third and fourth meetings to recommend the listing of nine chemicals in Annexes A, B or C of the Convention and to submit these recommendations to the Conference of the Parties for its consideration in accordance with paragraph 9 of Article 8 of the Convention.

3. The third meeting of the Committee took place from 19 to 23 November 2007 in Geneva and members had before them the risk profiles prepared in accordance with Annex E of the Convention and the risk management evaluations prepared in accordance with Annex F of the Convention for commercial pentabromodiphenyl ether, chlordecone, hexabromobiphenyl, lindane and perfluorooctane sulfonate. The Committee decided to recommend:

(a) To list in Annex A of the Convention:

(i) 2,2',4,4'- tetrabromodiphenyl ether (BDE-47, CAS No. 40088-47-9) and 2,2',4,4',5-pentabromodiphenyl ether (BDE-99, CAS No. 32534-81-9) and other tetra- and pentabromodiphenyl ethers present in commercial pentabromodiphenyl ether;

(ii) Chlordecone;

(iii) Hexabromobiphenyl;

(iv) Lindane;

* UNEP/POPS/COP.4/1.

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(b) To list in Annexes A or B of the Convention and to specify related control measures for perfluorooctane sulfonic acid (CAS No. 1763-23-1), its salts and perfluorooctane sulfonyl fluoride (CAS No. 307-35-7).

4. The fourth meeting of the Committee took place from 13 to 17 October 2008 in Geneva and members had before them the risk profiles prepared in accordance with Annex E of the Convention and the risk management evaluations prepared in accordance with Annex F of the Convention for alpha and beta hexachlorocyclohexane, commercial octabromodiphenyl ether and pentachlorobenzene. The Committee decided to recommend:

(a) To list in Annex A of the Convention:

(i) Alpha hexachlorocyclohexane;

(ii) Beta hexachlorocyclohexane;

(iii) 2,2',4,4',5,5'-hexabromodiphenyl ether (BDE-153, CAS No. 68631-49-2), 2,2',4,4',5,6'-hexabromodiphenyl ether (BDE-154, CAS No. 207122-15-4), 2,2',3,3',4,5',6-heptabromodiphenyl ether (BDE-175, CAS No. 446255-22-7) and 2,2',3,4,4',5',6-heptabromodiphenyl ether (BDE-183 CAS No. 207122-16-5) and other hexa- and heptabromodiphenyl ethers present in commercial octabromodiphenyl ether;

(b) To list in Annexes A and C of the Convention: Pentachlorobenzene.

5. The annex to the present note contains the compilation of the Committee's conclusions for each chemical under consideration, together with suggested risk reduction measures when available and the text of the decision of the Persistent Organic Pollutants Review Committee on the listing of the chemicals.

6. In accordance with paragraph 2 of Article 21 of the Stockholm that states that "the text of any proposed amendment shall be communicated to the Parties by the Secretariat at least six months before the meeting at which it is proposed for adoption", the Secretariat notified Parties on 30 October 2008 of the Committee's recommendations and the related request for action from the Conference of the Parties at its fourth meeting.

7. Risk profiles and risk management evaluations, together with other background information including the letters submitted with the proposals, are available from the Secretariat and from the Committee's website (http://www.pops.int/poprc/).

8. Paragraph 9 of Article 8 of the Convention states that, in the event that the Committee makes a recommendation on whether a chemical is to be considered by the Conference of the Parties for listing in Annexes A, B or C, "the Conference of the Parties, taking due account of the recommendations of the Committee, including any scientific uncertainty, shall decide, in a precautionary manner, whether to list the chemical, and specify its related control measures, in Annexes A, B and/or C". If the Conference of the Parties decides to list the chemical in Annexes A, B or C, the respective Annex or Annexes will be amended in accordance with Article 22 of the Convention.

9. Possible draft text of amendments to Annexes A, B or C to the Stockholm Convention to list the chemicals recommended for listing in the annexes is set out in document UNEP/POPS/COP.4/18.

## Possible action by the Conference of the Parties

10. The Conference of the Parties may wish to take note of the Committee's recommendations and consider the possible action by the Conference of the Parties to amend the Stockholm Convention to list the chemicals proposed by Parties and recommended by the Committee in Annexes A, B or C set out in paragraph 4 of document UNEP/POPS/COP.4/18.

