



**BASEL CONVENTION**



**ROTTERDAM CONVENTION**



**STOCKHOLM  
CONVENTION**



# Hazardous constituents of plastics



**Common plastic additives?**

**Colorants**

**Stabilizers**

**Plasticizers**

**Coating**

**Lubricants**

**Anti-oxidants**

**Flame retardants**

**UV light absorbers**

**Anti-static agents**

**Foaming agents**



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**Plastic additives regulated by the  
Stockholm Convention on POPs?**

Perfluorooctane sulfonic acid

## Plasticizers

## Coating

## Lubricants

Short-chain chlorinated paraffins  
Polychlorinated biphenyls  
Polychlorinated naphthalenes

### POPs:

Persistent  
Bioaccumulative  
Long-range transport  
Adverse effects

## Flame retardants

Pentabromodiphenyl ether  
Octabromodiphenyl ether  
Decabromodiphenyl ether  
Hexabromocyclododecane  
Hexabromobiphenyl

**Exemption:**

Use/production of  
SCCPs e.g. adhesives  
lubricants, plasticizers

**Exemption:**

Recycling of articles  
penta/octaBDE: 2030

**Exemption:**

Use/production of  
decaBDE in spare  
parts of cars,  
airplanes: 2036

***Chemicals identified as POPs  
Still in products  
Still in waste stream  
Still in recycling stream***

Article

### Brominated Flame Retardants in Waste Electrical and Electronic Equipment: Substance Flows in a Recycling Plant

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Format: Abstract

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Waste Manag. 2017 Nov;89:101-109. doi: 10.1016/j.wasman.2017.08.038. Epub 2017 Aug 30.

### Recycling of plastic waste: Screening for brominated flame retardants (BFRs).

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Author information

#### Abstract

Flame retardants are chemicals vital for reducing risks of fire and preventing human casualties and prop losses. Due to the abundance, low cost and high performance of bromine, brominated flame retardants ( have had a significant share of the market for years. Physical stability on the other hand, has resulted in dispersion and accumulation of selected BFRs in the environment and receiving biota. A wide range of p products may contain BFRs. This affects the quality of waste plastics as secondary resource: material re may potentially reintroduce the BFRs into new plastic product cycles and lead to increased exposure lev e.g. through use of plastic packaging materials. To provide quantitative and qualitative data on presence BFRs in plastics, we analysed bromophenols (tetrabromobisphenol A (TBBPA) dibromophenols 1,3,4- ar

# POPs Global Monitoring

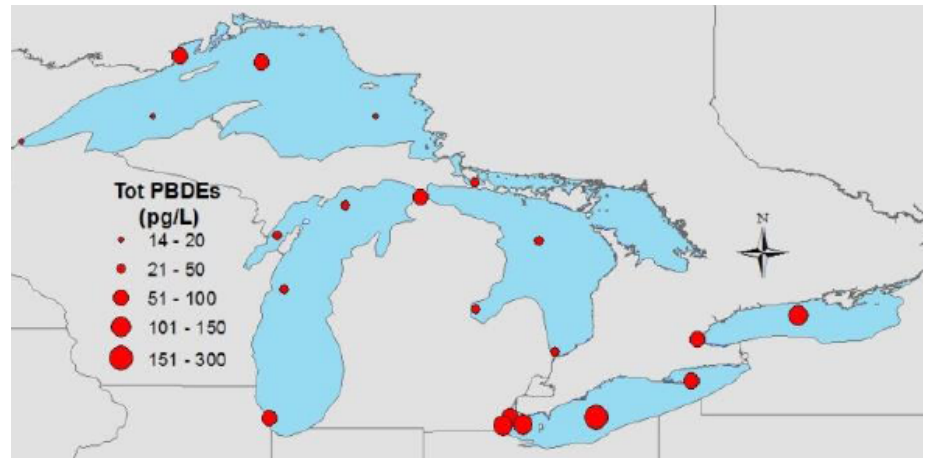


Figure 1: Spatial distribution of total PBDEs (pg/L)

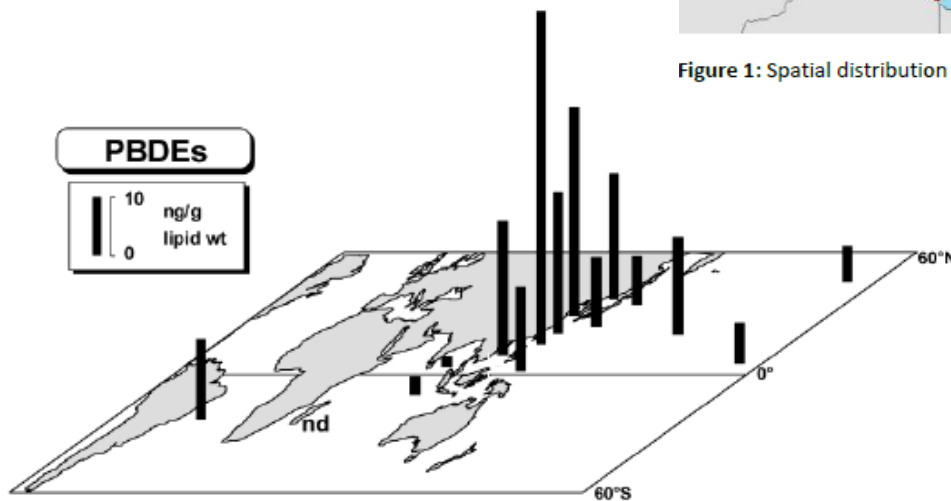


FIGURE 2. Geographical distribution of PBDE concentrations in the muscle of skipjack tuna.



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# Plastic wastes with additives relevant to the Basel Convention?



The Basel Convention on the Control of  
Transboundary Movements of Hazardous  
Wastes and Their Disposal

Entry into force: May 1992  
187 Parties as of Dec 2018



# Annex I

Hazardous wastes



# Annex II

Other wastes

Waste streams: e.g. Waste substances and articles containing PCB...

Waste having constituents of: e.g. Dioxins, phenols...

# Annex I

Hazardous wastes

# Annex II

Other wastes

Wastes collected from households

Residues arising from the incineration of household wastes



Annex  
VIII

Waste List A



Annex  
IX

Waste List B

Wastes characterized as hazardous under the Convention e.g. mercury



# Annex VIII

Waste List A



# Annex IX

Waste List B

Wastes not covered by Article 1, para 1 (a) of the Convention



Transboundary  
movements

Environmentally  
sound  
management

Prevention and  
minimization  
of the  
generation

**Technical guidelines on the environmentally sound management of wastes consisting of, containing or contaminated with POPs**

**Technical guidelines on transboundary movements of e-waste**

**Technical Guidelines on Wastes Collected from Households**

**Technical guidelines on the identification and environmentally sound management of plastic wastes and for their disposal**

<http://www.basel.int/abid/5875/Default.aspx>



Thank you!



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[www.basel.int](http://www.basel.int)

[www.pic.int](http://www.pic.int)

[www.pops.int](http://www.pops.int)



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