Progress report on the implementation of the programme of work for the development, review and updating of Technical Guidelines for the Environmentally Sound Management of Wastes Consisting of, Containing or Contaminated with Persistent Organic Pollutants (POPs)

I. Introduction

1. In accordance with decisions BC-10/9 and OEWG-8/5, lead countries and the Secretariat, in consultation with the Small Intersessional Working Group (SIWG) on persistent organic pollutants (POPs), were invited to submit a first draft of or a progress report on the following:

a) Updating of the *General Technical Guidelines for the Environmentally Sound Management of Wastes Consisting of, Containing or Contaminated with Persistent Organic Pollutants (POPs)* ***(General technical guidelines on POPs)****;*

b) Preparation of *Technical guidelines for the environmentally sound management of wastes consisting of, containing or contaminated with Perfluorooctane sulfonic acid (PFOS), its salts and perfluorooctane sulfonyl fluoride (PFOSF)* ***(Technical guidelines on PFOS)***;

c) Updating of the *Technical guidelines for the environmentally sound management of wastes consisting of, containing or contaminated with pesticides aldrin, chlordane, dieldrin, endrin, heptachlor, hexachlorobenzene (HCB), mirex or toxaphene or with HCB as an industrial chemical,* Alpha hexachlorocyclohexane, Beta hexachlorocyclohexane, Chlordecone, Lindane, Endosulfan and Pentachlorobenzene **(*Technical Guidelines on Pesticides*);**

d) Updating of the *Technical guidelines for the environmentally sound management of wastes consisting of, containing or contaminated with* polychlorinated biphenyls (PCBs), polychlorinated terphenyls (PCTs), polybrominated biphenyls (PBBs) or Hexabromobiphenyl **(*Technical Guidelines on PCBs)***;

e) Updating of the *Technical guidelines for the environmentally sound management of wastes consisting of, containing or contaminated with unintentionally produced dibenzo-p-dioxins (PCDDs), polychlorinated dibenzofurans (PCDFs), hexachlorobenzene (HCB) or polychlorinated biphenyls (PCBs) and* pentachlorobenzene **(*Technical Guidelines on Unintentionally produced POPs)***; and

f) Preparation of *Technical guidelines for the environmentally sound management of wastes consisting of, containing or contaminated with commercial octabromodiphenyl ether (Hexabromodiphenyl ether and heptabromodiphenyl ether) and commercial pentabromodiphenyl ether (Tetrabromodiphenyl ether and pentabromodiphenyl ether* ***(Technical guidelines on BDEs)***.

2. As Chair of the SIWG, Canada is submitting a consolidated progress report on all the elements of the programme of work listed above. This progress report, including a first draft of the technical guidelines on PFOS, was posted on the Basel Convention website on February 15, 2013 for Parties and others to provide comments for March 31, 2013.

II. Preparation of *technical guidelines on PFOS*

3. Canada was confirmed as lead country to develop the new *technical guidelines on PFOS* at OEWG8. A first draft of the PFOS guidelines was developed with input from the SIWG members and can be found in Annex A of this document. Canada will work, in consultation with the SIWG, to consider and address comments received and issue a second draft for consultation in advance of the ninth meeting of the Open-ended Working Group and possible adoption at the twelfth Conference of the Parties scheduled for 2015.

III. Progress on the other technical guidelines

A. *General technical guidelines on POPs*

4. The work required to update the *General technical guidelines on POPs* was mapped out by Canada in a work plan with actions, deliverables and the organization of work to be done.

5. A detailed review of the guidelines was undertaken for each section and paragraph to determine information gaps and updates required. A comprehensive report illustrating each section of the guidelines, proposed additions and status of the update has been prepared by Canada, with input from the SIWG members. This report can be found in Annex B of this document.

7. Note: The *General technical guidelines on POPs* are to be updated in conjunction with the updating of existing and the preparation of new specific technical guidelines as indicated in paragraph 1 b) to f) above. Accordingly, the *General technical guidelines on POPs* will be progressively updated with a view to present a first draft for discussion at the ninth meeting of the Open-Ended Working Group.

B. *Technical Guidelines on Pesticides*

8. In the absence of a lead country, the Secretariat communicated with the Food and Agriculture Organization of the United Nations (FAO) to see their interest to lead the updating of the *Technical Guidelines on Pesticides.* On December 11, 2012, FAO responded to the Secretariat expressing their willingness to take the lead. A draft work plan is under development.

C. *Technical Guidelines on PCBs*

9. On November 14, 2012, Japan indicated its willingness to lead the updating of the *Technical Guidelines on PCBs* and prepared a work plan with actions, deliverables and the organization of work.

10. A detailed review of the guidelines was undertaken for each section and paragraph. A comprehensive report illustrating each section of the guidelines, proposed additions and status of the update has been prepared by Japan. This report can be found in Annex C of this document.

D. *Technical Guidelines on Unintentionally produced POPs*

10. In the absence of a lead country, UNEP Chemicals has agreed to take the lead in the updating of the *Technical Guidelines on Unintentionally produced POPs.* The Secretariat is currently working with UNEP Chemicals to develop a Terms of Reference and an Internal Cooperation Agreement for UNEP Chemicals to undertake the work required.

E. *Technical guidelines on BDEs*

11. On October 31, 2012, China indicated its willingness to lead the preparation of the new *BDEs Technical Guidelines* and prepared a work plan with actions, deliverables and the organization of work.

Annex A

Draft
Technical guidelines on the environmentally sound management of wastes consisting of, containing or contaminated with perfluorooctane sulfonic acid (PFOS), its salts and perfluorooctane sulfonyl fluoride (PFOSF)

(18 February 2013)

Contents

Abbreviations and acronyms

CAS	Chemical abstract service
OECD	Organisation for Economic Co-operation and Development
OEWG	Open-Ended Working Group
PFC	Perfluorinated compounds
PFOS	Perfluorooctane sulfonic acid
PFOSF	Perfluorooctanesulphonyl fluoride
POPs	Persistent organic pollutants
UNIDO	United Nations Industrial Development Organization
UNEP	United Nations Environment Programme

Units of measurement

I. Introduction

A. Scope

1. The present technical guidelines provide guidance for the environmentally sound management (ESM) of wastes consisting of, containing or contaminated with perfluorooctane sulfonic acid (PFOS), its salts and perfluorooctane sulfonyl fluoride (PFOSF) pursuant to decisions BC-10/9 and BC-11/… of the Conference of the Parties to the Basel Convention on the Control of Transboundary Movement of Hazardous Wastes and Their Disposal; decisions OEWG-8/5 and OEWG-9/… of the Open-ended Working Group of the Basel Convention and decisions SC-4/17, SC-5/9 and SC-6/… of the Conference of the Parties to the Stockholm Convention.

