EL309. Cosmetic Soap 【EL309-2014/1/2014-53】

1. Scope

The criteria shall apply to solid and liquid soap used to clean the skin.

2. Definitions

2.1

"Preservatives" refer to chemicals added for the preservation of an organic material by preventing its decomposition due to the action of microorganisms.

2.2

"Bioconcentration factor (BCF)" is the concentration ratio of bio organisms per water concentration at a point when the concentration of bio organisms of waterborne life and water concentration level are at an equilibrium.

2.3

The "n-octanol/water partition coefficient($\log K_{ou}$)" refers to a concentration ratio of the compounds dissolved in the water and octanol, which is indicated as a partition coefficient, when the compounds were dissolved in the water and octanol that do not mix together.

2.4

"Active contents (AC)" refers to the Total mass[g/wash] of the all constituent compounds of the product, excluding water content. However, rubbing /abrasive agents are excluded when calculating the amount of active content.

2.5

"Aerobic non-biodegradable substance" is the total amount (g/wash) of all the comprising substance in 1g of AC (total amount of organic substance of a product; excludes water) that is not biodegraded in aerobic status.

2.6

"Anaerobic non-biodegradable substance" is the total amount (g/wash) of all the comprising substance in 1g of AC that is not biodegraded in anaerobic status.

2.7

"Marginal diluted amount (CDVtox)" refers to the Total value [L/wash] derived by adding up each amount of water required to dilute the toxicity of each constituent substance in 1 g of AC until it becomes acceptable to the environment.

3. Certification Criteria

3.1 Environmental Criteria

3.1.1

With respect to the use of chemical substances in the manufacturing stage, substances are required to satisfy the following criteria:

3.1.1.1

The following substances should not be used as constituent materials of the product:

3.1.1.1.1

Chemical substances belonging to H Code classification in accordance with the UN GHS (globally harmonized system) for the classification and labeling of chemical substances. However, subsidiary materials and other foreign matters less than 0.01% of the total weight that were present in the raw materials already shall be excluded, but not additional materials injected according to the suggested prescription.

Note1) With respect to the list of substances, EU REGULATION (EC) No 1272/2008 Annex Ⅵ part 3 (HARMONISED CLASSIFICATION AND LABELLING TABLES) shall be applied tentatively.

Note2) Musks that are classified as allergenic substances or environmental impact substances are allowed to be used within a limit of 0.01% of the Total weight.

Note 3) Preservatives classified as environmental impact substances are excluded.

Carcinogenic, Mutagenic and Toxic Substances :

H340	:	may cause genetic defects
H341	:	suspected of causing genetic defects
H350	:	may cause cancer
H350i	:	may cause cancer by inhalation
H351	:	suspected of causing cancer
H360F	:	may damage fertility
H360D	:	may damage the unborn child
H360FD	:	may damage fertility, may damage the unborn child
H360Fd	:	may damage fertility, suspected of damaging the unborn child
H360Df	:	may damage the unborn child, suspected of damaging fertility
H361f	:	suspected of damaging fertility
H361d	:	suspected of damaging the unborn child
H362	:	may cause harm to breast-fed children

Allergies substances :

H317	:	may cause allergic skin reaction
H334	:	may cause allergy or asthma symptoms or breathing difficulties if inhaled

Environmental impact substances :

H400	:	very toxic to aquatic life
H410	:	very toxic to aquatic life with long-lasting effects
H411	:	toxic to aquatic life with long-lasting effects
H412	:	harmful to aquatic life with long-lasting effects
H413	:	may cause long-lasting harmful effects to aquatic life

3.1.1.1.2 Alkylphenol ethoxylates (APEOs) and Alkylphenol derivatives

3.1.1.1.3 Nitrilotriacetic acid (NTA)

3.1.1.1.4 Octamethylcyclotetrasiloxane (D4)

3.1.1.1.5 Butyrate hydroxy toluene (BHT)

3.1.1.1.6 Triclosan:5-chloro-2-(2,4-dichlorophenoxy) phenol and Triclocarban

3.1.1.1.7 Paraben (ethyl-, methyl-, propyl-, butylparaben)

3.1.1.1.8 Formaldehyde and formaldehyde releasers

Note) In this criteria, the following substances are defined tentatively as formaldehyde releasers.

CAS No.	Substance name	CAS No.	Substance name
52-51-7	bronopol(2-bromo-2-nitropropane-1,3-diol)	6440-58-0	DMDM hydration
30007-47-7	bronidox(5-bromo-5-nitro-1, 3-dioxane)	78491-02-8	diazolidinyl urea
70161-44-3	sodium hydroxyl methyl glycinate(SHMG)	39236-46-9	imidazolidinyl urea

3.1.1.1.9 Nitromusks and polycyclic musks

Note) In this criteria, the following musks are defined tentatively as nitromusks and poly-cyclic musks.

Substance name	CAS No.	Substance name	CAS No.
musk xylene	81-15-2	AHTN	1506-02-1, 21145-77-7
Musk ambrette	83-66-9		
Moskene	116-66-5	HHCB	114109-62-5, 114109-63-6, 1222-05-5, 78448-48-3, 78448-49-4
Musk tibetine	145-39-1		
musk ketone	81-14-1		

3.1.1.2 Fragrances

3.1.1.2.1

Should satisfy the Code of Practice for the Fragrance Industry as specified by IFRA (International Fragrance Association).

3.1.1.2.2

No fragrance should be used in products for infants and children younger than 36 months.

3.1.1.3

The bioconcentration factor (BCF) of preservatives and colorants should be lower than 100, or with their n-octanol/water partition coefficient ($\log K_{ow}$) lower than 3. However, colorants permitted by the industrial standard on food additives are excluded from this requirement.

3.1.2

With respect to the service life of products affecting the Consumption of resources in the Consumption stage, solid soaps are required to satisfy the following criteria in the test on cracking and sloughing.

	Cracking	Sloughing
Criteria	≤ 4 points	Within 5 %

3.1.3

With respect to the emission of waterborne contaminants and hazardous substances, the product is required to satisfy the following criteria:

3.1.3.1

The content of aerobic, anaerobic and non-biodegradable substance[mg/g AC][Note)] is ≤ 10 for solid soap and ≤ 25 for liquid soap.

Note) Calculate the Consumption amount[g/wash(i)] according to the content [%] of DID list per constituent substance before adding them up.

3.1.3.2

The marginal diluted amount (CDVtox) [L/wash] after applying active content(AC) should be ≤ 3,300 for solid soap and ≤18,000 for liquid soap.

$$CDV_{tox}(i) = \frac{g/wash(i) \times DF(i) \times 1000}{TFchronic(i)}$$

Note) Related data can be checked in the DID list per constituent substance; DF(i) refers to the degradation factor of constituent substances and TFchronic(i) toxicity factor of the constituent substances which is indicated in mg/L.

3.1.4

With respect to the recyclability of resources in the Consumption and disposal stage, packaging materials should satisfy the following criteria:

3.1.4.1

No halogen-family synthetic resins, including PVC, should be used in the packaging materials.

