



## GUIDE TO LISTING THE 2015 POPs CANDIDATES:

PENTACHLOROPHENOL (PCP OR "PENTA")  
HEXACHLOROBUTADIENE (HCBd)  
CHLORINATED NAPHTHALENES (CNS)



*An IPEN Brief on  
Information and  
Recommendations  
by the Persistent  
Organic Pollutants  
Review Committee  
(POPRC) to COP7  
of the Stockholm  
Convention*

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**IPEN**  
a toxics-free future



## **ADDING NEW POPS TO THE STOCKHOLM CONVENTION: THE PERSISTENT ORGANIC POLLUTANTS REVIEW COMMITTEE (POPRC)**

The Stockholm Convention established a science-based process for new persistent organic pollutants (POPs) under the Stockholm Convention. The Convention recognizes that a lack of full scientific certainty should not prevent a candidate substance from proceeding in the evaluation or listing and clearly mandates Parties to decide on listing “in a precautionary manner.”

The Persistent Organic Pollutants Review Committee (POPRC) is charged with determining whether a proposed chemical is likely, as a result of its long-range environmental transport, to lead to significant adverse human health and/or environmental effects such that global action is warranted.



Any Party may submit a proposal to the Secretariat for listing a chemical in Annex A, B or C of the Convention. The POPRC examines the proposal and applies the screening criteria specified in Annex D. If the POPRC is satisfied that the screening criteria have been fulfilled, it invites Parties and observers to submit relevant information, and it develops a risk profile. Based on that risk profile, and subsequent risk management evaluation, the POPRC makes a recommendation as to whether or not global action should be taken.

**The POPRC has recommended listing the following substances to the Stockholm Convention:**

- **Pentachlorophenol (PCP or “Penta”) to Annex A**
- **Hexachlorobutadiene (HCB) to Annex A and C**
- **Chlorinated Naphthalenes (CNs) to Annex A and C**

# PENTACHLOROPHENOL (PCP OR “PENTA”)

## **POPRC RECOMMENDATION: LIST UNDER ANNEX A**

**IPEN supports the recommendation of the POPRC to list Pentachlorophenol (PCP or “Penta”) in Annex A**

### **ADVERSE EFFECTS**

PCP is found in the breast milk, blood, amniotic fluid, adipose tissue, and seminal fluid of people throughout the world, including Indigenous peoples of the Arctic. PCP adversely affects multiple systems, including reproductive and metabolic hormones. Exposure to PCP is associated with neurodevelopmental impairment in children, thyroid disruption, immune suppression, and increased risk of non-Hodgkin lymphoma. Studies show adverse neurobehavioral effects including impairment of memory and learning ability; infertility in women; and alteration of thyroid metabolism.

### *Production and Use*

PCP is produced by one manufacturer at a production facility in Mexico (6,600 tons per year) and formulated in the US (7,000 tons per year). Additionally, 1,800 tons per year of Na-PCP is manufactured in India. The manufacturing of PCP results in the inevitable production and release of dioxins and furans as by-products. Dioxins and furans are also released from treated wood and wood waste.

The primary use of PCP is in utility poles in United States and Canada, with the vast majority of PCP use taking place in the US. In Canada, it is used on only 15% of the wood utility poles that are chemically treated. According to the industry, a small use is for indoor particle board and distemper paints in India.



***The primary use of PCP is in utility poles in United States and Canada.***

### ***Alternatives***

The toxicity of PCP and chemical alternatives to PCP points toward safer substitution with non-chemical alternatives. These include naturally resistant hardwoods, concrete, steel, and fiberglass reinforced composite. Non-chemical alternatives for utility poles require less maintenance and have a longer service life. Industries making these alternatives appear ready for substitution and they have been implemented in countries currently using PCP.

### ***POPRC recommendation***

The POPRC voted by consensus to recommend listing of pentachlorophenol in Annex A of the treaty for global elimination, with possible allowance for a time-limited exemption for production and use for utility poles and cross-arms.

IPEN recommends listing in Annex A for global elimination with no exemptions because of the economic viability and availability of alternatives. Many countries have already eliminated the production and use of PCP in favor of safer alternatives. Annex B listing would undermine the integrity of the Convention by indefinitely perpetuating the usage of PCP which has no critical uses.

# HEXACHLOROBUTADIENE (HCBD)

## POPRC RECOMMENDATION: LIST UNDER ANNEX A & C

**IPEN supports the recommendation of the POPRC to list Hexachlorobutadiene (HCBD) in Annex A and C**

### ADVERSE EFFECTS

HCBD is highly toxic to fish and other aquatic organisms. In animals, HCBD causes cancer and kidney damage. Occupationally exposed humans show chromosome damage. HCBD is persistent, bioaccumulates in fish, and is found in Arctic air and animals.

