

Summary Guidance on Reporting by Overseas Manufacturer or Producer

Feb, 2016

< N O T E >

- ◆ This Guidance includes processes and methods of reporting manufacture, etc., of chemical substance in accordance with Article 8 of the Act on the Registration and Evaluation, etc. of Chemical Substances
- ◆ This Guidance was prepared by collecting opinions from experts, related agencies, and the industry based on knowledge and experience accumulated from research and analysis of current status and case studies related to reporting systems worldwide and relative Public Notices, etc.
- ◆ This Guidance does not have legal or compulsory effect, and is a technical reference material for reporting required under ARECs. The responsibility to consider individual situations in relation to reporting is with the person who has liability to submit the report.
- ◆ This Guidance should be taken into reference with consideration of the ARECs and related Presidential Decree, Ministerial Decree, Public Announcements, Standards, etc. In cases where the contents of this Guidance conflict with related Regulations, then the Regulations shall be applied.

Contents

1. Introduction.....	1
1.1. Introduction to Reporting	1
2. Reporting Procedure	4
2.1. Before Reporting	4
2.1.1. Determining Roles in Reporting	4
2.1.2. Determining Substance subject to Reporting	5
2.1.3. Determining Substance excluded from Reporting	6
2.2. Implementation of Reporting	7
2.2.1. Method and Procedure of Reporting	7
2.2.2. Application for Data Protection.....	8
2.3. After Reporting.....	9
2.3.1. Reporting Changes.....	9
2.3.2. Record Keeping.....	9
3. Method to Preparing each Reporting Category	10
4. Example of Chemical Substance Report.....	11

1. Introduction

A person who manufactures/imports/sells chemical substances must complete the first report on the use and amount, etc., of the relevant substances by June 30, 2016, following the Act on the Registration and Evaluation, etc. of Chemical Substances (ARECs), which came into effect January, 2015. The reporting requirement has been newly implemented.

1.1. Introduction to Reporting

① Purpose

- Provide basis for Minister of Environment to designate and announce phase-in substances subject to registration
- Prior identification of those subject to joint registration of identical phase-in substance subject to registration
- Evaluate implementation of chemical substance registration or registration of change by manufacturer/importer
- Confirm change of usage or manufactured/imported amount of chemical substance after its registration

② Related Provisions

- ARECs Article 8, relevant Presidential Decree Articles 8 and 9, relevant Ministerial Decree Article 3
 - A person who manufactures/imports/sells non-phase-in substance or 1 ton or more phase-in substance must report to the Minister of Environment every year regarding the use and amount, etc., of the chemical substance
 - When there are changes to use of chemical substance or name, address, contact information, etc., of the manufacturer/importer/seller that were reported, the changed information must be reported

③ Scope of Report

- Non-Phase-In substance or 1 ton or more of phase-in substance that were manufactured/imported/sold the previous year (Jan 1 ~ Dec 31)

④ Reporting Method and Submission Deadline

- Log on to ARECs IT System (<http://kreach.me.go.kr>) and submit required information
- Reporting Deadline: June 30th every year

⑤ Terms and definitions related to reporting under ARECs

Term	Definition
Chemical substance	any chemical element and/or compound, any substance obtained through artificial reactions thereto, and any substance obtained by chemical modification, extraction, or purification of a substance that exists in nature
Preparation	any substance or solution composed of two or more substances
Alloy	any metallic substance compound or solid composed of two or more elements
Compound	any substance with consistent composition, which is formed by chemical bonding between two or more elements
Polymer	a chemical substance meeting all of the following conditions A. Consists of a molecular sequence of one or more types of monomer units; B. Shows a characteristic distribution of molecular weight in accordance with the number of repetitions of the monomer units in each molecule C. At least 50% of the chemical substance is made up of molecules formed by 3 or more monomer units which are covalently bound to at least one monomer unit or other reactance; and D. Molecules of the same molecular weight do not exceed 50% of the weight ratio
Monomer	a chemical substance that forms a polymer by combining with two or more other molecules as well as any reactant that participates in that reaction
Monomer unit	the structure of repetitive monomers where a polymer is formed by combining monomers
Reaction product	any chemical substance formed as a result of a chemical reaction between two or more substances
Isolated intermediate	a chemical substance that is created and completely used up in the course of manufacturing other chemical substances and that is not a non-isolated intermediate
Molecular weight	the sum of atomic weight of atoms composing a molecule
Molecular formula	the chemical formula that depicts molecular composition of a substance using element symbols
Non-Isolated intermediate	a chemical substance that is created and completely used up in the course of manufacturing other chemical substances and is not intentionally removed or eliminated from the manufacturing facility
Number average molecular weight	the value derived by dividing the total molecular weight of the polymer by the number of molecules
Salts	any chemical substance formed from neutralization reaction between an acid and base
Isomer	a chemical substance that has identical molecular formula, but have different structures
Additive	a substance that is added to the chemical production process, not as the main ingredient, of which there may be various purposes, but usually used to enhance quality of the main ingredients or maintain stability
Qualitative analysis	a method used to investigate unknown substances within a sample by utilizing physical properties or chemical reactions of molecular elements (including atom groups, ions, isotopes)