2. PFOS, its salts and PFOSF are listed on the Stockholm Convention Annex B. Along with PFOS, its salts and PFOSF, these guidelines address PFOS related substances that are not listed as POPs under the Stockholm Convention. For the purpose of this document, the term "PFOS related substances" refers to any substance that contains the PFOS carbon chain and moiety (defined as $C_8F_{17}SO_2$) that can degrade to PFOS in the environment (also known as precursors). Topics addressed in these guidelines include waste management, treatment and disposal.

3. The present document should be used in conjunction with the document entitled "*General technical guidelines for environmentally sound management of wastes consisting of, containing or contaminated with persistent organic pollutants (POPs)*" ("the general technical guidelines") (UNEP, …). That document provides more information on the nature and occurrence of wastes consisting of, containing or contaminated with PFOS, its salts and PFOSF for purposes of their identification and management.

B. Description, production, use and wastes

1. Description

(a) PFOS

4. PFOS (CAS no. 1763-23-1) is a fully fluorinated anion, which is commonly used as a salt or incorporated into larger polymers. Fluorinated chemicals such as PFOS contain carbons that are completely saturated by fluorine. It is the strength of the C-F bonds that contributes to the extreme stability and properties of perfluorinated compounds (PFCs).

5. While PFOS can exist in anionic, acid and salt forms, the PFOS anion is the most common form at pH values in the environment and in the human body (Environment Canada, 2006a). The basic structure of the PFOS anion is shown in Figure 1 below and has the molecular formula $C_8F_{17}SO_2$.

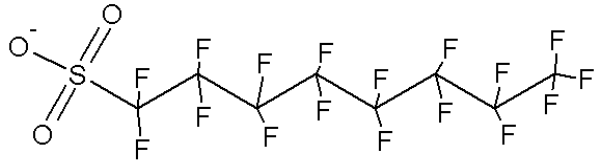

Figure 1: The structural formula of PFOS shown in its anion structure

6. PFOS is persistent and has bioaccumulation and biomagnifying properties. PFOS substances do not follow the classic pattern of other persistent organic pollutants (POPs) by partitioning into fatty tissues but rather binds to proteins in the blood (Stockholm, 2007), and liver of living organisms (Luebker et al., 2002).

(b) PFOS salts [Note: description for PFOS salts may be expanded]

7. PFOS is commonly used as a simple salt. Examples of these salts include: potassium perfluorooctane sulfonate; lithium perfluorooctane sulfonate, ammonium perfluorooctane sulfonate; diethanolammonium perflurooctane sulfonate; tetraethylammonium perfluorooctane sulfonate; and didecyldimethyammonium perfluorooctane sulfonate.

8. The basic structure of a potassium salt is shown in Figure 2 below.

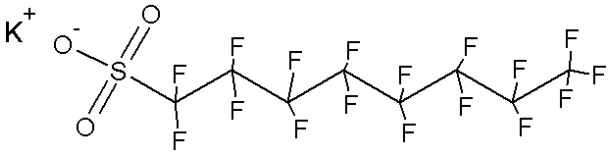

Figure 2: The structural formula of PFOS shown as its potassium salt

(c) PFOSF [Note: description for PFOSF may be expanded]

9. PFOSF is a synthetic perfluorinated compound with a sulfonyl fluoride functional group. PFOSF is a PFOS-related substance that has a variety of industrial and consumer uses. These substances degrade to produce PFOS. PFOSF reacts with bases such as potassium hydroxide in order to form PFOS salts.

10. The basic structure of PFOSF is shown in Figure 3 below and has the molecular formula $C_8F_{17}SO_2F$.

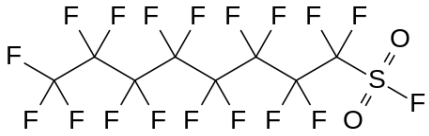

Figure 3: The structural formula of PFOSF

(d) PFOS related substances [Note: description for PFOS related substances will be expanded]

11. PFOS related substances can be polymers in which PFOS is only a fraction of the polymer or final product.

2. Production

12. Since PFOS, its salts and PFOSF are listed on the Stockholm Convention Annex B, Parties to this Convention shall restrict its production except if Parties have notified the Secretariat to produce them according to a specific exemption or acceptable purpose. In addition, they shall eliminate its production and use except if Parties have notified the Secretariat of their intention to produce or use them for acceptable purposes and/or specific exemptions as provided in part I of Annex B to that Convention. Information on present production of PFOS, its salts, and PFOSF can be found on the registers for acceptable purposes and specific exemptions on the website of the Stockholm Convention (www.pops.int).

(a) PFOS

13. There are no known natural sources of PFOS and its presence in the environment is due solely to anthropogenic activity (Key et al. 1997). PFOSF is the starting material for the production of PFOS (Stockholm, 2007). PFOS can be produced commercially from PFOSF by electrochemical fluorination. PFOS can also be formed by environmental microbial degradation or by metabolism in larger organisms from PFOS-related substances.

14. Although there was PFOS production in Asia (Lim et al., 2011) and in some developed countries between 2003 and 2008, in general there was a significant drop in PFOS use and production after 2002 largely due to strict legislation in developed countries (UNIDO 2009).

15. PFOS is still produced and used in several countries (Stockholm 2012b).

(b) PFOS salts [Note: more production information to be added]

16. PFOS salts are formed when PFOSF reacts with the bases such as potassium hydroxide, for example, to form potassium perfluorooctane sulfonate.

(c) PFOSF [Note: more production information to be added]

15. The company 3M was the world's largest producer of PFOSF, starting in 1949 until the company's phase out of all PFOS-related products in 2002 (Paul et al. 2009).

(d) PFOS related substances [Note: Production information to be added]

3. Use

14. Since PFOS, its salts and PFOSF are listed on the Stockholm Convention Annex B, Parties to this Convention shall restrict its use except if Parties have notified the Secretariat to use them according to a specific exemption or acceptable purpose.

17. PFOS, its salts, PFOSF and PFOS related substances exhibit properties such as thermal and acid resistance and are both hydro- and lipophobic (water and fat repelling). For this reason, they have been used in a wide range of application in consumer products and industrial processes such as polymers, surfactants, lubricants, pesticides, textiles coating, non-stick coatings, stain repellent, food packaging, firefighting foams and more.

