

Hazardous Waste - Convention

Conventions On Pollutants

Stockholm Convention on Persistent Organic Pollutants

- The Stockholm Convention on Persistent Organic Pollutants is a global treaty which requires its parties to take measures to eliminate or reduce the release of POPs into the environment.
- It was adopted in 2001 and entered into force in 2004.
- There are 184 parties to the Convention
- Notable non-ratifying states include the United States, Israel, Malaysia, and Italy.

What are POPs?

- Persistent Organic Pollutants (POPs) are organic chemical substances, that is, they are carbon-based. They possess a particular combination of physical and chemical properties such that, once released into the environment, they:
 - Remain intact for exceptionally long periods of time (many years);
 - Become widely distributed throughout the environment as a result of natural processes involving soil, water and, most notably, air;
 - Accumulate in the fatty tissue of living organisms including humans, and are found at higher concentrations at higher levels in the food chain; and
 - Are toxic to both humans and wildlife.

- In addition, POPs concentrate in living organisms through another process called **bioaccumulation**.

Effect of POPs

- Specific effects of POPs can include cancer, allergies and hypersensitivity, damage to the central and peripheral nervous systems, reproductive disorders, and disruption of the immune system.
- Some POPs are also considered to be endocrine disruptors, which, by altering the hormonal system, can damage the reproductive and immune systems of exposed individuals as well as their offspring; they can also have developmental and carcinogenic effects.

- Annexes A and B to the Convention describe **specific exemptions**, as well as **acceptable purposes**, that are available with respect to the relevant POPs.

A: Elimination

B: Restriction

- **Annex A:** Parties must take measures to eliminate the production and use of the chemicals listed under Annex A. Specific exemptions for use or production are listed in the Annex and apply only to Parties that register for them.
- **Annex B:** Parties must take measures to restrict the production and use of the chemicals listed under Annex B in light of any applicable acceptable purposes and/or specific exemptions listed in the Annex.
- **Annex C:** Parties must take measures to reduce the unintentional release of chemicals listed under Annex C with the goal of continuous minimization and, where feasible, ultimate elimination.

The 12 Initial POPs Under The Stockholm Convention

- Initially, twelve POPs have been recognized as causing adverse effects on humans and the ecosystem and these can be placed in 3 categories:
 - **Pesticides:** Aldrin, chlordane, DDT, dieldrin, endrin, heptachlor, hexachlorobenzene, mirex, toxaphene; **Dichlorodiphenyltrichloroethane**
 - **Industrial chemicals:** Hexachlorobenzene, polychlorinated biphenyls (PCBs); and
 - **By-products:** Hexachlorobenzene; polychlorinated dibenzo-p-dioxins and polychlorinated dibenzofurans (PCDD/PCDF), and PCBs.

- **Annex A (Elimination):** Aldrin, Chlordane, Dieldrin, Endrin, Heptachlor, Hexachlorobenzene, Mirex, Toxaphene, PCB.
- **Annex B (Restriction):** DDT
- **Annex C (Unintentional production):** Polychlorinated dibenzo-p-dioxins and dibenzofurans, Hexachlorobenzene, PCB.

The new POPs

Since its fourth meeting in 2009, The COP has decided to amend Annexes A, B and C to the Convention by adding the following chemicals:

Annex A: Alpha hexachlorocyclohexane, Beta hexachlorocyclohexane, Chlordecone, Decabromodiphenyl ether (commercial mixture, c-decaBDE), Hexabromobiphenyl, Hexabromocyclododecane, Hexabromodiphenyl ether and heptabromodiphenyl ether (commercial octabromodiphenyl ether), Lindane, Pentachlorophenol and its salts and esters, Short-chain chlorinated paraffins (SCCPs), Technical endosulfan and its related isomers, Tetrabromodiphenyl ether and pentabromodiphenyl ether (commercial pentabromodiphenyl ether).

- **Annex B:** Perfluorooctane sulfonic acid, its salts and perfluorooctane sulfonyl fluoride
- **Annex A and C:** Hexachlorobutadiene, Pentachlorobenzene, Polychlorinated naphthalenes

In 2019, the following have been added

Annex A: Dicofol, perfluorooctanoic acid (PFOA), its salts and PFOA-related compounds.

International Programme on Chemical Safety

The **International Programme on Chemical Safety (IPCS)** was formed in 1980 and is a collaboration between three United Nations bodies, the World Health Organization, the International Labour Organization and the United Nations Environment Programme, to establish a scientific basis for safe use of chemicals and to strengthen national capabilities and capacities for chemical safety. The IPCS identifies following as "chemicals of major public health concern"

- Air pollution
- Arsenic
- Asbestos
- Benzene
- Cadmium
- Dioxin and dioxin-like substances
- Inadequate or excess Fluoride
- Lead
- Mercury
- Highly hazardous pesticides

Basel Convention

- **The Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal** was adopted on 22 March 1989 in Basel, Switzerland.
- It is the most comprehensive global environmental treaty on hazardous and other wastes.
- It has 187 member countries (Parties).