Quantitative analysis	chemical analysis using physical or chemical methods to determine the amount or ratio of one or more components within a sample; chemical methods include precipitation, neutralization, acid-base reaction, and other methods where new compound is produced, and physical methods use physical properties including density, refractive index, absorption or polarization of light, electromotive force, susceptibility, etc.
Phase-in substance	any of the following: (a) Chemical substances domestically distributed for commercial purposes prior to February 2, 1991 and publicly announced by the Minister of Environment after consultation with the Minister of Employment and Labor; or (b) Chemical substances examined with respect to hazards after February 2, 1991 pursuant to the former Toxic Chemicals Control Act and publicly announced by the Minister of Environment
Non-phase-in substance	all chemical substances excluding phase-in substances
Phase-in substance subject to registration	phase-in substances deemed necessary to register for the purposes of the hazard examination under Article 18 or the risk evaluation under Article 24 and publicly announced by the Minister of Environment after deliberation of the Chemical Substance Evaluation Committee under Article 7
Hazardous chemical substance	any chemical substance deemed to pose a high risk that the Minister of Environment publicly announces pursuant to Article 27 after consultation with the head of an appropriate central administrative agency and deliberation of the Chemical Substance Evaluation Committee under Article 7 in order to prohibit such substance from being manufactured, imported, sold, stored/preserved, transported, or used for any purpose
Impurity	a substance that is formed or exists occasionally or non-intentionally in other chemical substances and is not imported or released into market on its own
Byproduct	a substance that is produced non-intentionally together in the process of manufacturing intended chemical substance and is not imported or released into market on its own
Generic name	a name given in place of the original name of a chemical substance for the purpose of data protection
Downstream user	a person who uses a chemical substance or preparation in the course of business activities (in the case of a corporation, it shall be limited to a legal entity that is established in Korea) with the exception of a person who manufactures, imports, or sells chemical substances or preparations, or consumers
Business entity	a person who manufactures, imports, uses, and/or sells chemical substances for the purpose of business
A person appointed by Overseas Manufacturer or Producer	a person who is appointed by a person who manufactures or produces a chemical substance or product that is imported into Korea from overseas, in order to carry out the tasks required under ARECs on behalf of a person who imports or intends to import the chemical substance or product
Manufacture	an act of forming a different chemical substance through chemical synthesis, etc.
Sale	an act to launch any chemical substance, preparation, or product on the market

2. Reporting Procedure

2.1. Before Reporting

2.1.1. Determining Roles in Reporting

- Manufacturer: A person who manufactures* a chemical substance within the territory of the Republic of Korea

** an act of forming a different chemical substance through chemical synthesis, etc.*

- In case of a person who manufactures chemical substance by consignment, the consignee may submit the report with supporting document proving consignment

- Importer: A taxpayer in accordance with Article 19 of the Customs Act

- In case where the importer does not have information of chemical substances subject to reporting due to trade secret, etc., (1) the person appointed by overseas manufacturer or producer in accordance with Article 38 of the Act may report, or (2) the overseas manufacturer or producer may report directly
- In case where the person appointed by overseas manufacturer or producer reports, information of the person appointed by overseas manufacturer or producer is provided as the reporter, and therefore the responsibility of reporting is with the person appointed by overseas manufacturer or producer, and not to the importer
- In case where the overseas manufacturer or producer directly reports for imported chemical substance of the importer, information of the importer is provided as the reporter, and therefore the responsibility of reporting is with the importer and the importer must check the status of reporting performed by the overseas manufacturer or producer