18. Information on present use of PFOS, its salts, and PFOSF can be found in the PFOS register at http://chm.pops.int/Implementation/Exemptions/AcceptablePurposesPFOSandPFOSF/tabid/794/Default.aspx and http://chm.pops.int/Implementation/Exemptions/SpecificExemptions/tabid/790/Default.aspx

(a) PFOS

19. In 2000, about 2160 metric tons, corresponding to 48% of total PFOS production, were used for soil, oil and water resistance on apparel and leather, fabric/upholstery and carpets. About 1490 metric tons (33% of the total) were produced for paper protection and about 891 metric tons (18% of the total) were produced for industrial applications such as mining and oil well surfactants, acid mist suppressants for metal plating and electronic etching baths, photolithography, electronic chemicals, photographic film etc (OECD 2002).

[Include table to show PFOS uses]

(b) PFOS salts [Note: information to be added]

(c) PFOSF [Note: information to be added]

(d) PFOS related substances [Note: information to be added]

4. Wastes

20. Wastes consisting of, containing or contaminated with PFOS, its salts, PFOSF and PFOS related substances may contain variable concentrations of the chemical depending on their persistence and the initial amount used in the products, articles or industrial processes. Wastes consisting of, containing or contaminated with PFOS, its salts, PFOSF and PFOS related substances may be found in a number of physical forms including:

(a) Solid obsolete stockpiles of PFOS (used in pesticide), its salts, PFOSF [and PFOS related substances] in original packages which are no longer usable because their shelf life has been exceeded or the packaging has deteriorated;

(b) Contaminated soil, sediment and sludge, including sewage sludge;

(c) Production wastes from fluorinated chemicals;

(d) Contaminated waste water from industrial and municipal process and residues from waste water cleaning such as activated carbon treatment;

(e) Landfill leachate;

(f) Contaminated solid waste (food packaging materials, paper, textile, leather, rubber, and carpets);

(g) Liquid industrial and household cleaning products;

(h) Liquid fluid (aviation hydraulic fluids);

(i) Fire suppression equipment.

II. Relevant provisions of the Basel and Stockholm Conventions

A. Basel Convention

21. Article 1 (“Scope of the Convention”) defines the waste types subject to the Basel Convention. Subparagraph 1 (a) of that Article sets forth a two-step process for determining whether a “waste” is a

"hazardous waste" subject to the Convention: first, the waste must belong to any category contained in Annex I to the Convention ("Categories of Wastes to be Controlled"), and second, the waste must possess at least one of the characteristics listed in Annex III to the Convention ("List of Hazardous Characteristics").

22. Annex I lists some of the wastes which may consist of, contain or be contaminated with PFOS, its salts, PFOSF or PFOS related substances. These include:

Y4	Waste from the production, formulation and use of biocides and phytopharmaceuticals
Y16	Wastes from production, formulation and use of photographic chemicals and processing materials
Y17	Wastes from surface treatment of metals and plastics
Y18	Residues arising from industrial waste disposal operations
Y45	Organohalogen compounds other than substances referred to in this Annex (e.g. Y39, Y41, Y42, Y43, Y44)
Y46	Wastes collected from households

23. Annex I wastes are presumed to exhibit an Annex III hazardous characteristic such as H6.1 "Poisonous (Acute)", H11 "Toxic (Delayed or Chronic)", H12 "Ecotoxic" or H13 unless, through "national tests", they can be shown not to exhibit the characteristics. National tests may be useful for a particular hazard characteristic listed in Annex III until such time as the hazardous characteristic is fully defined. Guidance papers for Annex III hazardous characteristics H11, H12 and H13 "Leachate" were adopted on an interim basis by the Conference of the Parties to the Basel Convention at its sixth and seventh meeting.

24. List A of Annex VIII describes wastes that are "characterized as hazardous under Article 1 paragraph 1 (a) of this Convention" although "Designation of a waste on Annex VIII does not preclude the use of Annex III (hazard characteristics) to demonstrate that a waste is not hazardous." (Annex I, paragraph (b)). List B of Annex IX lists wastes that "will not be wastes covered by Article 1, paragraph 1 (a), of this Convention unless they contain Annex I material to an extent causing them to exhibit an Annex III characteristic".

25. List A of Annex VIII includes a number of wastes or waste categories which have the potential to contain or be contaminated with PFOS, its salts, PFOSF or PFOS related substances, including:

A1120	Waste sludges, excluding anode slimes, from electrolyte purification systems in copper electrorefining and electrowinning operations.
A4030	Wastes from the production, formulation and use of biocides and phytopharmaceuticals, including waste pesticides and herbicides, which are off-specification, outdated[1] or unfit for their original intended use.
A4060	Waste oils/water, hydrocarbons/water mixtures, emulsions.
A4130	Waste packages and containers containing Annex I substances in concentrations sufficient to exhibit Annex III hazard characteristics.
A4140	Waste consisting of or containing off specification or outdated chemicals corresponding to Annex I categories and exhibiting Annex III hazard characteristics.
A4160	Spent activated carbon not included on list B (note the related entry on list B B2060)

26. List B of Annex IX includes a number of wastes or wastes categories which have the potential to contain or be contaminated with PFOS, its salts, PFOSF or PFOS related substances, including:

B1180	Waste photographic film containing silver halides and metallic silver
B1190	Waste photographic paper containing silver halides and metallic silver
B3010	Solid plastic waste
B3020	Paper, paperboard and paper product wastes
B3030	Textile wastes

[1] "Outdated" means unused within the period recommended by the manufacturer.

B3035	Waste textile floor coverings, carpets
B3090	Paring and other wastes of leather or of composition leather not suitable for the manufacture of leather articles, excluding leather sludges, not containing hexavalent chromium compounds and biocides
B3100	Leather dust, ash, sludges or flours not containing hexavalent chromium compounds and biocides

27. For more information, see section II.A of the general technical guidelines.

B. Stockholm Convention

28. The present document covers intentionally produced PFOS, its salts and PFOSF whose production and use are to be restricted in accordance with articles 3 and Annex B, Part III of the Stockholm Convention.

