

# OTHER POPs OF CONCERNS I

## THE STOCKHOLM CONVENTION ON POPs – CONTROL PROVISIONS

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### Introduction

Since 1995, the international community was working on a legally binding instrument to eliminate persistent organic pollutants (POPs). Based on a mandate from the UNEP Governing Council (Decision 18/32), the Inter-Organization Programme for the Sound Management of Chemicals (IOMC) together with the International Program on Chemical Safety (IPCS) and the Intergovernmental Forum on Chemical Safety (IFCS) initiated an assessment process, which, in December 2000, resulted in the conclusion of the text for the POPs Convention. The POPs Convention was adopted on May 22-23, 2001 in Stockholm. Initial action is taken towards twelve POPs, namely aldrin, chlordane, DDT, dieldrin, endrin, heptachlor, hexachlorobenzene (HCB), mirex, toxaphene, polychlorinated biphenyls (PCB), dioxins and furans, and can be found in the six official UN languages at the UNEP Chemicals' homepage <http://www.chem.unep.ch/pops/>.

### The Stockholm Convention on POPs - Obligations

The Stockholm Convention on POPs will enter into force when 50 countries will have ratified. The general provisions of the Convention are

- a) General provisions: acknowledgment that due to the physical, chemical and toxicological properties, release of POPs causes local and global impacts; thus, the objective of the Convention is to protect human health and the environment from POPs. Actions will be based on implementation plans. Research, development, monitoring and cooperation on all aspects of POPs and their alternatives is encouraged and/or should be undertaken.
- b) Control provisions: for all intentionally produced POPs, the goal of the Convention is elimination of production and use. For unintentionally produced POPs, the goal is "continuing minimization and, where feasible, ultimate elimination". For stockpiles or wastes, the goal is to ensure their environmentally sound management (more details see next sections).
- c) Procedure to add new POPs: as new scientific evidence becomes available, other POPs can be added to the Convention.
- d) Financial and technical assistance: Regional and sub-regional centers will assist countries to meet the obligations. Financial resources will be made available through the Global Environment Facility as the interim mechanism.

### Control Provisions for Intentionally Produced POPs

The intentionally produced POPs comprise eight pesticides and two industrial chemicals (HCB and PCB) and the goal of the Convention is to eliminate them. To achieve this goal, the production and use will be either eliminated or restricted. In each case, trade will be restricted.

Annex A of the Convention lists nine chemicals for "elimination":

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- Aldrin, chlordane, dieldrin, endrin, heptachlor, hexachlorobenzene, mirex, polychlorinated biphenyls, and toxaphene

Annex B lists one chemical for “restriction” = DDT, for which, the use in disease vector control programs is an “acceptable purpose”.

For the ten chemicals there are exempted quantities if

- Used for laboratory-scale research
- Used as reference standard
- Occurring as unintentional trace contaminants in products or as constituents of articles already manufactured or in use before the entry into force of the Convention

Some countries will be granted “specific exemptions” for use of these chemicals. An exemption is given for five years; it may be withdrawn at any time or may be extended for another five years, the latter subject to review by the Conference of the Party (COB). If production continues, measures must be taken to prevent or minimize human exposure and releases to the environment.

Exemptions: HCB or DDT can be used for closed-system site-limited intermediates in the manufacture of chemicals that do not exhibit POPs properties. Such an exemption will last for 10 years.

Trade Issues: Trade will be restricted for all POPs; shipments are limited for environmentally sound disposal or Parties with “specific exemptions”.

**PCB:** All Parties must cease production of new PCB, eliminate the use of in-place PCB-containing equipment by 2025. The continued use of such transformers, capacitors, *etc.* is a “specific exemption” and subject to conditions, such as use only intact/non-leaking equipment and restrictions, such as not permitted in food or feed processing areas. All Parties must make efforts to identify, label and remove from use equipment containing more than 0.005 % (50 ppm) of PCB. Higher priority should be given to those with higher levels of PCB.