# Annex

## Summary of the Committee's conclusions for each chemical under consideration

### A. Recommendations made by the Persistent Organic Pollutants Review Committee at its third meeting

#### 1. Commercial pentabromodiphenyl ether

1. The Committee completed its review of the available documents, considered the possible control measures, the available social and economic information and comments and information submitted by Parties and observers relating to the considerations specified in Annex F. The Committee decided to recommend to the Conference of the Parties, in accordance with paragraph 9 of Article 8 of the Convention, that the Conference consider listing commercial pentabromodiphenyl ether in Annex A of the Convention.

2. The Committee examined the available information for commercial pentabromodiphenyl ether and proposed that the best approach for listing the chemical substances reviewed under the risk profile of commercial pentabromodiphenyl ether was to cover all polybrominated diphenyl ethers with four or five bromines. Therefore the Committee recommended that the Conference consider listing in Annex A of the Convention 2,2',4,4'- tetrabromodiphenyl ether (BDE-47, CAS No. 40088-47-9) and 2,2',4,4',5-pentabromodiphenyl ether (BDE-99, CAS No. 32534-81-9) and other tetra- and pentabromodiphenyl ethers present in commercial pentabromodiphenyl ether, using BDE-47 and BDE-99 as markers for enforcement purposes.

**Decision POPRC-3/1: Commercial pentabromodiphenyl ether**

*The Persistent Organic Pollutants Review Committee,*

*Having evaluated* the risk profile for commercial pentabromodiphenyl ether adopted by the Committee at its second meeting;[1]

*Having concluded* that commercial pentabromodiphenyl ether is likely, as a result of long-range environmental transport, to lead to significant adverse effects on human health and/or the environment such that global action is warranted,

*Having completed* the risk management evaluation for commercial pentabromodiphenyl ether in accordance with paragraph 7 (a) of Article 8 of the Stockholm Convention,

1. *Adopts* the risk management evaluation for commercial pentabromodiphenyl ether set out in document UNEP/POPS/POPRC.3/20/Add.1;

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 in Annex A of the Stockholm Convention 2,2', 4,4'- tetrabromodiphenyl ether (BDE-47, CAS No. 40088-47-9) and 2,2',4,4',5-pentabromodiphenyl ether (BDE-99, CAS No. 32534-81-9) and other tetra- and pentabromodiphenyl ethers present in commercial pentabromodiphenyl ether, using BDE-47 and BDE-99 as markers for enforcement purposes.

#### 2. Chlordecone

3. The Committee completed its review of the available documents and considered the possible control measures, the available social and economic information and the comments and information submitted by Parties and observers relating to the considerations specified in Annex F. The Committee decided to recommend to the Conference of the Parties, in accordance with paragraph 9 of Article 8 of the Convention, that the Conference consider listing chlordecone in Annex A of the Convention.

1 UNEP/POPS/POPRC.2/17/Add.1.

4. The Committee prepared the risk management evaluation for chlordecone and concluded that although chlordecone was not known to be currently produced or used, it was important to prevent its re-introduction into commerce and use. The Committee further concluded that listing chlordecone in Annex A without any specific exemptions was feasible as there were no identified remaining production or uses. The Committee recommended that implementation efforts focus on identifying and managing obsolete stockpiles and wastes containing chlordecone and on establishing effective measures for preventing future production and use.

**Decision POPRC-3/2: Chlordecone**

*The Persistent Organic Pollutants Review Committee,*

*Having evaluated* the risk profile for chlordecone adopted by the Committee at its second meeting,[2]

*Having concluded* that chlordecone is likely, as a result of long-range transport, to lead to significant adverse effects on human health and/or the environment such that global action is warranted,

*Having completed* the risk management evaluation for chlordecone in accordance with paragraph 7 (a) of Article 8 of the Stockholm Convention,

1. *Adopts* the risk management evaluation for chlordecone found in document UNEP/POPS/POPRC.3/20/Add.2;

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 chlordecone in Annex A of the Convention without specific exemptions.

### 3. Hexabromobiphenyl

5. The Committee completed its review of the available documents and considered the possible control measures, the available social and economic information and the comments and information submitted by Parties and observers relating to the considerations specified in Annex F. The Committee decided to recommend to the Conference of the Parties, in accordance with paragraph 9 of Article 8 of the Convention, that the Conference consider listing hexabromobiphenyl in Annex A of the Convention.