Haiti and the United States have signed the convention but not ratified it

Objective

- The overarching objective of the Basel Convention is to protect human health and the environment against the adverse effects of hazardous wastes.

Aims and Provisions

The provisions of the Convention center around the following principal aims:

1. The reduction of hazardous waste generation and the promotion of environmentally sound management of hazardous wastes, wherever the place of disposal;
2. The restriction of transboundary movements of hazardous wastes except where it is perceived to be in accordance with the principles of environmentally sound management; and
3. A regulatory system applying to cases where transboundary movements are permissible.

What is Waste under the Basel Convention?

- Wastes are substances or objects which are disposed of or are intended to be disposed of or are required to be disposed of by the provisions of national law.
- **Annex I of the Convention**, as further clarified in Annexes VIII and IX, lists those wastes that are classified as hazardous and subject to the control procedures under the Convention.
- **Annex II of the Convention** identifies those wastes that require special consideration (known as "other wastes", and which primarily refer to household wastes).

Examples of wastes regulated by the Basel Convention

- Biomedical and healthcare wastes
- Used oils
- Used lead acid batteries
- Persistent Organic Pollutant wastes (POPs wastes), chemicals and pesticides that persist (or many years in the environment).
- They are transported great distances from their point of release, bioaccumulate (thus threatening humans and animals at the top of the food chain), and cause a range of health effects.

- Polychlorinated Biphenyls (PCBs), compounds used in industry as heat exchange fluids, in electric transformers and capacitors, and as additives in paint, carbonless copy paper, sealants and plastics.
- Thousands of chemical wastes generated by industries and other consumers.

Other Issues Handled By The Basel convention

- Electronic and electrical waste (e-waste) such as mobile phones and computers
- Ships destined for dismantling
- Mercury and asbestos wastes
- Illegal dumping of hazardous wastes

Rotterdam Convention

Rotterdam Convention

- The text of the Rotterdam Convention was adopted on 10 September 1998 in Rotterdam, the Netherlands. The Convention entered into force on 24 February 2004.
- The Convention creates legally binding obligations for the implementation of the Prior Informed Consent (PIC) procedure.
- It built on the voluntary PIC procedure, initiated by UNEP and FAO in 1989 and ceased on 24 February 2006.

The objectives of the Convention are:

- To promote shared responsibility and cooperative efforts among Parties in the international trade of certain hazardous chemicals in order to protect human health and the environment from potential harm;
- To contribute to the environmentally sound use of those hazardous chemicals, by facilitating information exchange about their characteristics, by providing for a national decision-making process on their import and export and by disseminating these decisions to Parties.

Annex III chemicals

- The chemicals listed in Annex III include pesticides and industrial chemicals that have been banned or severely restricted for health or environmental reasons by two or more Parties and which the Conference of the Parties has decided to subject to the PIC procedure.
- There are a total of 52 chemicals listed in Annex III, 35 pesticides (including 3 severely hazardous pesticide formulations), 16 industrial chemicals, and 1 chemical in both the pesticide and the industrial chemical categories.

The Mechanisms

To achieve its objectives the Convention includes two key provisions, namely the Prior Informed Consent (PIC) Procedure and Information Exchange.

1. **The Prior Informed Consent (PIC) procedure**– The PIC procedure is a mechanism for formally obtaining and disseminating the decisions of importing Parties as to whether they wish to receive future shipments of those chemicals listed in Annex III of the Convention and for ensuring compliance with these decisions by exporting Parties.
2. **Information Exchange**- The Convention facilitates information exchange among Parties for a very broad range of potentially hazardous chemicals.

- Once a chemical is included in Annex III, a "**decision guidance document**" (DGD) containing information concerning the chemical and the regulatory decisions to ban or severely restrict the chemical for health or environmental reasons, is circulated to all Parties.

Minamata Convention

- The Minamata Convention on Mercury is a global treaty to protect human health and the environment from the adverse effects of mercury.
- It was agreed in Geneva, Switzerland in 2013 adopted and signed later that year on 10 October 2013 at a diplomatic conference held in Kumamoto, Japan and entered into force in 2017
- The Convention draws attention to a global and ubiquitous metal that, while naturally occurring, has broad uses in everyday objects and is released to the atmosphere, soil and water from a variety of sources.
- Controlling the anthropogenic releases of mercury throughout its lifecycle has been a key factor in shaping the obligations under the Convention.

