

## 7. HAZARDOUS AND TOXIC CONTAMINANTS: BASEL, STOCKHOLM AND ROTTERDAM CONVENTIONS

### 7.1 The Basel Convention

**Summary of role:** *The Basel Convention regulates the transboundary movement of hazardous waste and other wastes to make such trade operate in accordance with environmentally sound management principles. Until May 2019, as most plastic material was not considered to be hazardous, most trade of plastic scrap and waste could be considered to fall outside the scope of measures. However, the 2019 amendments clarify the scope of plastic wastes presumed to be hazardous and therefore subject to the PIC procedure. The Base Convention plays a complementary role with that of the Stockholm and Rotterdam Conventions (see details on these conventions below). Together they provide for regulations on different aspects of the management of environmentally hazardous materials and aim to restrict and control the production, use and trade of hazardous chemicals for production or as waste.*

**Summary of recommendations and work status:** *The 2019 amendment come in the context of the strengthening of the joint work programme of the Basel, Stockholm and Rotterdam Conventions which started in 2017 which includes joint effort on hazardous substances from plastic products. This also includes the establishment of a 'triple COP,' meaning that meetings of their respective COPs occur concomitantly or jointly for subjects that fall within the scope of each three such as the regulation of hazardous substances associated with plastic products. The Working Group of the Basel Convention Partnership on Plastic Waste was also established in 2019 and its work is ongoing.*

**Keywords/research fields:** *Basel Convention; Stockholm Convention; Rotterdam Convention; triple COP; function and mandate; transboundary movements of hazardous wastes and their Disposal; persistent organic pollutants; POPs; prior informed consent; PIC; hazardous chemicals; technical guidelines for the identification and environmentally sound management of plastic wastes and for their disposal; plastic waste partnership; adoption of Conventions in ASEAN+3*

#### 7.1.1 Function and mandate

The 1989 Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal (Basel Convention) provides a framework for minimisation and safe management of environmentally hazardous waste material and other wastes. It establishes a strict consent mechanism for the export of hazardous waste.

It was adopted in reaction to the expansion in the export trade of hazardous waste. The export of hazardous waste for the purpose of disposal from developed to developing countries is generally prohibited. In 1995, the Basel Ban further prohibited transfers of hazardous waste for recycling or recovery operations from developed to developing countries. Waste is hazardous under the Convention

if it meets the conditions set out in Annex I and/or II, or under the legislation of the importing state. Hazardous waste addressed by this Convention includes both organic and inorganic contaminants.

First, the Basel Convention seeks to control the transboundary movements of hazardous waste and other wastes. Second, it includes the reduction in generation of hazardous wastes and the promotion of environmentally sound management of hazardous wastes and other wastes. It embraces a waste management approach known as the proximity principle, according to which waste should, as far as possible, be disposed of in the state where it is generated.

Until May 2019, as most plastic material was not considered to be hazardous, most trade of plastic scrap and waste could be considered to fall outside the scope of measures. In particular, Annex IX included a list of solid plastic waste products (fully polymerised scrap plastic materials made) that could be traded, even if they were mixed, provided that they were not mixed with other wastes or contaminated by hazardous wastes.

These included in particular the following list (now replaced by the 2019 amendments):

- (i) *Scrap plastic of non-halogenated polymers*: ethylene, styrene, polypropylene, polyethylene terephthalate, acrylonitrile, butadiene, polyacetals, polyamides, polybutylene terephthalate, polycarbonates, polyethers, polyphenylene sulphides, acrylic polymers, alkanes C10-C13 (plasticiser), polyurethane (not containing CFCs), polysiloxanes, polymethyl methacrylate, polyvinyl alcohol, polyvinyl butyral, polyvinyl acetate
- (ii) *Waste resins*: urea formaldehyde resins, phenol formaldehyde resins, melamine formaldehyde resins, epoxy resins, alkyd resins, polyamides

Fluorinated polymer wastes were also included in this list of 'clean' plastic waste even if mixed together, provided that they were not post-consumer waste.

The Technical Guidelines for the Identification and Environmentally Sound Management of Plastic Wastes and for their Disposal were adopted in 2002 to support waste prevention and reduction, including hazardous constituents (UNEP/CHW.6/21). The guidelines are available at: <http://www.basel.int/Implementation/TechnicalMatters/DevelopmentofTechnicalGuidelines/TechnicalGuidelines>. These guidelines are currently being revised (see ongoing work below). A number of other guidelines developed under the Basel Convention apply to plastic waste and reducing the generation thereof.

