



Photo by Viacheslav Ivanov, Greenwomen



IPEN Working To Eliminate POPs On The Ground

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Introduction

by Sara Brosché

Toxic persistent organic pollutants (POPs) are found everywhere today from the Marianas trench in the deep ocean to the slopes of Mount Everest. Marine pollution has created a toxic timebomb in our oceans and the pollution burden in the Arctic and Antarctica is rapidly increasing due to the long-range transport of POPs.

Cancer-causing POPs are now also a ubiquitous pollutant in the blood of the general population in many countries, including newborn babies. They are in the water we drink, the food we eat and the air we breathe. They are even in the toys our children play with.

Strong measures under the Stockholm, Basel and Rotterdam Con-

ventions are crucial to stop the production and release of POPs and should be effectively implemented nationally. Hazardous waste limits should be protective and regrettable substitutions with related toxic chemicals prohibited.

However, this is far from enough. Only 28 out of thousands of potential POPs are listed under the Stockholm Convention today and efforts need to be scaled up dramatically. For example, by listing all per- and polyfluoroalkyl substances (PFAS) as a group, important progress could be made. In addition, the costs associated with these chemicals need to be internalized by unconditionally implementing the polluter pays principle. By proposing and supporting decisive action, the Delegates to the Conferences of

Parties in 2019 have the opportunity to make this happen.

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Looking into POPs Country Situation Reports

By Lee Bell

Country situation reports on persistent organic pollutants (POPs) completed by IPEN Participating Organizations (POs) in 2018 revealed that many countries have not updated their Stockholm Convention National Implementation Plans (NIP) for many years. The NIPs are the main national guidance documents for developing inventories of POPs stockpiles, contaminated sites, and emissions. The NIP should also include management plans for the environmentally sound management and destruction of POPs that have been identified. Some countries have partially met their obligations in this respect, though none have fully met them. The country situation reports project gave POs extra capacity to assess and analyze their National Implementation Plans in a critical and constructive way while increasing engagement with government institutions responsible for obliga-

tions under the Stockholm Convention.

An example of the information revealed by POs in the country status reports includes work by Greenwomen Analytical Environmental Agency in Kazakhstan, where it was found that people have been using former POPs containers as food and water containers without knowledge of their origin and 1,500 tons of mixed obsolete pesticide stockpiles were stored in ramshackle conditions including about 10% POPs pesticides.

According to Lydia Astanina, Chair of Greenwomen, “there are old storehouses in almost all regions of the country. A detailed inventory of POPs burial sites and old abandoned storehouses is needed to identify the buried pesticides more precisely and determine the most acceptable, environmentally safe technology for their safe storage and destruction.”

Greenwomen also found that the total volume of waste containing PCBs is estimated at 250,000 tons. With assistance from GEF, the NIP from Kazakhstan has recently been updated, showing the necessity and benefit for capacity-building and funding for implementation. An issue raised in the report by Greenwomen was echoed by most other POs completing POPs country status reports which was the lack of government engagement with civil society about POPs, despite Article 10 of the Stockholm Convention requiring open dialogue and right-to-know about POPs issues. Other problematic issues include burning of POPs waste in incinerators and cement kilns and lack of monitoring capacity for unintentionally formed POPs such as dioxins and furans from these facilities.

For more information on your country's National Implementation plan, please see:

<http://chm.pops.int/Implementation/NationalImplementationPlans/NIPTransmission/tabid/253/Default.aspx>



Photo by Viatcheslav Ivanov, Greenwomen

POPs in Community Food Chains

By Jindrich Petrlik

Most POPs accumulate in animal fatty tissues. Food thus represents a major pathway of human exposure to this group of toxic chemicals. Homegrown food is of particularly great importance in poor and rural communities in developing countries. If this important part of their diet is contaminated, the basics of the existence of such communities are also destroyed. Many of the communities live in neighborhoods of potentially large sources of pollution by POPs, and unintentionally produced POPs such as dioxins.

IPEN has focused several projects on monitoring levels of unintentionally produced POPs in local food chains at selected hot spots, and on their presence in free-range chicken eggs in particular. In 2004 – 2005, IPEN collected samples from POPs pollution hot spots in 17 countries worldwide.

