

Introduction to PRTR and PRTR reduction plan

Korea Chemicals
Management Association



KCMA

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I . PRTR

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▪ Purpose

- For companies to self understand volume of emission to environment(air, water and soil) from the chemicals they manufacture or use and minimize environmental pollution and enhance production by reducing emission and emission loss of products or raw material

▪ Legal basis

- Chemicals Control Act Article 11, enforcement decree article 6 and enforcement rule article 5.

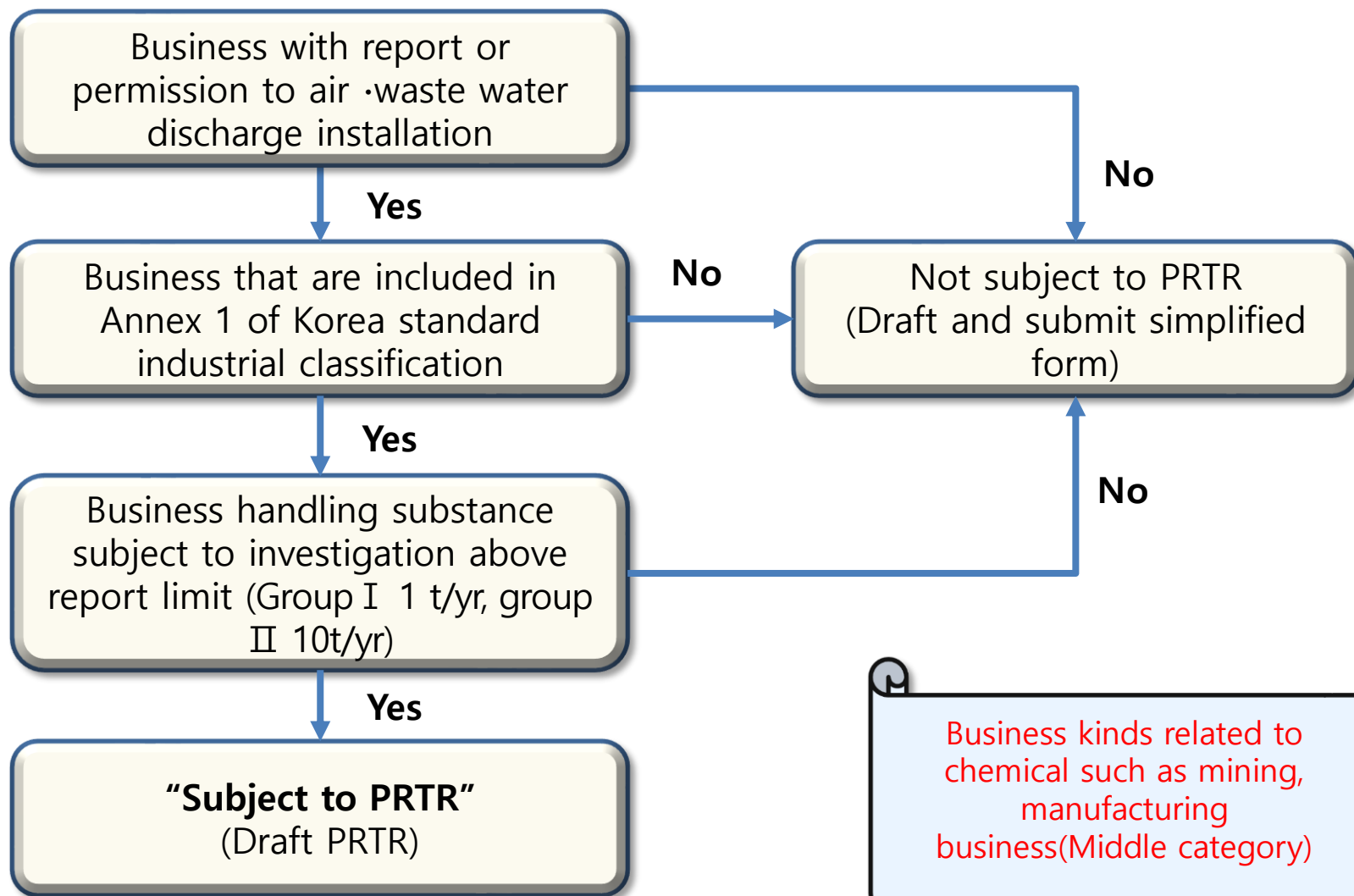
▪ Subject to PRTR

1. Hazard chemical substances
2. Chemicals and volatile organic substance according to Clean air conservation act.
3. Chemicals according to Clean water conservation act.
4. Designated as carcinogenic, mutagenic and toxic to reproduction by international organizations and prescribed by Ordinance of Minister of Environment for human and environment protection

Subject substances 415 kinds (Group I : 20 kinds, Group II: 395kinds)

