Date: May 30, 2014.
Purpose: Pursuant to Article 8 or the Cosmetics Law, this regulation ensures the safety of manufactured, distributed, and imported cosmetics by defining prohibited and restricted ingredients and in-market safety standards. (Unofficial translation).
Regulation on Safety Standards of Cosmetics

May 30, 2014

Chapter 1
General provisions

Article 1 (Purpose) This regulation, pursuant to Article 8 of the Cosmetics Law, is to ensure the management of manufacture (import) and safety management by defining standards of negative ingredients, restrictive ingredients used in cosmetics and by determining the matters related to cosmetic safety management standards in market.

Article 2 (Application scope) This regulation shall be applied all the cosmetics of manufacture, import or distribution.

Chapter 2
Standards of negative ingredients, restrictive ingredients used in cosmetics

Article 3 (Negative ingredients) Ingredients to not be allowed to use of cosmetics shall refer to Annex 1.

Article 4 (Restrictive ingredients used in cosmetics) Ingredients needs to be restricted to use for cosmetics and its use standards shall refer to Annex 2 and Disinfectants/Preservatives and UV filters cannot used without listed in Annex 2.

Chapter 3 Safety Standards of cosmetics in market

Article 5 (Safety management of cosmetics in market) Cosmetics in market shall be suitable for safety management standards from Article 1 to 4 and additionally suitable for the standards from Article 5 to 7 per product types. In addition, the test methods will follow Annex 4 but the other scientific and reasonable methods can be used if they are verified.

Following ingredients are not intentionally added when manufacturing cosmetics, but it is unintentionally derived by transition from packaging during manufacture or storage and identified as being technically complete removal is impossible through objective data, their detection limits are as follows.

1. Pb: less than 50μg/g (powders using clay), less than 20μg/g (the others)
2. Arsenic: less than 10μg/g
3. Hg: less than 1μg/g
4. Antimony: less than 10μg/g
5. Cadmium: less than 5μg/g
6. Dioxane: less than 100μg/
7. Methanol: less than 0.2(v/v)%
8. Formaldehyde: less than 2000㎍/g
9. Phthalates (Dibutylphthalate, Butylbenzylphthalate and Diethylhexylphthalate): less than 100㎍/g as total sum

② When negative ingredients of Annex 1 are identified because of Article 1 but their detection limits are not defined yet, they shall decide its risk after go through risk assessment process for the evaluation according to Article 17 of Enforcement regulations of Cosmetics Act.

③ Microbial limits are as follows.
1. Total aerobic count for children-use and eye makeup products must be less than 500 CFU/g (mL)
2. the other cosmetics must be less than 1000 CFU/g (mL)
3. E. coli, Pseudomonas aeruginosa and Staphylococcus aureus must meet the requirements of the tests for absence

④ Specifications of Contents are as follows.
1. Products which declared net weight/volume is not more than 150 g (ml, mm): When three samples are tested, their average contents should not be less than 97% of the declared net weight/volume.
2. Products which declared not weight/volume is more than 150 g (ml, mm): When three samples are tested, their average contents should not be less than 100% of the declared net weight/volume
3. In case of deviating from the standard value of item 1 and 2, six samples should be additionally tested and the average contents of nine samples should be more than the standard value of item 1 and 2.
4. For the other specific products, "General test methods except ones defined in KP (the KFDA Notification)" shall be applied.

⑤ pH should be measured for baby care products (except baby care shampoo, rinse, cleansing and bath products), eye-makeup products, makeup products, hair care products (except shampoo, rinse), shaving products (except shaving cream, shaving foam), and skincare products (except cleansing water, cleansing oil, cleansing lotion, cleansing cream and makeup remover). Among them, pH of liquid-type products (liquid, lotion, cream and other similar textures) should be in the range of 3.0~9.0, when measured. However, products without containing water and rinse-off products shall be excluded.

⑥ Active ingredients of Functional cosmetics shall meet the requirements of “Standards & Test methods of Functional cosmetics” (KFDA notification).

⑦ Permanent Wave and Hair Straightener Product shall meet the following requirements.
1. A two-phase cold permanent wave product which the principal ingredient is thioglycolic acid or its salt: This product is used at room temperature and is composed of a No. 1 agent whose principal ingredient is thioglycolic acid or its salt and a No. 2 agent containing an oxidizing agent.
A. **No. 1 agent**: The principal ingredient of this product is thioglycolic acid or its salt and the total quantity of the nonvolatile inorganic alkali is less than the corresponding thioglycolic acid. Provided, if the quantity of reducing agent after boiling in acid exceeds 7.0%, dithiodiglycolic acid or its salt shall be combined more than the same quantity as dithiodiglycolic acid for the exceeding amount.

To maintain the quality of this product or enhance its usefulness, moderate quantities of alkaline agent, permeating agent, moisturizer, coloring agent, emulsion, or fragrance may be added.

1) **pH**: 4.5 ~ 9.6
2) **Alkali**: the quantity of 0.1N hydrochloric acid shall be 7.0mL or less for a sample of 1mL.
3) **Reducing agent after boiling in an acid state (thioglycolic acid)**: the content of a reducing agent (in the thioglycolic acid state) after boiling in an acid state shall be between 2.0 and 11.0%.
4) **Reducing agent other than the reducing agent after boiling in an acid state (sodium sulphite, sulfide, etc.)**: the quantity of 0.1N iodine solution in the reducing agent other than the reducing agent after boiling a 1mL sample in an acid state shall be 0.6mL or less.
5) **Reducing agent after reduction (dithiodiglycolic acid)**: the content of the reducing agent after reduction shall be 4.0% or less.
6) **Heavy metal**: 20 µg/g or less
7) **Arsenic**: 5 µg/g or less
8) **Iron**: 2 µg/g or less

B. **No. 2 agent**
1) **Sodium Bromate-Containing Agent**: to maintain the quality or enhance its usefulness, moderate quantities of solvent, permeating agent, moisturizer, coloring agent, emulsion, or fragrance added to sodium bromate.
   a) **State of dissolution**: there should be no apparent insoluble matter.
   b) **pH**: 4.0 ~ 10.5
   c) **Heavy metal**: 20 µg/g or less.
   d) **Degree of oxidization**: the degree of oxidization of one dose for one person for a single use shall be at least 3.5.
2) **Hydrogen peroxide-containing agent**: Hydrogen peroxide or moderate quantities of permeating agent, stabilizer, moisturizer, agent, emulsion, or fragrance added to maintain its quality or enhance its usefulness.
   a) **pH**: 2.5 ~ 4.5
   b) **Heavy metal**: 20 µg/g or less.
c) Degree of oxidization: the degree of oxidization of one dose for one person for a single use shall be between 0.8 and 3.0.

2. A two-phase cold permanent wave hair product which the principal ingredient is cysteine, cysteine salt or acetyl cysteine: This product is used at room temperature and is composed of a No.1 agent whose principal ingredient is cysteine, cysteine salt or acetyl cysteine and a No.2 agent containing an oxidizing agent.

   A. No.1 agent: the principal ingredient of this product is cysteine, cysteine salt or acetyl cysteine and the product is a liquid agent that does not contain nonvolatile inorganic alkali. To maintain the quality of this product or enhance its usefulness, moderate quantities of alkaline agent, permeating agent, moisturizer, coloring agent, emulsion, or fragrance may be added.

   a) pH: 8.0 ~ 9.5

   b) Alkali: the quantity of 0.1N hydrochloric acid shall be 12mL or less for a sample of 1mL.

   c) Cysteine: 3.0 ~ 7.5%

   d) Reducing agent after reduction (cysteine): 0.65% or less.

   e) Heavy metal: 20μg/g or less

   f) Arsenic: 5μg/g or less

   g) Iron: 2μg/g or less

   B. No.2 agent: test in accordance with the standards of thioglycolic acid permanent wave product No. 2 agent.

3. A two-phase cold permanent hair straightener product, which the principal ingredient is thioglycolic acid or its salt: This product is used at room temperature and is composed of a No. 1 agent whose principal ingredient is thioglycolic acid or its salt and a No. 2 agent containing an oxidizing agent.

   A. No.1 agent: The principal ingredient of this product is thioglycolic acid or its salt and the total quantity of the nonvolatile alkali is less than the corresponding thioglycolic acid. Provided, if the quantity of reducing agent after boiling in acid exceeds 7.0%, dithiodiglycolic acid or its salt shall be combined more than the same quantity as dithiodiglycolic acid for the exceeding amount. To maintain the quality of this product or enhance its usefulness, moderate quantities of alkaline agent, permeating agent, coloring agent, moisturizer, emulsion, thickener or fragrance may be added.

   1) pH: 4.5 ~ 9.6

   2) Alkali: the quantity of 0.1N hydrochloric acid shall be 7.0mL or less for a sample of 1mL

   3) Reducing agent after boiling in an acid state (dithioglycolic acid): the content of a reducing agent after boiling in an acid state (in the thioglycolic acid state) shall be between 2.0 and 11.0%.
4) Reducing agent other than the reducing agent after boiling in an acid state (sodium sulphite, sulfide, etc.): the quantity of 0.1N iodine solution in the reducing agent other than the reducing agent after boiling a 1mL sample in an acid state shall be 0.6mL or less
5) Reducing agent after reduction (dithiodiglycolic acid): 4.0% or less
6) Heavy metal: 20 µg/g or less
7) Arsenic: 5 µg/g or less
8) Iron: 2 µg/g or less

B. No.2 agent: tested in accordance to the standards of thioglycolic acid permanent wave product No. 2 agent.

4. A two-phase heat-assisted permanent wave product which the principal ingredient is thioglycolic acid or its salt: this product is used by applying heat of 60°C or under and is composed of a No. 1 agent whose principal ingredient is thioglycolic acid or its salt and a No. 2 agent containing an oxidizing agent.

A. No.1 agent: the principal ingredient of this product is thioglycolic acid or its salt and the total quantity of the nonvolatile alkali is less than the corresponding thioglycolic acid. To maintain the quality of this product or enhance its usefulness, moderate quantities of alkaline agent, permeating agent, moisturizer, coloring agent, emulsion or fragrance may be added.

1) pH : 4.5 ~ 9.3
2) Alkali: the quantity of 0.1N hydrochloric acid shall be 5mL or less for a sample of 1mL
3) Reducing agent after boiling in an acid state (thioglycolic acid): 1.0 ~ 5.0%
4) Reducing agent other than the reducing agent after boiling in an acid state (sulfurous acid, sulfide, etc.): the quantity of 0.1N iodine solution in the reducing agent other than the reducing agent after boiling a 1mL sample in an acid state shall be 0.6mL or less.
5) Reducing agent after reduction (dithiodiglycolic acid): 4.0% or less.
6) Heavy metal: 20 µg/g or less
7) Arsenic: 5 µg/g or less
8) Iron: 2 µg/g or less

B. No.2 agent: tested in accordance with the standards of thioglycolic acid permanent wave product No. 2 agent.

5. A two-phase heat-assisted permanent wave hair product which the principal ingredient is cysteine, cysteine salt or acetyl cysteine: This product is used by applying heat of 60°C or under and is composed of a No.1 agent whose active ingredient is cysteine, cysteine salt or acetyl cysteine and a No.2 agent containing an oxidizing agent.
A. **No.1 agent:** the active ingredient of this product is cysteine, cysteine salt or acetyl cysteine and the product is a liquid agent that does not contain nonvolatile inorganic alkali. To maintain the quality of this product or enhance its usefulness, moderate quantities of alkaline agent, permeating agent, moisturizer, coloring agent, emulsion, or fragrance may be added.

1) pH: 4.0 ~ 9.5
2) Alkali: the quantity of 0.1N hydrochloric acid shall be 9mL or less for a sample of 1mL
3) Cysteine: 1.5 ~ 5.5%
4) Reducing agent after reduction (cysteine): 0.65% or less.
5) Heavy metal: 20 μg/g or less
6) Arsenic: 5 μg/g or less
7) Iron: 2 μg/g or less

B. **No.2 agent:** test in accordance with the standards of thioglycolic acid permanent wave product No. 2 agent.

6. **A two-phase heat-assisted permanent hair straightener product which the principal ingredient is thioglycolic acid or its salt:** This product is used by applying heat of 60°C or under and is composed of a No.1 agent whose principal ingredient is cysteine, cysteine salt or acetyl cysteine and a No.2 agent containing an oxidizing agent.

A. **No.1 agent:** the principal ingredient of this product is thioglycolic acid or its salt and the total quantity of the nonvolatile alkali is less than the corresponding thioglycolic acid. To maintain the quality of this product or enhance its usefulness, moderate quantities of alkaline agent, permeating agent, moisturizer, emulsion, thickener or fragrance may be added.

