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C O N V E N T I O N S

Hazardous chemicals and wastes under the Basel, Rotterdam and Stockholm Conventions: aspects of listing and reporting

Ninth Meeting of the Working Group of the Parties to the Protocol on PRTRs

24 November 2022

Palais des Nations, Geneva, Switzerland

Overview

1. BRS Conventions: aspects relating to PRTRs
 2. Listing of chemicals: Rotterdam and Stockholm Conventions
 3. Reporting requirements: Basel and Stockholm Conventions
 4. Final points and resources
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CONVENTIONS

BRS Conventions: aspects relating to PRTRs

Objectives of the BRS Conventions



The Basel, Rotterdam and Stockholm Conventions are multilateral environmental agreements, which share the common objective of protecting human health and the environment from hazardous chemicals and wastes

Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal: created to protect human health and the environment from the negative effects of the inappropriate management of hazardous wastes worldwide

Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade: facilitates information exchange about characteristics of hazardous chemicals and pesticides and provides for a national decision-making process on their import and export

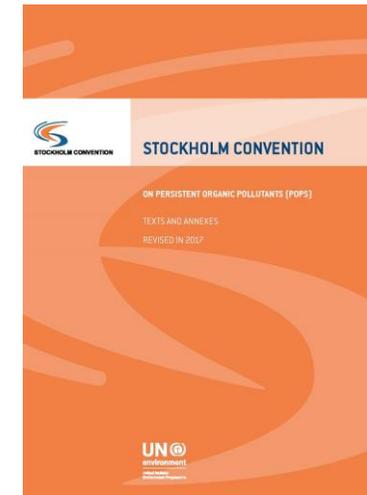
Stockholm Convention on Persistent Organic Pollutants: a global treaty to protect human health and the environment from persistent organic pollutants (POPs), which are highly dangerous, long-lasting chemicals, by restricting and ultimately eliminating their production, use, trade and release

PRTRs and the Stockholm Convention

Article 10 (5): “Each Party shall give sympathetic consideration to developing mechanisms, **such as pollutant release and transfer registers**, for the collection and dissemination of information on estimates of the annual quantities of the chemicals listed in Annex A, B or C that are released or disposed of.”

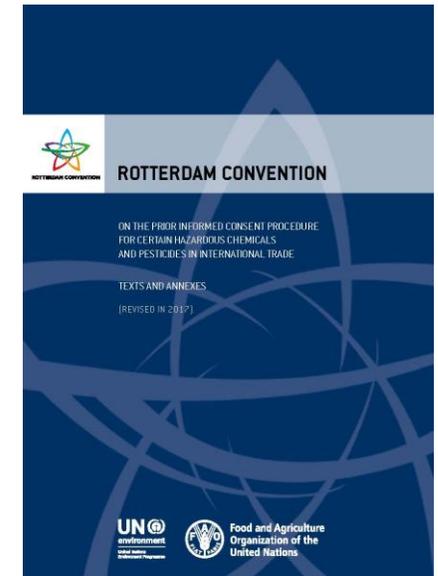
Article 15 on reporting: “Each Party shall provide to the Secretariat: (a) Statistical **data on its total quantities of production**, import and export of each of the chemicals listed in Annex A and Annex B or a reasonable estimate of such data [...]”

Annex C: source categories



PRTRs and the Rotterdam Convention – possible linkages

Article 15: “Each Party shall take such measures as may be necessary to establish and strengthen its national infrastructures and institutions for the effective implementation of this Convention. These measures may include, as required, the adoption or amendment of national legislative or administrative measures and may also include: (a) **The establishment of national registers and databases including safety information for chemicals [...]**”



[Text of the Rotterdam Convention](#)

PRTRs Protocol and the Basel Convention

Annex IV, DISPOSAL OPERATIONS

A. Operations which do not lead to the possibility of resource recovery, recycling, reclamation, direct re-use or alternative uses

B. Operations which may lead to resource recovery, recycling reclamation, direct re-use or alternative uses



Annex III
PART A
DISPOSAL OPERATIONS ('D')

- Deposit into or onto land (e.g. landfill)
- Land treatment (e.g. biodegradation of liquid or sludgy discards in soils)
- Deep injection (e.g. injection of pumpable discards into wells, salt domes or naturally occurring repositories)
- Surface impoundment (e.g. placement of liquid or sludge discards into pits, ponds or lagoons)
- Specially engineered landfill (e.g. placement into lined discrete cells which are capped and isolated from one another and the environment)
- Release into a water body except seas/oceans
- Release into seas/oceans including sea-bed insertion
- Biological treatment not specified elsewhere in this annex which results in final compounds or mixtures which are discarded by means of any of the operations specified in this part
- Physico-chemical treatment not specified elsewhere in this annex which results in final compounds or mixtures which are discarded by means of any of the operations specified in this part (e.g. evaporation, drying, calcination, neutralization, precipitation)
- Incineration on land
- Incineration at sea
- Permanent storage (e.g. emplacement of containers in a mine)
- Blending or mixing prior to submission to any of the operations specified in this part
- Repackaging prior to submission to any of the operations specified in this part
- Storage pending any of the operations specified in this part



