

**Amendment to the 1998 Protocol to the 1979 Convention on Long-Range Transboundary Air  
Pollution on Persistent Organic Pollutants**  
**as set out in Article 1 of Decision 2009/1 of the Executive Body of the Convention**

**A. Article 1**

For paragraph 12 there shall be substituted:

“New stationary source” means any stationary source of which the construction or substantial modification is commenced after the expiry of 2 years from the date of entry into force for a Party of:

- (a) the present Protocol; or
- (b) an amendment to the present Protocol that, with respect to a stationary source, either introduces new limit values in Part II of annex IV or introduces the category in annex VIII in which that source falls.

It shall be a matter for the competent national authorities to decide whether a modification is substantial or not, taking into account such factors as the environmental benefits of the modification.

**B. Article 3**

1. In article 3, paragraphs 5(b)(i) and 5(b) and (iii) of the POPs Protocol, for the words:

“for which Annex V identifies best available techniques”

there shall be substituted:

“for which guidance adopted by the Parties at a session of the Executive Body identifies best available techniques”.

2. The semi-colon at the end of paragraph 5(b)(iv) shall be changed to a full stop.
3. Paragraph 5(b)(v) is deleted.

**C. Article 13**

The words “Annexes V and VII are” shall be replaced by the words “Annex V is”

**D. Article 14**

1. Paragraph 3 shall be replaced by the following:

“3. Amendments to the present Protocol and to annexes I to IV, VI and VIII shall be adopted by consensus of the Parties present at a session of the Executive Body, and shall enter into force for the Parties which have accepted them on the ninetieth day after the date on which two thirds of those that were Parties at the time of their adoption have deposited with the Depositary their instruments of acceptance thereof. Amendments shall enter into force for any other Party on the ninetieth day after the

date on which that Party has deposited its instrument of acceptance thereof. This paragraph shall be subject to paragraphs 5 bis and 5 ter below.”

2. In paragraph 4, for the words “annexes V and VII” shall be substituted “annex V” and for the words “any such annex” shall be substituted “annex V”.
3. In paragraph 5, the words “or VII” shall be deleted and for the words “such an annex” shall be substituted “annex V”.
4. After paragraph 5, the following new paragraphs shall be added:

“5 bis. For those Parties having accepted it, the procedure set out in paragraph 5ter below shall supersede the procedure set out in paragraph 3 above in respect of amendments to annexes I to IV, VI and VIII.

“5 ter.

- (a) Amendments to annexes I to IV, VI and VIII shall be adopted by consensus of the Parties present at a session of the Executive Body. On the expiry of one year from the date of its communication to all Parties by the Executive Secretary of the Commission, an amendment to any such annex shall become effective for those Parties which have not submitted to the Depositary a notification in accordance with the provisions of subparagraph (b) below;
- (b) Any Party that is unable to approve an amendment to annexes I to IV, VI and VIII shall so notify the Depositary in writing within one year from the date of the communication of its adoption. The Depositary shall without delay notify all Parties of any such notification received. A Party may at any time substitute an acceptance for its previous notification and, upon deposit of an instrument of acceptance with the Depositary, the amendment to such an annex shall become effective for that Party;
- (c) Any amendment to annexes I to IV, VI and VIII shall not enter into force if an aggregate number of sixteen or more Parties have either:
  - (i) Submitted a notification in accordance with the provisions of subparagraph (b) above; or
  - (ii) Not accepted the procedure set out in this paragraph and not yet deposited an instrument of acceptance in accordance with the provisions of paragraph 3 above”.

#### E. **Article 16**

A new paragraph shall be added after paragraph 2 as follows:

“3. A State or Regional Economic Integration Organisation shall declare in its instrument of ratification, acceptance, approval or accession if it does not intend to be bound by the procedures set out in article 14, paragraph 5 ter as regards the amendment of Annexes I to IV, VI and VIII.”

