

# POPs Newsletter

No 15, June 2008

Prepared on behalf of [IHPA](#)

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## Aim

The aim of this newsletter is to disseminate information in a cost-effective way on the developments taking place in the area of POPs as implicated in the Stockholm Convention and other PTS of concern. It will cover, among others, the news on science and technology for disposal of obsolete stocks and remediation of POPs contamination which might be of interest for commercial exploitation both in developed and developing countries. Special emphasis will be given to bio-remediation, non-combustion related technologies which will benefit developing countries. The newsletter will not go into technical details of selected scientific publications but only highlight salient features for the benefit of the readers. One can [subscribe](#) and read IHPA Newsletter (2 times/yr free of charge).

## Note from the Editors

**Following the successful 9th IHPA Forum held in Moldova, which was covered in the last Newsletter, we were very glad to hear that one of the larger international environmental consultants the Tauw Group from the Netherlands has stated as part of their Corporate Social Responsibility strong commitments on the cooperation with IHPA and Milieucontact International to contribute to the solutions of the problems of obsolete pesticides. See further under 1.**

**We are also now pleased to include extracts from articles that were sent to us by Dr. Roland Weber of POPs Environmental Consulting, 73035 Göppingen, Germany and also an IHPA Ambassador. The articles describe the contamination of German drinking water with PFOS/PFOA from contaminated sites and the drama unfolding on the attempts to introduce perfluorooctane sulphonate (PFOS) and lindane in the Stockholm Convention POPs list.**

## 1. Follow-up to 9th IHPA Forum in Moldova. TAUW group funding solutions to problems of obsolete stocks of pesticides

Tauw Group from the Netherlands declares in its new 2007 Year Report under their Corporate Social Responsibility the following: Tauw is involved in funding solutions to the problem of obsolete stocks pesticides. Since the early nineties of the last century we have been co-organizing the HCH and Pesticides Forum, together with the IHPA foundation. In 2007 the 9th Forum was held in Chisinau, Moldova. Raising awareness, strengthening institutions and contributing to training programs are focal points in our approach. We assist countries all over the world in complying with the Stockholm convention by executing the National Implementation Plans. In the projects we closely cooperate with NGO's such as Milieukontakt International IHPA to contribute to the solutions to this worldwide problem.

[www.tauwgroupannualreport.com](http://www.tauwgroupannualreport.com)

Further the report states:

Tauw sponsored the movie Silent Snow, made by Jan van den Berg, about the effects of chemicals on life and environment at the Poles. The movie was made in the context of the International Polar Year (2007) and was shown at the International Documentary Film Festival in Amsterdam in November 2007. A long documentary is currently being made [www.silentsnow.org](http://www.silentsnow.org)

## 2. Review Articles:

### 2.1. Article 1: Position of USA on Perfluorooctane sulphonates (PFOS) and Lindane:

US hints that it may drop POPs treaty application over likely chemical ban. According to sources the Bush administration is suggesting it may drop its efforts to join the Stockholm Convention on POPs if the Convention moves forward the chemicals perfluorooctane sulphonate (PFOS) and lindane. PFOS is a bioaccumulative toxicant used in a wide range of applications especially when considering also PFOS precursors (e.g. fire fighting foam, manufacture of semiconductors, impregnation) that is extremely persistent in the environment and is widely held to pose human health and environmental risks—including adverse effects on the liver and thyroid in mammals, and lethal effects on fish and marine invertebrates. However, industry officials argue that there is no viable alternative.

Lindane a bioaccumulative neurotoxin and carcinogen that has historically been used as a pesticide seed treatment for barley, corn, oats, rye, sorghum, and wheat and is still used to treat for head lice and scabies. US.EPA no longer allows its use as a pesticide, though |USFDA continues to allow the use of lindane as a pharmaceutical.

The POPs Convention Review Committee (POPRC) based on risk evaluations recommended both PFOS and lindane to be listed under Annex A of the Convention, which would prohibit Parties to the Convention from manufacturing, using, selling, importing and exporting the chemicals. The risk profile is developed after the Secretariat collects information on socio-economic considerations from Parties to the Convention as well as observers such as the United States. Risk profiles effectively determine whether a chemical is likely to lead to “significant human health and/or environmental effects, such that global action is warranted,” according to the language of the Convention. In its comments to Convention officials USA says “Please note in text that listing of PFOS on Annex A may have implications for countries joining the Convention for this substance, in light of ongoing uses for which no alternatives have been developed. The same comments go to lindane. The USA wants PFOS should be listed under Annex B of the Convention, which would prohibit the manufacture, use, sale, import and export of PFOS - but would include specific exemptions. The same argument is thrown for lindane given the limited use as a pharmaceutical. Since USA has not ratified the SC and very much reflects the position of the semiconductor industry on PFOS which says regarding putting alternatives in place. “there could be extensive introduction costs associated with bringing a new system into high volume production, including requalifications costs and possible loss of revenues associated with much lower yield as new systems are brought on line”.