3.1.4.2

If label or shrink film is used, it should be the same or equivalent to the material used in the main container, and no metallic coating should be allowed. However, the in-mould label inserted when forming a container is excluded from this requirement.

3.2 Quality Criteria

3.2.1

Solid soap should satisfy the "cosmetic soap" criteria in the “Safety/Quality labeling Standard for Voluntary Safety Check” in accordance with the “Quality Management and Safety Control of Industrial Products Act.”

3.2.2

Manufacturing, distribution and handling of liquid soap should satisfy the appropriate criteria in the “Cosmetics Act.”

3.3 Consumer Information

3.3.1

The product's contributions to the reasons for certification (recycling of active resources (if applicable), reduction of stimulation to skin and water contamination) in the Consumption stage should be indicated on the label.

3.3.2

With respect to those products that are designed to be refilled, the applicability of a refill as well as the refill method should be indicated on label in the product package or in the pamphlet.

3.3.3

Labeling and advertisement of the product should satisfy the following criteria:

3.3.3.1

The labeling and advertisement of solid soap should satisfy the “Scope and Requirements of Labeling and Advertisement,” and the “Regulations for Verification of Cosmetics” Labels and Advertisements" in accordance with the “Cosmetics Act.”

3.3.3.2

Products with labeling and advertisements including phrases implying organic properties

should satisfy the “Guidelines of Organic Cosmetics Labels and Advertisements.”

4. Test Method

Certification Criteria			Test and Verification Method
Environmental criteria	3.1.1		Check submitted document
	3.1.2		Check submitted document or test report by an accredited testing laboratory in accordance with “Test Methods (1), (2) and (3)”
	3.1.3	1	▪ Submit document in accordance with the Annex and on-site inspection
		2	Check submitted document or test report by an accredited testing laboratory in accordance with the “Test Method” ▪Biodegradability test method specified in the “Annex-B-(2)” ▪OECD 311(anaerobic biodegradability of organic compounds in digested sludge : by measurement of gas production) ▪KS I ISO 11734[Water Quality-Assessment of Final Anaerobic Biodegradability of Organic Compounds in Decomposed Sludge (Measurement of Biogas Production Amount)]
	3.1.4		Check submitted document
Quality Criteria	3.2.1~ 3.2.2		Check submitted document or test report by an accredited testing laboratory in accordance with “Test Method” or equivalent certificate.
Consumer Information			Check submitted document

4.1 General

4.1.1

Make it a principle to take one test sample per product under application. Where one or more test samples are required, however, this shall not be applicable.

4.1.2

Environmental labeling certification institutions shall conduct random sampling of test samples among the products commercially available or kept in production locations.

4.1.3

Test result shall be numerically set according to KS Q 5002 (Statistical interpretation of data – Part 1: Statistical presentation of data).

4.2 Test Method to Assess Cracking

4.2.1

Collect hexahedron-shaped specimens sized 4×5×1.5 along the length of three identical soaps with the same manufacturing date. Soaps with a total size smaller than 4×5×1.5 cm should be tested as a whole unit, without cutting.

4.2.2

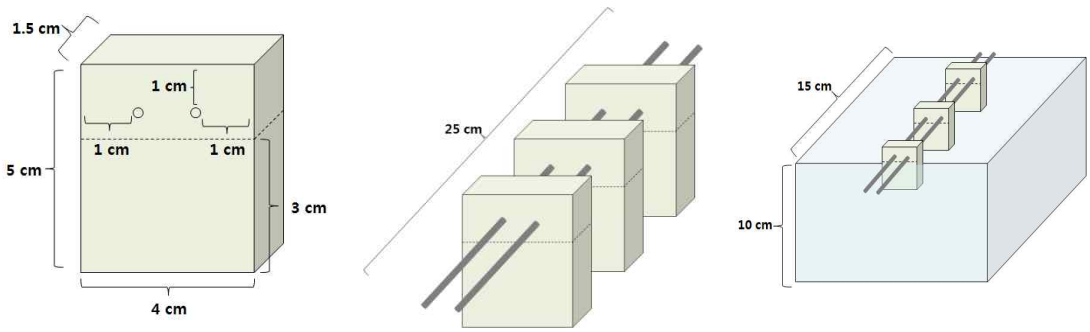
Drill two holes with a diameter of 0.3 ~ 0.4 cm on a point 1cm above the bottom along the length of the soap specimen and 1cm from each side, and draw a line 3cm from the bottom of the specimen, the area below which will be soaked in distilled water. Three soaps shall be skewered through two stainless steel bars about 25cm in length with a diameter of 0.3 cm, with sufficient space between them.

4.2.3

The test specimen fixed on a glass tank with a size of 20×15×10 cm shall be held tight so that it does not move along its length, and distilled water poured until the soap is immersed up to a point 3cm from the bottom and left in the water bath for two hours at 30 ℃.

4.2.4

Carefully pull out the stainless steel bar through which the soap specimen is skewered, and dry it for 24 hours at a temperature of (25±3) ℃ after suspending the bar up across the water tank



[Figure 1] Soap test specimen and test jig (an example)

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4.2.5

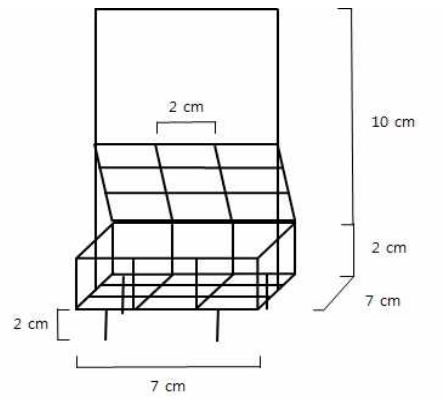
Observe the soap specimen dried in “(D)” for any crack in its bottom and four sides that were immersed in the distilled water, and assess by giving a score in accordance with the following criteria.

Note) Average the number of fine cracks as well as medium and large cracks on the 3 test specimens, respectively, and take the largest score as the final score.

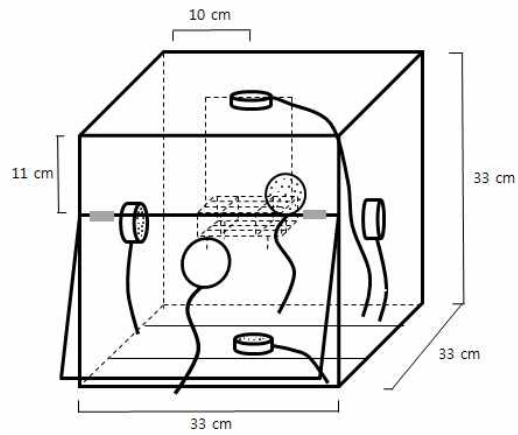
Score	Fine crack	Medium crack	Large crack
	≤ 1 mm	≤ 1~2 mm	Over 2 mm
1 point	≤ 2 cracks	≤ 2 cracks	0 crack
2 point	3 ~ 4 cracks	3 ~ 4 cracks	1 crack
3 point	5 ~ 6 cracks	5 ~ 6 cracks	2 cracks
4 point	7 ~ 8 cracks	7 ~ 8 cracks	3 cracks
5 point	Over 9 cracks	Over 9 cracks	Over 4 cracks

4.3 Test Method to Assess Sloughing

4.3.1 Test Equipment



[Figure 2] Stainless steel mesh



[Figure 3] Booth with detachable shower head

4.3.1.1

A stainless steel mesh with a size of 7×7×2 cm (2cm size holes) and with a structure in which a soap test specimen can be put (See Figure 2)

4.3.1.2

An acrylic booth with a size of 33×33×33 cm, connected to a water drain (See Figure 3)

Note) Distance between the stainless steel mesh and showerhead on each side of the hexahedron is about 10 cm, with a structure that can accommodate 6 shower heads.