The 2019 amendments are detailed below.

### 7.1.2 Adoption in ASEAN+3

Table 1.3.7.1. Status of adoption of the Basel, Stockholm and Rotterdam Conventions in ASEAN+3.

Legend: N: not a party; N.na: No notification of non-acceptance as of 20 February 2020; S: signed only.

Instruments	Status of Adoption												
	BRN	KHM	CHN	IND	JAP	KOR	LAO	MYS	MYN	PHL	SGP	THA	VNM
Basel Convention	2002	2001	1991	1993	1993	2010	2010	2015	2015	1993	1996	1997	1995
1995 Ban Amendment	2002	N	2001	2005	N	N	N	N	N	N	N	N	N
2019 amendments on plastic	N.na	N.na	N.na	N.na	N.na	N.na	N.na	N.na	N.na	N.na	N.na	N.na	N.na
Rotterdam Convention	N	2013	2005	2019	2004	2004	2010	2004	N	2005	2005	2004	2007
Stockholm Convention	N	2006	2004	2009	2004	2007	2016	2002 (s)	2004	2005	2005	2005	2002

All states in ASEAN+3 are a party to the Basel Convention although few have accepted the 1995 Ban Amendment.

However they have accepted the 2019 amendments relating to the trade of plastic waste. These 2019 amendments are of different nature as the 1995 Amendment because they affect only Annexes II, VIII and IX and were made by decision 14/12 of the Basel Convention COP in 2019. Amendments to annexes are the subject of a different amendment procedure than amendments to the text of the Convention. No formal acceptance is necessary. Member states are bound at the expiry of a 6-month period that starts from the communication of the adoption of the amendments by the depository, unless they notify their non-acceptance. This 6-month period expired on 23 March 2020 and no state in ASEAN+3 has notified its non-acceptance.

### 7.1.3 2019 amendments to the Basel Convention (BC COP14, decision 12) and guidelines revision

#### The 2019 Amendments

The 2019 amendments are particular to plastics and consist of amendments to its three annexes which define hazardous plastic wastes, as well as the conditions for potentially-hazardous plastic waste to be the subject to regulation of the transboundary trade under the Basel Convention. Entry into force of these amendments is set for 1 January 2021, which means that the superseded provisions will apply until 31 December 2020.

In a nutshell, these amendments clarify the existing categorisation of plastics presumed to be hazardous and therefore subject to the Prior Informed Consent (PIC) procedure, as previously provided for. They also add a new classification of mixed plastics, also requiring PIC, and a new categorisation of 'clean' uncontaminated plastics that do not require PIC.

In more specific details, these amendments can be summarised as follows:

- The amendment to Annex VIII (with the insertion of a new entry A3210) clarifies the scope of plastic wastes presumed to be hazardous and therefore subject to the PIC procedure. To do so the entry A3210 creates a new general category of plastic waste which is considered as *a priori* hazardous: 'plastic waste, including mixtures of such waste,

containing or contaminated with Annex I constituents, and it exhibits annex III characteristic', meaning that it is 'toxic' or 'ecotoxic', or can be responsible for 'toxic' or 'ecotoxic' leachates.

Consistently, a new entry Y48 in Annex II lists 'plastic waste, including mixture of such waste' as a new category of 'other waste' that requires a PIC procedure. Of note, Annex II items follow a similar treatment to that of 'hazardous wastes' under Annex I of the Convention. Annex I does not list any plastic polymer but it lists wastes from the production or formulation and use of resins, plasticizers and glues/adhesives are, as well as from surface treatment of plastics.