PART B
RECOVERY OPERATIONS ('R')

- Use as a fuel (other than in direct incineration) or other means to generate energy
- Solvent reclamation/regeneration
- Recycling/reclamation of organic substances which are not used as solvents
- Recycling/reclamation of metals and metal compounds
- Recycling/reclamation of other inorganic materials
- Regeneration of acids or bases
- Recovery of components used for pollution abatement
- Recovery of components from catalysts
- Used oil re-refining or other reuses of previously used oil
- Land treatment resulting in benefit to agriculture or ecological improvement
- Uses of residual materials obtained from any of the recovery operations specified above in this part
- Exchange of wastes for submission to any of the recovery operations specified above in this part
- Accumulation of material intended for any operation specified in this part

ANNEX IV

DISPOSAL OPERATIONS

A. Operations which do not lead to the possibility of resource recovery, recycling, reclamation, direct re-use or alternative uses

Section A encompasses all such disposal operations which occur in practice.

D1	Deposit into or onto land, [e.g., landfill, etc.]
D2	Land treatment, [e.g., biodegradation of liquid or sludgy discards in soils, etc.]
D3	Deep injection, [e.g., injection of pumpable discards into wells, salt domes or naturally occurring repositories, etc.]
D4	Surface impoundment, [e.g., placement of liquid or sludge discards into pits, ponds or lagoons, etc.]
D5	Specially engineered landfill, [e.g., placement into lined discrete cells which are capped and isolated from one another and the environment, etc.]
D6	Release into a water body except seas/oceans
D7	Release into seas/oceans including sea-bed insertion
D8	Biological treatment not specified elsewhere in this Annex which results in final compounds or mixtures which are discarded by means of any of the operations in Section A
D9	Physico-chemical treatment not specified elsewhere in this Annex which results in final compounds or mixtures which are discarded by means of any of the operations in Section A, [e.g., evaporation, drying, calcination, neutralization, precipitation, etc.]
D10	Incineration on land
D11	Incineration at sea
D12	Permanent storage [e.g., emplacement of containers in a mine, etc.]
D13	Blending or mixing prior to submission to any of the operations in Section A
D14	Repackaging prior to submission to any of the operations in Section A
D15	Storage pending any of the operations in Section A

B. Operations which may lead to resource recovery, recycling reclamation, direct re-use or alternative uses

Section B encompasses all such operations with respect to materials legally defined as or considered to be hazardous wastes and which otherwise would have been destined for operations included in Section A

R1	Use as a fuel (other than in direct incineration) or other means to generate energy
R2	Solvent reclamation/regeneration
R3	Recycling/reclamation of organic substances which are not used as solvents
R4	Recycling/reclamation of metals and metal compounds
R5	Recycling/reclamation of other inorganic materials
R6	Regeneration of acids or bases
R7	Recovery of components used for pollution abatement
R8	Recovery of components from catalysts
R9	Used oil re-refining or other reuses of previously used oil
R10	Land treatment resulting in benefit to agriculture or ecological improvement
R11	Uses of residual materials obtained from any of the operations numbered R1-R10
R12	Exchange of wastes for submission to any of the operations numbered R1-R11
R13	Accumulation of material intended for any operation in Section B



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CONVENTIONS

Listing of chemicals: Rotterdam and Stockholm Conventions

Process for listing chemicals in Annex III

THE PROCEDURES UNDER THE CONVENTION THAT LEAD TO THE LISTING OF A CHEMICAL ALL BEGIN AND CULMINATE WITH DECISIONS TAKEN BY INDIVIDUAL PARTIES.



Parties



- **Art 5:** Submit notifications for **banned or severely restricted chemical** to Secretariat
- **Art 6:** Submit proposals for **Severely Hazardous Pesticide Formulations** to Secretariat

Secretariat



- Verifies submissions against information requirements.
 - Publishes in PIC Circular.
 - Collects additional information.
- IF** notifications from **two** regions or **one** proposal:
- Forwards to CRC

CRC



- Reviews candidate chemicals against criteria.
- If criteria are met, recommends listing.
- Prepares draft DGDs.
- Forwards to COP for decision on listing.

