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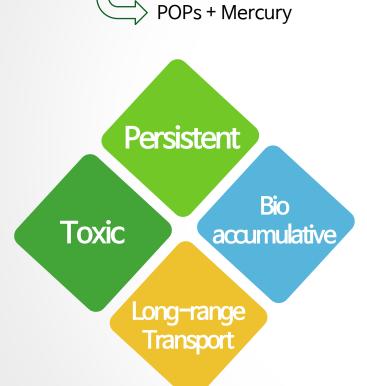




Purpose

▶ Protect citizen's health and the environment from hazards posed by

persistent pollutants and to promote international cooperation



International Conventions

- Stockholm Convention (May 2001 adopted, May 2004 effected)
- * Korea's Ratification: January 2007
- Minamata Convention (Oct. 2013 adopted, Aug. 2017 effected)
 - * Korea's Ratification: November 2019

Implementation of Korea

- 「POPs Control Act」 Enactment for Stockholm Convention
 - * Jan. 2007 amended, Jan. 2008 enforced
- Persistent Pollutants Control Act

Amendment

for Minamata Convention

* Jan. 2016 amended, Feb. 2020 enforced

1-2 Overview



- 1) Main Law: Persistent Pollutants Control Act
- Ministry of Environment (overall POPs management)
 - & Each relevant ministries (POPs management w/ their own laws)
 - MOTIE(product), MOF(marine environment), MFDS(food, medicine),
 RDA(pesticide, agricultural environment), NFA(fire fighting foam), KATS(content)
- 2) Subject: POPs (Stockholm Convention) + Mercury (Minamata Convention)
- 3) POPs Management System



 Ban expert/import between Parties



Ban/Restriction on Manufacture • Use • Export/Import

 But, specific exemption is allowed for certain period.



Dioxin: acceptable release limit

Self-measurement of business operator

Inspection & administrative measure (e.g. order of improvement)



Stepwise discharging reduction



Notification of polluted device



Environmentally-sound disposal



Major Policy



Ban & Restrict Manufacture, Export/Import, Use





POPs listed to SC Annex A \rightarrow Ban

▶ Specific exemption: When it is manufactured, exported/imported or used for the purpose(s) as allowed to manufacture or use for certain purpose in Annex A(specific exemption), When it is manufactured, exported/imported or used for reagent of testing, research, study.



POPs listed to SC Annex B → Allow depending on purpose

► Acceptable purpose: When it is manufactured, exported/imported or used for acceptable purpose as prescribed in Annex B.



Import

Implementation

Export

Import Response,

issued after reviewing export

(Prior Informed Consent procedure) information sent by Exporting Party

PIC

(Rotterdam Convention)

Exporter shall obtain consent of **Importing Party** through ME for every export

Ban & Restrict Manufacture, Export/Import, Use



Person who intends to export banned or restricted POPs must apply for export approval before export to confirm whether the Importing Party allows the import.

▶ Banned/Restricted POPs

ME Public Notice: 「Regulation on POPs Type and Specific Exemption」

➤ Specific Exemption & Allowable Purpose

- It is allowed temporarily to produce and use for certain purposes due to lack of alternative substances that are socially and economically feasible.
- (Specific exemption) 5 years, and then extension is possible one time for 5 more years.
- (Acceptable purpose) duration is not specified unless relevant discussion or decision is made among Parties.

► How to apply for export approval

- Submit an application form for POPs export approval to local environmental office (Use the Attachment 2 of Enforcement Rule)
 - * Attached document: warrant for exporter liability, export notification, MSDS
- ME reviews the application form submitted through local environmental office,
 - \rightarrow ME notifies Importing Party of such export \rightarrow a written export approval is issued.