I. PRTR Investigation

▪ Subject to PRTR



▪ Subject and Exemption to PRTR

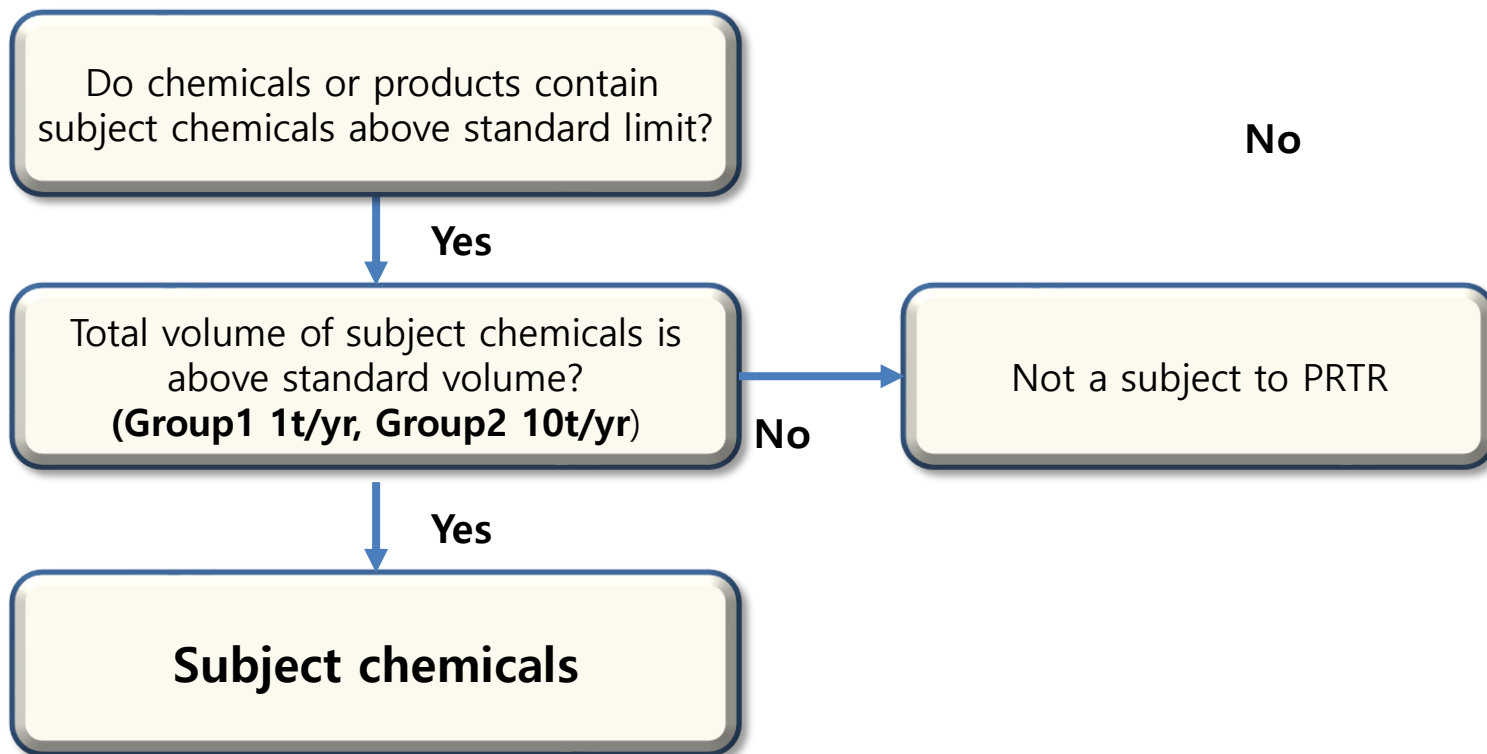
➤ Subject to PRTR

1. chemicals and products produced within business
2. Raw materials and additives used within business (all chemicals contained in products directly or chemical rxn such as assistive material, rxn gas)
3. Process aid substance that are used within business (chemicals that are not contained but used for production process such as catalyst, separating medium, cleaning agent and etc.)
4. Chemicals stored and storing within business (contain chemicals that are stored in a warehouse for transport and etc.)
5. Waste that are disposed at waste disposal business (chemicals contained in the process of incineration, landfill, recycle)
6. other chemicals (chemicals used in waste water treatment and to maintain and repair business facility and equipment)

➤ Exemption to PRTR

1. chemicals used only for study, research or examination that are used in limited places with limited people
2. Chemicals built in equipment, device that are purchased with storage battery
3. Chemicals that are part of business equipment such as paint for painting and construction materials
4. Chemicals used for operation and maintenance of equipment operated by business
5. Chemicals that are personally used by employee such as office devices, medicine and cosmetics
6. Chemicals used for maintaining business landscape facilities such as insecticide, fertilizers
7. chemicals that are heavy metals and its compound that are solid, keep its natural form when treated and do not fuse, vaporate or dissolve