29. Annex B, Part III[2] ("Perfluorooctane sulfonic acid, its salts, and perfluorooctane sulfonyl fluoride") outlines specific requirements for PFOS, as follows:

1. The production and use of perfluorooctane sulfonic acid (PFOS), its salts and perfluorooctane sulfonyl fluoride (PFOSF) shall be eliminated by all Parties except as provided in Part I of this Annex for Parties that have notified the Secretariat of their intention to produce and/or use them for acceptable purposes. A Register of Acceptable Purposes is hereby established and shall be available to the public. The Secretariat shall maintain the Register of Acceptable Purposes. In the event that a Party not listed in the Register determines that it requires the use of PFOS, its salts or PFOSF for the acceptable purposes listed in Part I of this Annex it shall notify the Secretariat as soon as possible in order to have its name added forthwith to the Register.
2. Parties that produce and/or use these chemicals shall take into account, as appropriate, guidance such as that given in the relevant parts of the general guidance on best available techniques and best environmental practices given in Part V of Annex C of the Convention.
3. Every four years, each Party that uses and/or produces these chemicals shall report on progress made to eliminate PFOS, its salts and PFOSF and submit information on such progress to the Conference of the Parties pursuant to and in the process of reporting under Article 15 of the Convention.
4. With the goal of reducing and ultimately eliminating the production and/or use of these chemicals, the Conference of the Parties shall encourage:
    (a) Each Party using these chemicals to take action to phase out uses when suitable alternatives substances or methods are available;
    (b) Each Party using and/or producing these chemicals to develop and implement an action plan as part of the implementation plan specified in Article 7 of the Convention;
    (c) The Parties, within their capabilities, to promote research on and development of safe alternative chemical and non-chemical products and processes, methods and strategies for Parties using these chemicals, relevant to the conditions of those Parties. Factors to be promoted when considering alternatives or combinations of alternatives shall include the human health risks and environmental implications of such alternatives.[3]
5. The Conference of the Parties shall evaluate the continued need for these chemicals for the various acceptable purposes and specific exemptions on the basis of available scientific, technical, environmental and economic information, including:
    (a) Information provided in the reports described in paragraph 3;
    (b) Information on the production and use of these chemicals;

[2] http://chm.pops.int/Convention/ConventionText/tabid/2232/Default.aspx.
[3] The use of alternatives eliminates the generation of wastes containing PFOS, its salts and PFOSF. [For further information – insert study links]

(c) Information on the availability, suitability and implementation of alternatives to these chemicals;

(d) Information on progress in building the capacity of countries to transfer safely to reliance on such alternatives.

6. The evaluation referred to in the preceding paragraph shall take place no later than in 2015 and every four years thereafter, in conjunction with a regular meeting of the Conference of the Parties.

7. Due to the complexity of the use and the many sectors of society involved in the use of these chemicals, there might be other uses of these chemicals of which countries are not presently aware. Parties which become aware of other uses are encouraged to inform the Secretariat as soon as possible.

8. A Party may, at any time, withdraw its name from the Register of acceptable purposes upon written notification to the Secretariat. The withdrawal shall take effect on the date specified in the notification.

9. The provisions of note (iii) of Part I of Annex B shall not apply to these chemicals.

30. Further information on the register for PFOS, its salts and PFOSF is available at http://chm.pops.int/Implementation/Exemptions/AcceptablePurposesPFOSandPFOSF/tabid/794/Default.aspx

31. For further information, see section II.B of the general technical guidelines.

III. Issues under the Stockholm Convention to be addressed cooperatively with the Basel Convention

A. Low POP content

32. The provisional definition of low POP content for PFOS, its salts and PFOSF is … For further information, see section III.A of the general technical guidelines.

B. Levels of destruction and irreversible transformation

33. For the provisional definition of levels of destruction and irreversible transformation, see section III.B of the general technical guidelines.

C. Methods which constitute environmentally sound disposal

34. See section G of chapter IV below and section IV.G of the general technical guidelines.

IV. Guidance on environmentally sound management (ESM)

A. General considerations: Basel and Stockholm Conventions and Organisation for Economic Co-operation and Development

1. Basel Convention

35. One of the principal vehicles for the promotion of ESM is the preparation and dissemination of technical guidelines such as the present document and the general technical guidelines. For further information see subsection IV.A.1 of the general technical guidelines.

36. Parties planning or reviewing a national ESM programme should consult, inter alia, the Basel Convention document entitled "*Preparation of a National Environmentally Sound Management Plan for PCBs and Other POPs Wastes under the Basel Convention*, vols. A, B and C" (UNEP, 2003a).

2. Stockholm Convention

37. The term "environmentally sound management" is not defined in the Stockholm Convention. Environmentally sound methods for disposal of wastes consisting of, containing or contaminated with

PFOS, its salts or PFOSF are to be determined by the Conference of the Parties in cooperation with the appropriate bodies of the Basel Convention.

38. Parties should consult G*uidance for Developing a National Implementation Plan for the Stockholm Convention on Persistent Organic Pollutants* (UNEP, 2012).

3. Organisation for Economic Co-operation and Development

39. For information regarding the Organisation for Economic Co-operation and Development and ESM, see subsection IV.A.3 of the general technical guidelines.

B. Legislative and regulatory framework

40. Parties to the Basel and Stockholm conventions should examine national controls, standards and procedures to ensure that they are in keeping with the conventions and their obligations under them, including those which pertain to ESM of wastes consisting of, containing, or contaminated with PFOS.

41. Elements of a regulatory framework applicable to PFOS could also include the following:

(a) Environmental protection legislation establishing a regulatory regime, setting release limits and establishing environmental quality criteria;

(b) Prohibitions on the manufacture, sale, import and export (for use) of PFOS;

(c) Phase-out dates for PFOS that remain in service, inventory, or storage;

(d) Transportation requirements for hazardous materials and waste;

(e) Specifications for containers, equipment, bulk containers and storage sites;

(f) Specification of acceptable analytical and sampling methods for PFOS;

(g) Requirements for waste management disposal facilities;

(h) A general requirement for public notification and review of proposed government regulations, policy, certificates of approval, licences, inventory information and national releases/emissions data;

(i) Requirements for identification and remediation of contaminated sites;

(j) Requirements for health and safety of workers;

(k) Other potential legislative controls, as for waste prevention and minimization, inventory development and emergency response.

42. A link should be established in legislation between the phase-out dates for production and use of PFOS (including in products and articles) and the disposal of the PFOS once they have become waste. The legislation should include a time limit for disposal of wastes consisting of, containing, or contaminated with PFOS so as to prevent the creation of stockpiles which have no clear phase-out dates.

43. For further information, see section IV.B of the general technical guidelines.

[Separate section for PFOS salts, PFOSF and PFOS related substances may be added]

C. Waste prevention and minimization

44. Both the Basel and Stockholm Conventions advocate waste prevention and minimization. PFOS are restricted under the Stockholm Convention to a limited number of acceptable purposes as provided in Part I of Annex B to the Convention.