Ban & Restrict Manufacture, Export/Import, Use



Specific Exemption

Korea's Current Status of Specific Exemption (as of 11 June 2023)

POPs Name	Adopted in SC	Listing	Domestic Enforcemen t Date	Specific Exemption	
Polychlorinated biphenyls (including all PCBs)	Ban & Unintended Generation	'05	2008.1.27.	- (USE) PCBs-using equipment (e.g. transformer, condenser)* No specific exemption for production.- (EXPIRATION DATE) 2025.12.31	
Hexabromodiphenyl ether & Heptaboromodiphenyl ether (CAS No. 68631-49-2, 207122-15-4, 446255-22-7, 207122-16-5, including commercial use)	Ban	'09	2011.4.5.	 (USE) article that contains this substance, or is manufactured with recycled substance that may contain this substance (only when it is environmentally sound recycled and treated.) * No specific exemption for production. - (EXPIRATION DATE) 2030.12.31 	
Tetrabromodiphenyl ether & Pentabromodiphenyl ether (CAS No. 5436-43-1, 60348-60-9, including commercial use)	Ban	'09	2011.4.5.		
PFOS, its salts and Perfluorooctane sulfonyl fluoride (CAS No. 1763-23-1, 307-35-7, 2795-39-3, 29457-72-5, 29081-56-9,070225-14-8, 56773-42-3, 251099-16-8)	Restriction	'09	2021.6.3.	 - (USE) fire fighting foam that is already installed in mobile or fixed system. * No specific exemption or allowed purpose for production. * At SC-COP9 in May 2019, existing specific exemptions (for certain period) and allowable purpose (non-permanent exemption) are abrogated, which means tightened regulation. (came into effect on 3 Dec. 2022.) 	
Decabromodiphenyl ether (CAS No. 1163-19-5)	Ban	'17	2020.2.20	 (PRODUCTION) additives for household heating product (provided that, the content of this substance shall be less than 10% by weight of a part, complying with flame retardant standards) (USE) legacy vehicle's parts, aircraft's part (when applying for approval before December 2018 and getting approved before December 2022), additives for household heating product (provided that, the content of this substance shall be less than 10% by weight of a part, complying with flame retardant standards) (EXPIRATION DATE) 2025.2.20 (extra 5 years possible) 	
PFOA, its salts and PFOA compounds (total 175 substances, including CAS No. 335–67–1)	Ban	'19	2021.6.3.	 (PRODUCTION) Textiles for oil and water repellency for protection of workers (USE) Semiconductor manufacturing (photolithography or etch processes), Photographic coatings applied to films, Textiles for oil and water repellency for protection of workers, Invasive and implantable medical devices, PFOI for production of PFOB for purpose of producing pharmaceutical products, PTFE·PVDF (gas filter membranes and water filter membranes, membranes for medical textiles, industrial waste heat exchanger equipment, industrial sealants capable of preventing leakage of VOCs·PM2.5 particulates), FEP (electrical wire and cables for industrial power transmission), Fluoroelastomers for production of O-rings and plastic accessories for car interiors. (EXPIRATION DATE) 2026.6.2 	

Stepwise Discharging Reduction



Effective POPs management & Stepwise POPs-discharging reduction by regulating unintentional POPs discharge.

(From discharging facility → exhaust gas, waste water, etc.)

► POPs-discharging business operator : Obligations

- Install and manage an appropriate discharging facility complying with acceptable discharging limit.
- Follow improvement measures. (e.g. an order of improvement/use suspension)
- Conduct self-measurement and impact investigation on adjacent area.

▶ Government: National-level POPs management

- Set up acceptable discharging limits & discharging reduction plan.
- When a facility exceeds acceptable discharging limit, Gov. imposes an administrative measure. (e.g. an order of improvement/use suspension/shutdown)
 → check whether the measure is implemented. → Gov. may impose a penalty
 - surcharge. → Check whether the measure is implemented. → Gov. may impose a penalty
- Carry out a survey on POPs discharging sources and amount

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Discharge: Allowable Limit

- ▶ Different, depending on discharging facility's type, discharging route, etc.
 - 1) Steel & Aluminium manufacturing facility
 - : (exhaust gas) 0.5~1.0 ng-TEQ/Sm³, (waste water) 10 pg-TEQ/L
- 2) Copper & Cement manufacturing facility
 - : (exhaust gas) 0.1~10 ng-TEQ/Sm³, (waste water) 10 pg-TEQ/L
- 3) Petrochemical basic chemicals manufacturing facility: (waste water) 50 pg-TEQ/L
- 4) Incinerating facility: (exhaust gas) 0.1~10 ng-TEQ/Sm³, (waste water) 10 pg-TEQ/L
 - * Allowable limits are different depending on facility type and standard.
 - Please refer to Attachment 3 of Enforcement Rule for more information.