F. **Annex I**

1. In the listing for the substance DDT, the conditions (numbered 1 and 2) on elimination of production shall be deleted and replaced by the word “None” and the words “except as identified in annex II” in the conditions on use shall be deleted.
2. In the listing for the substance Heptachlor, the conditions on use shall be deleted and replaced by the word “None”.
3. In the listing for the substance Hexachlorobenzene, the conditions on production and use shall be deleted and in each case replaced by the word “None”.
4. Listings for the following substances shall be added by inserting in appropriate alphabetical order the following rows:

Hexachlorobutadiene CAS: 87-68-3	Production	None
	Use	None

Hexachlorocyclohexanes (HCH) (CAS: 608-73-1), including lindane (CAS: 58-89-9)	Production	None
	Use	None, except for the gamma isomer of HCH (lindane), used as topical insecticide for public health purposes. Such uses shall be re-evaluated under this Protocol in 2012 or one year after the amendment enters into force, whichever is later.

Hexabromodiphenyl ether <sup>a/</sup> and heptabromodiphenyl ether <sup>a/</sup>	Production	None
	Use	<ol style="list-style-type: none"> <li>1. A Party may allow recycling of articles that contain or may contain any of these substances, and the use and final disposal of articles manufactured from recycled materials that contain or may contain any of these substances, provided that the recycling and final disposal is carried out in an environmentally sound manner and does not lead to recovery of any of these substances for the purpose of their reuse.</li> <li>2. Commencing 2013 and every four years subsequently until the above condition is removed or otherwise expires, the Executive Body shall evaluate the progress that Parties have made towards achieving their ultimate objective of elimination of these substances contained in articles and review the continued need for the condition, which shall in any case expire at the latest in 2030.</li> </ol>

Tetrabromodiphenyl ether <sup>b/</sup> and pentabromodiphenyl ether <sup>b/</sup>	Production	None
	Use	<p>1. A Party may allow recycling of articles that contain or may contain any of these substances, and the use and final disposal of articles manufactured from recycled materials that contain or may contain any of these substances, provided that the recycling and final disposal is carried out in an environmentally sound manner and does not lead to recovery of any of these substances for the purpose of their reuse.</p> <p>2. Commencing 2013 and every four years subsequently until the above condition is removed or otherwise expires, the Executive Body shall evaluate the progress that Parties have made towards achieving their ultimate objective of elimination of these substances contained in articles and review the continued need for the condition, which shall in any case expire at the latest in 2030.</p>

Pentachlorobenzene CAS : 608-93-5	Production	None
	Use	None

Perfluorooctane sulfonate (PFOS) <sup>c/</sup>	Production	None, except for production for the uses (a)-(c) below, and (a)-(e) in Annex II
	Use	<p>None, except for the following uses and uses (a)-(e) in Annex II:</p> <p>(a) Chromium electroplating, chromium anodizing and reverse etching until 2014;</p> <p>(b) Electroless nickel-polytetrafluoroethylene plating until 2014;</p> <p>(c) Etching of plastic substrates prior to their metalization until 2014;</p> <p>(d) Firefighting foams, but only if they have been manufactured or were in use by 18 December 2009</p> <p>With respect to firefighting foams:</p> <p>(i) Parties should endeavor to eliminate by 2014 firefighting foams containing PFOS that were manufactured or in use by 18 December 2009 and shall report on their progress to the Executive Body in 2014;</p> <p>(ii) Based on the reports of the Parties and paragraph (i), the Executive Body shall in 2015 assess whether the use of firefighting foams containing PFOS that were manufactured or in use by 18 December 2009 should be subject to additional restrictions.</p>