4.3.1.3

A shower head with the height of water shower sprayed from the showerhead being 0.5m at a water pressure of 98kPa in accordance with “EL222. Water-saving Showerheads or Faucet Appendages.”

4.3.1.4 Portable Water Pressure Gauge

4.3.1.5 A stainless steel water tank with a size of 60×15×10 ㎝

4.3.1.6 Desiccation oven

4.3.2 Test Method

4.3.2.1

Collect hexahedron-shaped specimens sized 4×5×1.5 along the length of three identical soaps with the same manufacturing date. However, soaps with a size smaller than 4×5×1.5 cm should be tested as presented.

Note) The mass of collected specimens should be measured to an accuracy of 0.01 mg unit.(W_1)

4.3.2.2

Moisture content of the soap is presented as a percentage (%) in accordance with KS M 2701(Test Method of Soap). However, the soap remaining after collecting the test specimen in 1) or new soap with an identical manufacturing date shall be used as a test specimen.

4.3.2.3

Put the soap test specimen in the stainless steel mesh and measure its mass in units of 0.01 mg.

4.3.2.4

Put the mesh containing the soap test specimen mentioned in 3) in the stainless steel water tank and pour distilled water until the mesh is completely immersed; leave it in the water bath for one hour at 30 ℃.

4.3.2.5

Pull out the mesh described in “4)” and fix it on the booth; connect it with the shower hose in the booth after adjusting the tap water temperature to 30 ℃, and the water pressure at the tap to 294 kPa.

4.3.2.6

Pour tap water via shower heads from 6 sides of the booth for one minute before removing the softened part of the soap test specimen inside the mesh.

4.3.2.7

Pull out the mesh from the booth and heat it for one hour inside a Desiccation oven that has been pre-heated to 105±2 ℃; then, cool down the mesh inside the desiccators before measuring its mass until reaching the unit of 0.01mg.(W_2)

Note) Repeat the one-hour heating-cooling-measurement cycle until the variation in measurement is reduced to below 0.01 mg.

4.3.2.8

Average the measurements of the 3 soap test specimens, and assess their sloughing as a percentage (%) using the formula shown below.

$$Sloughing\,(\%) = \frac{W_1 - W_2}{W_1} \times 100$$

W_1 : Initial mass of the soap test specimen excluding moisture content (mg)

W_2 : Mass of the soap test specimen after removing the mass of mesh (mg)

5. Reasons for Certification : "Recycling of Active Resources (if applicable), Lower Stimulation on Skin and Water Contamination"

[Annex] Verification Methods of the Correlations of Detergents and Clearing Agents with Water Pollution

A. Purpose

This Annex is aimed to describe a verification method related with water pollution.

B. Definitions

(1) “AC (Active Contents)” refers to the total weight of chemical substances, excluding water, which compose a product [mg].

(2) "Readily biodegradable” refers to the biodegradability for each test method conforming to the following in the general micro-organic degradability test which has a reduced opportunity for degradation compared to the practical environment, to examine whether chemicals are easily micro-organically degradable in the environment.

Bio-degradability test method	Bio-degradability
OECD 301 A (DOC Die-away test)	≥70 %
KS M ISO 7827	
OECD 301 B (CO_2 Evolution test)	≥60 %
KS M ISO 9439	
OECD 301 C [Modified MITI test(I)]	≥60 %
KS M ISO 14851	

Bio-degradability test method	Bio-degradability
OECD 301 D (Closed bottle test)	≥60 %
KS M ISO 10707	
OECD 301 E (Modified OECD screening test)	≥70 %
KS M ISO 7827	
OECD 301 F (Manometric respirometry test)	≥60 %
KS M ISO 9408	

Note) Standard names

- KS M ISO 7827 (How to Evaluate the Final Aerobic Biodegradability in Water-Liquid Media- How to Analyze Dissolved Organic Carbon)
- KS M ISO 9439 (How to Evaluate the Final Aerobic Biodegradability in Water-Liquid Media- How to Test the Generation of Carbon Dioxide)
- KS M ISO 14851(Measurement of the Final Aerobic Biodegradability of Plastic Materials in the Water Liquid Media – Measurement of Oxygen Quantity Consumed by the Airtight Respiratory Organ)
- KS M ISO 10707 (How to Evaluate the “Final” Aerobic Biodegradability in Water-Liquid Media- How to Analyze Biochemical Oxygen Demand (BOD) (Airtight Bottle Test)
- KS M ISO 9408 (Water - Evaluation of the Aerobic Final Biodegradability of Organic Compounds in Liquefied Media by Measurement of the Biological Oxygen Demand (BOD) with an Airtight Breathalyzer)

(3) “Inherently biodegradable” refers to that the biodegradability for each test method conforming to the following in the general microorganism degradability test performed in the conditions, which has the reduced opportunity of degradation compared to the practical environment, to examine whether chemicals are easily micro- organically degradable in the environment.

Bio-degradability test method	Bio-degradability	Bio-degradability test method	Bio-degradability
OECD 302 A (Modified SCAS test)	≥70 %	OECD 302 B (Zahn-Wellens/EMPA test)	≥70 %
KS M 9138			
OECD 302 C (Modified MITI test(II))		KS M ISO 9888	

Note) Standard names

▪KS M 9138 (How to Evaluate the Aerobic Biological Oxygen Degradation (BOD) of Organic Compounds in Water [Semi-continuous Activated Sludge (SCAS) Process])

▪KS M ISO 9888 (How to Measure the Aerobic Degradability of Organic Compounds in the Water-Liquid Media (Static Method: Zahn-Wellens Method)

(4) “DF (Degradation factor)” “DF” refers to a coefficient for the biodegradability of each material, with the biodegradability divided into easily biodegradable, inherently biodegradable and not biodegradable.

(5) “TF (Toxicity factor)” “TF” refers to a coefficient standing for the toxicity of a substance as a value obtained by dividing acute toxicity data(LC50 and EC50) by uncertainty factor (SF).

(6) “The acute toxicity” refers to a toxicity that appears when a chemical substance is administered (processed) to a test animal once or a few times within 24, 72 and 96 hours, or when an inhalable substance is exposed to a test animal once during a limited time that does not exceed 24, 72 and 96 hours.

(7) “The chronic toxicity” refers to a general toxicity that occurs as a result of repeated administration or exposure during a considerable or whole period of the test animal’s life expectancy. However, it excludes reproductive toxicity, genetic toxicity and cancer-causing properties.