6. The Committee assessed and agreed on the rationale for a class approach on all hexabrominated biphenyls, prepared the risk management evaluation for hexabromobiphenyl and concluded that although hexabromobiphenyl was not known to be produced or used anymore, it is important to prevent its re-introduction into commerce and use. The Committee further concluded that listing hexabromobiphenyl in Annex A without any specific exemptions was feasible as there were no identified remaining production or uses. The Committee recommended that implementation efforts focus on identifying and managing obsolete stockpiles and wastes containing hexabromobiphenyl and on establishing effective measures for preventing future production and use.

2 UNEP/POPS/POPRC.2/17/Add.2.

**Decision POPRC-3/3: Hexabromobiphenyl**

*The Persistent Organic Pollutants Review Committee,*

*Having* prepared the risk profile for hexabromobiphenyl adopted by the Committee at its second meeting,[3]

*Having concluded* at its second meeting that hexabromobiphenyl is likely, as a result of long-range environmental transport, to lead to significant adverse effects on human health and/or the environment such that global action is warranted,

*Having completed* the risk management evaluation for hexabromobiphenyl in accordance with paragraph 7 (a) of Article 8 of the Stockholm Convention,

*Noting* that, although it is not known to be produced or used anymore, it is important to prevent future production of hexabromobiphenyl and being of the view that any control measures should focus on identifying and managing articles and wastes containing hexabromobiphenyl and establishing effective measures to prevent its production in the future,

1. *Adopts* the risk management evaluation for hexabromobiphenyl set out in document UNEP/POPS/POPRC.3/20/Add.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 hexabromobiphenyl in Annex A of the Convention without specific exemptions.

## 4. Perfluorooctane sulfonate

7. The Committee completed its review of the available documents and considered the possible control measures, the available social and economic information and the comments and information submitted by Parties and observers relating to the considerations specified in Annex F. The Committee decided to recommend to the Conference of the Parties in accordance with paragraph 9 of Article 8 of the Convention that the Conference consider listing and specifying the related control measures of perfluorooctane sulfonic acid (CAS No. 1763-23-1) and its salts and perfluorooctane sulfonyl fluoride (PFOSF) (CAS No. 307-35-7) in Annex A or B of the Convention and specifying related control measures. It also proposed the following elements of a risk reduction strategy for PFOS:

**Elements of a risk reduction strategy proposed by the Committee and additional information need for perfluorooctane sulfonate:**

8. For the following historical uses in the United States, Canada and the European Union, alternatives are available and in use: fire fighting foams; carpets; leather and apparel; textiles and upholstery; paper and packaging; coatings and coating additives; industrial and household cleaning products; and pesticides and insecticides.

9. Based on the information supplied to the Committee, the availability of alternatives is uncertain for some specific uses. Therefore, there is a need for certain critical uses over the foreseeable future. To allow for this, one could, based on the feasibility of substitution for such uses and the time frame of substitution, introduce specific exemptions or acceptable purposes for production as required to produce other chemical substances only for the uses as described below and except for the production of PFOS acid and its salts and PFOSF as an intermediate to produce other chemical substances for those uses. One could also introduce specific exemptions or acceptable purposes for uses for which alternatives might be available. Based on the risk management evaluation critical uses would include the following: photoresists or anti-reflective coatings for photolithography processes; photo mask rendering process; photo imaging; hydraulic fluids in aviation; and certain medical devices. Other uses for which alternatives may be available include: ant baits for control of leaf-cutting ants; metal plating; fire fighting foam; and electric and electronic parts. The conditions for the use of PFOS-related substances could be further described in a new part III of Annex A or B. Elements of such a part III could include:

3 UNEP/POPS/POPRC.2/17/Add.3.

(a) That each Party should with regard to the ultimate elimination of the use of the substance for the critical uses take action in accordance with the set priorities, e.g., phasing out as a priority the uses for which alternatives may be available but would need to be phased in; i.e., metal plating, fire fighting foams, electric and electronic parts and the use of the substance for the production of ant baits for the control of leaf-cutting ants;