45. Quantities of waste containing PFOS should be minimized through isolation and source separation to prevent mixing and contamination of other waste streams.

46. Mixing of wastes with a PFOS content above a defined low POP content with another material solely for the purpose of generating a mixture with a POP content below the defined low POP content is not environmentally sound and does not qualify the mixture as non-hazardous. Nevertheless, mixing of materials as a pre-treatment method may be necessary in order to optimize treatment efficiencies.

47. For further information, see paragraph 6 and section IV.C of the general technical guidelines.

D. Identification and inventories

1. Identification

[Table with ranges of concentrations of PFOS in the different waste streams listed (see page 46 of the Guidance for the inventory of PFOS and related chemicals listed under the Stockholm Convention]

48. PFOS and its related substances can be found :

When used in a pesticide:

(a) In residues from pesticides production and at sites where they where produced and formulated; and

(b) In storage facilities.

When used as an industrial chemical

(c) In industrial wastewater and sludge from electronic, semi conductor, photographic, metal plating, mining, impregnating and coating of textile-paper-packaging and medical device manufacturing industries;

(d) In recycling facilities of carpets, papers and aviation hydraulic fluids; and

(e) Oil and gas production sites.

When used in consumer articles

(f) In municipal wastewater

(g) In contaminated surface and groundwaters

(h) In municipal sludge

(i) In landfill leachate

[In recycled products]

49. It should be noted that even experienced technical persons may not be able to determine the nature of an effluent, substance, container or piece of equipment by its appearance or markings. Consequently, the information on production, use and waste types provided in section B of chapter I of the present document may be found useful in identifying PFOS.

50. For information, see subsection IV.D.1 of the general technical guidelines.

2. Inventories

51. For information, see subsection IV.D.2 of the general technical guidelines.

E. Sampling, analysis and monitoring

[Include more information that is specific to PFOS, its salts and PFOSF in this section]

52. For general information, see section IV.E of the general technical guidelines.

1. Sampling

53. For information on sampling, see subsection IV.E.1 of the general technical guidelines.

2. Analysis

54. For information on analysis, see subsection IV.E.2 of the general technical guidelines.

3. Monitoring

55. Monitoring programmes should be implemented for facilities managing wastes consisting of, containing or contaminated with PFOS, its salts and PFOSF. For further information, see subsection IV.E.3 of the general technical guidelines.

F. Handling, collection, packaging, labelling, transportation and storage

[More information that is specific to PFOS salts, PFOSF and PFOS related substances may be added in this section]

56. For general information on handling, collection, packaging, labelling, transportation and storage, see the first two paragraphs of section IV.F of the general technical guidelines.

1. Handling

57. Recommended procedures towards handling PFOS include:

(a) For lead and spill detection:

(b) Shut off source of spill if possible to do so without hazard;

(c) Contain the spill by diking;

(d) Absorb spillage with clay, sawdust, or other absorbent material;

(e) Place all spilled material, contaminated dirt, and other contaminated materials in approved drums for disposal.

(f) For waste disposal:

(g) Always dispose or according to local/national regulations.

(h) For handling and special equipment:

(i) Do not get PFOS-containing products in eyes, on skin or clothing;

(j) Do not take it internally;

(k) Do not breathe vapours;

(l) Keep away from heat, sparks, and open flames.

58. For further information, see subsection IV.F.1 of the general technical guidelines.

2. Collection

59. Collection arrangements and collection depots for wastes consisting of, containing or contaminated with PFOS, its salts, PFOSF and PFOS related substances should be separate from those for all other wastes.

60. It is imperative that collections depots do not become long-term storage facilities for wastes consisting of, containing or contaminated with PFOS and its related substances. The risk of environmental and human health impairment is higher for large amounts of wastes, even if properly stored, than for small quantities scattered over a large area.

61. For further information, see subsection IV.F.2 of the general technical guidelines.

3. Packaging

62. Wastes consisting of, containing or contaminated with PFOS, its salts, PFOSF and PFOS related substances should be properly packaged before storage or transport:

63. For further information, see subsection IV.F.3 of the general technical guidelines.

4. Labelling

64. All containers containing PFOS, its salts, PFOSF and PFOS related substances and its related substances should be clearly labelled with both a hazard-warning label and a label which gives the details of the container and a serial number. The details should include the contents of the container (exact counts of equipment of volume and weight), the type of waste, the name of the site from which it originated so as to allow traceability, the date of repackaging and the name and telephone number of the responsible person during the repackaging operation.

65. For further information, see subsection IV.F.4 of the general technical guidelines.

5. Transportation

66. For information, see subsection IV.F.5 of the general technical guidelines.

6. Storage

67. For information, see subsection IV.F.6 of the general technical guidelines.

G. Environmentally sound disposal

[Include more information that is specific to PFOS, it salts, PFOSF and PFOS related substances in this section]

1. Pre-treatment

68. For information, see subsection IV.G.1 of the general technical guidelines.

2. Destruction and irreversible transformation methods

69. For information, see subsection IV.G.2 of the general technical guidelines.

3. Other disposal methods when neither destruction nor irreversible transformation is the environmentally preferable option

70. For information, see subsection IV.G.3 of the general technical guidelines.

4. Other disposal methods when the POP content is low

71. For information, see subsection IV.G.4 of the general technical guidelines.

H. Remediation of contaminated sites

72. For information, see subsection IV.H of the general technical guidelines.

I. Health and safety

73. For information, see section IV.I of the general technical guidelines.

1. Higher-risk situations

74. For information, see subsection IV.I.1 of the general technical guidelines.

2. Lower-risk situations

75. For information on lower risk situations, see subsection IV.I.2 of the general technical guidelines.

J. Emergency response

76. Emergency response plans should be in place for PFOS, its salts and PFOSF and PFOS related substances that are in service, in storage, in transport and at a disposal site. Further information on emergency response plans is given in section IV.J of the general technical guidelines.

K. Public participation

77. Parties to the Basel or Stockholm Convention should have an open public participation process. For further information see section IV.K of the general technical guidelines.

ANNEX I

Bibliography

Environment Canada. 2006a. Ecological screening assessment report on Perfluorooctane Sulfonate (PFOS) Its Salts and its Precursors. June 2006.

Environment Canada. 2006b. Risk Management Strategy Perfluorooctane Sulfonate (PFOS) Its Salts and its Precursors. June 2006.