- Seller: A person who sells chemical substance to another person who uses it as a raw material* at a business site (a person who sells chemical substance to another person who consumes it at a business site and a person who sells chemical substance to a consumer are not included)

** all chemical substances that are used to manufacture/produce products at business sites*

Examples of Sellers
<ul style="list-style-type: none"> • A person who manufactures and sells chemical substance to those who use it as a raw material at business sites
<ul style="list-style-type: none"> • A person who buys a manufactured chemical substance and sells it to those who uses it as a raw material at a business site
<ul style="list-style-type: none"> • A person who imports a chemical substance or preparation and sells it to those who uses it as a raw material at a business site
<ul style="list-style-type: none"> • A person who buys a chemical substance or preparation from an importer, and repackage or relabel it to sell it to a person who uses it as a raw material at a business site
<ul style="list-style-type: none"> • A person who produces preparations and sells them to those who use them as raw material at business sites

2.1.2. Determining Substance subject to Reporting

- Non-Phase-In Substance: All non-phase-in substance that has been manufactured, imported or sold during the previous year
- Phase-In Substance: Phase-In substance of 1 ton per year or more that has been manufactured, imported or sold during the previous year
 - * *the amount of export is not included in the amount sold*

① Check if the chemical substance that is manufactured/imported/sold is excluded from the scope of ARECs (Act, Article 3) and whether it is defined as chemical substance (Act, Article 2, Paragraph 1) in accordance with ARECs.

② If the chemical substance is within the scope of ARECs, check if it is a phase-in substance or non-phase-in substance.

※ Phase-In substance may be confirmed on the National Chemicals Information System (NCIS)¹ database operated by the National Institute of Environmental Research (NIER) (refer to the “Manual on Chemical Substance Confirmation” published by the MoE (2015))

③ In case of phase-in substance, check the volume threshold for reporting, which is 1 ton or more