Results of the analyses for polychlorinated dibenzo-p-dioxins and dibenzofurans (dioxins; PCDD/Fs), polychlorinated biphenyls (PCBs) and hexachlorobenzene were published in [The Egg Report*](#) at the first Conference of Parties (COP) of the Stockholm Convention. NGOs in all 17 countries released their national reports where potential sources of pollution by POPs were discussed. Mostly those were chemical plants producing chlorine-based chemicals, waste incinerators, metallurgical plants or dumpsites. A vast amount of sampled eggs exceeded the EU standard of 3 pg TEQ/g fat, valid in 2005, with a maximum level of 126 pg TEQ/g fat found in eggs from



Sampling done by Arnika in cooperation with EARTH in Loei, Thailand where a community is endangered by gold mining polluting the environment mainly by heavy metals. Photo: Ondrej Petrlik, Arnika, taken in 2016

Helwan, Egypt. Analysis showed that badly managed industrial facilities or burning of waste including PVC were the major sources of pollution.

Several IPEN POs have undertaken a similar approach in the last four years and collected samples of free range chicken eggs and analyzed them for unintentionally produced POPs and brominated flame retardants (BFRs). Eggs highly contaminated mainly by dioxins were found in neighborhoods of such hot spots as waste incinerators, e-waste scrap yards, and metallurgical plants. In several cases, the contamination was also caused by waste generated by these industrial operations. This indicates that, regrettably, the situation of dioxin contamination hasn't changed that much since the Stockholm Convention came into force. It also demonstrates the need to introduce a stricter level for definition of POPs waste regarding dioxins (PCDD/Fs). IPEN suggests a level of 1 instead of the provisionally agreed 15 ng TEQ/g (ppb). This suggestion is partially based on the

recognized contamination of food chains of locally grown foods and fish and seafood.

“In some samples, we simultaneously measured higher levels of brominated flame retardants that are released from old electronic equipment and/or may be released from industrial plants using them. Their higher concentrations were found not only in Samut Sakhon but also in Map Ta Phut,” said Akarapon Teebthaisong, pollution expert from EARTH (Ecological Alert and Recovery Thailand).

The egg reports released by IPEN POs in China, Kazakhstan, Thailand, Western Balkan countries (Montenegro, Serbia and Bosnia and Herzegovina), Armenia, and Ukraine are all available here: <https://english.arnika.org/publications>. New data is also available also for Indonesia, Ghana, Cameroon, Czech Republic, and the UK.

* <https://ipen.org/documents/egg-report>

Toxic recycling: IPEN's Monitoring Discovers Contamination of Plastic Toys with Toxic Flame Retardants and Dioxins

By Jitka Straková

In 2009 at the Stockholm Convention COP4, the listing of commercial PentaBDE and OctaBDE into the Annex A for global elimination accompanied with recycling exemptions for materials containing the same POPs raised serious concerns about the inconsistency of the exemptions within the convention aims. Both scientific experts and civil society members started to ring alarm bells and warn against the impacts of the conflicting policy.

Stockholm Convention exemptions for recycling of waste with PentaBDE and OctaBDE allow the contamination of a broad variety of consumer products, as does a newly listed brominated flame retardant from the same group, DecaBDE. Since 2015, IPEN has been finding OctaBDE and DecaBDE in recycled plastic accessories including children's toys and kitchen utensils. Plastic parts of electronic waste and casings of household electronic equipment, in particular, are the likely sources of the contaminants.

Production and use of globally recognized POPs, including PBDEs, have been limited or, optimally, eliminated via listing into one of the Stockholm Convention Annexes. However, the global elimination of POPs will not be completed before finding the solution for POPs waste stockpiles. POPs waste is exported into countries with limited technical and financial capacities, and acceptance of recycling practices of POPs waste poses serious risks for vulnerable communities and workers, in addition to consumers.

To date, IPEN continues to find OctaBDE and other brominated flame retardants in recycled consumer products purchased in 37 different countries from different regions -- Asia, Africa, Eastern Europe and the European Union, and Latin and North America). Rubik's style puzzles for children have become a mascot of IPEN's monitoring campaign. This toy illustrates the controversy of Stockholm Convention exemptions and their impact. Toys like the Rubik's style puzzle that are supposed to help children's mental development contain toxic chemicals responsible for counter effects, i.e. concentration disorders. No one should knowingly give children toxic waste to play with. Science-based findings provide clear and straightforward arguments for ending the recycling exemptions.

According to a recent IPEN study, **Toxic Soup: Dioxins in Plastic Toys***, e-waste is responsible for contamination by brominated dioxins of recycled children's toys. It is likely that the brominated dioxins observed in consumer products are due to the impurities in the original e-waste plastic treated with DecaBDE. This finding indicates that allowing the recycling of plastics containing DecaBDE also allows significant amounts of dioxins to be recycled into new products. Dioxins also occur as a result of thermal stress during the recycling process.