▪How to confirm subject substance



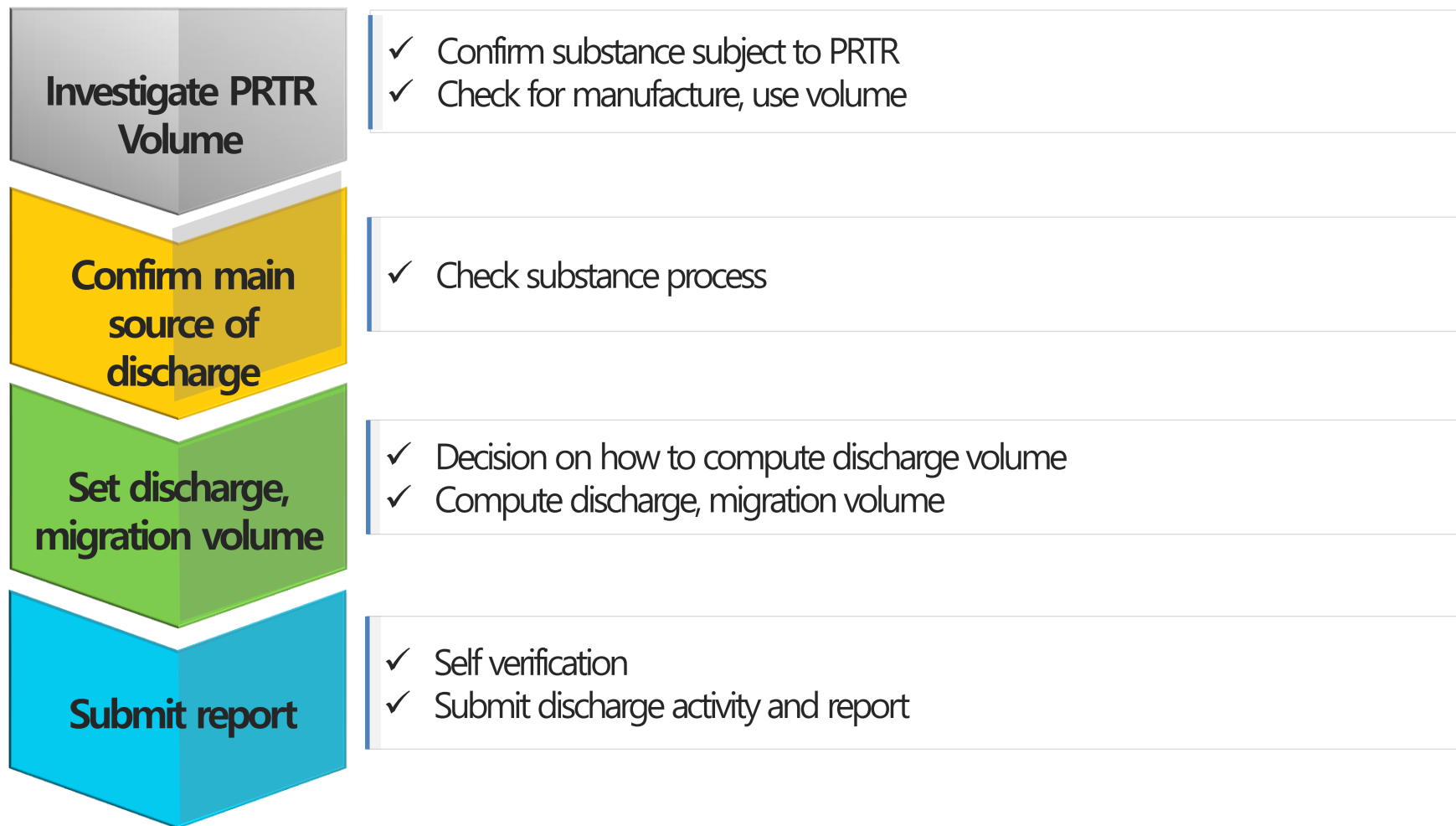
▪ Handling volume standard