- The Minamata Convention follows and builds on the Basel, Rotterdam and Stockholm conventions.
- The Minamata Convention is a 21st century response to the catastrophic pollution in Minamata, Japan, where industrial releases of methylmercury caused the epidemic known as the Minamata disease in the 1950s and onwards.

Objectives And Main Obligations

- The objective of the Minamata Convention is to protect the human health and the environment from anthropogenic emissions and releases of mercury and mercury compounds.
- It contains, in support of this objective, provisions that relate to the entire life cycle of mercury, including controls and reductions across a range of products, processes and industries where mercury is used, released or emitted.
- The treaty also addresses the direct mining of mercury, its export and import, its safe storage and its disposal once as waste.
- Identifying populations at risk, boosting medical care and better training of health-care professionals in identifying and treating mercury-related effects will also contribute to implementing the Convention.

- The Convention is made of 35 Articles and 5 Annexes, which can be divided into four main categories:

1. Operational Provisions– Describing the obligations for Parties to reduce anthropogenic emissions and releases of mercury and mercury compounds to the environment, with controls on all their life cycle stages:

- Controls on mercury supply sources and trade
- Phase-out and phase-down of mercury use in products and processes
- Controls on artisanal and small scale gold mining where mercury is used
- Controls on air emissions and releases to land and water
- Storage, waste and contaminated sites

2. **Support to Parties**– With articles relating to:

- A financial mechanism, which includes the Global Environment Facility Trust Fund and a specific international Programme to support capacity-building and technical assistance.
- The provision of capacity building, technical assistance and technology transfer.
- The establishment of an Implementation and Compliance Committee.

3. Information And Awareness Raising Articles, covering:

- Health aspects
- Information exchange
- Public information, awareness and education
- Research, development and monitoring
- Implementation plans

4. **Administrative Matters:**

- Reporting
- Effectiveness evaluation
- Conference of the Parties
- Secretariat, hosted by UNEP
- Procedures such as the settlement of disputes, amendments to the Convention, the adoption and amendment of annexes, the right to vote, signature, ratification (or acceptance, approval or accession), entry into force, reservations, withdrawal, depositary, authentic texts.

India and Minamata convention

- India approved the proposal for ratification of Minamata Convention on Mercury in 2018 thus depositing the instrument of ratification enabling India to become a Party of the Convention.

London Dumping Convention

- The "Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter 1972", the "London Convention" for short, is one of the first global conventions to protect the marine environment from human activities.
- It has been in force since 1975.
- Its objective is to promote the effective control of all sources of marine pollution and to take all practicable steps to prevent pollution of the sea by dumping of wastes and other matter.
- Currently, 87 States are Parties to this Convention.

- The purpose of the London Convention is to control all sources of marine pollution and prevent pollution of the sea through regulation of dumping into the sea of waste materials.
- A so-called "black- and grey-list" approach is applied for wastes, which can be considered for disposal at sea according to the hazard they present to the environment.
- For the blacklist items dumping is prohibited.
- Dumping of the grey-listed materials requires a special permit from a designated national authority under strict control and provided certain conditions are met.

- All other materials or substances can be dumped after a general permit has been issued.
- It does not cover discharges from land-based sources such as pipes and outfalls, and wastes generated incidental to normal operation of vessels.
- This is a **non-legally binding** convention.
- The efforts of the Parties are supported by a permanent secretariat hosted by the **International Maritime Organization** (IMO).