- The amendment to Annex IX (with the insertion of a new entry B3011 which replaces existing B3010) clarifies the scope of plastic wastes presumed to not be hazardous, and, therefore, not subject to the PIC procedure. Annex IX lists wastes that are presumed to not qualify as 'waste' regulated under the Convention unless they contain hazardous materials listed in Annex I and exhibit hazardous characteristics listed in Annex III. The new entry B3011 lists the following types of plastic waste that may be exported for recycling in an environmentally-sound manner under the condition that it is free from contamination and other types of wastes:
  - (i) Non-halogenated polymers (with the condition that the plastic waste considered is composed of only one of these polymers): polyethylene (PE), polypropylene (PP), polystyrene (PS), acrylonitrile butadiene styrene (ABS), polyethylene terephthalate (PET), polycarbonates (PC) and polyethers.
  - (ii) Waste composed of one cured resin or condensation product including urea formaldehyde resins, phenol formaldehyde resins, melamine formaldehyde resins, epoxy resins, alkyd resins;
  - (iii) Plastic waste made of fluorinated polymers

Entry B3011 also lists mixtures of plastic waste consisting of PE, PP and/or PET provided that they are destined for separate recycling of each material and in an environmentally sound manner and are uncontaminated from other wastes.

Consistently, the entry Y48 in Annex II also creates a corresponding new category of tradable 'clean' plastic waste or plastic waste presumed to not require a PIC provided that it is destined for recycling in an environmentally sound manner.

- The following plastic wastes are therefore now under tighter control: ethylene (other than PE and PP) styrene (except PS), acrylonitrile, butadiene, polyacetals, polyamides, polyphenylene sulphides, acrylic polymers, alkanes C10-C13 (plasticiser), polyurethane, polysiloxanes, polymethyl methacrylate, polyvinyl alcohol, polyvinyl butyral, polyvinyl acetate.
- The waste plastic composed of mixed polymers with the most permissive trade regime is a mixture of PE, PP and PET.

These new restrictions over categories of plastic waste will come into effect on 1 January 2021 and are expected to affect a number of products including electrical wirings, cable insulations and pipe linings used in all kinds of electrical devices (restrictions on fluorinated polymers).

Revision of guidelines (BC COP14, decision 13)

At BC COP14, the state parties decided to establish a small intersessional working group (SMWG) operating by electronic means to assist in the updating of the technical guidelines on plastic waste.

## 7.2 The Stockholm and Rotterdam Conventions

**Summary of role:** *The Stockholm and Rotterdam Conventions provide for regulations to restrict and control the production, use and trade of toxic and hazardous chemicals for production or as waste. The chemicals covered include some of those associated with plastic production, its use and disposal which can be found with marine plastic litter. The Stockholm Convention prohibits, restricts and sometimes aims to eliminate the production, use and import-export of persistent organic pollutants (POPs). Annexes A and B list POPs that must be eliminated or restricted. Annex C focuses on the minimisation of releases from unintentional production of chemicals it lists. A number of POPs under the control of the Stockholm Convention are used as additives, flame retardants or plasticizers in plastics, such as BDEs, HCHs, PFOSA, its salts and perfluorooctane sulfonyl fluoride. The Rotterdam Convention stipulates a prior informed consent (PIC) mechanism for the international trade of hazardous chemicals. Chemicals that are subject to this procedure are listed in Annex III of the Convention and include some of the chemicals also regulated by the Basel and Stockholm Conventions and associated with the production of plastic products or marine plastic litter (i.e. PCB and DDT).*

**Summary of recommendations and work status:** *Since 2017, the COPs of the Stockholm, Rotterdam and Basel Conventions have strengthened their joint work programme including joint effort on hazardous substances from plastic products. They also set up a 'triple COP' meaning that meetings of their respective COPs occur concomitantly or jointly for subjects that fall within the scope of each three such as the regulation of hazardous substances associated with plastic products. Led to successive amendments to the Conventions resulting in the strengthening of scrutiny and control over plastic wastes, hazardous plastic or plastic-associated substances and their associated chemicals (especially additives and plasticizers). New plastic-related POPs were listed for control in 2018.*

**Keywords/research fields:** *Stockholm Convention; Rotterdam Convention; Basel Convention; triple COP; function and mandate;; persistent organic pollutants; POPs; prior informed consent; PIC; hazardous chemicals; technical guidelines for the identification and environmentally sound management of plastic wastes and for their disposal; plastic waste partnership; adoption of Conventions in ASEAN+3*

### 7.2.1 Function and mandate: The Stockholm Convention

The 2001 Stockholm Convention on Persistent Organic Pollutants (POPs) (Stockholm Convention) is a global treaty to protect human health and the environment from organic pollutants that remain intact in the environment, bioaccumulate in humans and wildlife and have the potential for long-range environmental transport.