(b) That each Party using the substance develop and implement an action plan as part of the implementation plan specified in Article 7, which could include development of regulatory and other mechanisms to ensure that substance use is restricted to the specific exemptions listed above and implementation of suitable alternative products, methods and strategies for all exempted uses;

(c) That each Party using the substance provide a report every five years on progress in its elimination and submit it to the Conference of the Parties pursuant to Article 15;

(d) That such reports be considered by the Conference of the Parties in its reviews relating to progress towards elimination of the substance at five year intervals;

(e) That the Conference of the Parties could also, as soon as new information on safer alternative substances or technologies becomes available, review the specific exemptions or acceptable purposes to ensure that the uses of the substance are phased out as soon as the use of safer alternatives is technically and economically feasible;

(f) That Parties could, within their capabilities, promote research on and development of safe alternative chemical and non-chemical products, methods and strategies for Parties using the substance;

(g) That Parties that use the substance be requested to take into account, as appropriate, the relevant parts of the general guidance on best available techniques and best environmental practices given in Part V of Annex C.

10. Consideration should also be given to distinguishing between those uses which pose a risk of wide dispersion to the environment and those that do not.

11. According to additional information received from China, many developing countries, including China, lack competency and related standards of inspection and enforcement systems on PFOS risk management. The adverse effects and potential risks of PFOS have not been fully recognized, and most industries have not yet given attention to its substitution and phase-out. Most of the PFOS auxiliary products used by Chinese industries (for textile treatment or for semi-conductor products production) are imported mainly from developed countries. Because the PFOS content of the products is not clearly labeled, China currently cannot implement appropriate risk management. China will urge exporters to provide related information from the perspective of the Convention.

12. The fields of application of PFOS in developing countries are generally lacking product and technology alternatives that are technologically and economically feasible and environmentally friendly. Owing to lack of detailed information about alternative technologies, it can neither be assessed whether they are environmentally friendly nor whether they are feasible for developing countries in terms of technology and economy. It is therefore necessary to encourage Parties to the Convention to provide relevant information and to promote technical assistance and transfer of technology.

**Decision POPRC-3/5: Perfluorooctane sulfonate**

*The Persistent Organic Pollutants Review Committee,*

*Having evaluated* the risk profile for perfluorooctane sulfonate adopted by the Committee at its second meeting,[4]

*Having concluded* that perfluorooctane sulfonate (PFOS) is likely, as a result of long-range environmental transport, to lead to significant adverse effects on human health and/or the environment such that global action is warranted,

*Having concluded* that one of the substances included in the original proposal to list PFOS in Annexes A, B or C of the Stockholm Convention, perfluorooctane sulfonyl fluoride (PFOSF), is the most common starting material for different PFOS derivatives, that the probability that PFOSF will degrade to PFOS is very high and that therefore listing PFOSF together with PFOS acid and its salts would be the most effective measure to reduce releases of PFOS to the environment,

*Having concluded* in decision POPRC-3/11 that PFOSF fulfils the criteria in Annex D of the Convention,

*Having decided* in decision POPRC-3/11, in accordance with paragraph 7 (a) of Article 8 of the Convention, that PFOSF, through its transformation product PFOS, is likely, as a result of long-range environmental transport, to lead to significant adverse effects on human health and/or the environment such that global action is warranted,

*Having completed* the risk management evaluation for PFOS in accordance with paragraph 7 (a) of Article 8 of the Stockholm Convention,

1. *Adopts* the risk management evaluation for PFOS set out in document UNEP/POPS/POPRC.3/20/Add.5;

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 perfluorooctane sulfonic acid (CAS No. 1763-23-1), its salts and perfluorooctane sulfonyl fluoride (CAS No. 307-35-7) in Annexes A or B of the Convention and specifying the related control measures;

3. *Invites*, in accordance with paragraph 7 (a) of Article 8 of the Convention, Parties and observers to submit to the Secretariat any additional information specified in Annex F and, in particular, information on manufacturing (current and estimated), other uses and alternatives before 5 February 2008.

