

To: Ms. Nicola Speranza
Stockholm Convention National focal point (NFP)
Stockholm Convention Official contact point (OCP)
Ministry of Foreign Affairs Brazil

Sr. André Luiz Felisberto França
Ponto Focal Técnico da Convenção de Estocolmo (PFT)
Secretaria de Qualidade Ambiental
Ministério do Meio Ambiente

De: Zuleica Nycz (Toxisphera Environmental Health Association;
Brazilian Forum of NGOs and Social Movements for the Environment and Sustainable
Development/Rio 92 – FBOMS; Member of the National Environment Council – CONAMA and of the
National Chemical Safety Commission – CONASQ/MoE.

Date: April 16, 2019

Re: Withdrawing the Stockholm Convention recycling exemptions for TetraBDE, PentaBDE, HexaBDE
and HeptaBDE

Dear Ms. Nicola Speranza, dear Mr. André Luiz Felisberto França,

We are writing to you in your capacities as official Stockholm Convention contact points with concerns about Brazil's recycling exemptions under the Stockholm Convention for materials such as plastics and foam containing the flame retardant chemicals, TetraBDE, PentaBDE, HexaBDE and HeptaBDE.¹ These concerns are based on a review of the practice by the Stockholm Convention expert committee and monitoring of consumer products on the Brazilian market.

As you know, the recycling exemption for materials containing these four flame retardant substances was part of the listing decisions at the 4th Conference of the Parties and allows the practice to continue until 2030. However, Parties at the Conference also tasked the treaty's expert committee to evaluate the recycling practice and provide recommendations.

The expert committee's findings are described in Decision POPRC-6/2 contained in the meeting report. Key recommendations included taking action to "...eliminate brominated diphenyl ethers [BDEs] from the recycling streams as swiftly as possible." The Committee noted that, "Failure to do so will inevitably result in wider human and environmental contamination and the dispersal of brominated diphenyl ethers into matrices from which recovery is not technically or economically feasible and in the loss of the long-term credibility of recycling." Subsequent testing of consumer products has demonstrated that these concerns are valid.

We tested consumer products made of recycled plastic on the Brazilian market in 2019 and found that these toxic chemicals along with another toxic flame retardant chemical are making their way into products, exactly as the Stockholm Convention expert committee predicted in 2010. IPEN and Arnika are the authors of the recycled items monitoring and testing.

¹ Known collectively as polybrominated diphenylethers or PBDEs.

Product	Commercial OctaBDE (HexaBDE + HeptaBDE) (ppm)	DecaBDE ¹ (ppm)
Pocket calculator	45	139
Hair diadem	37	339
Hair razor	26	121
Toy car	22	147

¹DecaBDE was listed in the Stockholm Convention for global elimination in 2017.

Methods are described in Annex 1.

Children toys, hair accessories, and pocket calculators are not a fire hazard and should certainly not contain the world's worst substances which are listed for global elimination under the Stockholm Convention.

An earlier study of recycled foam products also found high levels of flame retardant chemicals. In a study with samples from different regions (Canada, USA, Nepal, Thailand, Kyrgyzstan, Hungary), found significant levels of commercial PentaBDE (listed in the treaty as TetraBDE and PentaBDE) and commercial OctaBDE (listed in the treaty as HexaBDE and HeptaBDE).

The principal consequence of the recycling exemption is contamination of products made of recycled plastic or foam with toxic chemicals. The flame retardant substances at issue resemble PCBs and are known to disrupt human hormone systems, adversely impacting the development of the nervous system and children's intelligence. They are also known to be released into household dust, causing exposure. Foam recyclers and carpet layers in the USA have high body burdens of flame retardants and researchers note that they, "*may be at higher risk from adverse health effects associated with brominated flame retardant exposure.*"

Ironically, a practice such which is supposed to be environmentally friendly can lead to toxic substances in products as they are carried along in the recycling process. In this case, PBDEs have been widely used in plastic enclosures for electronics. In essence, toxic chemicals in electronic waste are being recycled into consumer products, including children's products. This undermines a truly circular economy and diminishes the overall credibility of recycling.