Interestingly there is another so called “coalition group”- representing indigenous people of the Americas (the International Indian Treaty Council, the North-South Indigenous people’s network against pesticides, the indigenous Environmental Network and Native Movement”); urges that PFOS be listed under annexes A and C of the Convention.

Inclusion in Annex C, which deals with the “unintentional production” of POPs “is essential” because it would ensure that products that could degrade into PFOS would also be addressed.

According to the coalition group a number of studies show presence of PFOS in adults, newborns, polar bears, birds, marine animals as indicators of how pervasive, bioaccumulation, transboundary movement and toxicity. The coalition group adds that “we do not consider higher cost to the industry be a determinant in non-feasibility since that pits their profitability against our survival”

## **2.2. Article 2: PFOS/PFOA contaminated megasites in Germany polluting drinking water supply of millions of people.**

**Kröfges P, Skutlarek D, Färber H, Baitinger C, Gödeke I, Weber R** *Organohalogen Compounds* 69, 877-880 (2007).

**Abstract:** A mismanagement of several thousand of tonnes of sludge and waste materials contaminated with perfluorinated surfactants (PFS including PFOS/PFOA), caused the contamination of a wide range of sites (agricultural fields, forests, and grazing areas) in Germany. Approximately 1000 areas are suspected to be contaminated and are presently being evaluated.

The leachate and run off of PFS from some of these contaminated sites polluted tributary rivers of the Ruhr river which services the raw water source for the drinking water supply of ca. 5 million people. The population in the area with the highest drinking water contamination (approximately 500 ng/l of PFOA) showed five to eight times elevated PFOA concentrations in the blood (about 25 mg/l) after only 3 years of exposure compared to the German background contamination (around 5 mg/l).

The paper describes analytical equipment used, data on the PFOA and PFS concentrations in surface waters and drinking waters of some cities in the Ruhr/Mohne area. They used Agilent 1100 HPLC system interfaced to an API 2000 triple–quadrupole mass spectrometer. The paper says that the population of the affected area was highly concerned regarding the health effects of the high PFS concentrations in their drinking water. However, no evaluations or recommendation was possible at first since no drinking water guideline values for perfluorinated surfactants existed worldwide and also no risk assessment for highly contaminated drinking water could be undertaken. The paper warns that mass flow and waste management of PFS contamination from industrial releases, has to be severely controlled by national authorities. It has to be guaranteed that PFS and PFS precursor contaminated waste and waste streams are managed and finally destroyed in an environmentally sound manner. The responsibilities of the waste management and related damages have to stay with PFS producers. Regulations in this respect should be developed as a matter of urgency along with legal regulations/limitations concerning the general production and use of PFS and their precursors. The paper goes on to say that if the industry cannot demonstrate that PFS can be managed in closed cycles and the products containing PFS and precursors can be managed in an environmental sound manner, a general ban on PFS and precursors should be considered similar to the ban for PFOS and precursors in the EU.

## **2.3. Article 3: IPEN View on short chain chlorinated paraffins**

POPs Elimination Network (IPEN) submits short chained chlorinated paraffins (SCCP) to the Stockholm Convention Article 8 the information specified in Annex E of the Convention. The information provided sources of SCCP, production data, release information, uses (mainly metal working fluids), hazard assessment, discharge and emission details, environmental transport/ fate, toxicity/ persistence, bioaccumulation factor, monitoring data, exposure in local areas, bioavailability. For detailed information Contact: Dr. Marianne Lloyd Smith, Senior Adviser, national Toxics network inc., email <biomap@ oztoxics.org>

### 3. The side of plastic bottle we do not know about:

Based on countries' NIP of the Stockholm Convention, it is clear that, the biggest contributor to unintentional emissions POPs dioxins and furans is the burning of waste in illegal waste dump sites and incineration of hospital waste containing mixed wastes including plastics. Here in this article we are publishing excerpts from two leading newspapers that appeared which provide good public awareness and debate on "plastic".