5. The listing for the substance PCB shall be deleted and replaced by the following row:

Polychlorinated biphenyls (PCBs) <sup>d/</sup>	Production	None
	Use	<p>None. Concerning PCBs in use by the implementation date, Parties shall:</p> <p>1. Make determined efforts designed to lead to:</p> <p>(a) The elimination of the use of identifiable PCBs in equipment (i.e. transformers, capacitors or other receptacles containing residual liquid stocks) containing PCBs in volumes greater than 5 dm<sup>3</sup> and having a concentration of 0.05% PCBs or greater, as soon as possible but no later than 31 December 2010, or 31 December 2015 for countries with economies in transition;</p> <p>(b) The destruction or decontamination in an environmentally sound manner of:</p> <ul style="list-style-type: none"> <li>- All liquid PCBs referred to in subparagraph (a) and other liquid PCBs containing more than 0.005% PCBs not in equipment, as soon as possible but no later than 31 December 2015, or 31 December 2020 for countries with economies in transition;</li> <li>- All liquid PCBs referred to in paragraph 2 (a) no later than 31 December 2029;</li> </ul> <p>(c) The decontamination or disposal of equipment referred in subparagraphs 1 (a) and 2 (a) in an environmentally sound manner.</p> <p>2. Endeavour to :</p> <p>(a) Identify and remove from use equipment (e.g. transformers, capacitors or other receptacles containing liquid stocks) containing more than 0.005% PCBs and volumes greater than 0.05 dm<sup>3</sup> as soon as possible but no later than 31 December 2025;</p> <p>(b) Identify other articles containing more than 0.005% PCBs (e.g. cable sheaths, cured caulk and painted objects) and manage them in accordance with paragraph 3 of article 3.</p> <p>3. Ensure that the equipment described in subparagraphs 1 (a) and 2 (a) is not exported or imported other than for the purpose of environmentally sound waste management.</p> <p>4. Promote the following to reduce exposures and risk to control the use of PCBs:</p> <p>(a) Use PCBs only in intact and non-leaking equipment and only in areas where the risk from</p>

		<p>environmental release can be minimized and quickly remedied;</p> <p>(b) Not use PCBs in equipment in areas associated with the production or processing of food or feed; When PCBs are used in populated areas, including schools and hospitals, take all reasonable measures to prevent electrical failures that could result in a fire, and regularly inspect equipment for leaks.</p>
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6. Footnote a/ at the end of annex I shall be deleted.

7. The following footnotes shall be added at the end of annex I:

“a/ “Hexabromodiphenyl ether and heptabromodiphenyl ether” mean 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), 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/ “Tetrabromodiphenyl ether and pentabromodiphenyl ether” means 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.”

“c/ Perfluorooctane sulfonate (PFOS) means substances defined by the molecular formula C<sub>8</sub>F<sub>17</sub>SO<sub>2</sub>X, where X = OH, metal salt, halide, amide or other derivatives including polymers.”

“d/ “Polychlorinated biphenyls” means aromatic compounds formed in such a manner that the hydrogen atoms on the biphenyl molecule (two benzene rings bonded together by a single carbon-carbon bond) may be replaced by up to 10 chlorine atoms.”

**G. Annex II**

1. The listings for the substances DDT, HCH, and PCB in the table appearing after the first paragraph of annex II, shall be deleted.
2. A listing for the following substance shall be added by inserting in appropriate alphabetical order the following row:

Substance	Implementation requirements	
	Restricted to uses	Conditions
Perfluorooctane sulfonate (PFOS) <sup>a/</sup>	(a) Photo-resist or anti-reflective coatings for photolithography processes; (b) Photographic coatings applied to films, papers or printing plates; (c) Mist suppressants for non-decorative hard chromium (VI) plating and wetting agents for use in controlled electroplating systems; (d) Hydraulic fluids for aviation; (e) Certain medical devices (such as ethylene tetrafluoroethylene copolymer (ETFE) layers and radio-opaque ETFE production, in vitro diagnostic medical devices, and CCD colour filters).	Parties should take action to eliminate these uses once suitable alternatives are available.  No later than 2015 and every four years thereafter, each Party that uses these substances shall report on progress made to eliminate them and submit information on such progress to the Executive Body. Based on these reports, these restricted uses shall be reassessed.