Impact Investigation on Adjacent Area

▶ In case of a facility where discharges more than certain amount of POPs, such facility shall investigate its impact on adjacent area every 3 years, and then submit the result to local environmental office.



Self-measurement

- ▶ Business operator shall conduct a self-measurement on discharged POPs based on environmental pollution testing standards, or entrust measurement to professional institute. The result shall be kept for 5 years.
- POPs measurement more than one time (every 6 months~ 2 years) according to environmental media, facility type, incinerated amount, generated amount, etc.
- ME designated and operates 12 institutes for POPs measurement and analysis.

Certificate No.	Name of Institute	Certification Date
1	Korea Testing Laboratory (Seoul Office)	'09.01.01.
4	Environmental Health Research Institute of Gyeonggi Province	'09.01.01.
7	Eurofins Korea Analysis Service	'09.01.01.
8	DK Science Co., Ltd.	'09.01.01.
9	Environmental Health Research Institute of Busan Metropolitan City	'09.01.01
10	Gi-in Environmental Technology Co., Ltd.	609.01.01
11	ENB Tech Co., Ltd.	609.01.01
13	Ulsan National Institute of Science and Technology (UNIST)	'14.12.03
14	Daehyun Environment Co., Ltd.	¹ 6.06.15
15	Erita Co., Ltd.	'21.07.01
16	Korea Environment Measurement Center Co., Ltd.	'21.09.27
statutory agency	Korea Environment Corporation (KECO)	



Administrative Measures against non-compliance with acceptable discharging limit

When a facility exceeds allowable discharging limit

Order of Improvement

- * Only when violation level is low*
- : Business operator who got an order of improvement shall submit improvement plan, and then get confirmed that the order of improvement is fulfilled.

Order of Use Suspension

When order of improvement is not fulfilled.

★This is in the Amendment of POPs Control Act (June '22)

Order of Shutdown

When order of use suspension is not fulfilled & When it is considered that compliance with allowable limit is not possible.

Announcement of Violation

ME publishes the facility name who gets an order of improvement /use suspension/shutdown, its violation activity, and imposed penalty.

When the use suspension of facility disrupts significantly daily life and the economy of the local community.

replaceable with penalty surcharge of ≤300 million won

Provided that, it is not possible to replace an order of use suspension with penalty surcharge, when an order of use suspension is made for a violator who was already imposed penalty surcharge within 2 years.

★Amendment of the POPs Control Act (June '22)



National Level POPs Management

1 Survey on Discharging Source & Quantity

Every year, ME performs surveys on quantities of 4 pollutants* from 170 facilities and calculates national discharging quantity, respectively.

* dioxin/furan, Co-PCBs, hexachlorobenzene, pentachlorobenzene

2 Establishment & Operation of POPs Measurement Network

Every year, ME takes samples at 171 spots nationwide, and then analyzes total 26 pollutants*

* 5 by-products from processing, 5 organic chlorine pesticides,

4 industrial substances, 12 candidate substances



▶ National-level Management



Every year, ME performs surveys on quantities of 4 pollutants from 170 discharging facilities,* and then calculates national discharging quantity**, respectively.

* Incinerating facility: 70 facilities, Non-incinerating facility: 100 facilities

** Dioxin/furan, Co-PCBs, hexachlorobenzene, pentachlorobenzene

Select facility subject to survey

Measurement Calculate discharge coefficient

Calculate national discharging quantity

National management on unintentional POPs discharging sources, Which aims to reduce unintentional POPs discharge.



- ▶ National-level Management
- 2 Establishment & Operation of Measurement Network

Every year, ME takes samples at 171 sources* nationwide, and then analyzes total 26 pollutants**

Air: 38 sources x 2 times (summer/winter), Water: 36 sources,

Soil: 61 sources, Sediment: 36 sources

** 5 by-products from processing, 5 organic chlorine pesticides,

4 industrial substances, 12 candidate substances

When pollutant value exceeds 95 percentile value for 2 consecutive years.