#### 3.1. Financial Times: April 26/27, 2008, by Sam Knight.

The article on plastics starts "Plastic the elephant in the room. - It is man-made, it is virtually indestructible and it symbolises everything that is wrong with our throwaway consumer culture, if only the truth were straightforward."

It is very rare to see a city man without a plastic water bottle, coffee pot or a sandwich bag in his hand and a plastic card in his wallet. This is what is called "forgotten infrastructure" that allows modern urban life to exist. Plastic films, bottles, trays and pallets have helped society defy nature such as the seasons, the rotting of food and the distance most of us live from the fields and factories where our dinners, drinks and drugs are produced. Plastic packaging now absurdly sophisticated compared with the objects it contains. Temperature control for mushrooms, laser drilled holes for salad bags, seven alternating layers of film inside a carton of UHT milk and many many more items of eateries that make life easy and sophisticated use just 2% of the world's oil production. The throw-away culture brought the plastic waste to the country side and the city streets. Fear of cattle eating the contaminated food with plastic packaging led to the passage of Litter Act of 1971 in the UK. Soon waste especially plastic waste became a word of revulsion due to its persistence, man-made and had its roots in hydrocarbons. We do not know where it comes from, and we do not know where it goes to, only that there is too much of it. In 2008, the UK will produce two million tonnes of plastic waste, twice as much as in the early 1990s. With this growth of waste, life will become unsustainable due to the same plastic that modern man thinks his life will be unsustainable without it, which also includes all the plastic construction and modern materials. According to the article "**societies without sophisticated packaging lose half their food before it reaches consumers. In the UK, waste in the supply chains is about 3%. In India it is more than 50% but UK throws out 30% of the food they buy.**" According to an Austrian study in 2004 it was found that if plastic packaging were removed from the supply chain, packaging tonnage as a whole would have to increase fourfold to make up for it. With oil prices hovering around \$130/barrel, transport cost will be monumental that will be reflected in our already runaway food prices. So let us see what items of plastic used for food packaging and other outlets.

Polymer	Product examples
Polyethylene terephthalate (PET)	Fizzy drink, water bottles, salad trays, pesticides, edible oil etc.
High Density Polyethylene (HDPE)	Milk bottles, bleach cleaners, shampoos etc
Linear Low Density Polyethylene (LDPE)	Carrier bags, bin liners, packaging films, etc.
Polypropylene (PP)	Margarine tubs and microwaveable meal trays
Polystyrene (PS)	Yoghurt pots, foam burger boxes, egg cartons, plastic cutlery, and packaging for electronic goods and toys
Poly(lactic acid) (biodegradable Plastics)	Making inroads in the packaging industry could cover up to 10% of \$1600 billion polymer industry by 2020. Problem exists in educating public how to dispose biodegradable plastics.

<b>BPA (Bisphenol A)</b> <b>(CH<sub>3</sub>)<sub>2</sub>C.(C<sub>6</sub>H<sub>4</sub>OH)<sub>2</sub></b> <b>Plastic/Polycarbonates</b>	<b>Plastics, baby bottles, cups, helmets, car parts, CD/DVDs, baby seats.</b> <b>(BPA is undergoing toxicological assessment because of its effect on unborn children and infants)</b>
<b>Polyvinyl chloride (PVC)</b>	<b>Very wide use in construction and other industries</b>

So with plastic influencing our modern lives, one answer is collecting, sorting and more recycling. But in the UK only 20% of plastic is recycled while 75% goes to landfill and 5% incinerated. Interestingly most of the waste plastic is sent to China for recycling due to cheap labour. In France, Denmark, the Netherlands 80% of their plastic waste is burnt to reclaim energy. At the present time the answer is reuse/recycle. The article cites “if the rest of the world lived as Europe does, it would need three planets to sustain it. To consume our rightful share of resources, we must think in terms of radical reductions”

### 3.2. Sunday Daily mail Dt. Feb. 17 2008.

**Again under public awareness/education, we produce excerpts from an article by HE Phil Woolas, Environment Minister, UK on his article about bottled water.**

