

Inventory of POPs sources and quantification of unintentional releases

Stockholm Convention on Persistent Organic Pollutants

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Outline

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- **Toolkit on PCDD/PCDF inventories**
 - **History**
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- **Reporting of POPs releases**
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 - **Inventory revisions and updates**
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Background

During many anthropogenic activities, as undesired side effect, persistent organic pollutants may be unintentionally produced and released

These are subject to the requirements of **Article 5 and Annex C** of the Stockholm Convention 

Release inventories under Article 5

- Parties are required to **identify, characterize, quantify and prioritize** sources of releases of Annex C chemicals; and
- to develop strategies with timelines and goals to minimize these releases;
- to **evaluate** effectiveness of these strategies and their success in minimizing releases of Annex C POPs every five years and to **report such reviews** in reports submitted pursuant to Article 15

Inventory method

- **Harmonized framework for elaboration of comparable release inventories of Annex C chemicals**

The Standardized Toolkit for Identification and Quantification of Dioxin and Furan Releases (UNEP 2005)

History

- POPs team of UNEP Chemicals developed Toolkit since 1999
Draft-2001, 1st ed-2003, 2nd ed-2005
- COP in its Decision SC-2/5
 - Welcomed the 2nd edition of the Toolkit (2005)
 - Recognized its potential as the guidance for undertaking release inventories pursuant to Article 5
 - Noted requests from parties and others to verify emission factors, address gaps and further improve the Toolkit
 - Requested the Secretariat to initiate an open transparent process, in cooperation with UNEP Chemicals and consultation with users and experts to develop further the Toolkit
 - Invited parties and others to provide relevant information


Present status

- **Decision SC-3/6 among other things:**
- Took note of the Toolkit Expert Roster
- Adopted the process for the ongoing review and updating of the Toolkit (annex to decision SC-3/6)
- Requested the Secretariat to implement the process and report on progress to COP-4
- Adequate emphasis be placed on the key sources for which limited monitoring data is available, including sources of hexachlorobenzene and polychlorinated biphenyls, and to support developing countries in their efforts to further verify their emission factors

Key ongoing activities

- ❑ **Two Toolkit Expert Meetings (2007, 2008)**
- ❑ **Projects to verify /establish EF for open burning of waste and open burning of biomass**
- ❑ **Household heating and cooking**
- ❑ **Screening activities on sources typical for developing countries (simple stoves, brick kilns, charcoal production, artisan metal production)**

Toolkit methodology

- All international inventory systems, including the Toolkit, use the following basic equation:
emission factor x activity rate = emissions per year
- Each of the systems identifies:
 - Pollutants of interest 
 - Relevant source categories  
 - Appropriate activity data
 - Default sets of emission factors (reflecting different technique levels)
 - Related guidance (data reporting, validation, QA/QC...)

Current Toolkit use

- **PCDD/F releases reported in 85 of 89 (out of 137 due by 12 08) submitted NIPs;**
 - **65 used the Toolkit**
 - **10 used the Toolkit along with other information**
 - **10 CLRTAP methodology**

- **PCDD/F releases reported in 30 of 43 (out of 154 due by 06 08) submitted national reports**
 - **24 used the Toolkit**
 - **2 used the Toolkit along with other information**
 - **4 CLRTAP methodology**

Conclusions

- ❑ The Toolkit is broadly used by developing countries
- ❑ CEE countries are usually using the Toolkit along with other information sources or reporting only according to the CLRTAP method
- ❑ Developed countries usually use multiple information sources, including measurements
- ❑ CLRTAP Parties report usually according to the CLRTAP method
- ❑ **To obtain comparable data the EC inventory of PCDD/F for the new member states was largely based on the Toolkit methodology**

Challenges

- ❑ Weak reporting of PCDD/F releases
- ❑ Reported data are still not fully **comparable, consistent, transparent and reliable**
- ❑ Different baseline years
- ❑ Forthcoming inventory revisions and updating
- ❑ Projections

Future perspectives

- **Data from the NIPs will be summarized**
- **Revisions and updates of the inventories are scheduled for 2014**
- **Possible co-operation with UN ECE**
 - **Source categories and reporting**
 - **Emission factors**
 - **Guidance documents**

For further information

www.pops.int



Home Page of the Stockholm Convention - Windows Internet Explorer

http://www.pops.int

Stockholm Convention on persistent organic pollutants (POPs)

May 18, 2008. Osmany Pereira (sa) | Logout

CONVENTION PROGRAMMES COUNTRIES SECRETARIAT PARTNERS



WHAT'S NEW



Rotterdam and Stockholm Conventions working together for better delivery

The first ever joint retreat of secretariats of the Rotterdam and Stockholm Conventions was held 6-7 May 2008 at Glion sur Montreux, Switzerland. The retreat addressed issues of: optimizing roles and

HIGHLIGHTS OF THE MONTH

- New POPRC membership from 8 May 2008
- Evaluating the Effectiveness of the Convention

UPCOMING MEETINGS

May 2008
Workshop to facilitate drafting of the regional monitoring reports of the global monitoring program
Geneva, Switzerland
19 - 23 May 2008

What does the Convention aim at?

Protecting human health and the
environment from
persistent organic pollutants



What is the status of the Convention?

- Convention adopted on 22 May 2001
- 152 Governments signed it
- Convention entered into force on 17 May 2004
- 162 Parties to date (19 January 2009)
- 3 COPs have already been convened
 - COP-1 held in May 2005 in Punta del Este Uruguay
 - COP-2 held in Geneva in May 2006
 - COP-3 held in Dakar, Senegal
- COP-4 is scheduled to be convened in Geneva in 4-8 May 2009

Annex C

Part I

This Annex applies to the following persistent organic pollutants when formed and released unintentionally from thermal processes involving **organic matter and chlorine** as result of:

incomplete combustion
or
chemical reaction

- Polychlorinated dibenzo-p-dioxins and dibenzofurans (PCDD/PCDF)
- Hexachlorobenzene (HCB)
- Polychlorinated biphenyls (PCB)



Annex C- Part II

Source categories

Source categories having the potential for comparably high formation and release of chemicals listed in Annex C:

- **Waste incinerators, including co-incinerators of municipal, hazardous or medical waste or of sewage sludge**
- **Cement kilns firing hazardous waste**
- **Production of pulp using elemental chlorine or chemicals generating elemental chlorine for bleaching**
- **The following thermal processes in the metallurgical industry:**
 - **Secondary copper production**
 - **Sinter plants in the iron and steel industry**
 - **Secondary aluminium production**
 - **Secondary zinc production**



Annex C - Part III

Source categories

- Open burning of waste, including burning of landfill sites
- Thermal processes in the metallurgical industry not mentioned in Part II
- Residential combustion sources
- Fossil fuel-fired utility and industrial boilers
- Firing installations for wood and other biomass fuels
- Specific chemical production processes releasing unintentionally formed persistent organic pollutants, especially production of chlorophenols and chloranil
- Crematoria
- Motor vehicles, particularly those burning leaded gasoline;
- Destruction of animal carcasses
- Textile and leather dyeing (with chloranil) and finishing (with alkaline extraction)
- Shredder plants for the treatment of end of life vehicles
- Smouldering of copper cables
- Waste oil refineries