1) pH: 4.5 ~ 9.3
2) Alkali: the quantity of 0.1N hydrochloric acid shall be 5mL or less for a sample of 1mL
3) Reducing agent after boiling in an acid state (thioglycolic acid): 1.0 ~ 5.0%
4) Reducing agent other than the reducing agent after boiling in an acid state (sulfurous acid, sulfide, etc.): the quantity of 0.1N iodine solution in the reducing agent other than the reducing agent after boiling a 1mL sample in an acid state shall be 0.6mL or less.
5) Reducing agent after reduction (dithiodiglycolic acid): 4.0% or less.
6) Heavy metal: 20 μg/g or less
7) Arsenic: 5 μg/g or less
8) Iron: 2 μg/g or less

B. **No.2 agent:** test in accordance with the standards of thioglycolic acid permanent wave product No. 2 agent.
7. A two-phase heat-assisted permanent hair straightener product using a high temperature heating device, which the principal ingredient is thioglycolic acid or its salt: This product is used by applying heat of 60°C or under and used with a high temperature heating device (180°C or under) by removing moisture through cleansing with water after heating the No.1 agent. Its principal ingredient is thioglycolic acid or its salt and a No. 2 agent containing an oxidizing agent.

A. No.1 agent: the principal ingredient of this product is thioglycolic acid or its salt and the total quantity of the nonvolatile alkali is less than the corresponding thioglycolic acid. To maintain the quality of this product or enhance its usefulness, moderate quantities of alkaline agent, permeating agent, moisturizer, emulsion, thickener or fragrance may be added.

1) pH : 4.5 ~ 9.3
2) Alkali: the quantity of 0.1N hydrochloric acid shall be 5mL or less for a sample of 1mL.
3) Reducing agent after boiling in an acid state (thioglycolic acid): 1.0 ~ 5.0%
4) Reducing agent other than the reducing agent after boiling in an acid state (sulfurous acid, sulfide, etc.): the quantity of 0.1N iodine solution in the reducing agent other than the reducing agent after boiling a 1mL sample in an acid state shall be 0.6mL or less.
5) Reducing agent after reduction (dithiodiglycolic acid): 4.0% or less.
6) Heavy metal: 20 µg/g or less
7) Arsenic: 5 µg/g or less
8) Iron: 2 µg/g or less

B. No.2 agent: test in accordance with the standards of thioglycolic acid permanent wave product No. 2 agent.

8. A one-phase cold permanent wave product, which the principal ingredient is thioglycolic acid or its salt: the principal ingredient of this product is thioglycolic acid or its salt and is an agent that contains nonvolatile inorganic alkali, less than the amount of thioglycolic acid. To maintain the quality of this product or enhance its usefulness, moderate quantities of alkaline agent, permeating agent, moisturizer, coloring agent, emulsion, or fragrance may be added.

1) pH : 9.4 ~ 9.6
2) Alkali: the quantity of 0.1N hydrochloric acid shall be 3.5 ~ 4.6mL for a sample of 1mL.
3) Reducing agent after boiling in an acid state (thioglycolic acid): 3.0 ~ 3.3%
4) Reducing agent other than the reducing agent after boiling in an acid state (sulfurous acid, sulfide, etc.): the quantity of 0.1N iodine solution
in the reducing agent other than the reducing agent after boiling a 1mL sample in an acid state shall be 0.6mL or less.
5) Reducing agent after reduction (dithiodiglycolic acid): 0.5% or less.
6) Heavy metal: 20 µg/g or less
7) Arsenic: 5 µg/g or less
8) Iron: 2 µg/g or less

9. A second-phase exothermic permanent wave product, which the principal ingredient is thioglycolic acid or its salt and is prepared when using the No.1 agent: this product is composed of a No. 1-1 agent whose principal ingredient is thioglycolic acid or its salt, a No.1-2 agent containing hydrogen peroxide at a quantity less than the corresponding quantity of the thioglycolic acid or its salt in the No. 1-1 agent, and a No. 2 agent containing hydrogen peroxide as the oxidizing agent. In use, heat of about 40 °C is emitted when agents No.1-1 and No.1-2 are mixed.

A. No.1-1 agent: the principal ingredient of this product is thioglycolic acid or its salt. To maintain the quality of this product or enhance its usefulness, moderate quantities of alkaline agent, permeating agent, moisturizer, coloring agent, emulsion, or fragrance may be added.
   1) pH : 4.5 ~ 9.5
   2) Alkali: the quantity of 0.1N hydrochloric acid shall be 10mL or less for a sample of 1mL
   3) Reducing agent after boiling in an acid state (thioglycolic acid): 8.0 ~ 19.0%
   4) Reducing agent other than the reducing agent after boiling in an acid state (sulfurous acid, sulfide, etc.): the quantity of 0.1N iodine solution in the reducing agent other than the reducing agent after boiling a 1mL sample in an acid state shall be 0.8mL or less.
   5) Reducing agent after reduction (dithiodiglycolic acid): 0.5% or less.
   6) Heavy metal: 20 µg/g or less
   7) Arsenic: 5 µg/g or less
   8) Iron: 2 µg/g or less

B. No.1-2 agent: this product contains hydrogen peroxide at a quantity less than the corresponding quantity of the thioglycolic acid or its salt in the No. 1-1 agent. To maintain the quality of this product or enhance its usefulness, moderate quantities of permeating agent, pH adjuster, stabilizer, moisturizer, coloring agent, emulsion, or fragrance may be added.
   1) pH : 2.5 ~ 4.5
   2) Heavy metal: 20 µg/g or less
   3) Hydrogen peroxide: 2.7~3.0%

C. Compound of No.1-1 and No.1-2 agent: the principal ingredient of this product is thioglycolic acid and its salt and contains nonvolatile inorganic alkali at a quantity less than the corresponding quantity of thioglycolic acid. It is a
compound liquid in which the dose ratio between the No.1-1 agent and No.1-2 agent is 3:1.

1) pH : 4.5 ~ 9.4

2) Alkali: the quantity of 0.1N hydrochloric acid shall be 7mL or less for a sample of 1mL

3) Reducing agent after boiling in an acid state (thioglycolic acid): 2.0 ~ 11.0%

4) Reducing agent other than the reducing agent after boiling in an acid state (sulfurous acid, sulfide, etc.): the quantity of 0.1N iodine solution in the reducing agent other than the reducing agent after boiling a 1mL sample in an acid state shall be 0.6mL or less.

5) Reducing agent after reduction (dithiodiglycolic acid): 3.2 ~ 4.0%

6) Temperature rise: 14°C ~ 20°C

**Article 6 (Review Period)** In accordance with Article 8 of ‘Framework Act on Administrative Regulations’ and the Regulation on Issuance of Directives, Rules and Others (Presidential Directive No. 248), the deadline shall be within every 3 years starting from January 1, 2014 (until December 31 of every 3 years) with regard to taking measures such as the abolishment or amendment of the legislative bill following promulgation.

**SUPPLEMENTARY RULES <2014-118, 2014.5.30>**
This Notice shall take effect from the enforcement date.
[Annex 1] Ingredients to not be allowed to use of cosmetics

Gallamine triethiodide
Galantamine
Guanethidine and its salts
Guaifenesin
Glucocorticoids
Glutethimide and its salts
Cyclodiamide
Gold salts
Inorganic nitrites, with the exception of sodium nitrite
Naphazoline and its salts
Naphthalene
1,7-naphthalenediol
2,3-naphthalenediol
2,7-naphthalenediol and its salts
2-Naphthol
1-Naphthol and its salts
3-(1-Naphthyl)-4-hydroxy coumarin
1-(1-naphthylmethyl)quinolinium chloride
N-2-Naphthylaniline
1,2-Naphthylamines and their salts
Nalorphine, its salts and ethers
Lead and its compounds
Neodymium and its salts
Neostigmine and its salts (e.g. neostigmine bromide)
Nonylphenol [1]; 4-nonylphenol, branched [2]
Noradrenaline and its salts
Noscapine and its salts
Nigrosine spirit soluble (Solvent Black 5) and its salts
Nickel
Nickel dihydroxide
Nickel dioxide
Nickel monoxide
Nickel sulphide
Nickel sulphate
Nickel carbonate
Nicotine and its salts
2-Nitronaphthalene
Nitrobenzene
4-Nitrobiphenyl
Nitrosodipropylamine
2,2′-(Nitrosoimino)bis ethanol
4-Nitrosophenol
3-Nitro-4-aminophenoxy ethanol and its salts
Nitrosamine
Nitrostilbenes, their homologues and their derivatives
2-Nitroanisole
5-Nitroacenaphthene
Nitrocresols and their alkali metal salts
2-nitrotoluene
5-nitro-\(\sigma\)-toluidine and 5-nitro-\(\sigma\)-toluidine hydrochloride
6-Nitro-\(\sigma\)-Toluidine
3-[(2-nitro-4-(trifluoromethyl)phenyl)amino]propane-1,2-diol (HC Yellow No 6) and its salts
4-[(4-Nitrophenyl)azo]aniline (Disperse Orange 3) and its salts
2-nitro-p-phenylenediamine and its salts (ex: nitro-p-phenylenediamine sulfate)
4-nitro-m-phenylenediamine and its salts (ex: p-nitro-m-phenylenediamine sulfate)
Nitrofen
Nitrofuran compounds (ex. Nitrofurantoin, Furazolidone)
2-Nitropropene
6-Nitro-2,5-pyridinediamine and its salts
2-Nitro-N-hydroxyethyl-p-anisidine and its salts
Nitroxoline and its salts
Daminozide
Dinocap (ISO)
Duron
Datura species and their galenical preparations
Decamethylenbis(trimethylammonium) salts, (e.g. decamethonium bromide)
Dequalinium chloride
Dextromethorphan and its salts
Dextropropoxyphene
Dodecachloropentacyclo[5.2.1.0\(2,6\).0\(3,9\).0\(5,8\)]decane
Dodin
1.5-di-(\(\beta\)-hydroxyethyl)amino-2-nitro-4-chlorobenzen and its salts (ex: HC YELLOW NO 10)
5,5\(^{\prime}\)-Di-isopropyl-2,2\(^{\prime}\)-dimethylbiphenyl-4,4\(^{\prime}\)-diyl dihypoiodite
Digitalis species and their galenical preparations
Dinoseb, its salts and esters
Dinoterb, its salts and esters
Dinickel trioxide
Dinitrotoluene, technical grade
2,3-Dinitrotoluene
2,5-Dinitrotoluene
2,6-Dinitrotoluene
3,4-Dinitrotoluene
3,5-Dinitrotoluene
Dinitrophenol isomers
5-[(2,4-dinitrophenyl)amino]-2-(phenylamino)benzenesulfonic acid and its salts
Dimevamide and its salts
Dimethylnitrosoamine
7,11-Dimethyl-4,6,10-dodecatrien-3-one
2,6-Dimethyl-1,3-dioxan-4-yl acetate (Dimethoxane, o-Acetoxy-2,4-dimethyl-m-dioxane)
4,6-Dimethyl-8-<i>tert</i>-butylcoumarine
[3,3′-Dimethyl[1,1′-biphenyl]-4,4′-diyl]diammonium bis(hydrogensulphate)
Dimethylsulphamoyl-chloride
Dimethyl sulphate
Dimethyl sulfoxide
Dimethyl Citraconate
N,N-dimethylanilinium tetrakis(pentafluorophenyl)borate
N,N-Dimethylaniline
1- Dimethylaminomethyl-1-methylpropyl benzoate (amylocaine) and its salts
9-((dimethylamino)-Benzo[a]phenoxazin-7-ium and its salts
5-((4-(Dimethylamino)phenyl)azo)-1,4-dimethyl-1H-1,2,4-triazolium and its salts
Dimethylamine
N-Dimethylnacetam
3,7-Dimethyl-2-octen-1-ol (6,7-Dihydrogeraniol)
6,10-Dimethyl-3,5,9-undecatrien-2-one (Pseudoionone)
Diethylcarbamoyl-chloride
N,N-Dimethyl-p-phenylenediamine and its salts
1,3-dimethylpentylamine and its salts
Dimethylformamide
N,N-dimethyl-2,6-pyridine diamine and its hydrochloride
N,N′-Dimethyl-N-Hydroxyethyl-3-nitro-p-phenylenediamine and its salts
2-(2-((2,4-dimethoxyphenyl)amino)ethenyl)-1,3,3-trimethyl-3H-indolium and its salts
Divanadium pentaoxide
Dibenz[a,h]anthracene
2,2-Dibromo-2-nitroethanol
1,2-Dibromo-2,4-dicyanobutane (Methyldibromoglutaronitrile)
Dibromosalicylanilides
2,6-Dibromo-4-cyanophenyl octanoate
1,2-Dibromoethane
1,2-Dibromopropan-1-ol
5-((α, β-Dibromophenethyl)-5-Methylhydantoin
2,3-Dibromopropan-1-ol
3,5-Dibromo-4-hydroxybenzonitrile and its salts (Bromoxynil and its salts)
Dibromopropamidine and its salts (including isothonate)
Disulfiram
Thiram
Disodium[5-[[4′-[[2,6-di hydroxy-3-[[2-hydroxy-5-sulphophenyl]azo]phenyl]azo][1.1′-biphenyl]-4-yl]azo]salicylato(4–)]cuprate(2–) (Direct Brown 95)
Disodium 3,3′-[[1,1′-biphenyl]-4,4′-diyl bis(azo)]-bis(4-aminonaphthalene-1-sulphonate) (Congo red)
Disodium 4-amino-3-[[4′-[[2,4-diaminophenyl]azo][1,1′-biphenyl]-4-yl]azo]-5-hydroxy-6-(phenylazo)naphthalene-2,7-disulphonate (Direct Black 38)
Disodium 4-((3-ethoxyarboxybenzyl)-4-(5-(3-ethoxyarboxyl)-5-hydroxy-1-(4-sulfonatophenyl)pyrazol-4-yl) penta-2,4-di enyli dene)-4,5-dihydro-5-oxopyrazol-1-yl)benzenesulfonate and trisodium 4-((3-ethoxyarboxyl)-4-(5-(3-ethoxyarboxyl)-5-oxido-1-(4-sulfonatophenyl)pyrazol-
4-yl)penta-2,4-dienylidene)-4,5-dihydro-5-oxopyrazol-1-yl)benzenesulfonate
Disperse red 15
Disperse Yellow 3
Deanol aceglumate
O-Dianisidine based azo dyes
O-dianisidine salt(3,3’-dimethoxy benzidine salt)
3,7-diamino-2,8-dimethyl-5-phenyl- phenazinium and its salts
3,5-diamino-2,6-dimethoxy pyridine and its salts (ex.: 2,6-dimethoxy-3,5-pyridine-diamine hydrochloride)
2,4-diamino diphenyl amine
4,4’-Diaminodiphenylamine and its salts
2,4-diamino-5-methyl phenetol and its hydrochloride
2,4-diamino-5-methylphenoxyethanol and its salts
4,5-diamino-1-methyl pyrazole and its hydrochloride
1,4-Diamine-2-methoxy-9,10-anthracenedione (Disperse Red 11) and its salts
3,4-diaminobenzoic acid
Diaminotoluene, technical product - mixture of [4-methyl- m-phenylene diamine] and [2-methyl- m-phenylene diamine]
2,4-diaminophenoxethanol and its salts
3-[[4-[[diamino(phenylazo)phenyl]azo]-1-naphthalenyl]azo]-N,N,N-trimethyl-benzenaminium and its salts
3-[[4-[[diamino(phenylazo)phenyl]azo]-2-methylphenyl]azo]-N,N,N-trimethyl-benzenaminium and its salts
4,4’-diaminophenylamine and its salts ex: 4,4’-diamino-diphenylamine sulfate)
2,4-diaminophenylethanol and its salts
0,0’-Diacetyl-N-allyl-N-normorphine
Diazomethane
Di-allate
Diethyl 4-nitrophenyl phosphate
0,0’-Diethyl 0-4-nitrophenyl phosphorothioate (parathion-ISO)
Diethyleneglycol except for unintended residual and provided that the concentration does not exceed: 0,1 %
Diethyl maleate
Diethyl sulphate
2-Diethylaminoethyl-3-hydroxy-4-phenylbenzoate and its salts
4-Diethylamino-o-toluidine and its salts
N-[4-[[4-(diethylamino)phenyl][4-(ethylamino)-1-naphthalenyl]methylene]-2,3-cyclohexadien-1-yldene]-N-ethyl- Ethanaminium and its salts
N-[4-[[4-(diethylamino)phenyl)methyl]methylene]-2,5-cyclohexadien-1-yldene]-N-ethyl- Ethanaminium and its salts
N,N-diethyl-m-amino phenol
3-Diethylaminopropylcinnamate
Diethylcarbamoyl chloride
N,N-Diethyl-p-phenylenediamine and its salts
Dieldrin
Dioxane
Dioxethedrin and its salts
5-(2,4-Dioxo-1,2,3,4-tetrahydropyrimidine)-3-fluro-2-hydroxymethylterahydrofuran
Dithio-2,2'-bispyridine-dioxide
1,1' (additive with trihydrated magnesiurnsulphate) (pyrithione disulphide+magnesium sulphate)
Dicoumarol
2,3-Dichloro-2-methylbutane