Priority <u>Meas</u>urement Network

Understanding pollution status in environmental media through the monitoring program & Continuous communication (e.g. consultation with the industry)

- ⇒ Call for the industry's effort to manage discharging sources and reduce discharging
- ⇒ Utilize the data as base information for the national report of SC





ME makes a list of contaminated device (device, installation, product) that contains more than 50mg/L of PCBs.



Owner of device subject to management shall notify the head of local government (e.g. mayor, governor) of manufacturer, manufactured date, whether insulating oil is replaced or not, etc.

- **X** Exemption from the notification
 - : 1) Devices manufactured after 27 Jan. 2008; and
 - ② PCB is contained in insulating oil less than 0.05mg/L.



When containing insulating oil with more than 2mg/L of PCBs, export and import are banned.



Owner of contaminated device that its use is finished shall dispose it within 45 days with an appropriate method as such device is considered as designated waste under the Wastes Control Act. (Attachment 8 of Enforcement Rule)





2024 Key Implementation Plan



"2023": Our tasks

- ➤ As the POPs Control Act was amended (Jun. 2022), its subordinate law were also amended and enforced. (Jun. 2023)
- Possible to give an order of use suspension to business operator who fails to fulfill an order of improvement.
- Designate measurement and analysis-specialized institutes
 & Develop operation standard therefor.
- Specific exemption information becomes more accessible by making it in the form of ME Public Notice.
- ► Strengthen inspection on dioxin discharging facilities
- Increase the number of facilities subject to inspection (140 → 300 facilities)
 & Reduce an interval between inspections. (8 years → 2 years)
- Induce business operators to comply with acceptable discharging limit, which enhances effectiveness of dioxin regulation.
- ► International cooperation on POPs
- Participate in COP11 of Stockholm Convention and Rotterdam Convention, and then reflects the adopted decisions into the domestic law.
- Participate in COP5 of Minamata Convention, and then reflects the adopted decisions into the domestic law.
- Host the 22th Korea-Japan Government Officials Meeting (GOM) on POPs
 Publish a comprehensive report on bilateral cooperation over the past 20 years.

2024 Key Implementation Plan



"2024" : Our Plan

► Improved instrument of self-measurement

- Self-measurement is exempted for business operator who goes through inspection for the year, aiming at more effectiveness of the self-measurement instrument.
- ► PFAS-containing fire fighting foam: status survey & management measure
- Status surveys on its handling and management
 & Surveys on its manufacture, export/import, use, stored quantities.
- Entire lifecycle management (even before manufacture/import ~ disposal)
- Develop stepwise measures to replace it with environmentally sound fire fighting foam

► SC Implementation

- Review extension of specific exemption for Deca-BDE (extendable by 20 May 2025)
- Prepare domestic entry-into-force of POPs adopted at COP 10 (i.e. PFHxS)
- Consultation with the industry regarding POPs adopted at COP 11
 (i.e. Dechlorane Plus, UV-238, Methoxychlor)
- Surveys on candidate POPs for COP 12 (i.e. Chlorpyrifos, MCCP, LC-PFCAs)

2024 Key Implementation Plan



Global PFAS Regulation Trend: Korea's Response

- ▶ PFAS are controlled under 'POPs Control Act' & 'K-REACH' in Korea.
- POPs Control Act restricts/bans PFOA, PFOS and PFHxS listed to SC.
- POPs measurement network for SC-listed 3 PFAS and additional 5 PFAS.
 (including PFBA, PFBS, PFHxA, PFNA, PFDA)
- Under K-REACH, some of PFAS are designated and managed as "Toxic Substance"
 /"Substance subject to Intensive Control".
- ► Respond to other countries' PFAS regulation (e.g. EU ECHA, US EPA)
- Korean government submitted an official comment on EU PFAS regulation to the EU.
 (Sep. 2023, by the MOTIE)
- ME will keep monitoring and responding to the global PFAS regulation trend.
- ▶ Update the distribution status of PFAS in Korea
- ME will keep updating the current status of PFAS distribution by performing a statistical survey on chemical substance and so on.



Korea's Management Policy & Response to Global Trends in POPs

Thank you