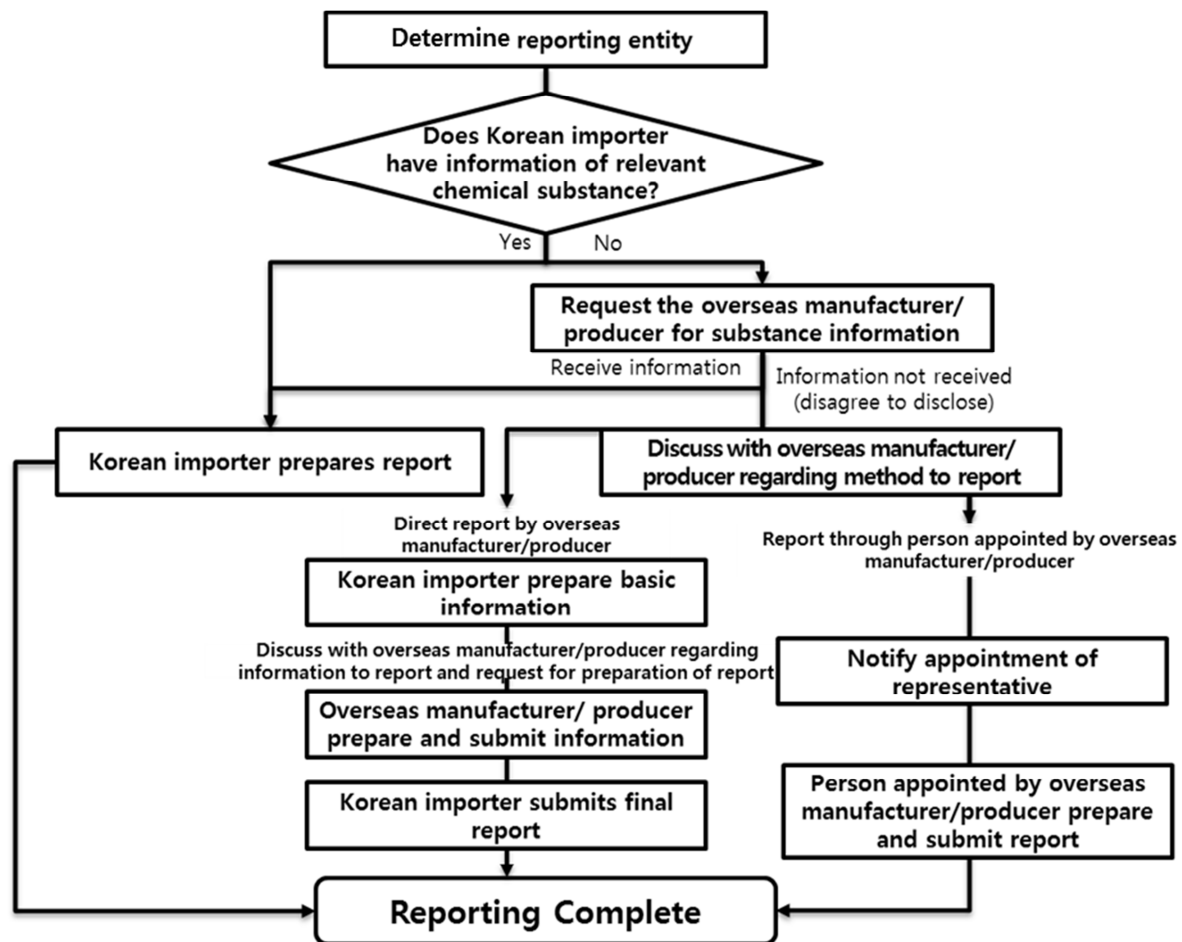
¹⁾ <http://ncis.nier.go.kr>

2.1.3. Determining Substance excluded from Reporting

Basis for exclusion from Reporting	Conditions
Chemical substance of which the method of handling indicates no risk of discharge or leak	<ul style="list-style-type: none"> • Chemical substances imported as a component imbedded in machinery • Chemical substances imported together with machinery or devices for purposes of conducting a test operation • Chemical substances contained in products that perform a certain function in a certain solid form and are not released during use • Non-Isolated intermediates
Chemical substance for test and R&D	<ul style="list-style-type: none"> • Chemical substances that are manufactured or imported for scientific experiment, analysis or chemical research, such as reagents, etc. • Chemical substances that are manufactured or imported for research and development purposes, and fall under any of the following: <ul style="list-style-type: none"> - Those manufactured or imported to develop a chemical or product, etc. - Those manufactured or imported to improve or develop production processes - Those manufactured or imported to test the area of applicability of a chemical within a place of business - Those manufactured or imported for the pilot production of a chemical, product, etc.
Chemical substance that is known to have very low risk	<ul style="list-style-type: none"> • Phase-In substances for which there is sufficient information that the chemical is of very low risk (Ministry of Environment (MoE) Public Notice No. 2014-239, Appendix 1) • Phase-In substances that are unlikely to be designated as phase-in substances subject to registration (MoE Public Notice No. 2014-239, Appendix 2) • Hydrates or hydrated ions of the above phase-in substances

2.2. Implementation of Reporting

2.2.1. Method and Procedure of Reporting



Method and procedure of reporting an imported chemical substance

- Information to Report: Report the amount, etc., of manufacture, import, and sale of chemical substances of the previous year in accordance with Article 3 (Reporting Method, etc., of Manufacture, etc.) of the ARECs Ministerial Decree
- Reporting Deadline: Submit until June 30th every year
- Processing Authority: River Basin Environmental Office or Local Environmental Office

Reporting categories

Category	Detail
Reporter	Company name, business registration number, president's name, responsible person's information (name, contact, e-mail address), business site information (address, phone and fax numbers)
Information to report	Chemical substance name (generic name), identity number (CAS No., etc.), amount of manufacture/import/sale (in tonnage bands), usage-based classification, description on specific use
Importer information (In case where a person appointed by an overseas manufacturer or producer is reporting import)	Company name, business registration number, president's name, responsible person's information (name, contact), country of import
Overseas manufacturer or producer information (In case where an overseas manufacturer or producer is reporting import)	Company name, business registration number, president's name, responsible person's information (name, contact), address of business site

2.2.2. Application for Data Protection

Amongst the information required for reporting under ARECs, data protection may be applied for information on chemical identity, component within products, content, etc., of chemical substances if it constitutes a trade secret in accordance with Article 2(2) of the Unfair Competition Prevention and Trade Secret Protection Act (Unfair Competition Prevention Act) (refer to the “Guidance on Data Protection and Information Provision under ARECs” published by the MoE (2015)).