1,4-Dichlorobenzene (p-dichlorobenzene)
3,3'-Dichlorobenzidine
3,3'-Dichlorobenzidine dihydrogen bis(sulphate)
3,3'-Dichlorobenzidine dihydrochloride
3,3'-Dichlorobenzidine sulphate
1,4-Dichlorobut-2-ene
2,2'-(3,3'-Dichloro[1,1'-biphenyl]-4,4'-diyl)bis[3-oxo-N-phenylbutanamide] (Pigment Yellow 12) and its salts
Dichlorosalicylanilides
Dichloroethylenes (acetylene chlorides)
Dichloroethanes (ethylene chlorides)
Dichloro-m-xyrenol
α, α'-Dichlorotoluene
Dichlorophen
1,3-Dichloropropan-2-ol
2,3-Dichloropropene
Diphenoxylate hydrochloride
1,3-Diphenylguanidine
Diphenylamine
Diphenylether; octabromo derivate
5,5-Diphenyl-4-imidazolidone
Difencloxazine
2,3-Dihydro-2,2-dimethyl-6-[(4-(phenylazo)-1-naphthalenyl)azo]-1H-pyrimidine (Solvent Black 3) and its salts
3,4-Dihydro-2-methoxy-2-methyl-4-phenyl-2H,5H,pyrano(3,2-c) -(1)benzopyran-5-one (cyclocoumarol)
2,3-Dihydro-2H-1,4-benzoxazine-6-ol and its salts (ex: Hydroxybenzomorpholine)
2,3-Dihydro-1H-indole-5,6-diol (dihydroxyindoline) and its hydrobromide salts (dihydroxyindoline hydrobromide)
(S)-2,3-Dihydro-1H-indole-carboxylic acid
Dihydrotachysterol
2,6-Dihydroxy-3,4-dimethylpyridine and its salts
2,4-Dihydroxy-3-methylbenzaldehyde
4,4' - Dihydroxy-3,3' -(3-methylthiopropylidene)dicoumarin
2,6-Dihydroxy-4-methylpyridine and its salts
1,4-Dihydroxy-5,8-bis[(2-hydroxyethyl)amino]anthraquinone (Disperse Blue 7) and its salts
4-[4-(1,3-Dihydroxyprop-2-yl)phenylamino]-1,8-dihydroxy-5-nitroanthraquinone
2,2’-Dihydroxy-3,3’,5,5’,6,6’-hexachlorodiphenylmethane (Hexachlorophene)
Dihydrocoumarine
N,N’-dihexadecyl-N,N’-bis(2-hydroxyethyl)propanediamide; Bishydroxyethyl Biscetyl
Malonamide
DNOC (4,6-Dinitro-o-cresol)
Oil from the seeds of Laurus nobilis L.
Rauwolfia serpentina alkaloids and their salts
Laccaic Acid (CI Natural Red 25) and its salts
Resorcinol diglycidyl ether
Rhodamin B and its salts
Lobelia species and their galenical preparations
Lobeline and its salts
Linuron
Lidocaine
d-Limonene, when Peroxide value more than 20 mmoles/L
d/-Limonene, when Peroxide value more than 20 mmoles/L
l-Limonene, if Peroxide value more than 20 mmoles/L
Lysergide and its salts
Narcotics pursuant to Article 2 of Narcotics management Law
Myclobutanil (2-(4-chlorophenyl)-2-(1H-1,2,4-triazol-1-ylmethyl)hexanenitrile)
Narcotics, natural and synthetic
Mannomustine and its salts
Malachite green and its salts
Malononitrile
1-Methyl-3-nitro-1-nitrosoguanidine
1-Methyl-3-nitro-4-((β-hydroxyethyl)aminobenzene and its salts (ex: hydroxyethyl-2-nitroptoluidide)
N-Methyl-3-nitro-p-phenylenediamine and its salts
N-Methyl-1,4-diaminoanthraquinone, reaction products with epichlorohydrin and monoethanolamine (HC Blue No 4) and its salts
3,4-Methylenedioxyphenol and its salts
Methylresorcinol
4,4’-Methylenedianiline
3,4-Methylenedioxylaniline and its salts
4,4’-Methylenedi-o-toluidine
4,4’-Methylenebis(2-ethylaniline)
(Methylenebis(4,1-phenylenazo(1-(3-(dimethylamino)propyl)-1,2-dihydro-6-hydroxy-4-methyl-2-oxopyridine-5,3-diyl))-1,1’-dipyridinium dichloride dihydrochloride
A mixture of: reaction product of 4,4’-methylenebis[2-(4-hydroxybenzyl)-3,6-dimethylphenol] and 6-diazo-5,6-dihydro-5-oxonaphthalenesulfonate (1:2) and reaction product of 4,4’-
methylenebis[2-(4-hydroxybenzyl)-3,6-dimethylphenol] and 6-diazo-5,6-dihydro-5-oxonaphthalenesulfonate (1:3)
Methylene chloride
3-(N-Methyl-N-(4-methylamino-3-nitrophenyl)amino)propane-1,2-diol and its salts
Methyl methacrylate monomer
Methyl trans-2-butenoate
2-[(3-(Methylamino)-4-nitrophenox)ethanol and its salts (ex: 3-Methylamino-4-nitrophenoxethanol)
N-methyl acetamide
(Methyl-ONN-azoxy)methyl acetate
2-Methylaziridine (Propyleneimine)
Methyloxirane
Methyl eugenol (excluded if plant extract contains Methyl eugenol and its concentration is equal to or less than the following; products containing pure perfume of over 8%: 0.01%, products containing pure perfume of 8% and less: 0.004%, aromatic cream: 0.002%, washable products: 0.001%, and others: 0.0002%)
N,N'-((Methylimino)diethylene))bis(ethylidimethylammonium)salts (e.g. azamethonium bromide)
Methyl isocyanate
6-methyl coumarin (6-MC)
7-Methylcoumarin
Methyl kresoxim
1-Methyl-2,4,5-trihydroxybenzene and its salts
Methylphenidate and its salts
3-Methyl-1-phenyl-5-pyrazolone and its salts (ex: phenyl methyl pyrazolone)
Methylphenylenediamine, its N,N-Substituted derivatives and its salts (ex: 2,6-Dihydroxyethylaminotoluene)
2-Methyl-m-phenylene diisocyanate
4-Methyl-m-phenylene diisocyanate
4,4'-(4-Methyl-1,3-phenylene)bis(azo)bis[6-methyl-1,3-benzenediamine] (Basic Brown 4) and its salts
4-methyl-6-(phenylazo)-1,3-Benzenediamine and its salts
N-Methylformamide
5-Methyl-2,3-hexanedione
2-Methylheptylamine and its salts
Mecamylamine
Metanil Yellow
Methanol (Allowed 5% only if it is used as dematurator of ethanol and isopropyl alcohol)
Metethoheptazine and its salts
Methocarbamol
Methotrexate
2-methoxy-4-nitrophenol (4-Nitroguaiacol) and its salts
2-[(2-methoxy-4-nitrophenyl)amino]ethanol and its salts (ex: 2-hydroxyethylamino-5-nitroanisole)
1-methoxy-2,4-diamino benzene (2,4-diamino-anisole or 4-methoxy-m-phenylene diamine or CI 76050) and its salts'
1-Methoxy-2,5-diaminobenzene (2,5-diaminoanisole) and their salts
2-methoxy methyl-p-aminophenol and its hydrochloride
6-Methoxy-N2-methyl-2,3-Pyridinediamine HCL and its dihydrochloride salt
2-(4-Methoxybenzyl-N-(2-pyridyl)amino)ethylidimethylamine maleate
Methoxyacetic acid
2-methoxy ethyl acetate (methoxy ethanol acetate)
N-(2-methoxy ethyl)-p-phenylene diamine and its hydrochloride
2-methoxy ethanol (Ethylene Glycol Monomethyl Ether; EGME)
2-[(2-methoxy ethoxyl)ethanol (methoxy glycol)
7-Methoxycoumarin
4-methoxy toluene-2,5-diamine and its hydrochloride
6-methoxy-m-toluidine (p-cresidine)
2-[[4-methoxyphenyl)methylhydrazono]methyl]-1,3,3-trimethyl-3H-Indolium and its salts
4-Methoxyphenol (hydroquinone mono-methyl ether or p-hydroxy anisole)
4-(4-Methoxyphenyl)-3-butene-2-one (4-Anisylidene acetone)
1-(4-Methoxyphenyl)-1-penten-3-one (α-methylanisalacetone)
2-Methoxypropanol
2-Methoxypropyl acetate
6-methoxy-2,3-pyridine amine and its hydrochloride
Metaldehyde
Metamfepramone and its salts
Metformin and its salts
Methyptazine and its salts
Metyrapone
Methyprylon and its salts
Mephenesin and its esters
Mefeclorazine and its salts
Meprobamate
Monoalkylamines, monoalkanolamines and their salts, when its secondary amine content is over than 0.5%
Monocrotophos
Monuron
Morpholine and its salts
Moskene (1,1,3,3,5-Pentamethyl-4,6-dinitroindane)
Mofebutazone
Costus (Saussurea lappa Clarke= Saussurea costus (Falc.) Lipsch. = Aucklandia lappa Decne) root oil
Molate
Morpholine-4-carbonyl chloride
Ficus carica leaf absolute (Fig leaf absolute)
Mineral wool
Barium salts (except Barium Sulfate and Barium salts used as a pigment diluent)
Barbiturates
2,2′-Bioxirane
Valnoctamide
Valinamide
Radioactive substances
Vaccines, toxins or serums
Benactyzine
Benomyl
Veratrum Spp. and their preparations
Veratrine, its salts and galenical preparations
Verbena oil (Lippia citriodora Kunth.)
Beryllium and its compounds
Bemegride and its salts
Betoxycaine and its salts
Basic Violet 1 (Methyl Violet)
Basic Violet 3 (Crystal Violet)
1-(β-ureidoethyl)amino-4-nitrobenzene and its salts (ex: 4-nitrophenyl aminoethylurea)
1-(β-hydroxy)amino-2-nitro-4-N-ethyl-N-(β-hydroxyethyl)aminobenzene and its salts (ex: HC BLUE No 13)
Bendroflumethiazide and its derivatives
Benzene
1,2-benzenedicarboxylic acid dipentyl ester; n-pentyl-isopentyl phthalate; Di-n-pentyl phthalate
1,2,4-Benzenetriacetate and its salts
7-(benzoylamino)-4-hydroxy-3-[[4-[[4-(sulfophenyl)azo]phenyl]azo]-2-naphthalenesulfonic acid and its salts,
Benzoyl peroxide
Benzo(a)pyrene
Benzo[e]pyrene
Benzo[j]fluoranthene
Benzo(k)fluoranthene
Benz(e)acephenanthrylene
Benzazepines and benzodiazepines
Benztropine and its salts
Benz[a]anthracene
Benzimidazol-2(3H)-one
Benzidine
Benzidine based azo dyes
Benzidine dihydrochloride
Benzidine sulphate
Benzidine acetate
Benzilonium bromide
Benzyl 2,4-dibromobutanoate
3(or5)-((4-(Benzylmethylamino)phenylazo)-1,2-(or1,4)-dimethyl-1H-1,2,4-triazolium and its salts
Benzyl Violet ([4-[[4-((dimethylamino)phenyl)azo]-1,2-(or1,4)-dimethyl-1H-1,2,4-triazolium and its salts
Benzyloxyphenol (hydroquinone mono-benzyl ether)
2-Butanone oxime
Butanilicaine and its salts
1,3-butadiene
Butopiprine and its salts
Butoxydiglycerol
Butoxyethanol
5-(3-butyryl-2,4,6-trimethylphenyl)-2-[1-(ethoxyimino)propyl]-3-hydroxycyclohex-2-en-1-one
Butyl glycidyl ether
4-tert-butyl-3-methoxy-2,6-dinitrotoluene (musk ambrette)
1-Butyl-3-(N-crotonoylsulphanilyl) urea
5-tert-Butyl-1,2,3-trimethyl-4,6-dinitrobenzene (Musk Tibetene)
4-tert-Butyldionol
2-(4-tert-Butylphenyl)ethanol
p-butyl fluazifop
4-tert-Butylpyrocatechol
Bufexamac
Boric acid
Bretylium tosilate
(R)-5-bromo-3-(1-methyl-2-pyrrolidinylmethyl)-1H-indole
Bromomethane
Bromoethylene
Bromoethane
1-Bromo-3,4,5-trifluorobenzene
1-bromopropane; n-propyl bromide
2-Bromopropane
Bromoxynil heptanoate