### *Production and Use*

HCBD is produced mainly as a by-product in the manufacturing of chlorinated hydrocarbons such as perchloroethylene, trichloroethylene and carbon tetrachloride (also known as tetrachloromethane). Other by-product sources include production of magnesium and incineration.

No ongoing deliberate use is known. Historically, HCBD has been used as a solvent, transformer fluid, scrubber, insecticide in grape vineyards, and in production of aluminum and graphite rods.





***HCBD is highly toxic to fish and other aquatic organisms.***

### ***Alternatives***

Unintentional releases of HCBD can be minimized by alternative production processes, improved process control, and emission control measures. Some of these are outlined in the Stockholm Convention Best Available Techniques (BAT) and Best Environmental Practices (BEP) Guidelines. Another important technique for eliminating HCBD releases is to implement safer alternatives for perchloroethylene and trichloroethylene. Alternatives are available for perchloroethylene use in dry cleaning, vapor degreasing, and automotive aerosols. These include wet cleaning and aqueous based processes. Alternatives are also available for trichloroethylene use in adhesive and paint applications, and degreasing. These include aqueous-based latex blends, aqueous and semi-aqueous processes, and ultrasonic processing.

### ***POPRC Recommendation***

The POPRC proposed listing HCBD in Annexes A and C. HCBD is primarily produced unintentionally, so listing in Annex C would subject it to the measures under Article 5 of the Convention and establish the goal of continuing minimization and, where feasible, ultimate elimination. The Committee noted that listing HCBD in Annex A without any specific exemptions would be the most efficient control measure for intentional sources under the Convention.

# CHLORINATED NAPHTHALENES (CNs)

## **POPRC RECOMMENDATION: LIST UNDER ANNEX A & C**

**IPEN supports the recommendation of POPRC to list Chlorinated Naphthalenes (CNs) in Annex A and C**

## **ADVERSE EFFECTS**

CNs are groups of chlorinated organic compounds that are similar to PCBs and show dioxin-like mechanisms of toxicity. The POPRC expressed concern over CNs endocrine disrupting properties at low exposure concentrations and possible long term effects on wildlife and future generations. CNs are transported to the Arctic and subarctic regions far from local sources and selectively accumulate in invertebrates, fish, seabirds and marine mammals.

### *Production and Use*

Currently, CNs are produced unintentionally during combustion processes involving chlorine such as waste incineration, smelting in the secondary non-ferrous metal industry, cement and magnesia production, aluminium refining and coking. While produced at high volumes in the 1970s, CNs production has decreased significantly though detailed production and use data are scarce.

No ongoing deliberate use is known. Historically, CNs were used in wood preservation, as an additive to paints and engine oils, and for cable insulation and capacitors.

## *Alternatives*

Measures that reduce dioxins and furans will also be effective for CNs. The Stockholm Convention Best Available Techniques (BAT) and Best Environmental Practices (BEP) Guidelines should be used to minimize CNs with the goal of elimination. The POPRC proposed also listing CNs in Annex A to limit possible remaining uses and prevent re-introduction of the substance.

## *POPRC Recommendation*

The POPRC proposed listing the following naphthalenes in Annex A and C: dichlorinated, trichlorinated, tetrachlorinated, pentachlorinated, hexachlorinated, heptachlorinated and octachlorinated. CNs are primarily produced unintentionally, so listing in Annex C would subject them to the measures under Article 5 of the Convention and establish the goal of continuing minimization and, where feasible, ultimate elimination. The Committee noted that listing CNs in Annex A without any specific exemptions could be the primary control measure for intentional sources under the Convention.



***The POPRC expressed concern over the possible long term effects of CNs on wildlife and future generations.***



**IPEN** is a leading global network of 700 non-governmental organizations (NGOs) working in more than 100 developing countries and countries with economies in transition. IPEN works to establish and implement safe chemicals policies and practices to protect human health and the environment. It does this by building the capacity of its member organizations to implement on-the-ground activities, learn from each other's work, and work at the international level to set priorities and achieve new policies. Its mission is a toxics-free future for all.

IPEN has been engaged in the SAICM process since 2003, and its global network helped to develop the SAICM international policy framework. At its founding, in 1998, IPEN focused on advancing the development and implementation of the Stockholm Convention on persistent organic pollutants (POPs). Today, its mission also includes promoting safe chemicals management through the SAICM process, halting the spread of toxic metals, and building a movement for a toxics-free future.

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*PCP is already banned in many countries due its harm to human health and the environment.*



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