The measured brominated dioxins reach the same levels contained in a variety of hazardous wastes, including waste incineration bag filter ash, waste incineration bottom ash, residues of burnt printed circuit



boards, and in waste incineration ash after de novo synthesis. This amount represents a very significant burden for human health and the environment, considering the fact that brominated dioxins are suggested to exhibit toxicity similar to chlorinated ones.

These findings emphasize the importance of stringent "low POPs content levels" set by the Basel Convention. Low POPs Content levels determine if a material is classified as POPs waste and should be decontaminated. Only low enough POPs content limits can ensure separation of hazardous waste from the recycling stream. A protective low POPs content limit will also prevent contaminated waste from being exported from developed countries to Asian and African developing countries, where environmentally sound waste disposal practices are quite rare. IPEN suggests the environment- and health-protective limit of 50 ppm for the sum PBDEs.

<https://ipen.org/news/press-release-dioxins-found-plastic-toys---stricter-limits-are-required-stop-toxic-chemicals>

* <https://ipen.org/documents/toxic-soup-dioxins-plastic-toys>

Non-combustion Technologies for POPs Waste Destruction

By Lee Bell

In 2018, IPEN continued to work hard within the POPs waste Small Intersessional Working Group (SIWG) of the Basel Convention to promote non-combustion technology as an environmentally sound management option for POPs waste. The Stockholm and Basel Conventions have an area of overlap on this issue in that technical guidance documents on POPs waste and how to destroy them are updated by the Basel Convention and referred to by the Stockholm Convention. The expansion of the range of non-combustion technologies has been successfully included in the [Draft updated general technical guidelines on the environmentally sound management of wastes consisting of, containing or contaminated with persistent](#)

[organic pollutants*](#), which broadens information on the availability of these technologies for countries looking at alternatives to incineration.

To support this work and provide additional resources to the network, IPEN is developing a detailed report on non-combustion technologies (and techniques) that are available for POPs waste destruction which is planned for release in April. As new POPs are added to the annexes of the Stockholm Convention, the volumes of waste associated with the new listings continue to grow and include e-waste plastics, vehicle upholstery, firefighting foams, etc. In addition to these new POPs wastes, there are still large stockpiles of the original

POPs waste such as PCBs waste and contaminated equipment that must be destroyed by 2028. Some countries are turning to polluting incinerators and cement kilns to destroy this waste as the deadline draws closer. For this reason, the availability of information on non-combustion technology is more important than ever.

* <http://www.basel.int/Implementation/POPsWastes/Meetings/SIWGSwitzerland2018/tabid/7659/Default.aspx>



UNIDO Director General, Li Yong, appreciates the contribution of the Philippine civil society, through the EcoWaste Coalition, to the UNIDO project for the safe and non-burn treatment of the country's stockpiles of PCBs during his short visit in 2018, to the country's Non-Combustion POPs Treatment Facility. With him are the UNIDO delegation, the Philippine delegation and representatives from the EcoWaste Coalition.



Philippines' Non-combustion POPs treatment facility. Photo: EcoWaste Coalition

Dicofol and PFOA: New POPs Candidates

By Joseph DiGangi

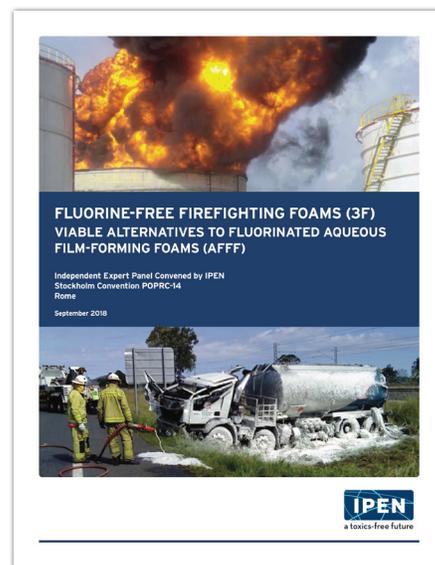
The **Stockholm Convention**¹ is a living treaty that recognizes the need to take global action on chemicals that are a source of concern because of their persistence, bioaccumulation, long-range environmental transport, and toxicity. At the **9th Conference of the Parties**², delegates will decide how to add two toxic substances to its list for global elimination: dicofol and perfluorooctanoic acid (PFOA). IPEN supports the listing of both substances in Annex A for global elimination without specific exemptions.