4 UNEP/POPS/POPRC.2/17/Add.5.

**Decision POPRC-3/11: Perfluorooctane sulfonyl fluoride**

*Whereas* Annex D of the Stockholm Convention specifies that information should be provided on the transformation products of a substance proposed for listing in Annexes A, B or C of the Convention, where relevant,

*Whereas* the substance perfluorooctane sulfonyl fluoride (1-Octanesulphonyl fluoride, 1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-heptadecafluoro (CAS No. 307-35-7) (PFOSF ) was included in the proposal submitted by Sweden to list perfluorooctane sulfonate (PFOS) in Annex A of the Convention,[5]

*Whereas* it has been found that PFOSF is a starting material for the synthesis of PFOS and PFOS-related substances,

*Whereas* the Persistent Organic Pollutants Review Committee has evaluated PFOSF against the criteria in Annex D as described in the annex to the present decision,

*Whereas* the Committee at its first meeting invited Parties and observers to submit Annex E information pertinent to PFOS and PFOS-related substances,

*Whereas* the Committee reviewed the information in the risk profile for PFOS at its second meeting and decided, in accordance with paragraph 7 (a) of Article 8 of the Convention, that PFOS was likely, as a result of its long-range environmental transport, to lead to significant adverse human health and environmental effects such that global action was warranted,

*Whereas* the Committee invited, in accordance with paragraph 7 (a) of Article 8 of the Convention, Parties and observers to submit to the Secretariat the information specified in Annex F for perfluorooctane sulfonate and potential perfluorooctane sulfonate precursors, as well as other specific information related to potential perfluorooctane sulfonate precursors,

*The Persistent Organic Pollutants Review Committee*

1. *Decides* that PFOSF meets the criteria in Annex D of the Convention;

2. *Decides* that PFOSF and PFOS salts are likely, through their rapid transformation to PFOS and as a result of the long-range environmental transport of PFOS, to lead to significant adverse human health and/or environmental effects such that global action is warranted.

## 5. Lindane

13. The Committee completed its review of the available documents and considered the possible control measures, the available social and economic information and the comments and information submitted by Parties and observers relating to the considerations specified in Annex F. The Committee decided to recommend to the Conference of the Parties, in accordance with paragraph 9 of Article 8 of the Convention, that the Conference consider listing lindane in Annex A of the Convention.

14. The Committee reviewed existing control measures that had already been implemented in several countries and concluded that risks from exposure of humans and the environment to lindane could be reduced significantly.

15. Given submissions from Parties and observers, the Committee concluded that the Conference of the Parties might wish to consider allowing a specific exemption for the production and use of lindane for control of head lice and scabies as a human health pharmaceutical only. Consideration may also be given to additional reporting and reviewing requirements in collaboration with the World Health Organization for the specific exemption mentioned above and to the following elements for additional control measures under this specific exemption:

(a) Limiting package size;

(b) Requiring appropriate labelling;

5 UNEP/POPS/POPRC.1/9.

(c) Use of lindane as a second-line treatment only;

(d) Protecting vulnerable groups especially infants;

(e) Outreach and awareness programmes;

(f) Promoting alternative products, methods and strategies.

**Decision POPRC-3/4: Lindane**

*The Persistent Organic Pollutants Review Committee,*

*Having evaluated* the risk profile for lindane adopted by the Committee at its second meeting,[6]

*Having concluded* that lindane is likely, as a result of long-range environmental transport, to lead to significant adverse effects on human health and/or the environment such that global action is warranted,

*Having completed* the risk management evaluation for lindane in accordance with paragraph 7 (a) of Article 8 of the Stockholm Convention,

1. *Adopts* the risk management evaluation for lindane set out in document UNEP/POPS/POPRC.3/20/Add.4;

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 lindane in Annex A of the Convention.

6 UNEP/POPS/POPRC.2/17/Add.4.

## B. Recommendations made by the Persistent Organic Pollutants Review Committee at its fourth meeting

### 1. Alpha hexachlorocyclohexane

16. The Committee completed its review of the available documents and considered the possible control measures, the available social and economic information, and comments and information submitted by Parties and observers relating to the considerations specified in Annex F. The Committee decided to recommend to the Conference of the Parties, in accordance with paragraph 9 of Article 8 of the Convention, that the Conference consider listing alpha hexachlorocyclohexane (alpha-HCH) in Annex A of the Convention.