- toxic **0.1%** or **1%**
[percent by weight %]

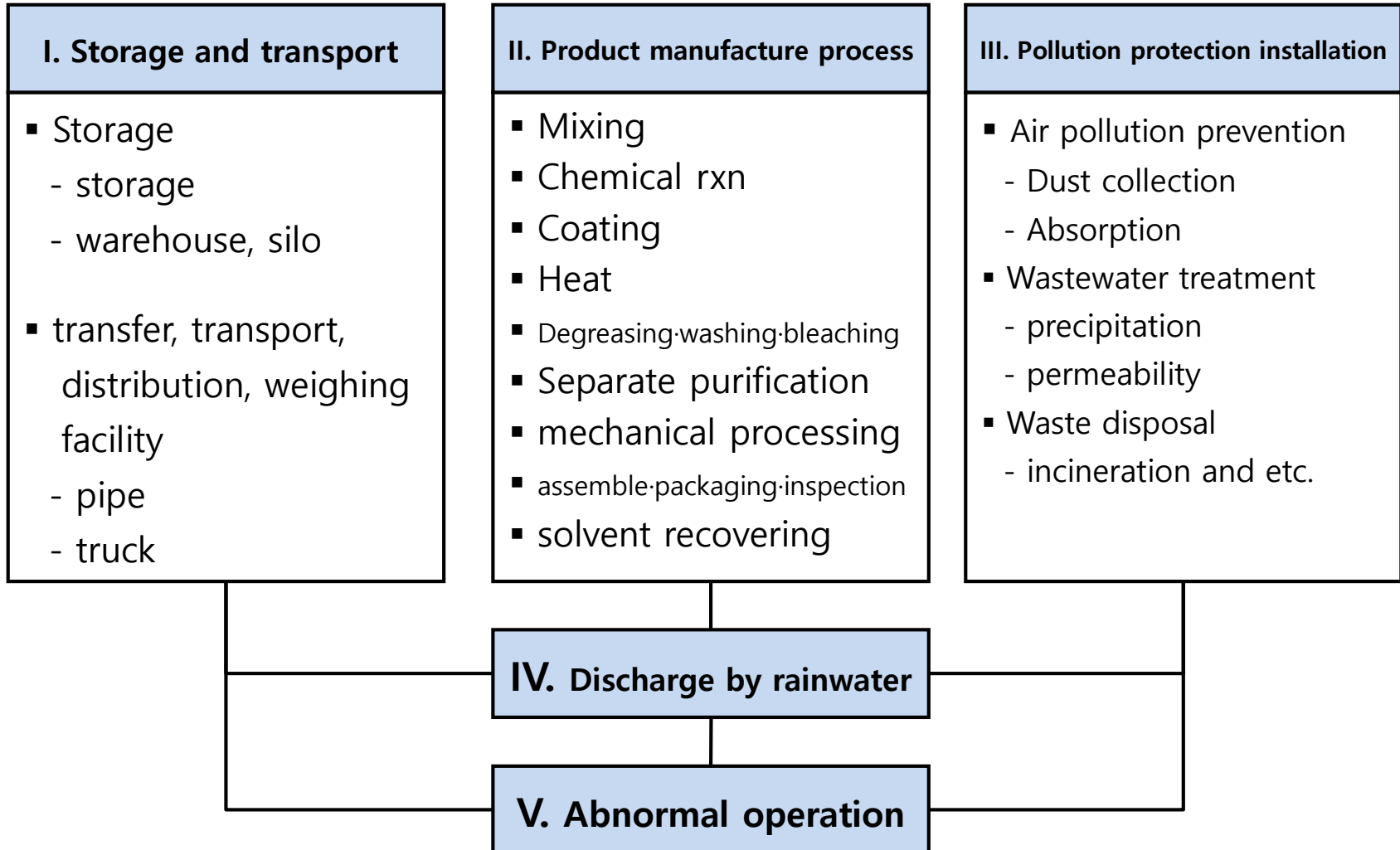
▪ Handling volume(unit : ton)