COP



- Decides by consensus the listing of chemical in Annex III.
- Adopts DGD.

Chemical Review Committee (CRC)

- Subsidiary body under the Convention set up to, inter alia:
 - Recommend to the COP the listing of chemicals that meet the Convention criteria in Annex III to the Convention
 - Develop draft decision guidance documents for chemicals recommended for listing
 - Recommends removal of chemicals from Annex III
- 31 government-designated experts from 5 UN regions
- CRC meetings are open to observers (Parties and observers to RC) (public participation)





STOCKHOLM
CONVENTION

Process for listing new chemicals

Article 8 (Listing of chemicals in Annexes A, B and C)

1. A Party submits a **proposal** for listing a new chemical
2. POPRC applies screening criteria specified in **Annex D**
3. POPRC develops a **Risk Profile** based on information provided by Parties and observers as specified in **Annex E**
4. POPRC develops a **Risk Management Evaluation** based on socio-economic information provided by Parties and observers as specified in **Annex F**
5. POPRC makes **recommendations** to the COP
6. COP decides whether to **list the chemical**, in which Annex

Persistent Organic Pollutants (POPs) Review Committee (POPRC)

- POPRC is a subsidiary body of the Stockholm Convention set up to, inter alia:
 - Review chemicals proposed for listing in Annex A, B, and/or C
 - Process in Article 8; information requirements/criteria in Annex D, E, F
 - Make recommendations to the COP
- 31 government-designated experts from 5 UN regions
- POPRC meetings are open to observers (Parties and observers to the Stockholm Convention) (public participation)



Dechlorane Plus

- **POPRC-18:** Adopted RME (UNEP/POPS/POPRC.18/11/Add.1) and recommended listing DP in Annex A with specific exemptions for production and use for:
- In accordance with Article 4:
 - a) Aerospace;
 - b) Space and defence applications;
 - c) Medical imaging and radiotherapy devices/installations.
- Until the end of the service life of the articles or 2044, whichever comes earlier:
 - Replacement parts for, and repair of, articles in the following applications:
 - i. Aerospace;
 - ii. Space;
 - iii. Defence;
 - iv. Motor vehicles;
 - v. Stationary industrial machines for use in agriculture, forestry and construction;
 - vi. Marine, garden, forestry and outdoor power equipment;
 - vii. Medical and in vitro diagnostic devices;
 - viii. Medical imaging and radiotherapy devices/installations;
 - ix. Instruments for analysis, measurements, control, monitoring, testing, production and inspection.



Candidate POPs

Dechlorane Plus and its syn-isomer and anti-isomer

CAS No. 13560-89-9; 135821-03-3; 135821-74-8

Full Name: 1,6,7,8,9,14,15,16,17,18,18-dodecachloropentacyclo-[12.2.1.16,9.02,13.05,10]octadeca-7,15-dien

Trade Name: Dechlorane Plus 25 (Dech Plus); Dechlorane Plus 35 (Dech Plus-2); DP-515; Dechlorane 605; Dechlorane A; DP; DDC-CO; Escapeflam DK-15

Synonyms: Bis(hexachlorocyclopentadieno)cyclooctane; 1,2,3,4,7,8,9,10,13,13,14,14-Dodecachloro-1,4,4a,5,6,6a,7,10,10a,11,12,12a-dodechydro-1,4,7,10-dimethanodibenzo[a,e]cyclooctene; Dodecachlorododecahydromethanodibenzocyclooctene

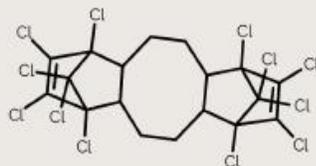
Uses:

As a flame retardant, Dechlorane Plus is used in many polymeric systems. Examples of thermoplastics that may contain Dechlorane Plus include nylon, polyester, acrylonitrile butadiene styrene (ABS), natural rubber, polybutylene terephthalate (PBT), polypropylene, and styrene butadiene rubber (SBR) block copolymer. Dechlorane Plus may be used in thermosets such as epoxy and polyester resins, polyurethane foam, polyethylene, ethylene propylene diene monomer rubber, polyurethane rubber, silicon rubber, and neoprene.