<sup>a/</sup> Perfluorooctane sulfonate (PFOS) means substances defined by the molecular formula C<sub>8</sub>F<sub>17</sub>SO<sub>2</sub>X, where X = OH, metal salt, halide, amide or other derivatives including polymers'

**H. Annex III**

1. The text under the heading "Reference year" for each of the substances listed in annex III shall be deleted and replaced by the following:  
  
 "1990; or an alternative year from 1985 to 1995 inclusive, or for countries with economies in transition, an alternative year from 1985 to the year of the entry into force of the Protocol for a Party, and as specified by that Party upon ratification, acceptance, approval or accession"
2. In the listing for the substance Hexachlorobenzene, under the name of the substance shall be added the following text: "CAS: 118-74-1".
3. A listing for the substance PCBs shall be added by inserting at the end of the chart the following row:

PCBs <sup>c/</sup> )	2005; or an alternative year from 1995 to 2010 inclusive, or for countries with economies in transition, an alternative year from 1995 to the year of the entry into force of the Protocol for a Party, and as specified by that Party upon ratification, acceptance, approval or accession.
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4. A footnote shall be added after footnote <sup>b/</sup> as follows:

“<sup>c/</sup> Polychlorinated biphenyls, as defined in annex I, when formed and released unintentionally from anthropogenic sources.”

## I Annex IV

1. In paragraph 2, inside the brackets, the word “and” shall be deleted and the words “, and for a given oxygen content” shall be added at the end.

2. Paragraph 3 shall be deleted and replaced by the following text:

“3. Limit values relate to the normal operating situation. For batch operations, limit values relate to average levels as recorded during the whole batch process - including for example pre-heating, heating and cooling.”

3. In paragraph 4, the word “applicable” shall be added before the word “standards” and the words “for example” shall be added before the words “the Comité.”

4. Paragraph 6 shall be deleted and replaced by the following text and footnote:

“6. Emissions of PCDD/F are given in total toxic equivalents (TEQ)<sup>1/</sup> The toxic equivalence factor values to be used for the purposes of this Protocol shall be consistent with applicable international standards, including the World Health Organization 2005 mammalian toxic equivalence factor values for PCDD/F.”

“<sup>1/</sup> The total toxic equivalent (TEQ) is operationally defined by the sum of the products of the concentration of each compound multiplied by its toxic equivalency factor (TEF) value and is an estimate of the total 2,3,7,8-TCDD—like activity of the mixture. Total toxic equivalent was previously abbreviated as TE.”

5. Paragraph 7 shall be deleted and replaced by the following text and footnote:

“7. The following limit values, which refer to 11% O<sub>2</sub> concentration in flue gas, apply to the following incinerator types:

Municipal solid waste (existing stationary source burning more than 3 tonnes per hour and every new stationary source)

0.1 ng TEQ/m<sup>3</sup>

Medical solid waste (existing stationary source burning more than 1 tonne per hour and every new stationary source)

New stationary source: 0.1 ng TEQ/m<sup>3</sup>

Existing stationary source: 0.5 ng TEQ/m<sup>3</sup>

Hazardous waste (existing stationary source burning more than 1 tonne per hour and every new stationary source)

New stationary source: 0.1 ng TEQ/m<sup>3</sup>

Existing stationary source: 0.2 ng TEQ/m<sup>3</sup>

Non-hazardous industrial waste<sup>1/2/)</sup>

New stationary source: 0.1 ng TEQ/m<sup>3</sup>

Existing stationary source: 0.5 ng TEQ/m<sup>3</sup>

“<sup>1/</sup> Including incinerators treating biomass waste which may contain halogenated organic compounds or heavy metals as a result of treatment with wood-preservatives or coating, and which includes in particular biomass waste originating from construction and demolition waste, but excluding incinerators only treating other biomass waste.”