Key, B.D., R.D. Howell and C.S. Criddle. 1997. Fluorinated organics in the biosphere. Environ. Sci. Technol. 31: 2445–2454.

Lim T.C, Wang B, Huang J, Deng S, Yu G. 2011. Emission inventory for PFOS in China: Review of Past Methodologies and Suggestions. The Scientific World Journal 11, 1963-1980.

Luebeker D.J., Hansen K.J, Bass N.M, Butenhoff J.L. and Secat A.M., 2002. Interactions of fluorochemicals with rat liver fatty acid-binding protein. *Toxicology*, *176 (3): 175-85.*

OECD. 2002. Cooperation on existing chemicals, Hazard assessment of Perfluorooctane Sulfonate (PFOS) and its salts, ENV/JM/RD (2002)17/FINAL.

Paul, A.G., Jones, K.C., Sweetman, A.J. (2009). A first global production, emission, and environmental inventory for perfluorooctane sulfonate. Environmental Science and Technology 43,,(2),, 386-392.

Stockholm. 2007. Risk Profile on PFOS (POPRC.2/17/Add5) http://chm.pops.int/Convention/POPsReviewCommittee/PreviousMeetingsDocuments/POPRC2/POPRC2ReportandDecisions/tabid/349/Default.aspx

Stockholm Convention Website of Register for PFOS Specific Exemptions: http://chm.pops.int/Implementation/Exemptions/SpecificExemptions/tabid/790/Default.aspx

Stockholm Convention Website – Register for PFOS Acceptable Purposes: http://chm.pops.int/Implementation/Exemptions/AcceptablePurposesPFOSandPFOSF/tabid/794/Default.aspx

UNEP. 2012. Guidance for Developing a National Implementation Plan for the Stockholm Convention on Persistent Organic Pollutants

UNIDO. 2009. Dorian Carloni. Perfluorooctane Sulfonate (PFOS) production and Use: Past and Current Evidence. December 2009.

Annex B

Detailed progress for updating the *General Technical Guidelines for the Environmentally Sound Management of Wastes Consisting of, Containing or Contaminated with POPs*

Section	Evaluation	Rationale and other considerations
Abbreviations and acronyms	Update pending	
Units of measurement	Currently no update	
I. Introduction		
I.A. Scope	**- Para 1:** New relevant Basel and Stockholm Conventions decisions to be added **-Para 2**: Technical guidelines on the ten new POPs to be added **-Para 6**: Update pending	
I.B. About POPs	**-Para 7-9:** Update pending	
II. Relevant provisions of the Basel and Stockholm conventions	**-Para 10:** Currently no update	
II.A. Basel Convention		
II.A.1. General provisions	**-New paragraph** to be added before para. 11 to reflect the Basel Convention's aim to "protect human health and the environment against the adverse effects resulting from the generation, management, transboundary movements and disposal of hazardous and other wastes", as it appears in para. 8 of the technical guidelines on mercury. **-Para 11-13:** Update pending **-Para 14**: Article 4, paragraphs 2 (e) and (g) to be added.	Para 14: Addition to be consistent with the Basel technical guidelines on mercury (para. 11).
II.A.2. POPs-related provisions	**-Para 15:** Currently no update -[**Para 16:** Annex I Y-code Y37: organic phosphorus compounds, to be added] **-Para 17:** Currently no update **-Para 18**: Update to reflect adoption status of guidance papers for characteristics H11, H12, and H1. Hazard characteristics H4.1"Flammable solids" to be added and H13-Capable after disposal of yielding another hazardous material" **-Para 19 (a):** Update to include HBB **-Para 19 (b):** Update to include alpha-HCH, beta-HCH, chlordecone, lindane, technical endosulfan and its related isormers and PeCB. **-Para. 20:** A1120: Waste sludges, excluding anode slimes, from electrolyte purification systems in copper electrorefining and electrowinning operations, to be added **[Para. 20: To be added A3080**: Waste ethers not including those specified on list B**]**	[Y37 to be added to cover BDEs wastes. Para 18: H4.1 to be added to cover pentachlorobenzene. H13 to be added to cover PFOS. Para 20: A1120 to be added to cover sludge containing PFOS. [A3080 to be added to cover waste containing BDEs]

II.A.2. POPs-related provisions	After para 21: Wastes from Annex IX List B to be added **B1180:** Waste photographic film containing silver halides and metallic silver **B1190**: Waste photographic paper containing silver halides and metallic silver **B3010:** Solid plastic waste **B3020:** Paper, paperboard and paper product wastes **B3030:** Textile wastes **B3035:** Waste textile floor coverings, carpets **B3090**: Paring and other wastes of leather or of composition leather not suitable for the manufacture of leather articles, excluding leather sludges, not containing hexavalent chromium compounds and biocides **B3100:** Leather dust, ash, sludges or flours not containing hexavalent chromium compounds and biocides	Wastes from Annex IX List B to be added to cover wastes containing or contaminated with PFOS, its salts and PFOSF
II.B. Stockholm Convention		
II.B.1. General provisions	-**Para 22-24**: Currently no update	
II.B.2. Waste-related provisions	-**Para 25-27**: Currently no update	
III. Issues under the Stockholm Convention to be addressed cooperatively with the Basel Convention		
III.A. Low POP content	-**Para 28**: No update required -**Para 29**: Definitions for low POP content are to be determined for each of the newly listed POPs.	For consideration: Review of the low POP contents for POPs for existing POPs already contained in the general technical guidelines.
III.B. Levels of destruction and irreversible transformation	-**Para 30**: Update pending	
III.C. Methods that constitute environmentally sound disposal	-**Para 31:** No update required	
IV. Guidance on environmentally sound management (ESM)		
IV.A. General considerations	-**Para 32:** Update pending	
IV.A.1. Basel Convention	-**Para 34-40**: Update pending **A new paragraph** to be added regarding the 2011 Cartagena Declaration, which reaffirms that the Basel Convention is the primary global legal instrument for guiding the ESM of hazardous wastes and other wastes and their disposal	
IV.A.2. Stockholm Convention	-**Para 40:** Currently no update	
IV.A.3. Organisation for Economic Co-operation and Development	-**Para 41-42:** Currently no update	
IV.B. Legislative and regulatory framework	-**Para 43-45**: Currently no update	
IV.B.1. Phase-out dates for production and use of POPs	-**Para 46:** Currently no update	
IV.B.2. Transboundary movement	-**Para 47-51:** Currently no update	