Process for listing a new chemical under the Stockholm Convention

Article 8:

- 1) A Party submits a proposal
- 2) The POPs Review Committee examines the proposal against Annex D screening criteria
- 3) If fulfilled, the POPs Review Committee prepares a risk profile based on Annex E information from Parties and observers
- 4) If adopted, the POPs Review Committee prepares a risk management evaluation based on Annex F information from Parties and observers
- 5) If adopted, the POPs Review Committee makes a recommendation on listing
- 6) COP decides whether to list the new chemical



Reference

1. Proposal to list Dechlorane Plus (CAS No: 13560-89-9) and its syn-isomer (CAS No:135821-03-3) and anti-isomer (CAS No:135821-74-8) in Annex A, B and/or C to the Stockholm Convention on Persistent Organic Pollutants. Persistent Organic Pollutants Review Committee. 2018;UNEP/POPs/POPRC.15/3

UV-328

- **POPRC-18:** Adopted RME (UNEP/POPS/POPRC.18/11/Add.2) and recommended listing UV-328 in Annex A with specific exemptions for production and use for:
 - In accordance with Article 4:
 - a) Motor vehicles;
 - b) Mechanical separators in blood collection tubes;
 - c) Industrial coating applications for automotive coating, engineering machine coating, rail transit coating, and heavy-duty coating for large steel structures;
 - d) TAC film in polarizers;
 - e) Photographic paper.
- Until the end of the service life of the articles or 2044, whichever comes earlier:
 - Replacement parts for, and repair of, articles in the following applications:
 - i. Motor vehicles;
 - ii. Stationary industrial machines for use in agriculture, forestry and construction;
 - iii. Liquid crystal displays in medical and in-vitro diagnostic devices;
 - iv. Liquid crystal displays in instruments for analysis, measurements, control, monitoring, testing, production and inspection.



Candidate POPs

UV-328

CAS No. 25973-55-1

Full Name: Phenol, 2-(2H-benzotriazol-2-yl)-4,6-bis(1,1-dimethylpropyl)-

Trade Name: BLS 1328, Chiguard 328, Chisorb 328, Cysorb UV 2337, Eversorb 74, GSTAB 328, Hostavin 3310 P, Kemisorb 74, Lowilite 28, Milestab 328, Seesorb 704, Songsorb 3280, Sumisorb 350, Thasorb UV328, Tin 328, Tinuvin 328, UV 2337, UV 74, Uvinul 3028, Viosorb 591

Synonyms: 2-(2H-Benzotriazol-2-yl)-4,6-di-tert-pentylphenol (BDTP), 2-(2'-Hydroxy-3',5'-di-t-amylphenyl) benzotriazole

Uses:

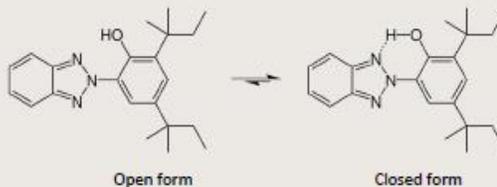
UV-328 is a phenolic benzotriazole that is used as a UV absorber to protect surfaces against discoloration and degradation under UV/sunlight. UV-328 has wide range of applications, but its main uses are in paints and coatings, and as an additive in a wide variety of plastics, including in the non-food contact layer of food packaging. In the automobile sector, UV-328 is used in paints, coatings and sealants, as well as in liquid crystal panels and meters mounted on vehicles, and resin for interior and exterior parts of vehicles. In food packaging, it is used as an additive in plastics, printing ink and adhesives.

Reference

1. Risk profile for UV-328. UNEP/POPS/POPRC.17/13/Add.3.
2. Proposal to list UV-328 in Annex A to the Stockholm Convention on Persistent Organic Pollutants. Risk profile for UV-328. UNEP/POPS/POPRC.16/4.

Hazards and Risks to human health and the environment

UV-328 is characterized by its persistence and its capacity to bioaccumulate and to be long-range transported. Sources of UV-328 in the environment can include industrial facilities that produce or use the substance, wastewater treatment plants, stormwater, landfills and plastic litter/debris. UV-328 has been detected in various environment media, including ambient air, water, soil, sediment, biota and humans in many regions of the world. In mammals, the primary health effect of UV-328 is liver toxicity. UV-328 has also been associated with adverse effects on the kidneys in rats, and potential effects on the reproductive system have been suggested in studies on rats and dogs. UV-328 may also lead to anti-androgenic activity based on in vitro study. Finally, UV-328 has been found to be associated with adverse effects in fish.





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Reporting requirements: Basel and Stockholm Conventions

Reporting under the Conventions



Basel Convention:

- Mandate: Article 13 - Transmission of Information: *“The Parties, consistent with national laws and regulations, shall transmit, through the Secretariat, to the Conference of the Parties established under Article 15, before the end of each calendar year, a report on the previous calendar year, containing the following information [...]”* inter alia on:
 - (b) *Information regarding transboundary movements of hazardous wastes or other wastes in which they have been involved*
 - (g) *Information on disposal options operated within the area of their national jurisdiction*
 - (f) *Information on accidents occurring during the transboundary movement and disposal of hazardous wastes and other wastes and on the measures undertaken to deal with them*
- National reports submitted annually.