17. The Committee concluded that since the primary source of alpha-HCH was the manufacture of lindane (as a high-volume by-product), control measures for lindane would also affect the production of alpha-HCH. Additionally, the Committee recommended that the Conference of the Parties might wish to consider allowing a specific one-time transitional exemption for alpha-HCH concerning the production of lindane for the control of head lice and scabies as a human health pharmaceutical only. The Committee furthermore concluded that the hazardous waste management and disposal of existing stocks together with the remediation of contaminated sites could be costly for countries and thus that financial and technical assistance to developing countries might be needed.

**Decision POPRC-4/3: Alpha hexachlorocyclohexane**

*The Persistent Organic Pollutants Review Committee,*

*Having evaluated* the risk profile for alpha hexachlorocyclohexane adopted by the Committee at its third meeting,[7]

*Having concluded* that alpha hexachlorocyclohexane is likely, as a result of its long-range environmental transport, to lead to significant adverse human health and/or environmental effects such that global action is warranted,

*Having completed* the risk management evaluation for alpha hexachlorocyclohexane in accordance with paragraph 7 (a) of Article 8 of the Stockholm Convention,

1. *Adopts* the risk management evaluation for alpha hexachlorocyclohexane found in document UNEP/POPS/POPRC.4/15/Add.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 alpha hexachlorocyclohexane in Annex A of the Convention, giving due consideration to the by-production of alpha hexachlorocyclohexane from the production of lindane.

### 2. Beta hexachlorocyclohexane

18. The Committee completed its review of the available documents and considered the possible control measures, the available social and economic information and the comments and information submitted by Parties and observers relating to the considerations specified in Annex F. The Committee decided to recommend to the Conference of the Parties, in accordance with paragraph 9 of Article 8 of the Convention, that the Conference consider listing beta hexachlorocyclohexane (beta-HCH) in Annex A of the Convention.

19. The Committee concluded that since the primary source of (beta-HCH) was the manufacture of lindane (as high-volume by-products), control measures for lindane would also affect the production of beta-HCH. Additionally, the Committee recommended that the Conference of the Parties might wish to consider allowing a specific one-time transitional exemption for beta-HCH concerning the production of lindane for the control of head lice and scabies as a human health pharmaceutical only. The Committee furthermore concluded that the hazardous waste management and disposal of existing stocks together with the remediation of contaminated sites could be costly for countries and thus that financial and/or technical assistance to developing countries might be needed.

7 UNEP/POPS/POPRC.3/20/Add.8

**Decision POPRC-4/4: Beta hexachlorocyclohexane**

*The Persistent Organic Pollutants Review Committee,*

*Having evaluated* the risk profile for beta hexachlorocyclohexane adopted by the Committee at its third meeting,[8]

*Having concluded* that beta hexachlorocyclohexane is likely, as a result of its long-range environmental transport, to lead to significant adverse human health and/or environmental effects such that global action is warranted,

*Having completed* the risk management evaluation for beta hexachlorocyclohexane in accordance with paragraph 7 (a) of Article 8 of the Stockholm Convention,

1. *Adopts* the risk management evaluation for beta hexachlorocyclohexane found in document UNEP/POPS/POPRC.4/15/Add.4;

2. *Decides*, in accordance with paragraph 9 of Article 8 of the Convention, to recommend to the Conference of the Parties that it consider beta hexachlorocyclohexane in Annex A of the Convention, giving due consideration to the by-production of beta hexachlorocyclohexane from the production of lindane.

### 3. Commercial octabromodiphenyl ether

20. The Committee completed its review of the available documents and considered the possible control measures, the available social and economic information and the comments and information submitted by Parties and observers relating to the considerations specified in Annex F. The Committee decided to recommend to the Conference of the Parties, in accordance with paragraph 9 of Article 8 of the Convention, that the Conference consider listing commercial octabromodiphenyl ether in Annex A of the Stockholm Convention.

21. The Committee examined the available information for commercial octabromodiphenyl ether and proposed that the best approach for listing the chemical substances reviewed under the risk profile of commercial pentabromodiphenyl ether was to cover all polybrominated diphenyl ethers with six or seven bromines. Therefore the Committee recommended that the Conference consider listing in Annex A of the Convention 2,2',4,4',5,5'-hexabromodiphenyl ether (BDE-153, CAS No. 68631-49-2) 2,2',4,4',5,6'-hexabromodiphenyl ether (BDE-154, CAS No. 207122-15-4), 2,2',3,3',4,5',6-heptabromodiphenyl ether (BDE-175, CAS No. 446255-22-7) and 2,2',3,4,4',5',6-heptabromodiphenyl ether (BDE-183, CAS No. 207122-16-5) and other hexa- and heptabromodiphenyl ethers present in commercial octabromodiphenyl ether, using BDE-153, BDE-154, BDE-175 and BDE-183 as markers for enforcement purposes.