Bromine
Bromisoval
Brucine (Except denaturant of Ethanol)
Binapacryl (2-sec-butyl-4,6-dinitrophenyl-3-methyl crotonate)
Vinylidene chloride (1,1-dichloroethylene)
9-Vinylcarbazole
Vinyl chloride monomer
1-Vinyl-2-pyrrolidone
Arsenic and its compounds
1,1-Bis(dimethylaminomethyl)propylbenzoate (amydricaine, alypine) and its salts
4,4′-bis(dimethylamino)benzophenone
3,7-bis(dimethylamino)-Phenothenazin-5-iuni and its salts
3,7-bis(diethylamino) Phenoazin-5-iuni and its salts
N-(4-[bis[4-(diethylamino)phenyl]methylene]-2,5-cyclohexadien-1-ylidene)-N-ethyl-
Ethanaminium and its salts
Bis(2-methoxy ethyl)ether (dimethoxy diglycol)
Bis(2-methoxyethyl)phthalate
1,2-bis(2-methoxyethoxy)ethane triethylene glycol dimethyl ether (TEGDME); Triglyme
1,3-bis(vinylsulfonylacetamido)-propane
Bis(cyclopentadienyl)-bis(2,6-difluoro-3-(pyrrol-1-yl)-phenyl) titanium
A mixture of: 4-[[bis-(4-Fluorophenyl)methylsilyl]methyl]-4H-1,2,4-triazole and 1-[[bis-(4-Fluorophenyl)methylsilyl]methyl]-1H-1,2,4-triazole bis (Chloromethyl) ether (Oxybis[chloromethane])
N, N-Bis (2-chloroethyl)methylamine N-oxide and its salts
bis(2-chloroethyl) ether
Bisphenol A, (4,4-Isopropylidenediphenol)
N’N’-Bis(2-hydroxy ethyl)-N-methyl-2-nitro-p-phenylene diamine (HC blue No.1) and its salts
4,6-Bis(2-Hydroxyethoxy)-m-Phenylene diamine and its salts
2,6-bis(2-hydroxy ethoxy)-3,5-pyridine diamine and its hydrochloride
Bietamiverine
Bithionol
Vitamin L1, L2
[[1,1′-Biphenyl]-4,4′-diyl]diammonium sulphate
Biphenyl-2-ylamine
Biphenyl-4-ylamine and its salts
4,4′-Bi-o-toluidine
dihydrochloride
4,4′-Bi-o-toluidine sulphate
Vinclozolin
Cyclamen alcohol
N-cyclopentyl-m-amino phenol
Cycloheximide
N-cyclohexyl-N-methoxy-2,5-dimethyl-3-furamide
Trans-4-cyclohexyl-L-proline monohydro-chloride
Safrole (except for normal content in the natural essences used and provided the concentration does not exceed: 100 ppm in the finished product)
α-santonin ((3S,5aR,9bS)-3,3a,4,5,5a,9b-hexahydro-3,5a,9-trimethynaphto (1,2,-b))
Asbestos
Petrolatum
Byproducts from which is produced during the refining process (Distillates, Gas oils, Naphtha, Lubricating greases, Slack wax, Hydrocarbons, Alkanes, Petrolatum, Fuel oil, Residues), except if the full refining history is known and it can be shown that the substance from which it is produced is not a carcinogen
Refined petroleum containing Butadiene of over 0.1% (gas, hydrocarbons, alkanes, distilled water and raffinate)
Derived materials from petroleum, if it contains > 3% extracted by Dimethylsulfoxide (DMSO)
Petrochemicals, derived materials from coal tar and wood tar, if it contains > 0.005%
Benzo(a)pyrene
Fuels, jet aircraft, coal solvent extn. And Fuels, diesel, coal solvent extn.
Sultiamine
Sulfallate
3,3′-(Sulfonylbis(2-nitro-4,1-phenylene)imino)bis(6-(phenylamino))benzenesulfonic acid and its salts
Sulphonamide and its derivatives (Except Toluenesulfoneamide/formaldehyde resine, Toluenesulfoneamide/Epoxi-resine)
Sulfipyrazone
Cedrus atlantica oil and extract, when Peroxide value more than 10 mmoles/L
Cephaeline and its salts
Selenium and its compounds (except Seleniumaspate)
Sodium hexacyclonate
*Solanum nigrum L.* and its galenical preparations
*Schoenocaulon olficinale Lind.* (seeds and galenical preparations)
Solvent red1 (CI 12150)
Solvent Blue 35
Solvent Organe 7
Mercury and its compounds
Strophantus species and their galenical preparations
Strophantines, their aglucones and their respective derivatives
Strontium compounds
Strychnos species and their galenical preparations
Strychnine and its salts
Sparteine and its salts
Spironolactone
Simazine
4-Cyano-2,6-diiodophenyl octanoate
Scalet red (Solvent red 24)
Cyclarbamate
Cyclomenol and its salts
Cyclophosphamidomethylamine and its salts
2-α-Cyclohexylbenzyl (N,N,N′,N′-tetraethyl)trimethylenediamine (phenetamine)
Cinchocaine and its salts
Cinchophen, its salts, derivatives and salts of these derivatives
Succinonitride
*Anamirta cocculus L.* (fruit)
o-Anisidine
Aniline, its salts and its halogenated and sulphonated derivatives
*Adonis vernalis L.* and its preparations
*Areca catechu* and their preparations
Arecoline
*Aristolochia* spp. and their preparations
Aristolochic acid and its salts
1-Amino-2-nitro-4-(2′,3′-dihydroxypropyl)amino-5-chlorobenzene and 1,4-bis-(2′,3′-dihydroxypropyl)amino-2-nitro-5-chlorobenzene and its salts (ex: HC RED No 10 and HC RED No 11)
2-Amino-3-nitrophenol and its salts
P-amino-o-nitro phenol (4-amino-2-nitro phenol)
4-Amino-3-nitrophenol and its salts
2,2′-[(4-Amino-3-nitrophenyl)imino]bisethanol hydrochloride and its salts (ex: HC RED No 13)
(8-[(4-Amino-2-nitrophenyl)azo]-7-hydroxy-2-naphthyl)trimethylammonium and its salts, except Basic Red 118 (CAS 71134-97-9) as impurity in Basic Brown 17
1-Amino-4-[[4-[(dimethylamino)methyl]phenyl]amino]anthraquinone and its salts,
6-Amino-2-[(2,4-dimethylphenyl)-1H- benz[de]isoquinoline-1,3(2H)-dione (Solvent Yellow 44) and its salts
5-Amino-2,6-Dimethoxy-3-Hydroxypyridine and its salts
3-Amino-2,4-dichlorophenol and its salts
3-amino methyl-p-aminophenol and its hydrochloride
2-[4-(4-Amino-2-methyl-5-nitrophenyl)amino]ethanol and its salts (ex: HC Violet No 1)
2-[3-Amino-4-methoxyphenyl)amino]ethanol and its salts (ex: 2-Amino-4-hydroxyethylaminoanisole)
4-Aminobenzenesulfonic acid and its salts
Esters of 4-aminobenzoic acid and its esters with amino group(-NH2)
2-Amino-1,2-bis(4-methoxyphenyl)ethanol and its salts
4-Aminosalicylic acid and its salts
4-Aminoazobenzene
1-(2-Aminoethyl)amino-4-(2-hydroxyethyl)oxy-2-nitrobenzene and its salts (ex: HC Orange No 2)
Aminocaproic acid and its salts
4-Amino-4-m- cresol and its salts
6-Amino-4-0-cresol and its salts
2-Amino-6-chloro-4-nitrophenol and its salts
1-[3-(3-Aminopropyl)amino]-4-(methylamino)anthraquinone and its salts
4-amino-3-fluorophenol
5-[4-[(7-Amino-1-hydroxy-3-sulfo-2-naphthyl) azo]-2,5-diethoxyphenyl]azo]-2-[3-(phosphonophenyl)azo]benzoic acid and 5-[4-[(7-Amino-1-hydroxy-3-sulfo-2-naphthyl)azo]-2,5-diethoxyphenyl]azo]-3-[3-(phosphonophenyl)azo]benzoic acid
3(or 5)-[4-[(7-Amino-1-hydroxy-3-sulphonato-2-naphthyl)azo]-1-naphthyl]azo]salicylic acid and its salts
Amni majus and its galenical preparations
Amitrole
Amitriptyline and its salts
Amyl nitrates
Amyl 4-dimethyl amino benzoic acid(pentyl dimethyl PABA, padimate A)
Abies balsamea needle oil and extract, when Peroxide value more than 10 mmoles/L
Abies sibirica needle oil and extract, when Peroxide value more than 10 mmoles/L
Abies alba cone oil and extract, when Peroxide value more than 10 mmoles/L
Abies alba needle oil and extract, when Peroxide value more than 10 mmoles/L
Abies pectinata needle oil and extract, when Peroxide value more than 10 mmoles/L
Acenocourarol
Acetamide
Acetonitrile
Reaction product of acetophenone, formaldehyde, cyclohexylamine, methanol and acetic acid
2-Acetoxyethyltrimethylammonium hydroxide (acetylcholine and its salts)
N-[2-3(4-acetyl-5-nitrothiophen-2-ylazo)-5-diethylaminophenyl]acetamide
3-[4-(Acetylamino)phenyl]azo]-4-hydroxy-7-[[5-hydroxy-6-(phenylazo)-7-sulfo-2-naphthalenyl]amino]carbonyl]amino]-2-naphthalenesulfonic acid and its salts
5-(acetyl amino)-4-hydroxy-3-((2-methylphenyl)azo) 2,7-naphthalenedisulfonic acid and its salts
Azacyclonol and its salts
Azafenidin
Azobenzene
Aziridine
*Aconitum* species and their galenical preparations
Aconitine and its salts
Acrylonitrile
Acrylamide (except for ingredients derived from polyacrylamides and less than 0.1ppm to body-care leave-on products or less than 0.5ppm to the others)
*Atropa belladonna* L. and its preparations
Atropine, its salts and derivatives
Apomorphine and its salts
*Apoxyynum cannabinum* L. and its preparations
Substances with androgenic effect
Anthracene oil
Antiandrogens with steroid structure
Antihalocene oil
Aldrin
Alachlor
Alloclamide and its salts
Allyl glycicyd ether
2-(4-Allyl-2-methoxyphenoxy)-N,N-diethylacetamide and its salts
A mixture of: 4-allyl-2,6-bis(2,3-epoxypropyl)phenol, 4-allyl-6-(3-(6-(3-(4-allyl-2,6-
bis(2,3-epoxypropyl)phenoxy)2-hydroxypropyl)-4-allyl-2-(2,3-epoxypropyl)phenoxy)-2-
hydroxypropyl)-4-allyl-2-(2,3-epoxypropyl)phenoxy)-2-hydroxypropyl)-2-(2,3-epoxypropyl)-2-(2,3-epoxypropyl)phenoxy)phenol and 4-allyl-6-(3-(6-(4-allyl-2,6-
bis(2,3-epoxypropyl)phenoxo)-2-hydroxypropyl)-2-(2,3-epoxypropyl)phenoxy)phenol
Allyl isothio cyanate
Allyl esters, when level of free allyl alcohol in the ester is over than 0.1 %
Allyl chloride (3-chloropropene)
Secondary alkanol amine and its salts
Alkali sulphides and Alkaline earth sulphides
Alkali pentacyanonitrosylferrate (2−)
Alkynne alcohols, their esters, ethers and salts
Salts of 0-alkylthiocarbonic acids
Secondary alkyl amine and its salts
2-{4-(2-ammoniopropylamino)-6-[4-hydroxy-3-(5-methyl-2-methoxy-4-sulfamoylphenylazo)-2-sulfonatonaphth-7-ylamino]-1,3,5-triazin-2-ylamino}-2-aminopropyl formate
Acid orange24(CI 20170)
Acid red73(CI 27290)
C.I. Acid Black 131 and its salts
Ergocalciferol and cholecalciferol (Vitamins D₂ and D₃)
Erionite