For these reasons, we respectfully request Brazil to withdraw its recycling exemptions for TetraBDE, PentaBDE, HexaBDE and HeptaBDE under the Stockholm Convention.

We note that other Parties have already withdrawn their recycling exemptions for these substances or they have expired. Czechia, Iran, and Vietnam no longer have recycling exemptions for TetraBDE and PentaBDE as of 2014 – 2015 and Japan withdrew their exemptions for a variety of uses including recycling automobile shredder residues, refuse paper and plastic fuel, recycling automobile shredder residues to sound-proofing products, and recycling plastics from used specific home appliances (air conditioner, television sets, refrigerator, freezer, washing machine and clothes dryer) and personal computers to construction material and daily necessities such as hangers and bookends. Czechia and Iran also no longer have recycling exemptions for HexaBDE and HeptaBDE as of 2014 – 2015 and Japan withdrew recycling exemptions for the uses described above.

We note that technical solutions exist for separation of PBDE-contaminated waste including Creasolv, x-ray fluorescence devices, x-ray transmission devices, and even low-cost sink-float methods. Techniques for destruction of PBDEs as required under the Stockholm Convention include non-combustion techniques such as super critical water oxidation (SCWO), gas phase chemical reduction, and mechanochemical processes such as high-energy ball milling.

As an example of government control measures that can be taken with relative ease, we can mention the important work carried out by the National Chemical Safety Commission (CONASQ) in the construction of public policies aimed at the citizen's well-being with regard to environmental protection and public health. The Commission is made up of various ministries and federal agencies, including the Ministry of Foreign Affairs,

civil society, workers, academia and the private sector. CONASQ is coordinated by the Ministry of the Environment and has worked extensively in the search for solutions for the implementation of the Stockholm Convention in Brazil and control of toxic substances in the origin of the consumer products chain. At least two recent results of this effort directly assist the federal government in resolving the issue of toxic substance recycling: the Chemicals Control Bill, which is essential to the basis of a national chemical safety policy and an industry and the proposed CONAMA resolution for the implementation of the RoHS Platform in the country, which received the support of entrepreneurs in the electronic and electronic sector and organized civil society.

Both initiatives were built based on dialogue and consensus among the different sectors thanks to the space provided by CONASQ, which aims to reduce the burden of conflict between different interests. Both proposals are currently in the Ministry of the Environment waiting only for the progress in its processing. In addition to these examples, other initiatives of CONASQ are very useful for the implementation of chemical treaties for the protection of vulnerable groups, biodiversity, and the recycling market.

Brazilian consumers should be able to purchase products made of recycled materials without having to worry that they contain substances that are globally banned. We hope that Brazil can announce its withdrawal of the recycling exemptions for TetraBDE, PentaBDE, HexaBDE and HeptaBDE at the upcoming 9th Conference of the Parties 29 April – 10 May in Geneva. We would welcome further dialog with you about this important matter for Stockholm Convention implementation and protection of Brazilian consumers.

Cordially,

Zuleica Nycz
Toxisphera Environmental Health Association

Annex 1. Methods for sampling and analysis of chemicals in Brazilian consumer products.

Between January and March 2019, 30 plastic items were purchased in stores and markets in Curitiba, Brazil. Mainly black parts of the products were screened using a handheld NITON XL3t 800 XRF analyser in order to identify samples with significant bromine (over 1000 ppm) and antimony levels (over 800 ppm). Four positive samples were analysed in a laboratory at the University of Chemistry and Technology, Prague, Czech Republic (GC-MS-NICI). For purposes of calculation, the components of the commercial OctaBDE mixtures include the following congeners: BDE 153, 154, 183, 196, 197, 203, 206, and 207. The main congener of the commercial DecaBDE mixture is BDE 209.