He asks a pertinent question, while tap water in most of the West European countries are safe to drink, how many people when they go to a restaurant are embarrassed to ask tap water and instead drink mineral water from plastic bottle. For commercial reasons the restaurant owners do not offer in their “a la carte” tap water. The Minister writes” As the Environment Minister, I am not going to tell people what to drink but I believe there is no place for snobbery about tap water, and no excuse for making people feel small if they do ask for it” He continues “it is absurd to use up the earth’s resources (including oil and lots more water) to manufacture a bottle and then fill it up with water from somewhere else, using up still more of the earth’s resources to transport it hundreds or even thousands of miles only for the bottle to end up being sent to land fill or using energy to be recycled -when the alternative is turning on the tap.” According to consumer groups UK buys 13 billion plastic bottles of water each year and recycles 3 billion and throws away an incredible 10 billion bottles. That is madness because in the manufacturing process it requires – see the picture below yes! seven litres of water to make a single one



Litre plastic bottle. Source: Sunday Daily mail

### **3.3. China bans plastic bags:**

China now jumps into the green band wagon by banning ultra thin (under 0.025mm) plastic bags. A government statement said "while convenient for consumers, the bags also lead to severe waste of resources and environment pollution because of their excessive use and low rate of recycling. It is also closing country's largest plastic bags producer Suiping Huaqiang Plastic Co. which annually produces 250,000 tonnes of bags According to official statistics Chinese people use up to 3 billion plastic bags a day and the country has to refine 5 million tonnes of crude oil equivalent to 37 million barrels. At the same time the source said that China is exporting 140,000 tonnes of plastic bags each year. While claiming low state of recycling, another source said China imports from the UK large amounts of used plastic for recycling (see item 3.1.2). One wonders whether or not there is a communication gap. So apart from waste collection, data collection on total life cycle analysis on plastics could be useful to take steps to reduce plastic pollution. (Source: *Chem. Ind. Jan. 2008 and The Hindu, Feb. 28, 2008*).

### **4. Globally Harmonised System of classification (GHS):**

Globally Harmonised System of classification came into effect in 2002 by the UN Committee of Experts on the Transport of Dangerous Goods. Survey in the EU shows that companies support GHS in the EU and controlled by means of regulation. The EU time scale gives implementation of GHS for substances by December 2010 and for mixtures by June 2015. With complex information need to be put in and also various downstream legislation also to be taken into account such as the cosmetic directive, the toy safety directive, the solvent emissions directive, the end of life vehicles directive, the E-waste directive, the VOC Product directive, the Control of major Accident hazards Directive will all make GHS compliance harder than expected according to British Coating Federation. The GHS specifies the label content to include pictograms, signal words, hazard statements, product identifier, and supplier identification. All this will make it a complex endeavour to undertake in a fixed time frame. (Source: *Chem.&ind. Feb 2008*).

### **5. Dioxins scare in Mozzarella Cheese:**

The popular Italian buffalo cheese came under scrutiny due to presence of dioxins in some samples mainly from Naples area. Italy exports 16% of its 20,000 tonnes produced every year. The dioxin presence was attributed to dumping of industrial waste in agricultural land. The Italian health authorities in a damage control exercise removed samples from shops in Naples area selling Mozzarella cheese and EU did not come up with a ban order. (Source: *BBC London, May 2008*)

### **6. Cost of removal of copper from contaminated waste water could be just Peanuts:**

Copper (II) ions are a common toxicant entering water streams from fertilizer, paper mills and are harmful to marine ecosystems. According to a Turkish study, husks from peanut shells can filter up to 95% of the metal ions. According to the study peanut husks are negatively charged so bind to positive copper ions. However problem will still arise as to how to get rid off the copper contaminated peanut husk. (Source: *Chem.&ind. Nov. 2007*).

### **7. IHPA takes the message to UNIDO Head Quarters, Vienna.**

In a well publicised UNIDO General Conference in Dec.2007, 40th many successful UNIDO projects were on display in a grand exhibition organised in the famous Austria Centre. IHPA took the opportunity to display a stall devoted to the obsolete Stocks of Pesticides in Eastern Europe, Caucasus and Central Asia Region. Our Director John Vijgen single handedly organised the stall with a video and poster display on obsolete pesticides. Side by side the State Environment Protection Agency, China also set up a stall displaying its involvement in the POPs projects it is implementing with



GEF/UNIDO/UNDP. Special posters displayed the progress of NIP and other post NIP projects which happened to be the biggest program under the Stockholm Convention. The Austrian Federal Ministry for Agriculture, Forestry organised and invited persons to attend his presentation at the stand with a nice reception with the necessary food and drinks.