Except, if the data that is to be protected has already been disclosed, and does not constitute trade secret in accordance with Article 2, Subparagraph 2 of the Unfair Competition Prevention Act, then the said data may be disseminated despite application of data protection.

Information that may be disseminated despite the application for data protection

Information that has already been disclosed	Identity information of substance already listed in existing chemical inventories of countries other than Korea (chemical substance name, identity no., molecular formula, structural formula)
Information that does not constitute a trade secret (Presidential Decree Article 30(2))	<ol style="list-style-type: none">1. Commercial name of a chemical, product name, etc.2. Data on chemical substances and uses of products3. Data on safe use including handling precautions, disposal method, etc. for chemical substances or products4. Data on contingency plan in case of accident involving the chemical5. Data on physicochemical properties of the chemical6. Summary data on hazards of the chemical7. Summary data on risks of the chemical8. Other data deemed and announced by the Minister of Environment as requiring disclosure due to the need to protect human health and the environment

The period of data protection is 5 years, and in case where an extension is applied for, the data may be protected up to 15 years with 2 extensions.

2.3. After Reporting

2.3.1. Reporting Changes

If there are changes to the following reported information, a report of change must be submitted within 1 month of realizing the fact or its occurrence.

Change to Report	Reporting Period
Information of manufacturer/ importer/seller (name, address, contact, etc.)	Within 1 month after the change
Usage-Based classification (Presidential Decree [Appendix 2])	Within 1 month after recognizing the change

2.3.2. Record Keeping

The information reported for manufactured/imported/sold chemical substance each year must be recorded and kept within the business site for 5 years from the date it was recorded (in case of data protection, 5 years after the expiration).