<Appendix Table 1> Document Form for Submission

A. General matters

(1) The environmental labeling application products shall be distributed and sold in certain scopes or higher and equipped with the distribution and sales conditions as well as production processes.

(2) The submitted documents shall not be used for other purposes than as evidence to decide whether products conform to criteria.

B. How to write the document forms for submission

(1) All the data of individual substance comprising the product shall be provided, and shall conform to the following format. If substances not in DID are used, formats for submitted documents shall be prepared and submitted based on the presented method in <Annex Table 3>.

(2) However, if a substance which is not included in DID list conforms to the following within the scope of 10% or under among all products, all chemical substance items can be applied without establishing separate data according to the presented method in <Annex Table 3>.

a) Active Contents(AC) Natural extracts under 1%. However, substance in Food Code Asterisk 1 can be used without limit, regardless of the content amount.

Note: Test result shall be numerically set according to KS Q 5002 (Statistical interpretation of data – Part 1: Statistical presentation of data), when calculating the content.

b) Active Contents(AC) Substances under 1%, and Chemicals not belonging to the following class and label according to the UN Globally Harmonized System of Classification and Labeling of Chemicals

Note) EU Regulation (EC) No. 1272/2008 Annex VI Part 3, (Harmonized Classification and Labeling Tables) will be tentatively applied to the material list.

H340 : may cause genetic defects
H341 : suspected of causing genetic defects
H350 : may cause cancer
H350i : may cause cancer by inhalation
H351 : suspected of causing cancer
H360F : may impair fertility
H360FD : may damage fertility, may damage the unborn child
H361f : suspected of damaging fertility
H360Fd : may damage fertility, suspected of damaging the unborn child
H362 : may cause harm to breast-fed children

H400 : very toxic to aquatic life
H411 : toxic to aquatic life with long-lasting effects
H412 : harmful to aquatic life with long-lasting effects
H413 : may cause long-lasting harmful effects to aquatic life

(3) Fix the content of water based on the KS M 2709 (5.21.1 How to Heat and Add Weight), and record the value, inclusive of that of bound water, into the following table.

(4) Write down all individual substance data that constitute the product.

(5) When writing down the contents, the water contained in individual constitution substances shall be excluded. (E.g.: In case of EDTA with the ratio of EDTA :Water = 50 : 50, only 50% of the contents are written down as EDTA contents)

C. Documents to be Submitted

(1) Product Composition Data :

a) Basic data to check the product composition

1) Technical description of each substance (Substance name, content, CAS No. INCI Name)
2) Function of each substance (E.g.: surfactant, preservative) description
3) MSDS included with supplier of each substance
4) Water content of all substances if water is included in the submitted content by substance
5) Calculation Results of "AC[g] / Product[g]"
6) Composed substance fixed quantity result

- In case of a fixed quantity test data for composed substance of chemical substance, test result of publicly authorized organization or the following internal test data used internally(within 3 months) shall be provided.
- However, in case of the substance that cannot be verified with the company's internal test records, the data shall be verified by checking the input amount of used substances recorded on the IT management system or the production records through on-site due diligence.

b) DID by product composition substance to judge on the water contamination effects

Substance name	Content of the whole product [%]	AC in %	g/g AC	DID No.	TF	DF

(2) In case of data for the substance non in DID, the data for the substances not in DID shall be established in accordance with [Annex table3] as follows and submitted.

Substances not in DID							
Substance name	CAS No.	Toxicity			DF	Bio-degradability	
		Measured value [mg/L]	SF	TF		Anaerobic non-biodegradable substance	Aerobic non-biodegradable substance

<Appendix Table 2> DID (detergent ingredients database)

A. General matters

(1) This database is not a list of substances that are available for products, and may include a list of substances prohibited from use or detection in accordance with the certification criteria for environmental labeling products.

(2) In case of O(No test) regarding the biodegradable ability, biodegrade/ non-biodegrade can be applied depending on the test results when submitting the actual test data for the respective substances.

(3) Compounds and Mixture Application Method

a) If an individually used substance exists in the final product

1) DID No. is applied based on the substance remaining in the final product. However, in case of an individual substance remaining after the chemical reaction DID No. is applied for the chemical substance before the compound by the remaining amount.

2) Application example : In case fatty acid used to make soap compounds, if 70% only is neutralized and 30% of the usage remains in the final product, 70% for soap(DID No.12) and 30% for fatty acid(DID No.123) are applied in calculation.

b) Mixture

1) In case we can acquire appropriate toxic data for substances of 2 types or more among mixture, the toxicity addition value of such substances is calculated based on the constant formula as follows and this calculated value can be used.

2) In case of applying the following constant formula among mixture, the toxicity of mixture is calculated using the toxicity value of each substance for the same life type(That is, fish, water flea or green algae), the smallest toxicity value among the calculations (That is, the value acquired from the most sensitive type among 3 life types) is adopted.

$\frac{\sum C_i}{L(E)C_{50m}} = \sum \frac{C_i}{L(E)C_{50i}}$	C_i = Concentration of substance I (Weight %) $L(E)C_{50i}$ = LC_{50} or EC_{50} of substance i (mg / L) N = Substance number (i has 1~ n value) $L(E)C_{50m}$= $L(E)C_{50}$ in the part where the test data exist among mixtures

※ Application Example (cetearyl alcohol)

Calculation and application by applying the calculated values of 0.287 if mixed by 5:5, and 0.37 if mixed by 2:8, using the toxic data of the same biospecies of Cetyl Alcohol and Stearyl Alcohol

CAS NO	Substance Name	96 hours EC_{50} algae	SF(acute)	TF(acute)
36653-82-4	Cetyl Alcohol	676	10000	0.0676
112-92-5	Stearyl Alcohol	235	1000	0.235