Stockholm Convention:

- Mandate: Article 15 - *“Each Party shall provide to the Secretariat: (a) Statistical data on its total quantities of production, import and export of each of the chemicals listed in Annex A and Annex B or a reasonable estimate of such data; and (b) To the extent practicable, a list of the States from which it has imported each such substance and the States to which it has exported each such substance.”*
 - National reports submitted every four years.
 - National Implementation Plans (NIPs): Parties are required to prepare a plan explaining how they are going to implement the obligations under the Convention and make efforts to put such a plan into operation (Article 7).
-

National Reporting



Basel Convention

- Tons/year of generation of hazardous waste and other wastes
- Tons/year of exported/imported hazardous and other waste and final disposal/recovery operation
- Final disposal/recovery options operated within the national jurisdiction



Stockholm Convention

- Kg of POPs produced, imported and exported per year.
- Kg of unintentional releases of polychlorinated biphenyls (PCB), pentachlorobenzene, hexachlorobenzene, polychlorinated naphthalene (PCN) per year.
- gTEQ of unintentional releases of dioxins and furans per year.
- Total tons and year of disposal of wastes consisting or containing industrial POPs.
- Inventory information of PCB-containing equipment.
- Statistical data on production and use of PFOS.

Final points and resources



- **Guidelines and Toolkits** are available to support national reporting on hazardous chemicals and waste.
- Through the BRS COP, Parties regularly **update the lists of chemicals and include new ones.**
- Information on the currently listed chemicals is available on the BRS Conventions' website – also features **chemicals proposed for listing under the Stockholm Convention, and chemicals recommended for listing & candidate chemicals for the Rotterdam Convention.**

Chemicals recommended for listing in Annex III

For each of the following chemicals that are recommended by the CRC, up to its 15th meeting held in 2019, for listing in Annex III of the Convention, the associated draft decision guidance document (DGD) will be considered by the COP at its tenth meeting (COP10) in 2021.

Scheduled for consideration for inclusion by the Conference of the Parties at its next meeting

- Carbosulfan
- Chrysotile asbestos
- Fenthion (ultra low volume (ULV) formulations at or above 640 g active ingredient per liter)
- Liquid formulations (emulsifiable concentrate and soluble concentrate) containing paraquat ion at or above 200 g/L
- Acetochlor
- Perfluorooctanoic acid (PFOA), its salts and PFOA-related compounds

Annex III Chemicals

In this section you will find the list of chemicals contained in Annex III of the Convention and subject to the PIC procedure along with the associated Decision Guidance Documents (DGDs) as well as any additional information.

What chemicals are contained in the Annex III?

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 54 chemicals listed in Annex III, 35 pesticides (including 3 severely hazardous pesticide formulations), 18 industrial chemicals, and 1 chemical in both the pesticide and the industrial chemical categories.

The amendments to list decabromodiphenyl ether and perfluorooctanoic acid (PFOA), its salts and PFOA-related compounds in Annex III enter into force on 22 October 2022. Parties are invited to provide import responses by 21 July 2023.

Chemical Name	CAS number	Category	Decision guidance document
2,4,5-T and its salts and esters	93-76-5	Pesticide	View
Alachlor	15972-60-8	Pesticide	View
Aldicarb	116-06-3	Pesticide	View
Aldrin	309-00-2	Pesticide	View
Azinphos-methyl	86-50-0	Pesticide	View
Binapacryl	485-31-4	Pesticide	View
Captafol	2425-06-1	Pesticide	View
Carboturan	1563-66-2	Pesticide	View
Chlordane	57-74-9	Pesticide	View
Chlordimeform	6164-98-3	Pesticide	View
Chlorobenzilate	510-15-6	Pesticide	View
DDT	50-29-3	Pesticide	View
Dieldrin	60-57-1	Pesticide	View

Chemicals proposed for listing under the Convention

Any Party may submit proposal for listing a new chemical in Annex A, B, or C of the Convention. The POPs Review Committee evaluates the proposals and makes recommendations to the Conference of the Parties on such listing in accordance with Article 8 of the Convention.

Currently, the following chemicals are under review:

- Dechlorane Plus
- Methoxychlor
- Chlorpyrifos
- Chlorinated paraffins
- LC-PFCAs
- UV-328



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Thank you.



**Food and Agriculture
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