Emetine, its salts and derivatives
Estrogens
Eserine or physostigmine and its salts
HC Green No 1
HC Red No 8 and its salts
HC Violet No 2
HC Blue No 2
HC Blue No 11
HC Yellow No 10
HC Yellow No 11
HC Orange No 3
Ethionamide
Ethylene glycol dimethyl ether (EGDME)
2,2'-((1,2-Ethenediyl)bis[5-((4-ethoxyphenyl)azo]benzenesulfonic acid) and its salts
Ethylene oxide
3-Ethyl-2-methyl-2-(3-methylbutyl)-1,3-oxazolidine
1-Ethyl-1-methylmorpholinium bromide
1-Ethyl-1-methylpyrrolidinium bromide
Ethylbis (4-hydroxy-2-oxo-1-benzopyran-3-yl)acetate and salts of the acid
4-Ethylamino-3-nitrobenzoic acid (N-Ethyl-3-Nitro PABA) and its salts
Ethyl acrylate
(acetyl ethyl
tetramethyl tetralin, AETT)
Ethylphenacemide (Pheneturide)
2-[[4-[(2-hydroxyethyl)amino]phenyl]azo]-6-methoxy-3-methyl-benzothiazolium and its salts
2-Ethylhexanoic acid
2-Ethylhexyl[[3,5-bis(1,1-dimethylethyl)-4-hydroxyphenyl]-methyl]thio]acetate
0,0’ -(ethenylmethylsilylene) di[(4-methylpentan-2-one) oxime]
Ethoheptazine and its salts
7-Ethoxy-4-methylcoumarin
4’ -Ethoxy-2-benzimidazolcarboxylic acid
2-ethoxy ethanol (Ethylene Glycol Monoethyl Ether; EGMEE)
Ethoxyethanol Acetate
5-Ethoxy-3-trichloromethyl-1,2,4-thiadiazole
4-Ethoxy phenol(hydroquinone mono ethyl ether)
4-ethoxy-4'-phenylenediamine and its salts (ex: 4-ethoxy-4'-phenylenediamine sulfate)
Ephedrine and its salts
1,2-epoxy butane
(Epoxymethyl)benzene
1,2-Epoxy-3-phenoxypropane
1,2,3-Epoxy-1-propanol
2,3-Epoxypropene-1-ol
2,3-Epoxypropyl o-tolyl ether
Epinephrine
Oxadiargyl
(Oxalylbisiminoethylene)bis((o-chlorobenzyl)diethylammonium) salts, (e.g. ambenomium chloride)
Oxanamide and its derivatives
Oxpheneridine and its salts
4,4′-oxydianiline (p-aminophenyl ether) and its salts
Oxiranemethanol, 4-methylbenzene-sulfonate, (S)-
Bismuth compounds, with the exception of bismuth oxychloride
Oxyquinoline(hydroxy-8-quinoline or quinoline-8-ol) and its sulfate
Octamoxin and its salts
Octamylamine and its salts
Octodrine and its salts
Oleandrin
Warfarin and its salts
Iodomethane
Iodine
Yohimbine and its salts
Urethane (Ethylcarbamate)
Urocanic acid, ethyl urocanate
Urginea scilla Stern. and its galenical preparations
Usnic acid and its salts(including copper salts)
2,2′-iminobis- ethanol, reaction products with epichlorohydrin and 2-nitro-1,4-benzenediamine (HC Blue No 5) and its salts
(μ-((7,7′-iminobis(4-hydroxy-3-((2-hydroxy-5-(N-methylsulphamoyl)phenyl)azo)naphthalene-2-sulphonato))(6-)))dicuprate(2-) and its salts
4,4′-(4-iminocyclohexa-2,5-dienylidenemethylene) dianiline hydrochloride
Imidazolidine-2-thione
Isodiprene, when Peroxide value more than 10 mmoles/L
Isometheptene and its salts
Isobutyl nitrite
4,4′- Isobutylethylidenediphenol
Isosorbide dinitrate
Isocarboxazid
Isoprenaline
Isoprene (2-methyl-1,3-butadiene)
6-Isopropyl-2-decahydrophthalenol (6-Isopropyl-2-decalol)
3-(4-Isopropylphenyl)-1,1-dimethylurea (Isoproturon)
(2-Isopropylpent-4-enoyl)urea(apronalide)
Isoxaflutole
Isoxynil and its salts
Ipecacuanha (Cephaelis ipecacuanha Brot. and related species) (roots, powder and galenical preparations)
Iprodione
Human cells and tissues and its culture media (except in the case such culture media meets the safety standards on human cell and tissue culture media of Annex 3)
Substance from Human Placenta
Inproquone
Imperatorine (9-(3methylbut-2-enyloxy) furo(3,2-g)chromen-7one)
Xyram
Zoxazolamine
*Juniperus sabina L.* (leaves, essential oil and galenical preparations)
Zirconium and its acid salt
Chenopodium ambrosioides (essential oil)
Thiram
4,4′-thiodianiline and its salts
Thioacetamide
Thiourea and its derivatives
Thiotepa
Thiophanate-methyl
Cadmium and its compounds
Caramiphen and its salts
Carbendazim
4,4′-Carbonimidoylbis[N,N-dimethylaniline] and its salts
Carisoprodol
Carbadox
Carbaryl
N-(3-Carbamoyl-3,3-diphenylpropyl)-N,N-diisopropylmethylammonium salts (e.g. isopropamide iodide)
Nitroderivatives of carbazole
7,7′-(carbonyldiimino)bis(4-hydroxy-3-[[2-sulfo-4-[(4-sulfophenyl)azo]phenyl]azo]- 2-Naphthalenesulfonic acid and its salts
Carbon disulphide
Carbon monoxide (CO)
Carbon black (except in the case where there is less than 5ppb each of impurities like benzopyrene and dibenz(a,h)anthracene and less than 0.5ppm of total PAHs (polycyclic aromatic hydrocarbons))
Carbon tetrachloride
Carbutamide
Carbromal
Catalase
Catechol(pyro catechol)
Cantharides, *Cantharis vesicatoria*
Captfol
Captodiame
Ketoconazol
*Conium maculatum L.* (fruit, powder, galenical preparations)
Coniine
Cobalt dichloride(Cobalt chloride)
Cobalt benzenesulphonate
Cobalt sulphate
Coumetarol
Conballatoxin
Choline salts and their esters, e.g. choline chloride
Colchicine, its salts and derivatives
Colchicoside and its derivatives
Colchicum autumnale L. and its galenical preparations
Coal Tar or refined Coal Tar
Curare and curarine
Synthetic curarizants
Cupressus sempervirens leaf oil and extract, when Peroxide value more than 10 mmoles/L
Croton aldehyde (Butenal)
Croton tiglium (oil)
3-(4-Chlorophenyl)-1,1-dimethyluronium trichloroacetate: monuron-TCA
Chrome; Chromic acid and its salts
Chrysene
Xanthinol (7-(2-Hydroxy-3-(hydroxyethyl)-N-methylamino)propyl)theophylline
Xylometazoline and its salts
Claviceps purpurea Tul., its alkaloids and galenical preparations
1-Chloro-4-nitrobenzene
2-[(4-chloro-2-nitrophenyl)amino]ethanol (HC Yellow No 12) and its salts
2-[(4-Chloro-2-nitrophenyl)azo]-N-(2-methoxyphenyl)-3-oxobutanamide (Pigment Yellow 73) and its salts
2-Chloro-5-nitro-N-hydroxyethyl-p-phenylenediamine and its salts
Chlordecone
2,2'-(3-Chloro-4-((2,6-dichloro-4-nitrophenyl)azo)phenyl)imino)bisethanol (Disperse Brown 1) and its salts
5-Chloro-1,3-dihydro-2H-indol-2-one
[6-[[3-Chloro-4-(methylamino)phenyl]imino]-4-methyl-3-oxocyclohexa-1,4-dien-1-yl]urea (HC Red No 9) and its salts
Chloromethyl methyl ether
2-Chloro-6-methylpyrroimidin-4-yldimethylamine (crimidine-ISO)
Chloromethane
p-chlorobenzotrichloride
N-5-Chlorobenzoxazol-2-ylacetamide
4-Chloro-2-amino phenol
Chloroacetaldehyde
6-(2-Chloroethyl)-6-(2-methoxyethoxy)-2,5,7,10-tetraoxa-6-silaundecane
2-Chloro-6-ethylamino-4-nitrophenol and its salts
Chloroethane
1-Chloro-2,3-epoxypropane
R-1-Chloro-2,3-epoxypropane
Chlorothalonil
Chlorotoluron : 3-(3-Chloro-p-tolyl)-1,1-dimethylurea
α-Chlorotoluene
N'-4-Chloro-o-tolyl)-N,N-dimethylformamidined monohydrochloride
1-(4-chlorophenyl)-4,4-dimethyl-3-(1,2,4-triazol-1-ylmethyl)pentan-3-ol
(3-Chlorophenyl)-(4-methoxy-3-nitrophenyl)methanone
(2RS, 3RS)-3-(2-Chlorophenyl)-2-(4-fluorophenyl)-[1H-1,2,4-triazol-1-yl)methyl]oxirane
(Epoxiconazole)
2-(2-(4-Chlorophenyl)-2-phenylacetyl)indan 1,3-dione (chlorophacinone-ISO)
Chloroform
Chloroprene (2-chlorobuta-1,3-diene)
Chlorofluorocarbon propellants (completely halogenated chlorofluoroalkan)
2-Chloro-N-(hydroxymethyl)acetamide
N-[6-[(2-Chloro-4-hydroxyphenyl)iminol]-4-methoxy-3-oxo-1,4-cyclohexadien-1-yl]acetamide
(HC Yellow No 8) and its salts
Chlordane
Chlordimeform
Chlormezanone
Chlormethine and its salts
Chloroxazone
Chlortalidone
Chlorprothixene and its salts
Chlormethine
Chlorpropamide
Chlorine
Chlorthalodrin
Clofenotane: DDT(ISO)
Clofenamid
Chinomethionate
Xylidines, their isomers, salts and halogenated and sulphonated derivatives
Thallium and its compounds
Thalidomide and its salts
Talc (not suitable for ‘Asbestos’ standard in KP or KFDA specification)
Terpenes and terpenoids with the exception of limonene, when Peroxide value more than 10 mmoles/L
Terpene terpenoids sinpine, when Peroxide value more than 10 mmoles/L
Terpene alcohols acetates, when Peroxide value more than 10 mmoles/L
Terpene hydrocarbons, when Peroxide value more than 10 mmoles/L
α-Terpinene, when Peroxide value more than 10 mmoles/L
γ-Terpinene, when Peroxide value more than 10 mmoles/L
Terpinolene, when Peroxide value more than 10 mmoles/L
Thevetia neriifolia juss. glycoside extract
N,N,N,N′,N′-Tetraglycidyl-4,4′-diamino-3,3′-diethyldiphenylmethane
N,N,N,N′-tetramethyl-4,4′-methylendianiline
Tetrabenazine and its salts
Tetrabromosalicylanilides
Tetrasodium 3,3′-[[1,1′-biphenyl]-4,4′-diylbis(azo)]bis[5-amino-4-hydroxynaphthalene-2,7-
1,4,5,8-tetraamino antraquinone(disperse blue 1)
Tetraethyl pyrophosphate: TEPP(ISO)
Tetracarbonylnickel
Tetraconazole(+/–)-2-(1H-1,2,4-triazol-1-yl)propyl-1,1,2,2-
tetrafluoroethylether
2,3,7,8-Tetrachlorodibenzo-p-dioxin
Tetrachlorosalicylanilides
5,6,12,13-Tetrachloroanthra(2,1,9-def:6,5,10-d’e’ f’)diisoquinoline-1,3,8,10(2H,9H)-tetrone
Tetrachloroethylene
UVCB condensation product of: tetrakis-hydroxymethylphosphonium chloride, urea and distilled hydrogenated C16-18 tallow alkylamine
Tetrahydro-6-nitroquinoxaline and its salts
Tetrahydrozoline (Tetryzoline) and its salts
Tetrahydrothiopyran-3-carboxaldehyde
(+/-)-Tetrahydrofurfuryl -(R)-2-[4-(6-chloroquinoxalin-2-yloxy)phenyloxy]propionate
Tetrylammonium bromide
Tefazoline and its salts
Tellurium and its compounds
Inula helenium oil
Toxaphene
Toluidinium chloride
Toluidines, their isomers, salts and halogenated and sulphonated derivatives
o-Tolidine based dyes