B. List

DID No.	Materials	Acute toxicity			Chronic toxicity			Biodegradability		
		LC50/ EC50	SF (Safety Factor)	TF (Toxicity Factor)	NOEC(*)	SF(*) (Safety Factor)	TF (Toxicity Factor)	DF (Degradation factor)	aerobic	anaerobic
	Anionic surfactants									
1	Linear alkyl benzene sulfonates 11,5-11,8 (LAS)	4.1	1000	0.0041	0.69	10	0.069	0.05	R	N
2	LAS (C10-13 alkyl) triethanolamine salt	4.2	1000	0.0042	3.4	100	0.034	0.05	R	O
3	C 14/17 Alkyl sulfonate	6.7	5000	0.00134	0.44	10	0.044	0.05	R	N
4	C 8/10 Alkyl sulfate	132	5000	0.0264			0.0264	0.05	R	Y
5	C 12/14 Alkyl sulfate (AS)	2.8	1000	0.0028	2	100	0.02	0.05	R	Y
6	C 12/18 Alkyl sulfate (AS) (#)			0.0149			0.027	0.05	R	Y
7	C 16/18 Fatty alcohol sulfate (FAS)	27	1000	0.027	1.7	50	0.034	0.05	R	Y
8	C 12/15 A 1-3 EO sulfate	4.6	1000	0.0046	0.1	10	0.01	0.05	R	Y
9	C 16/18 A 3-4 EO sulfate	0.57	10000	0.000057			0.000057	0.05	R	Y
10	Dialkyl sulpho succinate	15.7	1000	0.0157			0.0157	0.5	I	N
11	C 12/14 Sulfo- fatty acid methylester	9	10000	0.0009	0.23	50	0.0046	0.05	R	N
12	C 16/18 Sulfo- fatty acid methylester	0.51	5000	0.000102	0.2	50	0.004	0.05	R	N
13	C 14/16 aDFa Olefin sulfonate	3.3	10000	0.00033			0.00033	0.05	R	N
14	C 14/18 aDFa Olefin sulfonate	0.5	5000	0.0001			0.0001	0.05	R	N
15	Soap C>12-22	22	1000	0.022	10	100	0.1	0.05	R	Y
16	Lauroyl Sarcosinate	56	10000	0.0056			0.0056	0.05	R	Y
17	C9/11 2-10 EO Carboxymethylated, sodium salt or acid	100	10000	0.01			0.01	0.05	R	O
18	C12/18 2-10 EO Carboxymethylated, sodium salt or acid	8.8	1000	0.0088	5	100	0.05	0.05	R	O
19	C 12/18 Alkyl phosphate esters	38	1000	0.038			0.038	0.05	R	N
54	AES (C 15, 5 EO)			0.016	1.6	100	0.016	0.05	R	Y
	Non-ionic surfactants									
20	C8 A 1-5 EO	7.8	1000	0.0078			0.0078	0.05	R	Y
21	C 9/11 A, >3-6 EO predominantly linear	5.6	1000	0.0056			0.0056	0.05	R	Y

DID No.	Materials	Acute toxicity			Chronic toxicity			Biodegradability		
		LC50/ EC50	SF (Safety Factor)	TF (Toxicity Factor)	NOEC(*)	SF(*) (Safety Factor)	TF (Toxicity Factor)	DF (Degradation factor)	aerobic	anaerobic
22	C 9/11 A, >6-10 EO predominantly linear	5	1000	0.005			0.005	0.05	R	Y
23	C 9/11 A, 5-11 EO multibranched	1	1000	0.001			0.001	0.05	R	O
24	C10 A, 5-11 EO multi br. (Trimer-propen-oxo-alcohol)	10	1000	0.01			0.01	0.05	R	Y
25	C 12/15 A, 2-6 EO predominantly linear	0.43	1000	0.00043	0.18	50	0.0036	0.05	R	Y
26	C12/14 5-8 EO 1 t-BuO (endcapped)	0.23	1000	0.00023	0.18	100	0.0018	0.05	R	O
27	C 12/15 A, 3-12 EO multibranched	1	1000	0.001	3.2	100	0.032	0.05	R	O
28	C 12/15 (mean value C<14) A, >6-9 EO	0.63	1000	0.00063	0.24	10	0.024	0.05	R	Y
29	C 12/15 (mean value C>14) A, >6-9 EO	0.4	1000	0.0004	0.17	10	0.017	0.05	R	Y
30	C 12/15 A, >9-12 EO	1.1	1000	0.0011			0.017	0.05	R	Y
31	C 12/15 A >12-20 EO	0.7	1000	0.0007			0.0007	0.05	R	O
32	C 12/15 A >20-30 EO	13	1000	0.013	10	100	0.1	0.05	R	O
33	C 12/15 A, >30 EO	130	1000	0.13			0.13	0.5	I	O
34	C 12/18 A, 0-3 EO	0.3	1000	0.0003			0.0003	0.05	R	Y
35	C 12/18 A, 5-10 EO	1	1000	0.001	0.35	100	0.0035	0.05	R	O
36	C 12/18 A, >10-20 EO	1	1000	0.001			0.0035	0.05	R	O
37	C 16/18 A, 2-8 EO	3.2	1000	0.0032	0.4	100	0.004	0.05	R	Y
38	C 16/18 A, >9-18 EO	0.72	1000	0.00072	0.32	10	0.032	0.05	R	Y
39	C 16/18 A, 20-30 EO	4.1	1000	0.0041			0.0041	0.05	R	Y
40	C 16/18 A, >30 EO	30	1000	0.03			0.03	0.5	I	Y
41	C12-15 A 2-6 EO 2-6 PO	0.78	1000	0.00078	0.36	100	0.0036	0.05	R	O
42	C10-16 A 0-3 PO 6-7 EO	3.2	5000	0.00064	1	100	0.01	0.05	R	O
43	Glycerin (1-5 EO) cocoate	16	1000	0.016	6.3	100	0.063	0.05	R	Y
44	Glycerin (6-17 EO) cocoate	100	1000	0.1			0.1	0.05	R	Y
45	C 12/14 Glucose amide	13	1000	0.013	4.3	50	0.086	0.05	R	Y
46	C 16/18 Glucose amide	1	1000	0.001	0.33	50	0.0066	0.05	R	Y
47	C 8/10 Alkyl polyglycoside	28	1000	0.028	5.7	100	0.057	0.05	R	Y
48	C8/12 Alkyl polyglycoside, branched	480	1000	0.48	100	100	1	0.05	R	N

DID No.	Materials	Acute toxicity			Chronic toxicity			Biodegradability		
		LC50/ EC50	SF (Safety Factor)	TF (Toxicity Factor)	NOEC(*)	SF(*) (Safety Factor)	TF (Toxicity Factor)	DF (Degradation factor)	aerobic	anaerobic
49	C 8/16 or C12-14 Alkyl polyglycoside	5.3	1000	0.0053	1	10	0.1	0.05	R	Y
50	Coconut fatty acid monoethanolamide	9.5	1000	0.0095	1	100	0.01	0.05	R	Y
51	Coconut fatty acid monoethanolamide 4-5 EO	17	10000	0.0017			0.0017	0.05	R	Y
52	Coconut fatty acid diethanolamide	2	1000	0.002	0.3	100	0.003	0.05	R	O
53	PEG-4 Rapeseed amide	7	1000	0.007			0.007	0.05	R	Y
55	AE (C 6~12, 10~15 EO 8~12 PO)			0.02	1	50	0.02	1	P	N
	Amphoteric surfactants									
60	C12/15 Alkyl dimethylbetaine	1.7	1000	0.0017	0.1	100	0.001	0.05	R	O
61	alkyl C12/18 Amidopropylbetaine	1.8	1000	0.0018	0.09	100	0.0009	0.05	R	Y
62	C12/18 Alkyl amine oxide	0.3	1000	0.0003			0.0003	0.05	R	Y
	Cationic surfactants									
70	Alkyl trimethyl ammonium salts	0.1	1000	0.0001	0.046	100	0.00046	0.5	I	O
71	Alkyl ester ammonium salts	2.9	1000	0.0029	1	10	0.1	0.05	R	Y
	Preservatives									
80	1,2-Benzisothiazol-3-one	0.15	1000	0.00015			0.00015	0.5	I	N
81	Benzyl alcohol	360	1000	0.36			0.36	0.05	R	Y
82	5-bromo-5-nitro-1,3-dioxane	0.4	5000	0.00008			0.00008	1	P	O
83	2-bromo-2-nitropropane-1,3-diol	0.78	1000	0.00078	0.2	100	0.002	0.5	I	O
84	Chloroacetamide	55.6	10000	0.00556			0.00556	1	O	O
85	Diazolinidylurea	35	5000	0.007			0.007	1	P	O
86	Formaldehyde	2	1000	0.002			0.002	0.05	R	O
87	Glutaraldehyde	0.31	1000	0.00031			0.00031	0.05	R	O
88	Guanidine, hexamethylene-, homopolymer	0.18	1000	0.00018	0.024	100	0.00024	1	P	O
89	CMI + MIT in mixture 3:1 (§)	0.0067	1000	0.0000067	0.0057	50	0.000114	0.5	I	O
90	2-Methyl-2H-isothiazol-3-one (MIT)	0.06	1000	0.00006			0.00006	0.5	I	O