requirements		
IV.B.3. Specifications for containers, equipment, bulk containers and storage sites containing POPs	-**Para 52:** Currently no update	
IV.B.4. Health and safety	-**Para 53-55:** Currently no update	
IV.B.5. Specification of acceptable analytical and sampling methods for POPs	-**Para 56:** Currently no update	
IV.B.6. Requirements for hazardous waste treatment and disposal facilities	-**Para 57:** Currently no update	
IV.B.7. General requirement for public participation	-**Para 58:** Currently no update	
IV.B.8. Contaminated sites	-**Para 59:** Currently no update	
IV.B.9. Other legislative controls	-**Para 60:** Currently no update	
IV.C. Waste prevention and minimization	-**Para 61-64:** Currently no update	
IV.D. Identification and inventories		
IV.D.1. Identification	-**Para 65-68:** Update pending	
IV.D.2. Inventories	-**Para 69-76:** Update pending	
IV.E. Sampling, analysis and monitoring	-**Para 77-79:** Update pending	
IV.E.1. Sampling	-**Para 80-83:** Update pending -**Para 84:** Municipal effluents to be added to the liquids that are typically sampled for POPs	Among the water liquids that are typically sampled for POPs also include municipal effluents, in which PFOS can be found.
IV.E.2. Analysis	-**Para 86-90:** Update pending	
IV.E.3. Monitoring	-**Para 91:** Update pending	
IV.F. Handling, collection, packaging, labelling, transportation and storage	-**Para 92-95:** Update pending	Consider adding more up to date references and information. Where available, SIWG members to provide most recent information.
IV.F.1. Handling	-**Para 96-97:** Update pending	
IV.F.2. Collection	-**Para 98-99:** Update pending	
IV.F.3. Packaging	-**Para 100-102:** Update pending	
IV.F.4. Labelling	-**Para 103:** Update pending	
IV.F.5. Transportation	-**Para 104-107:** Update pending	
IV.F.6. Storage	-**Para 108-109:** Update pending	
IV.G. Environmentally sound disposal		
IV.G.1. Pre-treatment	-**Para 110:** Update pending	Consider adding new Pre-treatment technologies for the ten new POPs.
IV.G.1.(a). Adsorption and absorption	-**Para 111-112:** Update pending	
IV.G.1.(b). Dewatering	-**Para 113:** Update pending	
IV.G.1.(c). Mechanical separation	-**Para 114**: Update pending	
IV.G.1.(d). Mixing	-**Para 115**: Update pending	
IV.G.1.(e). Oil-water separation	-**Para 116:** Update pending	
IV.G.1.(f). pH adjustment	-**Para 117:** Update pending	
IV.G.1.(g). Size reduction	-**Para 118:** Update pending	
IV.G.1.(h). Solvent washing	-**Para 119:** Update pending	
IV.G.1.(i). Thermal desorption	-**Para 120**: Update pending	
IV.G.2. Destruction and irreversible transformation methods	-**Para 121-125:** Update pending	The addition of the PWC destruction technology will be fully evaluated by the SIWG on POPs.
IV.G.2.(a). Alkali metal reduction	-**Para 126-139:** Update pending	

IV.G.2.(b). Base-catalysed decomposition (BCD)	**-Para 140-155**: Update pending	
IV.G.2.(c). Catalytic hydrodechlorination (CHD)	**-Para 156-170:** Update pending	
IV.G.2.(d). Cement kiln co-incineration	**-Para 171-185:** Update pending A new paragraph to be added to reference the *Technical guidelines on the environmentally sound co-processing of hazardous wastes in cement kilns.*	The *Technical guidelines on the environmentally sound co-processing of hazardous wastes in cement kilns* was adopted at COP10.
IV.G.2.(e). Gas-phase chemical reduction (GPCR)	**-Para 186-200:** Update pending	
IV.G.2.(f). Hazardous-waste incineration	**-Para 201-214:** Update pending	
IV.G.2.(g). Photochemical dechlorination (PCD) and catalytic dechlorination (CD) reaction	**-Para 215-229:** Update pending	
IV.G.2.(h). Plasma arc	**-Para 230-243**: Update pending	
IV.G.2.(i). Potassium tert-Butoxide (t-BuOK) method	**-Para 244-258:** Update pending	
IV.G.2.(j). Supercritical water oxidation (SCWO) and subcritical water oxidation	**-Para 259-272:** Update pending	
IV.G.2.(k). Thermal and metallurgical production of metals	**-Para 273-286:** Update pending	
IV.G.2.(l). Waste-to-gas conversion	**-Para 287-300**: Update pending	
IV.G.3. Other disposal methods when neither destruction nor irreversible transformation is the environmentally preferable option	**-Para 301-304:** Update pending	
IV.G.3.(a). Specially engineered landfill	**-Para 305-306:** To be updated to reflect leachate treatment technologies as part of the specially engineered landfill disposal method.	This section will be updated to include information about landfill leachate treatment technologies as part of the specially engineered landfill waste disposal method (the *Basel Convention Technical Guidelines on Specially Engineered Landfill* requires updating).
IV.G.3.(b). Permanent storage in underground mines and formations	**-Para 307-309**: Update pending	
IV.G.4. Other disposal methods when the POP content is low	**-Para 310:** Update pending	
IV.H. Remediation of contaminated sites. Update pending		
IV.H.1. Contaminated site identification	**-Para 311-312**: Update pending	Consider adding more up to date references and information.
IV.H.2. Environmentally sound remediation	**-Para 313:** Update pending	Consider adding more up to date references and information.
IV.I. Health and safety	**-Para 314-317**: Update pending	
IV.I.1. Higher-risk situations	**-Para 318-320**: Update pending	Consider adding more up to date references and information.
IV.I.2. Lower-risk situations	**-Para 321-322**: Update pending	Consider adding more up to date references and information.
IV.J. Emergency response	**-Para 323-324**: Update pending	Consider adding more up to date references and information.
IV.K. Public participation	**-Para 325-330**: Update pending	Consider adding more up to date references and information.