POPs are listed under the Convention and potential new POPs are reviewed for listing by a POP Review Committee. Some additives used in plastic or found in recycled plastics (such as plasticizers and flame

retardants) may be slowly released into the sea from marine plastic litter. Plastics can also adsorb POPs such as PCB, DDT and dioxins which are frequently detected in marine plastic litter, rendering these chemicals more bioavailable to marine animals.

As of 2019, the Convention controls more than 28 POPs, including those which have been used as additives, flame retardants or plasticizers in plastics such as: brominated diphenyl ethers (BDE); hexabromocyclododecane (HBCDD); perfluorooctane sulfonic acid (PFOS), its salts and perfluorooctane sulfonyl fluoride (PFOSF); and short-chain chlorinated paraffins (SCCP).

This Convention is widely adopted in ASEAN+3. Details of its status are included in Table 1.3.7.1 above.

### **7.2.2 Function and mandate: The Rotterdam Convention**

The 2008 Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade (Rotterdam Convention) aims to promote shared responsibility and cooperative efforts among state parties in the international trade of certain hazardous chemicals in order to protect human health and the environment from potential harm. It also facilitates information exchange about the characteristics of hazardous chemicals. Annex III of the Convention lists chemicals that are submitted to the prior informed consent procedure (PIC procedure) to ensure that recipients are fully informed of hazardous characteristics and support their environmentally sound use. It includes 52 chemicals. This formal PIC procedure applies to all substances listed in the Basel and Stockholm Conventions that may still be traded but under a number of conditions (e.g. DDT and PCB). Some chemicals, of which the disposal at sea is prohibited under the LC/LP, are also listed in this Annex III (e.g. mercury).

This Convention is widely adopted in ASEAN+3. Details of its status are included in Table 1.3.7.1 above.

## **7.3. The Triple COP, The Plastic Waste Partnership and Regional Centres**

### **7.3.1 The Triple COP**

In 2011, the COPs of these conventions agreed to develop processes to improve coordination and cooperation between them. Since 2013, meetings of the COPs have been organised back-to-back and include joint meetings on common issues. These 'Triple COP' meetings have raised awareness of the interlinkages between the three conventions and between issues such as plastic pollution and marine litter. They focus on the toxicity of plastics and additives.

In 2017, the COPs to the Basel and Stockholm Conventions acknowledged the issues of marine plastics and microplastics and encouraged their regional centres to work on this issue. A Working Group on Marine Litter Plastics and Microplastics and its POPs and EDC Components was also established. The open-ended Working Group of the Basel Convention was also tasked to consider the

issue in the context of the Basel Convention and propose possible action for consideration at the following COP.

The latest Triple COP (BC COP 14, RC COP 9 and SC COP 9) meetings took place in Geneva in 29 April–10 May 2019. Marine plastic litter and microplastics were discussed in all three meetings and jointly. The possibility of negotiating a new international binding instrument to control pollution from plastic waste and associated hazardous substances was also raised.

### **7.3.2 The Plastic Waste Partnership and tightening of international cooperation**

One of the outcomes of the Triple COP was the establishment of a Plastic Waste Partnership under the Basel Convention to improve and promote the environmentally-sound management of plastic waste, and in the long-term, eliminate the discharge of plastic waste and microplastics in the marine environment. The Terms of Reference of the Plastic Waste Partnership is set out in UNEP/CHW.14/INF/16/Rev.1. See also: <http://www.basel.int/Implementation/Plasticwastes/PlasticWastePartnership/tabid/8096/Default.aspx>.

The COPs of the Rotterdam Convention and the Stockholm Convention also requested their respective Secretariats to work closely with other international organisations, within the scope of their mandates, on activities relating to marine plastic litter and microplastics (Decisions RC 9/9 and SC 9/19).

### **7.3.3 Regional Centres**

The Regional Centre of the Basel and Stockholm Conventions for Southeast Asia is based in Jakarta (BCRC/SCRC Indonesia) and works with the ASEAN. Donors/funds/agencies that are involved in issues related to marine plastic waste, mercury and new POPs in Southeast Asian countries include the GEF, USAID and Keml (Swedish Chemicals Agency). The main activity of the Regional Centre thus far has been the organisation of workshops, i.e. the Asian Network for Prevention of Illegal Transboundary Movement of Hazardous Wastes (the most recent meeting was in November 2019), and the Asia Pacific Regional Consultations for the meeting of the Conference of the Parties to the Minamata Convention on Mercury (the most recent meeting was in October 2019).