“<sup>2/</sup> Countries with economies in transition may exclude co-combustion of non-hazardous industrial waste in industrial processes where such waste is used as an additional fuel contributing up to 10% of the energy.”

6. The following new paragraphs shall be added after paragraph 7:

8. The following limit value, which refers to 16% O<sub>2</sub> concentration in flue gas, applies to sinter-plants:

0.5 ng TEQ/m<sup>3</sup>

9. The following limit value, which refers to the actual O<sub>2</sub> concentration in flue gas, applies to the following source:

Secondary steel production — Electric arc furnaces with a capacity to produce more than 2.5 tonnes per hour of molten steel for further processing:

0.5 ng TEQ/m<sup>3</sup>

**J. Annex VI**

1. The existing text of the annex shall be marked as paragraph 1.
2. In paragraph (a), after the words “present Protocol” shall be added the words “for a Party”.
3. For paragraph (b) there shall be substituted:  
 “For existing stationary sources:
  - (i) eight years after the date of entry into force of the present Protocol for a Party. If necessary this period may be extended for specific existing stationary sources in accordance with the amortization period provided for by national legislation; or
  - (ii) for a Party that is a country with an economy in transition, up to fifteen years after the date of entry into force of the present Protocol for that Party.”
4. A new paragraph shall be added at the end of the annex as follows:  
 “2. The timescales for the application of limit values and best available techniques that have been updated or introduced as a result of amendment of this Protocol shall be:
  - (a) for new stationary sources, two years after the date of entry into force of the relevant amendment for a Party;
  - (b) for existing stationary sources:
    - (i) eight years after the date of entry into force of the relevant amendment for a Party; or
    - (ii) for a Party that is a country with an economy in transition, up to fifteen years after the date of entry into force of the relevant amendment for that Party”.

**K. Annex VIII**

1. In the second sentence of part I, before the words “annex V” shall be added the words “the guidance document referred to in”.
2. The description of category I in the table in part II shall be deleted and replaced by the following text:  
 “Waste incineration, including co-incineration, of municipal, hazardous, non-hazardous and medical wastes and sewage sludge.”
3. The following new categories shall be added to the table in part II:

13	Specific chemical production processes releasing unintentionally formed persistent organic pollutants, especially production of chlorophenols and chloranil.
14	Thermal processes in the metallurgical industry, chlorine-based methods.

**Amendments to the 1998 Protocol to the 1979 Convention on Long-Range Transboundary Air  
Pollution on Persistent Organic Pollutants**

**as set out in Article 1 of Decision 2009/2 of the Executive Body of the Convention**

**A. Annex I**

1. Listings for the following substances shall be added by inserting in appropriate alphabetical order the following rows:

Polychlorinated naphthalenes (PCN)	Production	None
	Use	None
Short-chain chlorinated paraffins <sup>e/</sup>	Production	None, except for production for the uses specified in annex II
	Use	None, except for the uses specified in annex II

2. The following footnote shall be added at the end of annex I:

“<sup>e/</sup> Short-chain chlorinated paraffins means chlorinated alkanes with a carbon chain-length of 10 to 13 carbon atoms and the degree of chlorination of more than 48% by weight.”

**B. Annex II**

1. A listing for the following substance shall be added by inserting in appropriate alphabetical order the following row:

Short-chain chlorinated paraffins <sup>b/</sup>	(a) Fire retardants in rubber used in conveyor belts in the mining industry;  (b) Fire retardants in dam sealants.	Parties should take action to eliminate these uses once suitable alternatives are available.  No later than 2015 and every four years thereafter, each Party that uses these substances shall report on progress made to eliminate them and submit information on such progress to the Executive Body. Based on these reports, these restricted uses shall be reassessed.
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2. The following footnote shall be added at the end of annex II:

“<sup>b/</sup> Short-chain chlorinated paraffins means chlorinated alkanes with a carbon chain-length of 10 to 13 carbon atoms and the degree of chlorination of more than 48% by weight.”