Annex I. International instruments	Update pending	
Annex II. Examples of pertinent national legislation	Update pending	
Annex III. Selected analytical methods for POPs	Update to include analytical methods for new POPs where appropriate	Consider adding more up to date references and information.
Annex IV. Economics of destruction and irreversible transformation methods	Update pending	In consultation with the SIWG, this Annex is to be updated to include new destruction and irreversible transformation methods, cost estimates, and investment costs.
Annex V. Bibliography	Update pending	

Annex C
Detailed progress on the Updating of the Technical Guidelines for the Environmentally Sound Management of Wastes Consisting of, Containing or Contaminated with Polychlorinated biphenyls (PCBs), Polychlorinated Terphenyls (PCTs) or Polybrominated Biphenyls (PBBs)

- In accordance with decisions BC-10/9 and OEWG-8/5, Japan, in consultation with Canada, which is the lead country in the updating of the general technical guidelines for the environmentally sound management of wastes consisting of, containing or contaminated with persistent organic pollutants (POPs), and the Small Intersessional Working Group (SIWG) on persistent organic pollutants (POPs), prepared a progress report on the updating of the *Technical Guidelines for the Environmentally Sound Management of Wastes Consisting of, Containing or Contaminated with Polychlorinated biphenyls (PCBs), Polychlorinated Terphenyls (PCTs) or Polybrominated Biphenyls (PBBs) (The technical guidelines on PCBs).*

- The technical guidelines on PCBs are to be updated on the existing PCBs and Haxabromobiphenyl (HBB) as new POPs in conjunction with the general technical guidelines for the environmentally sound management of wastes consisting of, containing or contaminated with persistent organic pollutants (POPs). Accordingly, the technical guidelines on PCBs will be progressively updated with the aim of finalization at COP12 in 2015.

- As a first step, each section of the existing guidelines was systematically reviewed and parts requiring no change, modifications or new information were identified. In addition, wherever appropriate, the rationale for changes and any outstanding consideration are explained for transparency and clarity. Conclusions of this first review are provided in the Table below.

- Following COP11, the next step will involve soliciting comments from all Parties and others in order to prepare a first draft of the guidelines in time for discussion at the ninth meeting of the Open-Ended Working Group.

Section	Evaluation	Rationale and other considerations
Abbreviations and acronyms	HBB hexabrominated biphenyl	
Units of measurement	Currently no update.	
I. Introduction		
I. A. Scope	-**Para 1-5:** Update to include HBB.	
I. B. Description, production, use and waste		
I. B.1. Description		
I. B.1. (a) PCBs	-**Para 6-7:** Currently no update.	
I. B.1. (b) PCTs	-**Para 8:** Currently no update.	
I. B.1. (c) PBBs	-**Para 9-10:** Currently no update.	
I. B.2. Production		
I. B.2. (a) PCBs	-**Para 11-17:** Currently no update.	
I. B.2. (b) PCTs	-**Para 18-20:** Currently no update.	
I. B.2. (c) PBBs	-**Para 21-22:** Currently no update. -**New paragraph** to be added before para. 23 regarding description of the production information of HBB.	
I. B.3. Use		
I. B.3. (a) PCBs	-**Para 23-25:** Currently no update.	

I. B.3. (b) PCTs	-**Para 26:** Currently no update.	
I. B.3. (c) PBBs	-**Para 27:** Currently no update. -**New paragraph** to be added before para. 28 regarding information on the use of HBB.	
I. B.4. Wastes	-**Para 28:** Add a description of HBB wastes, for example, plastics, fibers and shredder dust. -**Para 29:** Currently no update.	
II. Relevant provisions of the Basel and Stockholm conventions		
II.A. Basel Convention	-**Para 30:** Currently no update required. -**Para 31:** Indicate positioning of HBB in the Basel Convention Annex I. -**Para 32:** Currently no update. -**Para 33: Update pending** -**Para 34-35:** Currently no update.	
II.B. Stockholm Convention	-**Para 36-38:** Currently no update.	
III. Issues under the Stockholm Convention to be addressed cooperatively with Basel Convention		
III.A. Low POP content	-**Para 39: Update pending**	
III.B. Levels of destruction and irreversible transformation	-**Para 40:** Currently no update.	
III.C. Methods that constitute environmentally sound disposal	-**Para 41:** Currently no update.	
IV. Guidance on environmentally sound management (ESM)		
IV. A. General considerations		
IV.A.1. Basel Convention	-**Para 42-43:** Currently no update.	
IV.A.2. Stockholm Convention	-**Para 44-45:** Currently no update.	
IV.A.3. Organisation for Economic Co-operation and Development	-**Para 46:** Currently no update.	
IV.B. Legislative and regulatory framework	-**Para 47-50: Update pending**	
IV.C. Waste prevention and minimization	-**Para 51-54:** Currently no update.	
IV.D. Identification and inventories		
IV.D.1. Identification	-**Para 55-58:** Identification of HBB content waste is indicated based on HBB content product information.	
IV.D.2. Inventories	-**Para 59-60:** Searching literature about inventory information.	
IV.E. Sampling, analysis and monitoring	-**Para 61:** Currently no update.	
IV.E.1.Sampling	-**Para 62-63:** Currently no update.	
IV.E.2.Analysis	-**Para 64-66: Update pending**	
IV.E.3.Monitoring	-**Para 67:** Currently no update.	
IV.F. Handling, collection, packaging, labelling, transportation and storage	-**Para 68:** Currently no update.	
IV.F.1. Handling	-**Para 69:** Currently no update.	
IV.F.2. Collection	-**Para 70-73:** Currently no update.	

IV.F.3. Packaging	-**Para 74-75:** Currently no update.	
IV.F.4. Labelling	-**Para 76-77:** Currently no update.	
IV.F.5. Transportation	-**Para 78:** Currently no update.	
IV.F.6. Storage	-**Para 79-80:** Currently no update.	
IV.G. Environmentally sound disposal	Add the information on the new processing technology for PCB.	
IV.G.1. Pre-treatment	-**Para 81-82:** Currently no update.	
IV.G.2. Destruction and irreversible transformation methods	-**Para 83:** This is reflected in the general guideline on the new processing technology (PWC) for PCBs.	
IV.G.3. Other disposal methods when neither destruction nor irreversible transformation is the environmentally preferable option	-**Para 84:** Currently no update.	
IV.G.4. Other disposal methods when the POP content is low	-**Para 85:** Consider adding the new processing technology for PCB.	
IV.H. Remediation of contaminated sites	-**Para 86:** Currently no update.	
IV.I. Health and safety	-**Para 87:** Currently no update.	
IV.I.1. Higher-risk situations	-**Para 88:** Currently no update.	
IV.I.2. Lower-risk situations	-**Para 89:** Currently no update.	
IV.J. Emergency response	-**Para 90:** Currently no update.	
IV.K. Public participation	-**Para 91:** Currently no update.	
Annex I	Add HBB product information.	
Annex II	Update pending.	