3. Method to Preparing each Reporting Category

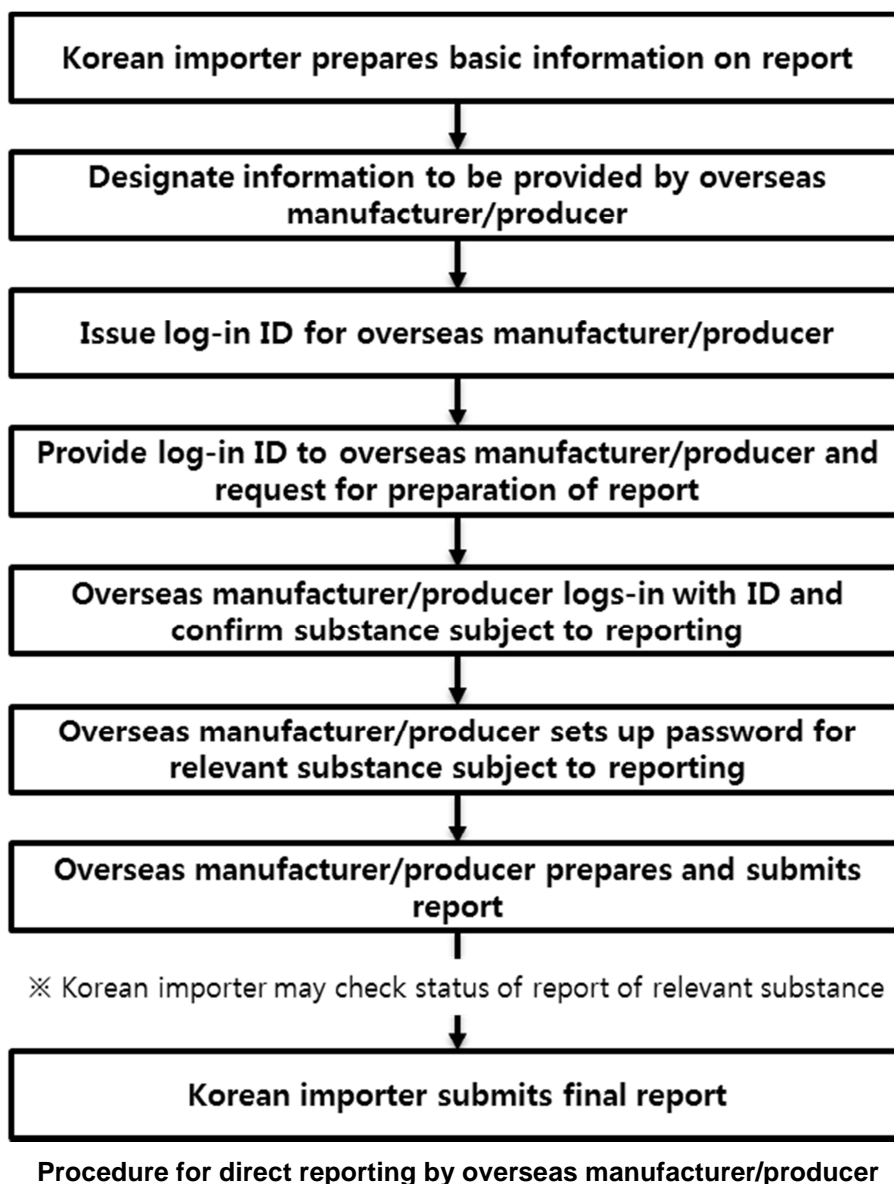
(1) Chemical substance name (generic name)	<ul style="list-style-type: none"> Provide chemical substance name: Based on International Union of Pure and Applied Chemistry (IUPAC) name or Chemical Abstracts (CA) name 	
(2) Identity no. (CAS No., etc.)	<ul style="list-style-type: none"> CAS No. or Korea Existing Chemicals Inventory No., hazardous chemical no., etc. 	
(3) Amount of manufacture (import/sale) (ton)	<ul style="list-style-type: none"> For volume less than 10 tons, the volume may be chosen from the ranges below <div data-bbox="582 638 1348 795" style="border: 1px solid black; padding: 5px; margin: 5px 0;"> <input type="checkbox"/> <0.1 t <input type="checkbox"/> ≥0.1 t, <0.5 t <input type="checkbox"/> ≥0.5 t, <1 t <input type="checkbox"/> ≥1 t, <2.5 t <input type="checkbox"/> ≥2.5 t, <5 t <input type="checkbox"/> ≥5 t, <10 t <input type="checkbox"/> Other <input style="width: 100px;" type="text"/> </div> For volume of 10 tons or more, provide the volume within ±10% range in [other] In case where the chemical substance is manufactured, imported and sold, provide the volume separately for each field Prepare information on the amount manufactured/imported/ sold between Jan 1 and Dec 31 of the previous year 	
(4) Usage-Based classification	<ul style="list-style-type: none"> Choose from the 55 usage-based classifications in [Appendix 2] of the Presidential Decree If there are multiple uses, provide all that have been confirmed 	
(5) Explanation on specific use	<ul style="list-style-type: none"> Prepare if the usage-based classification is “other” or if there is “general consumer use” 	
(6) Product Information	Product name	<ul style="list-style-type: none"> Provide the commercial name of the product when released into the Korean market If there are multiple products, provide the following information for each product name
	Buyer*	<ul style="list-style-type: none"> Provide all buyers of each product
	Components	<ul style="list-style-type: none"> Provide all components within the product including chemical substances subject to reporting
	Use	<ul style="list-style-type: none"> Provide the use of the product (Not the use in accordance with usage-based category of [Appendix 2] of the Presidential Decree)
	Amount sold	<ul style="list-style-type: none"> Provide the amount sold by the reporter to primary buyers**

* Company that purchases products from the reporter

** Company that is invoiced by the reporter

4. Example of Chemical Substance Report

- Example of direct report by overseas manufacturer/producer



- ① Log-in to the system using the ID provided by the Korean importer, and move to the report preparation screen for the relevant substance.

국외 제조·생산자 보고서 목록

List of Reports by Overseas Manufacturer/Producer

• 보고서 건수 (11)

No	Chemical Name	Content 보고함 내용	Status
1	abodefghig		작성중 Drafting
2	abodefghigdffffg	CAS No 와 함유성분 입력해주세요.	제출 Submitted

- ② The information on reporter and overseas manufacturer/producer provided by the Korean importer, and information to be reported by the overseas manufacturer/producer is shown on the report.

국외 제조·생산자 보고서
Reports of Manufacturing, etc. by Overseas Manufacturer and Producer

General Information

🔍 보고서 정보

보고자 Reporter	Chmcls Korea.
국외 제조·생산자 Overseas Manufacturer and Producer	Chmcls USA
국외제조·생산자가 보고할 내용 The content which should be reported by Overseas Manufacturer and Producer	CAS No.와 함유성분을 작성해 주세요. 6월20일까지 입력해주시기 바랍니다. Please enter CAS No and ingredients until June 20th.
보고 내용 Content of Report	

- ③ Input the information to be reported, which was designated by the Korean importer.