DID No.	Materials	Acute toxicity			Chronic toxicity			Biodegradability		
		LC50/ EC50	SF (Safety Factor)	TF (Toxicity Factor)	NOEC(*)	SF(*) (Safety Factor)	TF (Toxicity Factor)	DF (Degradation factor)	aerobic	anaerobic
91	Methyldibromoglutaronitrile	0.15	1000	0.00015			0.00015	0.05	R	O
92	e-phtaloimidoperoxyhexanoic acid	0.59	5000	0.000118			0.000118	1	P	O
93	Methyl-, Ethyl- and Propylparaben	15.4	5000	0.00308			0.00308	0.05	R	N
94	o-Phenylphenol	0.92	1000	0.00092			0.00092	0.05	R	O
95	Sodium benzoate	128	1000	0.128			0.128	0.05	R	Y
96	Sodium hydroxy methyl glycinate	36.5	5000	0.0073			0.0073	1	O	O
97	Sodium Nitrite	87	10000	0.0087			0.0087	1	NA	NA
98	Triclosan	0.0014	1000	0.0000014	0.00069	10	0.000069	0.5	I	O
99	Phenoxy-ethanol	344	1000	0.344	200	100	2	0.05	R	O
	Other ingredients									
110	Silicon	250	1000	0.25			0.25	1	P	N
111	Paraffin	1000	10000	0.1			0.1	1	P	O
112	Glycerol	4400	5000	0.88			0.88	0.05	R	Y
113	Phosphate, as STPP(sodium tripolyphosphate)	1000	1000	1			1	0.15	NA	NA
114	Zeolite (Insoluble Inorganic)	1000	1000	1	175	50	3.5	1	NA	NA
115	Citrate and citric acid	825	1000	0.825	80	50	1.6	0.05	R	Y
116	Polycarboxylates	200	1000	0.2	106	10	10.6	1	P	N
117	Nitrilotriacetat (NTA)	494	1000	0.494	64	50	1.28	0.05	R	O
118	Ethylenediaminetetraacetic acid (EDTA)	121	1000	0.121	22	50	0.44	0.5	I	N
119	Phosphonates	650	1000	0.65	25	50	0.5	1	P	N
120	ethylenediaminedisuccinate (EDDS)	320	1000	0.32	32	50	0.64	0.05	R	N
121	Clay (Insoluble Inorganic)	1000	1000	1			1	1	NA	NA
122	Carbonates	250	1000	0.25			0.25	0.15	NA	NA
123	Fatty acids C>=14	3.7	5000	0.00074			0.00074	0.05	R	Y
124	Silicates	250	1000	0.25			0.25	1	NA	NA
125	Polyasparaginic acid, Na-salt	410	1000	0.41			0.41	0.05	R	N
126	Perborates (as Boron)	14	1000	0.014			0.014	1	NA	NA
127	Percarbonate (See carbonate)	250	1000	0.25			0.25	0,15	NA	NA
128	Tetraacetylethylenediamine (TAED)	250	1000	0.25	500	100	5	0.05	R	O
129	C1-C4 alcohols	1000	1000	1			1	0.05	R	Y

DID No.	Materials	Acute toxicity			Chronic toxicity			Biodegradability		
		LC50/ EC50	SF (Safety Factor)	TF (Toxicity Factor)	NOEC(*)	SF(*) (Safety Factor)	TF (Toxicity Factor)	DF (Degradation factor)	aerobic	anaerobic
130	Mono-, di- and triethanol amine	90	1000	0.09	0.78	100	0.0078	0.05	R	Y
131	Polyvinylpyrrolidon (PVP)	1000	1000	1			1	0.5	I	N
132	Carboxymethylcellulose (CMC)	250	5000	0.05			0.05	0.5	I	N
133	Sodium and magnesium sulphate	1000	1000	1	100	100	1	1	NA	NA
134	Calcium- and sodiumchloride	1000	1000	1	100	100	1	1	NA	NA
135	Urea	1000	5000	0.2			0.2	1	NA	NA
136	Silicon dioxide, quartz	1000	1000	1			1	1	NA	NA
137	Polyethylene glycol, MW>4000	1000	10000	0.1			0.1	1	P	N
138	Polyethylene glycol, MW<4000	1000	10000	0.1			0.1	0.05	R	O
139	Cumene sulphonates	450	1000	0.45			0.45	0.5	I	N
140	Na-/Mg-/KOH	30	1000	0.03			0.03	0,05	NA	NA
141	Enzymes/proteins	25	5000	0.005			0.005	0.05	R	Y
142	Perfume, if not other specified (**)	2	1000	0.002			0.002	0.5	I	N
143	Dyes, if not other specified (**)	10	1000	0.01			0.01	1	P	N
144	Starch	100	1000	0.1			0.1	0.05	R	Y
145	Anionic polyester	655	1000	0.655			0.655	1	P	N
146	poly-2-vinylpyridine-N-oxide (PVNO) Povidone-iodine (PVPI)	530	1000	0.53			0.53	1	P	N
147	Zn Ftalocyanin sulphonate	0.2	1000	0.0002	0.16	100	0.0016	1	P	N
148	Iminodisuccinat	81	1000	0.081	17	100	0.17	0.05	R	N
149	FWA 1	11	1000	0.011	10	100	0.1	1	P	N
150	FWA 5	10	1000	0.01	1	10	0.1	1	P	N
151	1-decanol	2.3	5000	0.00046			0.00046	0.05	R	O
152	Methyl laurate	1360	10000	0.136			0.136	0.05	R	O
153	Formic acid (Ca salt)	100	1000	0.1			0.1	0.05	R	Y
154	Adipic acid	31	1000	0.031			0.031	0.05	R	O
155	Maleic acid	106	1000	0.106			0.106	0.05	R	Y
156	Malic acid	106	1000	0.106			0.106	0.05	R	O
157	Tartaric acid	200	10000	0.02			0.02	0.05	R	O
158	Phosphoric acid	138	1000	0.138			0.138	0.15	NA	NA
159	Oxalic acid	128	5000	0.0256			0.0256	0.05	R	O
160	Acetic acid	30	1000	0.03			0.03	0.05	R	Y