Dicofol³ is a miticidal pesticide manufactured from technical DDT that has been used on fruits, vegetables, cotton, tea, and orchids. Dicofol is highly toxic to aquatic organisms and damages reproduction in birds. In mammals, dicofol damages the brain, thyroid, liver, and adrenal glands. Agroecological and integrated pest management practices have proven to be effective as an alternative to dicofol in a number of countries, including developing countries for cotton, tea, citrus, and a variety of other crops.

PFOA⁴ has been used to make non-stick pans, is found in textiles and fire-fighting foams, and is used in many other products and processes,

including the electronics industry. In humans, PFOA is **associated**⁵ with high cholesterol, ulcerative colitis, thyroid disease, testicular cancer, kidney cancer, pregnancy-induced hypertension, and immune system effects. PFOA is part of a **large family**⁶ of toxic fluorinated chemicals called PFAS. Their use in firefighting foams at military bases and airports is responsible for water pollution and contaminated communities in many countries, including **Australia**⁷, **Canada**⁸, **China**⁹, **Germany**¹⁰, **Italy**¹¹, **Japan**¹², **Netherlands**¹³, **New Zealand**¹⁴, **South Korea**¹⁵, and **Sweden**¹⁶. The treaty's expert committee recommended against using fluorinated alternatives to PFOA in fire fighting foams, "due to their persistency and mobility as well as potential negative environmental, health and socioeconomic impacts." There are safer, **cost-competitive non-fluorinated alternative**¹⁷ firefighting foams that have been adopted by major airports, including Auckland, Copenhagen, Dubai, Dortmund, Stuttgart, London Heathrow, Manchester, and all 27 major airports in Australia.

<https://ipen.org/news/press-release-no-loopholes-global-ban-pfoa>



1. <http://www.pops.int/TheConvention/Overview/TextoftheConvention/tabid/2232/Default.aspx>
2. <http://brsmeas.org/2019COPs/MeetingDocuments/tabid/7832/language/en-US/Default.aspx>
3. <https://pubchem.ncbi.nlm.nih.gov/compound/dicofol>
4. <https://pubchem.ncbi.nlm.nih.gov/compound/9554>
5. <http://chm.pops.int/Convention/POPsReviewCommittee/Chemicals/tabid/243/Default.aspx>
6. [http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=ENV-JM-MONO\(2018\)7&doclang=en](http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=ENV-JM-MONO(2018)7&doclang=en)
7. <https://www.smh.com.au/national/nsw/toxic-secrets-where-the-sites-with-pfas-contamination-are-near-you-20180616-p4zlx.html>
8. <https://www.cbc.ca/news/canada/ottawa/fire-foam-smiths-falls-flea-market-1.4201039>
9. <https://theintercept.com/2016/09/15/the-teflon-toxin-goes-to-china/>
10. https://www.emergingcontaminants.eu/application/files/9314/5260/6227/86_WeberR_PFOS-PFAS.pdf
11. http://www.euro.who.int/__data/assets/pdf_file/0018/340704/FINAL_pfas-report-20170530-h1200.pdf
12. <https://www.stripes.com/news/banned-pollutant-detected-in-water-running-under-marine-base-on-okinawa-1.464103>
13. <https://www.bloomberg.com/news/articles/2016-04-11/dutch-blood-testing-takes-dupont-teflon-safety-scare-to-europe>
14. <https://www.radionz.co.nz/news/national/363696/firefighting-foam-shell-contaminates-groundwater-in-new-plymouth>
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16. <http://www.swedishepa.se/upload/miljoarbete-isamhallet/internationellt-miljoarbete/multilateralt/ostersjoregionen/PFAS-BSR-October-2017-FINAL.pdf>
17. https://ipen.org/sites/default/files/documents/IPEN_F3_Position_Paper_POPRC-14_12September2018d.pdf

IPEN Supports the Recommendation for the Global Ban on Sulfluramid

By Fernando Bejarano

When PFOS was listed in the Stockholm Convention in 2009, a time-unlimited loophole allowed for its use in insect baits for control of leaf-cutting ants from *Atta* spp. and *Acromyrmex* spp. This vaguely-worded listing actually refers to a pesticide called sulfluramid that degrades to PFOS, an extremely persistent POP that is toxic and bioaccumulates in the food chain. At its meeting in September 2018, the Convention's expert committee recommended naming sulfluramid in the treaty under the PFOS listing and narrowing its use to agriculture.