🔍 보고서 내용 Content of Report

Chemical Name (Generic Name)	<input type="text"/>	<input type="checkbox"/> Generic Name
Registry Numbers (CAS No. etc.)	<input type="text"/>	
Manufacture (Import-Sales Amount(Tons))	<input type="checkbox"/> < 0.1 tons <input type="checkbox"/> ≥ 0.1 < 0.5 tons <input type="checkbox"/> ≥ 0.5 < 1 tons <input type="checkbox"/> ≥ 1 < 2.5 tons <input type="checkbox"/> ≥ 2.5 < 5 tons <input type="checkbox"/> ≥ 5 < 10 tons <input type="checkbox"/> Others <input type="text"/>	
용도분류체계 Use of the chemical substance	선택 Select	<input type="text"/>
구체적용도에 대한 설명 Specify the use of the chemical substance	<input type="text"/>	
함유성분 Ingredients	<input type="text"/>	

- ④ The overseas manufacturer/producer may set up a password and save during input phase as follows, and the report is submitted after completion.

🔍 보고서 패스워드 설정 Set Password for Reports of Manufacturing, etc.

보고서 조회시 필요한 패스워드를 설정합니다. Please set a password to have access to your account.

* 패스워드 Password	<input type="password"/>
* 패스워드 확인 Confirm Password	<input type="password"/>
* E-Mail	<input type="text"/>

저장
SAVE
제출
SUBMIT

※ If password is lost, then it may be reconfigured by confirming the e-mail address with the manager

The Korean importer may check the status of reporting by overseas manufacturer/producer as follows, and may only submit the final report after the overseas manufacturer/producer have submitted required information of relevant substance.

국외 제조·생산자 보고현황			
Status on Report by Overseas Manufacturer/Producer			
· 국외 제조·생산자 (3) Overseas manufacturer/producer			
로그인ID Log-In ID	국외 제조생산자 상호명 Name of Overseas Manufacturer/Producer	보고현황 Report Status	보고일자 Date of Report
Frqn01!@	Chmcls America	작성중 Pending	-
Frqn02!@	Chmcls EU	제출 Submitted	2016-06-05
Frqn03!@	Chmcls Japan	제출 Submitted	2016-06-17

APPENDIX. Usage-Based Classification of Chemical Substances(Presidential Decree [Appendix 2])

Usage-Based Classification of Chemical Substances

1. Absorbents and Adsorbents	Substances that absorb or adsorb gases or liquids
2. Adhesive • Binding agents	Substances that bind the contact areas of two objects or combine two objects
3. Aerosol propellants	Compressed gases or liquefied gases that expel the contents of a container by means of spraying
4. Anti-condensation agents	Substances that are used to prevent liquid from condensing on the surface of objects
5. Anti-freezing agents	Liquid used to to prevent solidification due to cooling
6. Anti-set-off and Anti-adhesive agents	Substances that are used to prevent set-off or adhesion between the contact areas of two objects
7. Anti-static agents	Substances that prevent or reduce the accumulation of electrostatic charge
8. Bleaching agents	Substances that whiten or decolorize by decomposing or removing the color of tinted material such as fiber, etc. through chemical means
9. Cleaning and Washing agents	Substances used to remove pollutants or impurities on surfaces
10. Colouring agents	Substances that impart color to other materials
11. Complexing agents	Substances that as ligands bind to other substances that are mainly heavy metal ions to form coordination complexes
12. Conductive agents	Substances that are added or applied during the manufacturing process in order to improve conductivity of textiles and plastics
13. Construction materials additives	Substances used for construction materials in order to enhance the quality of the building and for maintenance purposes
14. Corrosion inhibitors	Substances added to prevent corrosion caused by air, chemical substances, outdoor exposure, etc.
15. Cosmetics	Substances used in cosmetics and toiletries
16. Dust binding agents	Substances that are sprayed or added to prevent the generation and aerial dispersion of dust