DID No.	Materials	Acute toxicity			Chronic toxicity			Biodegradability		
		LC50/ EC50	SF (Safety Factor)	TF (Toxicity Factor)	NOEC(*)	SF(*) (Safety Factor)	TF (Toxicity Factor)	DF (Degradation factor)	aerobic	anaerobic
161	Lactic acid	130	1000	0.13			0.13	0.05	R	Y
162	Sulphamic acid	75	1000	0.075			0.075	1	NA	NA
163	Salicylic acid	46	1000	0.046			0.046	0.15	R	O
164	Glycollic acid	141	5000	0.0282			0.0282	0.05	R	O
165	Glutaric acid	208	5000	0.0416			0.0416	0.05	R	O
166	Malonic acid	95	5000	0.019			0.019	0.05	R	O
167	Ethylene glycol	6500	1000	6.5			6.5	0.05	R	Y
168	Ethylene glycol monobutyl ether	747	5000	0.1494			0.1494	0.05	R	O
169	Diethylene glycol	4400	10000	0.44			0.44	0.05	R	Y
170	Diethylene glycol monomethyl ether	500	1000	0.5			0.5	0.15	R	O
171	Diethylene glycol monoethyl ether	3940	5000	0.788			0.788	0.05	R	O
172	Diethylene glycol monobutyl ether	1254	1000	1.254			1254	0.05	R	O
173	Diethylene glycol dimethyl ether	2000	10000	0.2			0.2	0.5	I	O
174	Propylene glycol	32000	1000	32			32	0.15	R	Y
175	Propylene glycol monomethyl ether	12700	5000	2.54			2.54	0.05	R	O
176	Propylene glycol monobutyl ether	748	5000	0.1496			0.1496	0.05	R	O
177	Dipropylene glycol	1625	10000	0.1625			0.1625	0.05	R	O
178	Dipropylene glycol monomethyl ether	1919	5000	0.3838			0.3838	0.05	R	O
179	Dipropylene glycol monobutyl ether	841	5000	0.1682			0.1682	0.05	R	O
180	Dipropylene glycol dimethyl ether	1000	5000	0.2			0.2	0.5	I	O
181	Triethylene glycol	4400	1000	4.4			4.4	0.5	I	O
182	Tall oil	1.8	1000	0.0018			0.0018	0.5	I	O
183	Ethylenebisstearamides	140	5000	0.028			0.028	0.5	I	O
184	Sodium gluconate	10000	10000	1			1	0.05	R	O
185	Glycol distearate	100	5000	0.02			0.02	0.05	R	Y
186	Hydroxyl ethyl cellulose	209	5000	0.0418			0.0418	1	P	O
187	Hydroxy propyl methyl cellulose	188	5000	0.0376			0.0376	1	P	O
188	1-methyl-2-pyrrolidone	500	1000	0.5			0.5	0.05	R	O
189	Xanthan gum	490	1000	0.49			0.49	0.05	R	O

DID No.	Materials	Acute toxicity			Chronic toxicity			Biodegradability		
		LC50/ EC50	SF (Safety Factor)	TF (Toxicity Factor)	NOEC(*)	SF(*) (Safety Factor)	TF (Toxicity Factor)	DF (Degradation factor)	aerobic	anaerobic
190	Trimethyl Pentanediol mono-isobutyrate	18	1000	0.018	3.3	100	0.033	0.05	R	O
191	Benzotriazole	29	1000	0.029			0.029	1	P	O
192	Piperidinol-propanetricarboxylate salt	100	1000	0.1	120	100	1.2	0.5	I	O
193	Diethylaminopropyl-DAS	120	1000	0.12	120	100	1.2	1	P	O
194	Methylbenzamide-DAS	120	1000	0.12	120	100	1.2	0.5	I	O
195	Pentaerythritol-tetrakis-phenol-propionate		1000	0.038			0.038	1	P	O
196	Block polymers (***)	100	5000	0.02			0.02	1	P	N
197	Denatonium benzoate	13	5000	0.0026			0.0026	1	O	O
198	Succinate	374	10000	0.0374			0.0374	0.05	R	O
199	Polyaspartic acid	528	1000	0.528			0.528	0.05	R	N
200	Xylene Sulphonate	230	1000	0.23	31	100	0.31	0.5	I	N
201	Proteinhydrolizates, wheatgluten	113	5000	0.023			0.023	0.05	R	O
202	Fatty acid, C6-12 methyl ester	21	10000	0.0021			0.0021	0.05	R	O
203	Mn-Saltren (CAS 61007-89-4)	39	1000	0.039	4.3	100	0.043	0.5	I	O
204	Tri-Sodium methylglycine diacetat	100	1000	0.1	16.7	50	0.334	0.05	R	O
205	Disilicates	1000	10	100				0.05	R	Y
206	Triethanolamine			0.078	0.78	10	0.078	0.05	R	Y
207	Calcium formiate			10				0.05	R	Y
208	Silica			10				0.05	R	Y
211	Cumene sulfonate	66	100	0.66				0.05	R	N
212	Toluene sulfonate	66	100	0.66				0.05	R	N
213	Monosaccharides (mannitol, sorbitol)	40000	5000	8				0.05	R	Y
214	Hydrogen peroxide			0.016	1.6	100	0.016	0.05	R	Y
215	Magnesium chloride	32	5000	0.0064				0.05	R	Y
216	Ammonium chloride	109	5000	0.0218				0.05	R	Y
217	Boric acid			0.1	10	100	0.1	0.05	R	Y
218	Butylene glycol	1070	1000	1.07				0.05	R	Y

Note)Abbreviation

<Insoluble inorganic substance> Inorganic substance have no or a very low possibility of solution.

(*) If there is no chronic data, leave this column blank. In this case, identify TF(chronic) value with TF(acute)

(**) According to the general approval rules, be sure to use the data in this DID list. However, exclude incense and dyes. If a certification applicant submits toxicity data values, the submitted data may be used to calculate TF values or decide degradability. Otherwise, use the values in the list.

(***) Apply the application data on the aerobic biodegradation of DID no196 block polymer after presenting a test report
(#) Calculate TF value as an average of C 12/14 Alkyl sulphate (AS) and C 16/18 Alkyl sulphate (AS) for the lack of toxicity results.
(¡×) Mix 5-Chloro-2-Methyl-4-isothiazolin-3-one with 2-Methyl-4-isothiazolin-3-one at a rate of 3:1.
NOEC : No observed effect concentration, concentration having no influence on dosage concentration
EO : ethylene oxide
PO : propylene oxide
FWA 1 : disodium 4,4'-bis(4-anilino-5-morpholino-1,3,5-triazin-2-yl) amino stilbene-2, 2'-disulfonate
FWA 5 : disodium 4,4'-bis(2-sulfostryryl) biphenyl

<Aerobic degradation>
R : Means being easily biodegradable pursuant to the OECD Directives
I : Means being inherently biodegradable pursuant to the OECD Directives
P : Not biodegradable Failure in the test of inherent biodegradation
O : Test not performed
NA : Not applicable

<Anaerobic degradation>
Y : Biodegradable under aerobic conditions
N : Not biodegradable under aerobic conditions
O : Test not performed
NA : Not applicable

Appendix 3. Data on Construction Methods not Existing in DID [Related to 3. Certification Standard (1)]

A. General Matters

(1) Data supporting documents for materials not existing in DID shall include authorized laboratory test reports, the company's internal experimental data, and LC50 and EC 50 data described in MSDS, risk assessment report, etc.