The lack of naming the substance in the treaty has resulted in wide, uncontrolled use in the Latin America and Caribbean regions,

along with export to 18 countries from Brazil, including Argentina, Colombia, Costa Rica and Ecuador. A recent **scientific study*** shows that sulfluramid use has resulted in PFOS **bioaccumulation**** and pollution in the soil of eucalyptus plantations and ground, surface, and coastal water of an agricultural region in Bahia, Brazil. The region needs a thorough examination of agroecological alternatives to sulfluramid use. The greater engagement of agroecological experts, producers in transition to organic agriculture, and the biopesticide industry is important to balance strong agribusiness lobbying which has successfully pushed for the con-

tinued and increased use of sulfluramid up to now.

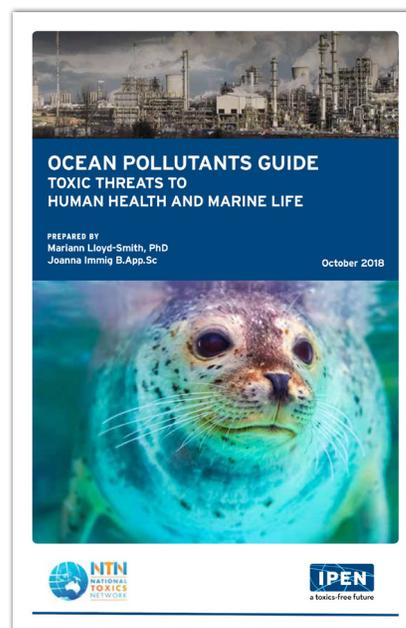
IPEN members in Latin America call for national phase-outs of all uses of sulfluramid for all agricultural uses including forestry. IPEN also supports a global phase-out of sulfluramid. "The import and sale of sulfluramid for non-agricultural uses should be revoked immediately in the countries where it is allowed and an inclusive process promptly initiated for the phase-out of all agricultural uses," said Fernando Bejarano, the IPEN Regional Hub for Latin America and member of the Pesticide Action Network in Latin America (RAP-AL). IPEN has prepared an informative factsheet on this issue.

* <https://www.sciencedirect.com/science/article/pii/S0269749118311771>

** <https://www.ncbi.nlm.nih.gov/pubmed/29415544>



Brands of sulfluramid pesticide in Latin America. Photos: Fernando Ramírez and Angel Llerena, Leonardo Melgarejo, and María Cárcamo 2019



POPs in Our Oceans

By Dr Mariann Lloyd-Smith

In October 2018, IPEN released its *Ocean Pollutants Guide: Toxic Threats to Human Health and Marine Life*, which was prepared by the Australian NGO National Toxics Network with input from IPEN Participating Organizations and others. Toxic waste has been pouring into our oceans since the industrial revolution and plastics and chemical pollutants now contaminate the most remote and deepest parts of the ocean.

Every day an ever-increasing cocktail of intentional and unintentional chemical releases, as well as an unrelenting tidal wave of wastes, particularly plastic waste, enter our waterways and the marine environment. While marine plastic pollution has garnered the world's attention, it is the invisible and persistent pollutants contaminating the marine environment and hitchhiking on plastics that have created this **toxic timebomb**.*

* <https://www.devex.com/news/opinion-defusing-the-toxic-timebomb-of-invisible-ocean-pollutants-94083>

Marine pollutants are impacting the health of our oceans, their inhabitants and those dependent on oceans for food, culture and their very survival. The Ocean Pollutants Guide details the twin plastic and pollution problems and their threats to human health, marine life, and the environment.

<https://ipen.org/news/new-release-ipen-ocean-pollutants-guide-now-available>

Over 500 NGOs in more than 115 countries make up IPEN. These organizations collaborate to ensure that chemicals are no longer produced, used, or disposed of in ways that harm human health and the environment. IPEN Participating Organizations (POs) are organized by IPEN's 8 Regional Hubs, which are based in Anglophone Africa; Francophone Africa; Central Europe; Eastern Europe, Caucasus and Central Asia; Latin America; the Middle East and North Africa; South Asia; and Southeast and East Asia.

Together the network paves the way to a healthier future through:

- Making International Treaties Work for Health and the Environment
- Prioritizing Chemical Safety in Sustainable Development
- Halting the Spread of Toxic Metals
- Building a Global Movement

Read this online at:

<https://ipen.org/documents/ipen-newsletter-march-2019>



a toxics-free future

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