- Yearly handling volume (manufacture+use) exceed 1t
: **Group I 20 kinds**
- Yearly handling volume (manufacture+use) exceed 10t
: **Group II 395 kinds**

■ PRTR computation



▪Sources for each process



■ PRTR computation method

■ Direct computation

- Compute PRTR by measuring direct emission volume(flux and concentration)
- Efficient to compute PRTR for chimney, **waste water treatment**, waste fluid and waste

■ Material balanced

- Compute using the law of conservation of mass, mass balance system
- Compute PRTR for specific process(PRTR source)

■ Emission coefficient

- Apply average PRTR coefficient at specific facility to similar PRTR source (coefficient : rate of emission compare to handling volume)
- Efficient for pipe system such as scattering source(valve, flange, pump and compression)

■ Engineering computation

- Computation using physico-chemical properties(vapor, solubility, diffusion coefficient and etc.), pollution prevention properties(removal rate, efficiency)
- Efficient for storage facility where PRTR computation is complicated (use computation program)

II. PRTR Reduction Plan

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▪ **Backgrounds**

- The PRTR results are open to public every year but business efforts to reduce emission of high hazard chemicals such as carcinogenic and etc
- Need to obligate companies with high volume of high hazard chemicals to establish emission reduction plan

▪ **Contents**

- A person who discharge chemicals with high hazard more than certain volume among business subject to PRTR, should draft and submit chemical emission reduction plan once in every five years.

▪ **Legal basis**

- CCA Article 11 clause 2('19.11.29, enforcement date)

■ Subject

	Subject substances
1 st step (2019. 11)	9 kinds including Benzene
2 nd step (2024. 11)	44 kinds including formaldehyde
3 rd step (2029. 11)	362 kinds including diethyl steel besterol (corresponds to whole substances subject to PRTR)

■ Contents

- Business general information
- Handling process, handling and emission process on substances subject to PRTR reduction plan
- Future PRTR reduction plan
- Yearly reduction goal
- PRTR reduction yearly progress (when submitting more than 2 times)

■ **Management plan**

- (MOE) ① Develop and suggest reduction plan including requirements and alternative technology and equipment
 - ② Deliver result to local government and regional office after the review and approval
- (Local government) Decide on form and level of specific reduction goal

■ **Deadline**

- Submit for the first time by April during the 2nd year of PRTR above the condition volume.
Than submit reduction plan once in every five years

■ **CBI**

- Can report CBI among handling facility arrangement plan, handling volume, handling process and etc.

Thank you