IHPA Director Mr. John Vijgen with some visitors to the IHPA Pavilion on POPs during UNIDO's General Conference



POPs Programme in China (2007)

## 8. Investigating the technology options for Disposing of obsolete Pesticide Stocks in Africa

As reported at the 9th International HCH and Pesticides Forum in Chisinau, Moldova, there is an ongoing GEF funded, programme to clean up Africa's stockpiles of obsolete pesticides. The Africa Stockpiles Programme (ASP) intends to clean up the over 50,000 tonnes of obsolete pesticides – including POPs pesticides and heavily contaminated soils and equipment from all 53 African countries over the next 12-15 years.

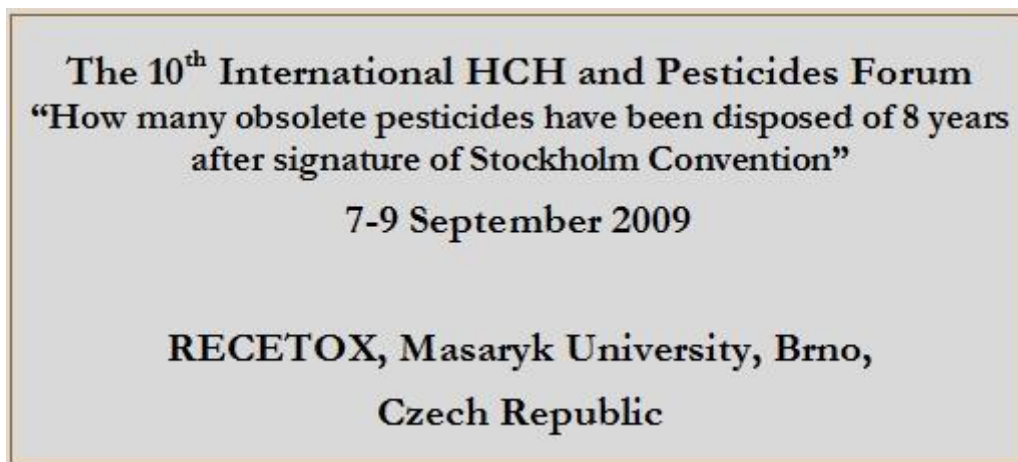
The ASP is a multi-stakeholder programme comprising the World Bank, FAO, Pesticide Action Network, WWF and Croplife international. Whilst the primary focus of the programme is to clean up the existing stockpiles, there is also an emphasis on prevention activities to try to stop new obsolete stocks from developing.

The clean up of countries will be carried out in different phases. In the first phase, it has been envisaged that the obsolete stocks would be packed-up and made safe before being transported to Europe for destruction in high temperature incineration. As part of the ASP WWF has managed a project, over the last two years, to explore what options might exist for the destruction to be carried out safely in Africa, in compliance with international conventions such as Basel & Stockholm. The study was co-ordinated by Patrick Dyke, who attended / presented at the last IHPA meeting Moldova in 2007. Several other technical experts contributed to the report including IHPA's own John Vijgen.

The report is currently being finalised and will be posted on the ASP website <http://www.africastockpiles.net/> in the next few weeks. A longer article on the report will appear in the next newsletter.

## 9. Announcement

We are pleased to inform that the IHPA Board in its meeting held on May 27th in Ljubljana, Slovenia announced the Date and Venue for the 10th IHPA Forum



### Organizer and Venue:

#### Chair of the Forum

*Prof. Dr. Ivan Holoubek, RECETOX, Masaryk University, Brno, CR; Regional CEEPOPs Centre and National POPs Centre of the Czech Republic*

#### Organizers

- *International HCH & Pesticides Association (IHPA), The Netherlands*
- *Ministry of the Environment, The Czech Republic*
- *Federal Environment Agency of Germany (UBA)*
- *RECETOX, Masaryk University, Brno, CR, Central and Eastern European Regional POPs Centre, National POPs Centre, The Czech Republic*
- *Milieukontakt International, The Netherlands*
- *Ministry of Agriculture, The Czech Republic*
- *Institute of Public Health Ostrava, The Czech Republic*
- *Tauw Group, The Netherlands*



**Venue for the 10th HCH Forum**

- Brno, new campus of Masaryk University or Hotel Continental, Brno

**Timing:** 07 - 09 September, 2009

**Main topics/Indicative program:**

- *Central and Eastern European POPs pesticide hot spots and their management*
- *National implementation plans – realization, problems*
- *Stockholm Convention – 8 years after signature*
- *Waste management experiences*
- *Monitoring of POP pesticides*

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