(2) However, in the event that a company's internal experiment data, experimental resources, and the data related to MSDS and risk assessment report are submitted, verification shall be conducted by the Eco-label certification review committee.

B. Data Construction Method

(1) Toxic Factor (TF)

(a) TF value shall be constructed by dividing the median value of numerical multiple toxicity tests [mg/L] by the uncertainty factor (SF). Herein, for the purpose of constructing the eco-toxicological assessment data, the acute or chronic toxicity data affecting green algae, daphnia and fish shall be considered.

Toxicity Data	Uncertainty Factor
Case in which NOEC data related to green algae, daphnia and fish exist	10
Case in which NOEC data exists for two of green algae, daphnia and fish	50
Case in which NOEC data exists for either green algae, daphnia or fish	100
Case in which L(E)C50 data related to green algae, daphnia and fish exist	1000
Case in which L(E)C50 data exist for two of green algae, daphnia and fish exist	5000
Case in which L(E)C50 data exist for either green algae, daphnia or fish	10000

Note1) In regard to the testing method, the following test method or equivalent methods can be applicable to OECD 201 green algae toxicity tests, OECD 202 daphnia toxicity tests, OECD 203, 204 fish toxicity tests: Regulations regarding the designation of research institutes of hazardous of chemical substances, <Appendix 2> Chemical substances testing method, 2. Ecological effect test, 1. Algae growth inhibition test, 2. Daphnia acute toxicity test, and 3. Fish acute toxicity test.

Note2) The data extracted from QSARs (Quantitative Structure Activity Relationship)-(referring to the following 1) can be used. However, there shall be 1 or two L(E)C 50 fish toxicity (LC50), green algae,

daphnia and fish toxicity (EC50) data. In addition, you shall prove that the substance having L (E) C50 data shows the lowest toxicity value using NOEC of other homologue substance-(referring to the following 2) through quantitative structure activity relationships with the species.

1) QSAR represents an attempt to statistically correlate a descriptor (hydrophobicity, shape, electronic properties and spatial layout of the atom) on the chemical structure and properties of the mixture and activity (including chemical measurement and biological analysis). The object of QSAR is to search for substances including potential toxicity in light of ecological and public health needs and limited testing resources. If the characteristics of a compound are known, it will be possible to easily find suitable candidate material for the purpose using the characteristics identified through QSAR.

2) This refers to a group of compounds differentiated by CH_2 in the composition of organic compounds. The homologue substances include the very similar chemical properties and show the same reaction depending on the common functional groups. In addition, the physical properties such as melting point and boiling point vary regularly according to the increase of the number of carbon atoms. For example, LAS refers to the LAS including a different carbon coefficient, and AE refers to the AE including different added moles.

(2) Partition coefficient (DF)

(A) General Matters

Division	DF
Readily biodegradable - referring to note 1)	0.05
Readily biodegradable - referring to note 2)	0.15
Inherently biodegradable	0.5
Non-biodegradable	1

Note 1) In the following cases, although 10% or more of a 10-day window is non-biodegradable, it shall be considered as being readily biodegradable.

- Surfactant
- Substances composed of homologous substances and meeting the final biodegradation requirements (during 28 days, biodegradable of 60 to 70% or more)

Note 2) Case in which the final 28 days biodegradation is 60% or more, but non-biodegradation is 10% or more within 10 days.

(B) Inorganic substances

Division	DF
Biodegradable within 5 days	0.05
Biodegradable within 15 days	0.15
Biodegradable within 50 days	0.5

(C) Aerobic biodegradation ability

Division	Indication
Readily biodegradable	R
Inherently biodegradable, but not readily biodegradable	I
Persistent	P
Not tested for aerobic biodegradability	0

(4) Anaerobic biodegradation ability

Test or Non-test	Division	Indication
○	Not anaerobically biodegradable	N
	Anaerobically biodegradable	Y
X	There is no test result, but it will be verified by analogy. (e.g: The result of biodegradation prediction program developed by EPA such as BIOWIN)	
	-	0

Note) Name of Specifications

▪ KS M ISO 11734 [Water quality - Evaluation of the ultimate anaerobic biodegradability of organic compounds in digested sludge method by measurement of the biogas production]

▪ ECETOC Anaerobic biodegradation test (Technical Report No28, Evaluation of Anaerobic Biodegradation, 1988), or, OECD 311 (ready anaerobic biodegradability : gas production form diluted anaerobic sewage sludge)

Note 2) Explanation of Terms

▪ BIOWIN™: Estimates aerobic and anaerobic biodegradability of organic chemicals using 7 different models; two of these are the original Biodegradation Probability Program (BPP™). The seventh and newest model estimates anaerobic biodegradation potential.

[Common Criteria]

1. The candidate products for Korea Eco-Label shall comply with the following regulations with regard to the appropriate processing of environmental contaminants that occur in the process of manufacturing or service operation, including air contaminants, water contaminants, waste and harmful chemical substances.

1.1 A person who violates any environment-related law or agreement applicable in the region where his or her factory or operating establishment is located within one year prior to the date of application may not apply for Korea Eco-Label certification. For violations other than the ones subject to penalties, however, a person may apply for the certification after completion of any action for the violation.

1.2 A person who has obtained Korea Eco-Label certification must comply with the environment-related laws and agreements applicable in the region where the factory or operating establishment is located during the certification period. If any violation against penal provisions is found during the certification period, however, the certification may be canceled, and for violations other than the ones against penal provisions, the certification may be suspended until the relevant action is completed.

2. In principle, the “consumer information” specified in the certification standards by product shall be marked in a way not to be removed easily on the surface of the product. If it is impossible or undesirable to mark it on the surface of a product, the information shall be marked on another appropriate part of a product where consumers will notice it, including product packaging, a guidebook, an instruction or etc. For services, however, the consumer information shall be, in principle, marked on the internal and external areas of a building where the service is provided. If it is impossible or undesirable to mark it on the internal or external area of a building, however, it shall be marked on an appropriate part where consumers can notice it, including a contract, statement of delivery, letter of guarantee or brochure.

3. A person who has applied for, or obtained approval for, use of Korea Eco-Label on a product shall comply with the Fair Labeling and Advertising Act in order to establish fair trade order and protect consumers, and if they violate the law, their application for certification may be rejected or their certification may be canceled.

4. Unless otherwise specified, the various specifications cited in the certification criteria by product shall be the latest ones at the time of application for certification.

5. If application of the standards for quality in accordance with the certification criteria by product is deemed as inappropriate, the President of Korea Environmental Industry & Technology Institute (hereinafter referred to as KEITI president) may establish and operate the quality criteria for the product after deliberation committee review or expert consultation.