Toluidine sulphate (1:1)
m-Tolyldene diisocyanate
4-o-Tolylazo-o-toluidine
Tolboxane
Tolbutamide
[(Tolyloxy)methyl]oxirane, cresyl glycidyl ether
[(m-Tolyloxy)methyl]oxirane
[(p-Tolyloxy)methyl]oxirane
Turpentine, steam distilled (Pinus spp.), when Peroxide value more than 10 mmoles/L
Turpentine gum (Pinus spp.), when Peroxide value more than 10 mmoles/L
Turpentine oil and purified oil, when Peroxide value more than 10 mmoles/L
Tuaminoheptane, its isomers and salts
Thuja Occidentalis Stem Oil, when Peroxide value more than 10 mmoles/L
Thuja Occidentalis Leaf Oil and extract, when Peroxide value more than 10 mmoles/L
Tranylcypromine and its salts
Tretamine
Tretinoin (retinoic acid and its salts)
Trinickel disulphide
Tridemorph
3,5,5-Trimethylcyclohex-2-enone
2,4,5-trimethylaniline [1] ; 2,4,5-trimethylaniline hydrochloride [2]
3,6,10-Trimethyl-3,5,9-undecatriene-2-one (Methylisopseudoionone)
2,2,6-Trimethyl-4-peperidyl benzoate (benzamine) and its salts
3,4,5-Trimethoxyphenethylamine and its salts
Tributyl phosphate
3,4',5-Tribromosalicylanilide (Tribromsalan)  
2,2,2-Tribromoethanol (tribromoethyl alcohol)  
Trisodium bis(7-acetamido-2-(4-nitro-2-oxidophenylazo)-3-sulfonato-1-naphthalato)chromate(1-)  
Trisodium [4'-(8-acetylamino-3,6-disulfonato-2-naphthylazo)-4"-(6-benzoylamino-3-Sulfonato-2-naphthylazo)-biphenyl-1,3', 3"', 1'-'-tetraolato-O', O'', O''']copper(II)  
a mixture of: 1,3,5-tris(3-aminomethylphenyl)-1,3,5-(1H, 3H, 5H)-triazine-2,4,6-trione and a mixture of oligomers of 3,5-bis(3-aminomethylphenyl)-1-poly[3,5-bis(3-aminomethylphenyl)-2,4,6-trioxo-1,3,5-(1H, 3H, 5H)-triazin-1-yl]-1,3,5-(1H, 3H, 5H)-triazine-2,4,6-trione  
1,3,5-tris-[(2S and 2R)-2,3-Epoxypropyl]-1,3,5-triazine-2,4,6-(1H, 3H, 5H)-trione  
1,3,5-Tris(oxiranylmethyl)-1,3,5-triazine-2,4,6(1H, 3H, 5H)-trione  
Tris(2-Chloroethyl) phosphate  
N-(Tris(hydroxymethyl))methyl-4-nitro-1,2-phenylenediamine (HC Yellow No 3) and its salts  
1,3,5-Tris (2-hydroxyethyl) hexahydro 1,3,5-triasin  
1,2,4-Triazole  
Triamterene and its salts  
Trioxymethylene (1,3,5-trioxan)  
Trichloronitromethane (chloropicrine)  
N′- (Trichloromethylthio)phthalimide  
N′- (Trichloromethylthio)-4-cyclohexene-1,2-dicarboximide (captan)  
2,3,4-Trichlorobut-1-ene  
Trichloroacetic acid  
Trichloroethylene  
1,1,2-trichloroethane  
2,2,2-Trichloroethane-1,1-diol  
α, α, α-Trichlorotoluene  
2,4,6-Trichlorophenol  
1,2,3-trichloropropane  
Trichlormethine and its salts  
Tritolyl phosphate  
Triparanol  
Trifluoriodomethane  
Trifluperidol  
1,3,5-Trihydroxybenzene (Phloroglucinol) and its salts  
Thyrothricine  
Thyropropic acid and its salts  
Thiamazole  
Thiuram disulphides  
Thiuram monosulphides  
Paramethasone  
Parethoxycaine and its salts  
Fatty acid dialkylamides and dialkanolamides, when its secondary amine content is over than 5%  
Phenaglycodol  
Fenadiazole
Fenarimol
Phenacemide
P-penetidine (4-ethoxy aniline)
Fenozolone
Phenothiazine and its compounds
Phenol
Phenolphthalein (3,3-Bis(4-hydroxyphenyl)phthalide)
Fenyramidol
o-Phenylenediamine and its salts
Phenylbutazone
4-Phenylbut-3-en-2-one
1-(phenylazo)-2-naphtol (C.I Solvent yellow 14)
4-(phenylazo)-m-Phenylene diamine and its salts
4-Phenylazophenylene-1,3-diamine citrate hydrochloride (chrysoidine citrate hydrochloride)
(R)-α-Phenylethylammonium (-)-(1R,2S)-(1,2-epoxypropyl)phosphonate monohydrate
2-Phenylindan-1,3-dione (phenindione)
trans-4-phenyl-L-proline
Peru balsam (Exudation of Myroxylon pereirae) (except 0.4% of Peru balsam extracts or distillates)
Pemoline and its salts
Petrichloral
Phenmetrazine, its derivatives and salts
Fenthion
N,N'-Pentamethylenebis(trimethylammonium) salts, (e.g. Pentamethonium bromide)
Pentaerithrityl tetranitrate
Pentachloroethane
Pentachlorophenol and its alkali salts
Fentin acetate
Fentin hydroxide
2-Pentylidenecyclohexanone
Phenprobamate
Phenprocoumon
Fenpropimorph
Pelletierine and its salts
Formamide
Formaldehyde and p-formaldehyde (if not mixed into a cosmetic product but formed during the manufacturing or distribution process and technically impossible to remove, the permissible detection limit shall be less than 0.2% which is not harmful to the human body)
Phosphamidon
Phosphorus and metal phosphides
Potassium bromate
Poldine methylsulfate
Furocoumarines (e.g. trioxysalan, 8-methoxypsoralen, 5-methoxyxpsoralen) (except for normal content in natural essences used. In sun protection and in bronzing products, furocoumarines shall be below 1 mg/kg.)
Furfuryltrimethylammonium salts, (e.g. furtrethonium iodide)
Fluazifop-butyl
Flumioxazin
Furan
Pramocain and its salts
Pregnandiol
Progestogens
Progrenolone acetate
Probenecid
Procainamide, its salts and derivatives
Propargite
Propazine
Propatynitrate
4,4’-[1,3-Propanediylbis(oxy)]bisbenzene-1,3-diamine and its tetrahydrochloride salt (ex: 1,3-bis-(2,4-diaminophenoxy)propane, 1,3-bis-(2,4-diaminophenoxy)propane hydrochloride)
1,3-Propanesultone
Propane-1,2,3-triyl trinitrate
Propiolactone
Propyzamide
Propyphenazone
Prunus laurocerasus L.
Psilocybine
Phthalate (limited to dibutyl phthalate, di-ethyl hexyl phthalate and butyl benzyl phthalate)
Flusilazole
Fluanisone
Fluoresone
Fluorouracil
Pigment Red 53 (Lake Red C)
Pigment Red 53:1 (Lake Red CBA)
Pigment Orange 5 (Permanent Orange)
*Pinus nigra* leaf and twig oil and extract, when Peroxide value more than 10 mmoles/L
*Pinus mugo* leaf and twig oil and extract, when Peroxide value more than 10 mmoles/L
*Pinus mugo pumilio* leaf and twig oil and extract, when Peroxide value more than 10 mmoles/L
*Pinus cembra* leaf and twig extract acetylated, when Peroxide value more than 10 mmoles/L
*Pinus cembra* leaf and twig oil and extract, when Peroxide value more than 10 mmoles/L
*Pinus species* leaf and twig oil and extract, when Peroxide value more than 10 mmoles/L
*Pinus sylvestris* leaf and twig oil and extract, when Peroxide value more than 10 mmoles/L
*Pinus palustris* leaf and twig oil and extract, when Peroxide value more than 10 mmoles/L
*Pinus pinaster* leaf and twig oil and extract, when Peroxide value more than 10 mmoles/L
*Pyrethrum album* L. and its galenical preparations
Pyrogallol
*Pilocarpus jaborandi* Holmes and its galenical preparations
Pilocarpine and its salts
Pyrithione sodium (INNM)
Pyrithionalumcamcilate
Pymetrozine
*Picea Mariana* Leaf Oil and Extract, when Peroxide value more than 10 mmoles/L
*Physostigma venenosum Balf.*
PEG-3,2′,2′-di-p-Phenylene diamine
Picrotoxin
Picric acid
Phytonadione (Vitamin K1)
*Phytolacca Spp.* and their preparations
Pipazetate and its salts
6-(Piperidinyl)-2, 4-pyrimidinediamine-3-oxide (Minoxidil) and its salts and derivatives
α-Piperidin-2-ylbenzyl acetate laevorotatory threoform (levophacetoperane) and its salts
Pipradrol and its salts
Piprocurarium and its salts
Hydrastine, hydrastinine and their salts
(4-Hydrizinophenyl)-N-methylmethanesulfonamide hydrochloride
Hydrazides and their salts
Hydrazine, its derivatives and their salts
Hydroabietyl alcohol
Hydrogen cyanide and its salts
Hydroquinone
Hydrofluoric acid, its normal salts, its complexes and hydrofluorides
N-[3-Hydroxy-2-(2-methylacryloylaminomethoxy)propoxymethyl]-2-methylacrylamide and N-
2,3-bis-(2-Methylacryloylaminomethoxy)propoxymethyl]-2-methylacrylamide and
methacrylamide and 2-methyl-N-(2-methylacryloylaminomethoxyethyl)-acrylamide and N-
(2,3-dihydroxypropoxymethyl)-2-methylacrylamide
Benzoxates of 4-hydroxy-3-methoxycinnamylalcohol except for normal content in natural
essences used
(6-(4-Hydroxy-3-(2-methoxyphenylazo)-2-sulfonato-7-naphthylamino)-1,3,5-triazine-2,4-
diy)bis[(amino-1-methylethyl)ammonium] formate
1-Hydroxy-3-nitro-4-(3-hydroxypropylamino)benzene and its salts (ex: 4-
Hydroxypropylamino-3-nitrophenol)
1-Hydroxy-2-β-hydroxyethylamino-4,6-dinitrobenzene and its salts (ex: 2-
Hydroxyethylpicric acid)
5-Hydroxy-1,4-benzodioxane and its salts
N1-(2-Hydroxyethyl)-4-nitro-o-phenylenediamine (HC Yellow No 5) and its salts
Hydroxyethyl-2,6-dinitro-p-anisidine and its salts
3-[[4-[(2-Hydroxyethyl)Methylamino]-2-Nitrophenyl]Amino]-1,2-Propanediol and its salts
Hydroxyethyl-3,4-methylenedioxyaniline; 2-(1,3-benzindioxol-5-yelamino)ethanol
hydrochloride and its salts (ex: Hydroxyethyl-3,4-methylenedioxyaniline hydrochloride)
3-[[4-[(2-Hydroxyethyl)Amino]-2-Nitrophenyl]Amino]-1,2-Propanediol and its salts
4-[(2-Hydroxyethyl)amino-3-nitrophenol and its salts (ex: 3-Nitro-phydroxyethylaminophenol)
2,2′-[[4-[(2-Hydroxyethyl)amino]-3-nitrophenyl]imino]bisethanol hydrochloride and its
salts (ex: HC Blue No 2)
1-[[2-hydroxyethyl)amino]-4-(methy lamino)- 9,10-Anthracenedione and its derivatives and
salts
Hydroxyethylaminomethyl-p-aminophenol and its salts
5-[(2-hydroxyethyl)amino]-o-cresol and its salts (ex: 2-methyl-5-hydroxyethylaminophenol)
(4-4-Hydroxy-3-iodophenoxo)-3,5-diodophenyl) acetic acid and its salts
6-Hydroxy-1-(3-Isopropoxypropyl)-4-methyl-2-oxo-5-[4-(phenylazo)phenylazo]-1,2-dihydro-3-pyridinecarbonitride
4-hydroxy indole
2-[2-hydroxy-3-(2-chlorophenyl) carbamoyl-1-naphthylazo]-7-[2-hydroxy-3-(3-methylphenyl)-
2-[2-hydroxy-3-(3-methylphenyl)-carbamoyl-1-naphthylazo]-7-[2-hydroxy-3-(3-
methylphenyl)-carbamoyl-1-naphthylazo]fluoren-9-one
a 2:1 mixture of: 4-(7-hydroxy-2,4,4-trimethyl-2-chromanyl)resorcinol-4-yl-tris(6-diazo-
5,6-
dihydro-5-oxonaphthalen-1-sulfonate) and 4-(7-hydroxy-2,4,4-trimethyl-2-
chromanyl)resorcinolbis(6-diazo-5,6-dihydro-5-oxonaphthalen-1-sulfonate)
11- α - Hydroxypregn-4-ene-3,20-dione and its esters
1-(3-Hydroxypropylamino)-2-nitro-4-bis(2-hydroxyethyl)amino benzene and its salts (ex: HC
Violet No2)
Hydroxypropyl bis(N-hydroxyethyl-p-phenylenediamine) and its salts
Hydroxypropidone and its salts
3-Hydroxy-4-[(2-hydroxynaphthylazo)-7-nitronaphthalene-1-sulphonic acid and its salts
Halocarbon
Haloperidol
Antihistamines (ex. Doxylamine, Diphenylpyraline, Diphenhydramine, Methapyrilene,
Brompheniramine, Cyclizine, Chlorphenoxamine, Tripelenamine, Hydroxyzine etc.)
N,N’-Hexamethylenediamine(trimethylammonium) salts, (e.g. hexamethonium bromide)
Hexamethylphosphorhic-triamide
Hexaethyl tetraphosphate
Hexachlorobenzene
(1R, 4S, 5R, 8S)-1,2,3,4,10,10-Hexachloro-6,7-epoxy-1,4,4a,5,6,7,8,8a-octahydro-1,4:5,8-
dimethanonaphthalene (endrin-ISO)
1,2,3,4,5,6-Hexachlorocyclohexane (eg. : Lindane)
Hexachlorehthane
(1R, 4S, 5R, 8S)-1,2,3,4,10,10-Hexachloro-1,4,4a,5,8a-hexahydro-1,4:5,8-
dimethanonaphthalene (isodrin-ISO)
Hexapropylate
(1R, 2S)-Hexahydro-1,2-dimethyl-3,6-epoxy phthalic anhydride (cantharidin)
Hexahydrocyclopenta(c)pyrrole-1-(1H)-ammonium N-ethoxycarbonyl-N-(polysulfonyl)
azanide
Hexahydrocoumarin
Hexane
Hexan-2-one
trans-2-Hexenal dimethyl acetal
trans-2-Hexenal diethyl acetal
Henna Leaf powder(Lawsonia Inermis)
trans-2-Heptenal
Heptachlor-epoxide
Heptachlor
2-Heptyl-2-(3-heptyl-4-methyl-thiozoline-2-ylene)-4-methyl-thiazoliniumdide
Sulfuric acid 4,5-diamino-1-((4-chlorophenyl)methyl)-1H-pyrazole
Sulfuric 5-amino-4-fluoro-2-methyl phenol