Further, all Parties must: not trade PCB, except for the purpose of environmentally sound waste management, not recover liquid with more than 0.005 % of PCB for reuse, and achieve the environmentally sound management of PCB wastes as soon as possible but not later than 2028. Progress reports will be required every five years.

**DDT:** All Parties must eliminate production and use, except Parties that notify of their intention to produce or use DDT in disease vector control programs (= “acceptable purpose”). Production or use must be in accordance with WHO recommendations and guidelines, when locally safe and effective and where affordable alternatives are not available. The Parties with these uses will be listed in a publicly available DDT register. The register will report on quantities used, conditions of use, and relevance to disease management strategy. The Party’s action plan must explore alternatives to DDT and take measures to strengthen health care and reduce incidence of disease. The COP will review the exemptions every three years.

Finally, Parties shall make assessments on new substances with the aim to prevent the production of “new POPs” and assess in-use substances according to the screening criteria (Annex D of the Convention).

### ORGANOHALOGEN COMPOUNDS

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## Control Provisions for Unintentionally Produced POPs

The unintentionally produced POPs are specified in Annex C and are: polychlorinated dibenzo-p-dioxins (PCDD), polychlorinated dibenzofurans (PCDF), polychlorinated biphenyls (PCB), and hexachlorobenzene (HCB). To achieve continuing minimization of POPs byproducts, an action plan has to be established within two years after entry-into-force of the Convention for this Party. The action plan to identify, characterize and address releases of these chemicals, should include the establishment and maintenance of release inventories, develop strategies to reduce releases, evaluate the efficacy of the laws and policies to manage the releases, promote education and training, review success every 5 years, and develop a schedule for an implementation plan.

When addressing PCDD and PCDF, concentrations should be expressed as toxic equivalents according to accepted international standards. The starting point will be the WHO-TEF scheme (for mammalian toxicity); thus, including the 12 coplanar and *mono-ortho* substituted PCB. PCB as byproducts contain mono- through deca-substituted congeners.

Although most information is available for dioxins and furans, it is assumed that the major sources of PCDD/PCDF are also sources of PCB and HCB. The Convention specifies four source categories, which should be addressed with priority:

- waste incinerators, including co-incineration of municipal, hazardous, medical wastes, and sewage sludge;
- cement kilns firing hazardous wastes;
- production of pulp using elemental chlorine or chemicals generating elemental chlorine for bleaching;
- thermal processes in the metallurgical industry (secondary copper, sinter plants in the iron and steel industry, secondary aluminum, and secondary zinc).

An additional list of 13 other sources contains 11 more combustion sources, which also can release POPs byproducts; *e.g.* open burning, residential combustion sources, fossil-fuel utility boilers, crematoria, cable smouldering, *etc.* but also textile and leather dyeing (with chloranil) and finishing (with alkaline extraction).

The Convention sets a hierarchy to promote application of measures to achieve realistic and meaningful goals of release reduction or source elimination hereby promoting/requiring the use of substitute or modified materials, products or processes to prevent formation and release of POPs byproducts. For newly established plants within the priority source categories and according to the action plan, requirements to apply best available techniques (BAT) should be phased in as soon as possible but not later than 4 years after entry into force. For other sources, BAT and BEP (best environmental practices) are recommended. The Annex provides guidance on BAT and BEP and on general measures to prevent formation and release of byproducts.

## Control Provisions for Wastes and Stockpiles

### Next Steps

The Convention requires the establishment and the maintenance of source inventories to demonstrate continuing minimization of the "total releases" of byproducts of a country. A release

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reduction should be achieved for ALL anthropogenic sources. To assist countries in an initial estimate, UNEP has developed and published a "Standardized Toolkit for Identification and Quantification of Dioxin and Furan Releases"<sup>1</sup> for the establishment of complete and comparable dioxin inventories.

## References

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- <sup>1</sup> Standardized Toolkit for Identification and Quantification of Dioxin and Furan Releases. UNEP Chemicals, Geneva, Draft January 2001, and at <http://www.chem.unep.ch/pops/newlayout/prodocas.htm>