8 UNEP/POPS/POPRC.3/20/Add.9.

**Decision POPRC-4/1: Commercial octabromodiphenyl ether**

*The Persistent Organic Pollutants Review Committee*,

*Having evaluated* the risk profile for commercial octabromodiphenyl ether adopted by the Committee at its third meeting;[9]

*Having concluded* that the hexa- and heptabromodiphenyl ether components of commercial octabromodiphenyl ether are likely, as a result of their long-range environmental transport, to lead to significant adverse human health and/or environmental effects such that global action is warranted,

*Having completed* the risk management evaluation for commercial octabromodiphenyl ether in accordance with paragraph 7 (a) of Article 8 of the Stockholm Convention,

1. *Adopts* the risk management evaluation for commercial octabromodiphenyl ether set out in document UNEP/POPS/POPRC.4/15/Add.1;

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 in Annex A of the Stockholm Convention 2,2',4,4',5,5'-hexabromodiphenyl ether (BDE-153, CAS No. 68631-49-2) 2,2',4,4',5,6'-hexabromodiphenyl ether (BDE-154, CAS No. 207122-15-4), 2,2',3,3',4,5',6-heptabromodiphenyl ether (BDE-175, CAS No. 446255-22-7) and 2,2',3,4,4',5',6-heptabromodiphenyl ether (BDE-183, CAS No. 207122-16-5) and other hexa- and heptabromodiphenyl ethers present in commercial octabromodiphenyl ether, using BDE-153, BDE-154, BDE-175 and BDE-183 as markers for enforcement purposes.

## 4. Pentachlorobenzene

22. The Committee completed its review of the available documents and considered the possible control measures, the available social and economic information and the comments and information submitted by Parties and observers relating to the considerations specified in Annex F. The Committee decided to recommend to the Conference of the Parties, in accordance with paragraph 9 of Article 8 of the Convention, that the Conference consider listing pentachlorobenzene (PeCB) in Annexes A and C of the Stockholm Convention.

23. The Committee concluded that the production of PeCB had ceased some decades earlier in the main producing countries and that no requests had been received nor particular needs identified for specific use exemptions. Listing PeCB in Annex A of the Convention would stop unidentified production and use around the world. As PeCB was formed as an unintentional by-product during combustion and thermal processes, listing it in Annex C would establish the goal of continuing minimization and, where feasible, ultimate elimination of PeCB emissions. Most measures taken to reduce PCDD/F releases, as described in the Stockholm Convention's BAT/BEP guidelines for incinerators and other thermal processes, would lead to a significant reduction of the release of PeCB.

24. Unintentional production of PeCB was also caused by diffuse sources, namely, impurities in products such as solvents, pesticides and wood preservative products; barrel burning; open fireplaces; accidental fires; and forest burning for agricultural purposes. For those sources abatement techniques were not feasible and release reduction measures could only be affected through the enactment of legislation or the provision of information and education by national and local authorities.

9 UNEP/POPS/POPRC.3/20/Add.6.

**Decision POPRC-4/2: Pentachlorobenzene**

*The Persistent Organic Pollutants Review Committee*,

*Having evaluated* the risk profile for pentachlorobenzene adopted by the Committee at its third meeting,[10]

*Having concluded* that pentachlorobenzene is likely, as a result of its long-range environmental transport, to lead to significant adverse human health and/or environmental effects such that global action is warranted,

*Having completed* the risk management evaluation for pentachlorobenzene in accordance with paragraph 7 (a) of Article 8 of the Stockholm Convention,

1. *Adopts* the risk management evaluation for pentachlorobenzene set out in document UNEP/POPS/POPRC.4/15/Add.2;

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 pentachlorobenzene in Annexes A and C of the Stockholm Convention.

10 UNEP/POPS/POPRC.3/20/Add.7