*Hyoscyamus niger L.* (leaves, seeds, powder and glaenical preparations)
Hyoscyamine, its salts and derivatives
Hyoscine, its salts and derivatives

Materials from cattle in the United kingdom and North Ireland
Tissue contaminated by Bovine Spongiform Encephalopathy and any materials including them

The Following materials from specified risk material in the region where the attack of BSE has been reported (18 organ of ruminant animals such as bovine, ovine and caprine):
- brain
- skull
- spinal cord
- cerebrospinal fluid
- pineal gland
- pituitary gland
- dura mater
- eye
- trigeminal ganglia
- dorsal root ganglia
- vertebral column
- lymph nodes
- tonsil
- thymus
- intestines from the duodenum to the rectum
- spleen
- placenta
- adrenal gland

Substance listed in the article of “Classification I” of (Table 1), the kinds of the active ingredients of Hair dye which is classified as quasi-drug
<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Usage Limit in application</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glutaral (Pentane-1,5-dial)</td>
<td>0.1 %</td>
<td></td>
</tr>
<tr>
<td>Dehydracetic acid (3-acetyl-6-methylpyran-2,4(3H)-dione) and its salts</td>
<td>0.6 % as a Dehydracetic acid Prohibited to aerosol products (spray only)</td>
<td></td>
</tr>
<tr>
<td>4,4-dimethy-1,3-oxazolidine (dimethyl oxazoldine)</td>
<td>0.1 %</td>
<td>(The pH of the product must be over than 6)</td>
</tr>
<tr>
<td>Dibromohexamidine and its salts (including isothionate)</td>
<td>0.1 % as a Dibromohexamidine</td>
<td></td>
</tr>
<tr>
<td>Diazolidinylurea (n-(Hydroxymethyl)-N-(dihydroxymethyl-1,3-dioxo-2,5-imidazolidinyl-4)-N'-(hydroxymethyl)urea)</td>
<td>0.5 %</td>
<td></td>
</tr>
<tr>
<td>DMDM Hydantoin (1,3-Bis(hydroxymethyl)-5,5-dimethylimidazolidine-2,4-dion)</td>
<td>0.6 %</td>
<td></td>
</tr>
<tr>
<td>2,4-Dichlorobenzyl alcohol</td>
<td>0.15 %</td>
<td></td>
</tr>
<tr>
<td>3,4-Dichlorobenzylalcohol</td>
<td>0.15 %</td>
<td></td>
</tr>
<tr>
<td>Methyl isothiazolinone</td>
<td>0.01 %</td>
<td></td>
</tr>
<tr>
<td>Mixture of Methylchloroisothiazolinone &amp; Methylisothiazolinone (including Magnesium chloride and Magnesium nitrate)</td>
<td>0.0015 % as a mixture of Methylchloroisothiazolinone : Methylisothiazolinone = 3:1</td>
<td></td>
</tr>
<tr>
<td>Methenamine (Hexamethylenetetramine)</td>
<td>0.15 %</td>
<td></td>
</tr>
<tr>
<td>Ingredient</td>
<td>Usage Limit in application</td>
<td>Remark</td>
</tr>
<tr>
<td>------------------------------------------</td>
<td>-------------------------------------------------------------------------------------------</td>
<td>------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Inorganic sulphites &amp; hydrog sines</td>
<td>0.2 % as a free SO2</td>
<td></td>
</tr>
<tr>
<td>Benzalconium chloride, bromide and saccharinate</td>
<td>0.1 % as Benzalkonium chloride in rinse-off products, 0.05 % as Benzalkonium chloride in others</td>
<td></td>
</tr>
<tr>
<td>Benzethonium Chloride</td>
<td>0.1 %</td>
<td>Prohibited in products intended to come into contact with mucous membranes</td>
</tr>
<tr>
<td>Benzoic acid, its salts and esters</td>
<td>0.5 % as acid 2.5 % as acid for washable products</td>
<td></td>
</tr>
<tr>
<td>Benzoic acid, its ‘sodium’ salts</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Benzyl Alcohol</td>
<td>1 % 10 % as solvents for hair dye products</td>
<td></td>
</tr>
<tr>
<td>Benzyl hemiformal</td>
<td>0.15 % in rinse-off products only</td>
<td>Prohibited for other uses</td>
</tr>
<tr>
<td>Borates (Sodium borate, Tetraborate)</td>
<td>0.76 % to emulsify beeswax or bleached beeswax (Not to exceed 1/2 amounts of mixture of beeswax and bleached beeswax.)</td>
<td></td>
</tr>
<tr>
<td>5-Bromo-5-nitro-1,3-dioxane</td>
<td>0.1 % only to cosmetics washed away after use.</td>
<td>Prohibited for other uses prohibited in products containing amines or amides</td>
</tr>
<tr>
<td>2-Bromo-2-nitropropane-1,3-diol (Bronopol)</td>
<td>0.1 %</td>
<td>Prohibited in products containing amines or amides</td>
</tr>
<tr>
<td>Bromochlorophene (6, 6-Dibromo-4,4-dichloro2, 2' - methylenediphenol)</td>
<td>0.1 %</td>
<td></td>
</tr>
<tr>
<td>Substance</td>
<td>Concentration</td>
<td>Remarks</td>
</tr>
<tr>
<td>--------------------------------------------------------------------------</td>
<td>---------------</td>
<td>-----------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Biphenyl-2-ol(o-phenylphenol) and its salts</td>
<td>0.2 % as a Phenol</td>
<td>Prohibited to children under age 3 (except in shampoo)</td>
</tr>
<tr>
<td>Salicylic acid and its salts</td>
<td>0.5 % as a Salicylic acid</td>
<td>Prohibited for other uses</td>
</tr>
<tr>
<td>Sodium Lauroyl sarcosinate</td>
<td>Only Permitted in cosmetics washed away after use</td>
<td>Prohibited for other uses</td>
</tr>
<tr>
<td>Sodium iodate</td>
<td>0.1 % Only Permitted in cosmetics washed away after use</td>
<td>Prohibited for other uses</td>
</tr>
<tr>
<td>Sodium hydroxy methyl amino acetate (Sodium hydroxy methyl glycinate)</td>
<td>0.5 %</td>
<td></td>
</tr>
<tr>
<td>Sorbic acid (Hexa-2,4-dienoic acid ) and its salts</td>
<td>0.6 % as a Sorbic acid</td>
<td></td>
</tr>
<tr>
<td>Iodopropynyl butylcarbamate (IPBC)</td>
<td>0.02 % in Rinse-off products (Not to be used in preparations for children under three years of age, except in bath products/shower, gels and shampoo)</td>
<td>Prohibition to use on lip products, aerosol products(spray only), body lotion and body cream</td>
</tr>
<tr>
<td></td>
<td>0.01 % in Leave-on products (Not to be used in preparations for children under three years of age)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>0.0075 % in Deodorants (Not to be used in preparations for children under three years of age)</td>
<td></td>
</tr>
<tr>
<td>Alkylisoquinolinium Bromide</td>
<td>0.05 % to cosmetics other than those washed away</td>
<td></td>
</tr>
<tr>
<td>Ingredient</td>
<td>Concentration</td>
<td>Notes</td>
</tr>
<tr>
<td>------------</td>
<td>---------------</td>
<td>-------</td>
</tr>
<tr>
<td>Alkyl(C_{12-22}) trimethyl ammoniumbromide and chloride (including Cetrimonium bromide)</td>
<td>0.1 % to cosmetics except hair care products</td>
<td></td>
</tr>
<tr>
<td>Ethyl Lauroyl Arginate hydrochloride</td>
<td>0.4 %</td>
<td>(Prohibition to use on lips and spray products)</td>
</tr>
<tr>
<td>MDM Hydantoin</td>
<td>0.2 %</td>
<td></td>
</tr>
<tr>
<td>Alkyldiaminoethylglycine Hydrochloride Solution (30%)</td>
<td>0.3 %</td>
<td></td>
</tr>
<tr>
<td>Undecylenic acid, its salts and monoethanolamide</td>
<td>0.2 % as an Undecylenic acid for washable products</td>
<td>Prohibited for other uses</td>
</tr>
<tr>
<td>Imidazolidinylurea (3,3'-Bis (1-hydroxymethyl-2,5-dioxoimidazolidin-4-yl)-1,1'-methylenediurea)</td>
<td>0.6 %</td>
<td></td>
</tr>
<tr>
<td>Isopropylmethylphenol (Isopropylcresol, ocymen-5ol)</td>
<td>0.1 %</td>
<td>Restricted to cosmetics washed away after use. Prohibited for other uses.</td>
</tr>
<tr>
<td>Zinc Pyrithione</td>
<td>0.5 %</td>
<td></td>
</tr>
<tr>
<td>Quaternium-15 (Methanamin 3-ChloroaryloChloride)</td>
<td>0.2 %</td>
<td>Prohibited in aerosol products (sprays only)</td>
</tr>
<tr>
<td>Chlorobutanol</td>
<td>0.5 %</td>
<td></td>
</tr>
<tr>
<td>Chloroacetamide</td>
<td>0.3 %</td>
<td></td>
</tr>
<tr>
<td>Chloroxylenol</td>
<td>0.5 %</td>
<td></td>
</tr>
<tr>
<td>p-Chloro-m-cresol</td>
<td>0.2 %</td>
<td>Prohibited to products that come in contact with mucous membranes</td>
</tr>
<tr>
<td>Chlorophene</td>
<td>0.2 %</td>
<td></td>
</tr>
<tr>
<td>Compound</td>
<td>Concentration</td>
<td>Notes</td>
</tr>
<tr>
<td>----------</td>
<td>---------------</td>
<td>-------</td>
</tr>
<tr>
<td>(2-Benzyl-4-chlorophenol)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chlorphenesin (3-(p-chlorophenoxy)-propane-1,2 diol)</td>
<td>0.3 %</td>
<td></td>
</tr>
<tr>
<td>Chlorohexidine, its digluconate, diacetate and dihydrochloride</td>
<td>0.1 % as chlorohexidine to washable products without the use of mucous membranes 0.05 % as chlorohexidine to the others</td>
<td></td>
</tr>
<tr>
<td>Climbazol [1-(4-Chlorophenoxy)-1-(1H-imidazolyl)-3,3-dimethyl-2-butanone]</td>
<td>0.5 %</td>
<td></td>
</tr>
<tr>
<td>Tetrabromo-o-cresol</td>
<td>0.3 %</td>
<td></td>
</tr>
<tr>
<td>Triclosan</td>
<td>0.3 %</td>
<td></td>
</tr>
<tr>
<td>Triclocarban (triclocarbanilide)</td>
<td>0.2 % (Purity criteria: 3,3',4,4'-Tetrachloroazobenzene ≤ 1 ppm, 3,3',4,4'-Tetrachloroazoxybenzene ≤ 1 ppm)</td>
<td></td>
</tr>
<tr>
<td>Phenoxylethanol</td>
<td>1 %</td>
<td></td>
</tr>
<tr>
<td>Phenoxyisopropanol (1-Phenoxypropan-2-ol)</td>
<td>1 % for cosmetics that are washed away after use Prohibited for other uses</td>
<td></td>
</tr>
<tr>
<td>Phenyl salicylate</td>
<td>1.0 %</td>
<td></td>
</tr>
<tr>
<td>Formic Acid and Sodium Formate</td>
<td>0.5 % as a Formic Acid</td>
<td></td>
</tr>
<tr>
<td>Poly(1-Hexamethylenebiguanide hydrochloride)</td>
<td>0.3 %</td>
<td></td>
</tr>
<tr>
<td>Substance</td>
<td>Concentration/Use</td>
<td></td>
</tr>
<tr>
<td>--------------------------------------------------------------------------</td>
<td>----------------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>Propionic acid and its salts</td>
<td>2 % as a Propionic acid</td>
<td></td>
</tr>
<tr>
<td>Piroctonolamine (1-hydroxy-4-methyl-6(2,4,4-trimethylpentyl)2-pyridone and its monoethanolamine salts)</td>
<td>1 % for cosmetics that are washed away after use; 0.5 % to other cosmetics</td>
<td></td>
</tr>
<tr>
<td>Pyridine-2-ol, 1-oxide</td>
<td>0.5 %</td>
<td></td>
</tr>
<tr>
<td>p-hydroxy benzoic acid, its salts and esters</td>
<td>0.4 % (as acid) used as a single component; 0.8 % (as acid) used as multiple components</td>
<td></td>
</tr>
<tr>
<td>Hexetidine</td>
<td>0.1 % in rinse-off products</td>
<td>Prohibited for other uses</td>
</tr>
<tr>
<td>Hexamidine (1,6-di(4-amidino phenoxy)-n-hexane) and its salts (including isothionate and p-hydroxybenzoate)</td>
<td>0.1 % as a Hexamidine</td>
<td></td>
</tr>
</tbody>
</table>