17. Electroplating agents	Substances used for the cleaning and washing of metal surfaces and substances added to increase metal strength during the course of manufacturing
18. Explosives	Substances that possess chemical stability but through chemical change rapidly release a large amount of energy and gases accompanied by explosion or expansion
19. Fertilizers	Substances that supply nutrients to plants or cause chemical change in soil to aid plant cultivation
20. Fillers	Substances that are added to rubbers, plastics, paints, ceramics, etc. to enhance performance, such as glossiness, tensile strength, color, etc.
21. Fixing agents	Substances that react with the dye of textiles and cause the coloring to settle into the cloth
22. Flame retardants and Fire preventing agents	Substances added and reacted during processing usually for the prevention or retardation of combustion of textiles and plastics
23. Flotation agents	Substances used to concentrate or collect minerals during the refinement of minerals
24. Flux agents for casting	Substances added to prevent the formation of oxides during the melting of minerals
25. Foaming agents	Substances usually added in plastics or rubber materials to form foam through generation of gases during the working process
26. Food • Foodstuff additives	Substances added to food (excluding those ingested for medicinal purposes) or during the process of manufacturing, processing or preserving food
27. Fuel	Substances through which energy may be obtained via combustion reaction
28. Fuel additives	Substances added to fuel to enhance combustion efficiency and energy efficiency
29. Heat transferring agents	Substances that transmit and remove heat
30. Hydraulic fluids and additives	Liquids (oil) added to various compressors and substances added to increase the efficiency with which pressure energy is transferred
31. Impregnation agents	Substances that are applied to material in advance in order to enhance the quality and preserve the shape of processed products

32. Insulating materials	Substances that act to stop the transmission of electric current to parts of the electric equipment other than the conductor
33. Intermediates	Substances used to synthesize other chemical substances
34. Laboratory chemicals	Substances used in laboratories for scientific experiments, analysis or research
35. Lubricants and additives	Substances inserted to reduce friction between two surfaces
36. Non-agricultural pesticides and Disinfectants	Substances that kill, or interfere with/inhibit the activities of harmful organisms; provided, however, that pesticides, pharmaceuticals, quasi-pharmaceuticals, and veterinary pharmaceuticals or quasi-pharmaceuticals are excluded from this definition
37. Odor agents	Substances that produce odor
38. Oxidizing agents	Substances that easily give up oxygen under certain conditions and oxidize other substances, remove hydrogen or easily accept electrons in chemical reactions
39. pH-Regulating agents	Substances used to stabilize or control hydrogen ion concentration
40. Pesticides	Substances used to control bacteria, insects, mites, nematodes, viruses, weeds, and other pests on crops; provided, however, that fertilizers are excluded from this definition
41. Pharmaceuticals	Substances that are active ingredients of pharmaceuticals, quasi-pharmaceuticals, and veterinary pharmaceuticals and quasi-pharmaceuticals
42. Photochemicals	Substances used to create permanent photographic images
43. Process regulators	Substances that are used to control the speed of a process by modifying the speed of chemical reactions
44. Reducing agents	Substances used to remove oxygen under certain conditions or to act as electron donors in chemical reactions

45. Reprographic agents	Substances used in electronic copy machines, etc. to produce permanent images
46. Semiconductors	Substances, such as silicon crystals, etc., whose resistivity lies approximately in the midway between that of insulators and that of metals and that are changeable by light, heat or electrical or magnetic fields jto generate electromotive force
47. Softners	Substances such as cross-linked bonding chemicals that are mixed in to soften fabric, leather, paper, etc., or to increase the strength of rubber, etc.
48. Solvents	Substances used to dissolve, thin down, extract or degrease
49. Stabilizers	Substances used to prevent change of shape, color, or property during production or used through heat deterioration caused by light, oxygen, ozone, etc.
50. Surface-active agents	A compound that contains hydrophilic and hydrophobic groups that causes activation by attaching to the surface of liquid matter and greatly reducing its surface tension
51. Tanning agents	Substances used for treating leather including tanning, finishing and care products
52. Viscosity adjusters	Substances that stabilize the density of viscous materials consisting of melted resin and other highly polymerized compounds and make such materials easy to use
53. Vulcanizing agents	Substances that simultaneously add elasticity and firmness to compounds such as rubber by generating a cross-linking reaction
54. Welding and Soldering agents	Substances used for welding and soldering of metals
55. Others	Substances other than as stipulated under Items 1 through 54