London, United Kingdom

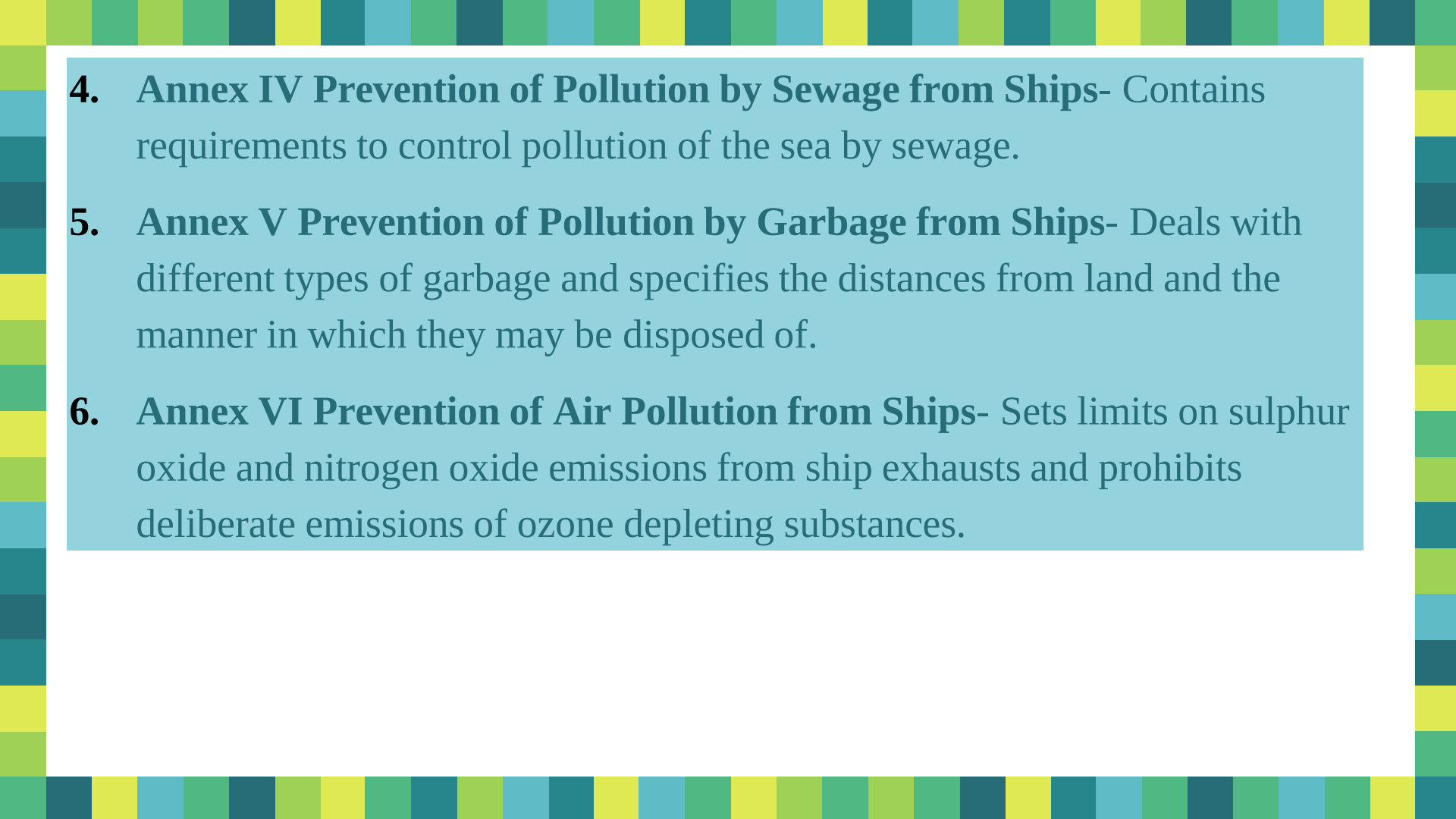
Marpol convention

- **The International Convention for the Prevention of Pollution from Ships (MARPOL)** is the main international convention covering prevention of pollution of the marine environment by ships from operational or accidental causes.
- The MARPOL Convention was adopted in 1973 at International Maritime Organization (IMO).
- The Protocol of 1978 was adopted in response to a spate of tanker accidents in 1976-1977.

- As the 1973 MARPOL Convention had not yet entered into force, the 1978 MARPOL Protocol absorbed the parent Convention.
- The combined instrument entered into force in 1983.
- MARPOL has been updated by amendments through the years.
- The Convention includes regulations aimed at preventing and minimizing pollution from ships- both accidental pollution and that from routine operations- and currently includes six technical Annexes.
- Special Areas with strict controls on operational discharges are included in most Annexes.
- India acceded to the convention in 2011.

The six annexes are

1. **Annex I Regulations for the Prevention of Pollution by Oil-** Covers prevention of pollution by oil from operational measures as well as from accidental discharges.
2. **Annex II Regulations for the Control of Pollution by Noxious Liquid Substances in Bulk-** Details the discharge criteria and measures for the control of pollution by noxious liquid substances carried in bulk.
3. **Annex III Prevention of Pollution by Harmful Substances Carried by Sea in Packaged Form-** Contains general requirements for the issuing of detailed standards on packing, marking, labelling, documentation, stowage, quantity limitations, exceptions and notifications.

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4. **Annex IV Prevention of Pollution by Sewage from Ships-** Contains requirements to control pollution of the sea by sewage.
 5. **Annex V Prevention of Pollution by Garbage from Ships-** Deals with different types of garbage and specifies the distances from land and the manner in which they may be disposed of.
 6. **Annex VI Prevention of Air Pollution from Ships-** Sets limits on sulphur oxide and nitrogen oxide emissions from ship exhausts and prohibits deliberate emissions of ozone depleting substances.