* Salts: salts of the cations sodium, potassium, calcium, magnesium, ammonium and ethanolamines; salts of the anions chloride, bromide, sulphate, acetate
* Esters: esters of methyl, ethyl, propyl, isopropyl, butyl, isobutyl, phenyl
<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Usage Limit in application</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;Deleted&gt;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drometrisole trisiloxane</td>
<td>15 %</td>
<td></td>
</tr>
<tr>
<td>Drometrizole</td>
<td>7 %</td>
<td></td>
</tr>
<tr>
<td>Digalloyl triolate</td>
<td>5 %</td>
<td></td>
</tr>
<tr>
<td>Disodium Penyl dibenzi midasol</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tetrasulfonate</td>
<td>10 % as acid</td>
<td></td>
</tr>
<tr>
<td>Diethyl hexyl butamido triazone</td>
<td>10 %</td>
<td></td>
</tr>
<tr>
<td>Diethylaminohydroxybenzoylethylbenzoate</td>
<td>10 %</td>
<td></td>
</tr>
<tr>
<td>&lt;Deleted&gt;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mixture of Lawsone and Dihydroxyacetone</td>
<td>0.25 % as a Lawsone</td>
<td>3 % as a Dihydroxyacetone</td>
</tr>
<tr>
<td>Methylene bis-benzotriazolyl tetramethyl butyl phenol</td>
<td>10 %</td>
<td></td>
</tr>
<tr>
<td>4-Methylbenzylidene camphor</td>
<td>4 %</td>
<td></td>
</tr>
<tr>
<td>Menthylanthranilate</td>
<td>5 %</td>
<td></td>
</tr>
<tr>
<td>Benzophenone-3 (Oxybenzone)</td>
<td>5 %</td>
<td></td>
</tr>
<tr>
<td>Benzophenone-4</td>
<td>5 %</td>
<td></td>
</tr>
<tr>
<td>Benzophenone-8 (Dioxybenzone)</td>
<td>3 %</td>
<td></td>
</tr>
<tr>
<td>Buthylmethoxydibenzoylmethane</td>
<td>5 %</td>
<td></td>
</tr>
<tr>
<td>Bis ethyl hexyl oxy phenol methoxy phenyl Triazine</td>
<td>10 %</td>
<td></td>
</tr>
<tr>
<td>Cinnoxate</td>
<td>5 %</td>
<td></td>
</tr>
<tr>
<td>Ethylidihydroxypropyl PABA</td>
<td>5 %</td>
<td></td>
</tr>
<tr>
<td>Octocrylene</td>
<td>10 %</td>
<td></td>
</tr>
<tr>
<td>Ethylhexyldimethyl PABA</td>
<td>8 %</td>
<td></td>
</tr>
<tr>
<td>Ethylhexylmethoxycinnamate</td>
<td>7.5 %</td>
<td></td>
</tr>
<tr>
<td>Ethylhexylsalicylate</td>
<td>5 %</td>
<td></td>
</tr>
<tr>
<td>Ethylhexyltriazone</td>
<td>5 %</td>
<td></td>
</tr>
<tr>
<td>Iso amyl - p-methoxy cinnamate</td>
<td>10 %</td>
<td></td>
</tr>
<tr>
<td>Polysilicone-15(dimethico diethyl benzalmalonate)</td>
<td>10 %</td>
<td></td>
</tr>
<tr>
<td>Zinc oxide</td>
<td>25 %</td>
<td></td>
</tr>
<tr>
<td>Terephthalidene Dicamphor sulforic acid and its salts</td>
<td>10 % as acid</td>
<td></td>
</tr>
<tr>
<td>TEA-salicylate</td>
<td>12 %</td>
<td></td>
</tr>
<tr>
<td>Titanium oxide</td>
<td>25 %</td>
<td></td>
</tr>
<tr>
<td>Ingredient</td>
<td>%</td>
<td></td>
</tr>
<tr>
<td>----------------------------------</td>
<td>-----</td>
<td></td>
</tr>
<tr>
<td>Phenylbenzimidazolesulphonic acid</td>
<td>4 %</td>
<td></td>
</tr>
<tr>
<td>Homosalate</td>
<td>10 %</td>
<td></td>
</tr>
</tbody>
</table>

* If an ingredient is less than 0.5%, it shall not be accepted as an UV absorber.
* Salts: salts of the cations sodium, potassium, calcium, magnesium, ammonium and ethanolamines; salts of the anions chloride, bromide, sulphate, acetate
## OTHERS

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Usage Limit in application</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>Photosensitives</td>
<td>0.002 %</td>
<td></td>
</tr>
<tr>
<td>Photosensitives # 101</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Photosensitives # 201</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Photosensitives # 301</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Photosensitives # 401</td>
<td></td>
<td></td>
</tr>
<tr>
<td>and others</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cantharides Tincture</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ginger Tincture</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Capsicum Tincture</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hydrogen peroxide, and other compounds or mixtures that release hydrogen peroxide,</td>
<td>3% of H2O2 in Hair-care preparations 2 % of H2O2 in Nail hardening preparations</td>
<td>Prohibited in other uses</td>
</tr>
<tr>
<td>Glyoxal</td>
<td>0.01 %</td>
<td></td>
</tr>
<tr>
<td>Nitromethane</td>
<td>0.3 %</td>
<td></td>
</tr>
<tr>
<td>α-Damascone (cis-Rose ketone-1)</td>
<td>0.02 %</td>
<td></td>
</tr>
<tr>
<td>2,4-Diamino-pyrimidine-3-Oxide</td>
<td>1.5 %,</td>
<td></td>
</tr>
<tr>
<td>Laureth 8, 9 and 10</td>
<td>2 %</td>
<td></td>
</tr>
<tr>
<td>Resorcinol</td>
<td>0.1 %</td>
<td></td>
</tr>
<tr>
<td>Rose ketone-3</td>
<td>0.02 %</td>
<td></td>
</tr>
<tr>
<td>Rose ketone-4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rose ketone-5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>cis-Rose ketone-2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>trans-Rose ketone-1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>trans-Rose ketone-2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>trans-Rose ketone-3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>trans-Rose ketone-5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lithium hydroxide</td>
<td>4.5 % in Hair straighteners</td>
<td>Prohibited in other uses</td>
</tr>
<tr>
<td>Musk xylene</td>
<td>1.0 % to products containing</td>
<td></td>
</tr>
<tr>
<td>Ingredient</td>
<td>Limit</td>
<td></td>
</tr>
<tr>
<td>------------------------------------------------</td>
<td>--------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>pure perfume of over 8%</td>
<td>0.4 % to products</td>
<td></td>
</tr>
<tr>
<td>containing pure perfume of 8% and less</td>
<td>0.03 % to Others</td>
<td></td>
</tr>
<tr>
<td>Musk ketone Perfumes</td>
<td>1.4 % to products</td>
<td></td>
</tr>
<tr>
<td></td>
<td>containing pure perfume of 8%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>0.56 % to products</td>
<td></td>
</tr>
<tr>
<td></td>
<td>containing pure perfume of 8% and less</td>
<td></td>
</tr>
<tr>
<td></td>
<td>0.042 % to Others</td>
<td></td>
</tr>
<tr>
<td>3-methylnon-2-enenitrile</td>
<td>0.2 %</td>
<td></td>
</tr>
<tr>
<td>Methyl 2-octynoate (Methyl heptine carbonate)</td>
<td>0.01 % when used alone,</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(When present in combination with methyl</td>
<td></td>
</tr>
<tr>
<td></td>
<td>octine carbonate, the combined level in</td>
<td></td>
</tr>
<tr>
<td></td>
<td>the finished product should not exceed</td>
<td></td>
</tr>
<tr>
<td></td>
<td>0.01 %, of which methyl octane carbonate</td>
<td></td>
</tr>
<tr>
<td></td>
<td>should not be more than 0.002 %)</td>
<td></td>
</tr>
<tr>
<td>Methyl octine carbonate (Methylnon-2-inoate)</td>
<td>0.002 % when used alone,</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(When present in combination with methyl</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2-octinoate, the combined level in the</td>
<td></td>
</tr>
<tr>
<td></td>
<td>finished product should not exceed</td>
<td></td>
</tr>
<tr>
<td></td>
<td>0.01 %)</td>
<td></td>
</tr>
<tr>
<td>p-methylhydrocinnamic aldehyde</td>
<td>0.2 %</td>
<td></td>
</tr>
<tr>
<td>Methyl heptadienone</td>
<td>0.002 %</td>
<td></td>
</tr>
<tr>
<td>Methoxy dicyclopentadiene Carboxaldehyde</td>
<td>0.5 %</td>
<td></td>
</tr>
<tr>
<td>4-tert.-Butyldihydrocinnamaldehyde</td>
<td>0.6 %</td>
<td></td>
</tr>
<tr>
<td>1,3-Bis (hydroxymethyl)imidazolidine-2-thione</td>
<td>2 % in Hair and nail preparations,</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(Prohibited in aerosol products (spray only))</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Prohibited in other uses</td>
<td></td>
</tr>
<tr>
<td>Ingredient</td>
<td>Concentration</td>
<td>Notes</td>
</tr>
<tr>
<td>---------------------------------------------------------------------------</td>
<td>--------------------------------</td>
<td>----------------------------------------------------------------------</td>
</tr>
<tr>
<td>Vitamin E (Tocopherol)</td>
<td>20 %</td>
<td></td>
</tr>
<tr>
<td>Sodium nitrite</td>
<td>0.2 %</td>
<td>Do not use with secondary and/or tertiary amines or other substances forming nitrosamines</td>
</tr>
<tr>
<td>Liquidambar orientalis Balsam oil and extract</td>
<td>0.6 %</td>
<td></td>
</tr>
<tr>
<td>Water-soluble zinc salts (with the exception of zinc 4-hydroxy-benzenesulphonate and zinc pyrithione)</td>
<td>1 % calculated as zinc</td>
<td></td>
</tr>
<tr>
<td>Cysteine, Acetyl cysteine and its Salts</td>
<td>3.0-7.5 % as Cysteine to permanent wave products, however 1.5-5.5 % as Cysteine to a two-phase heat-assisted permanent wave product. In this case, 1.0% of Thioglycolic acid can be used as a stabilizer. However, if Thioglycolic acid is maximally 1.0%, Cystein as a main ingredient cannot be exceed than 6.5%.</td>
<td></td>
</tr>
<tr>
<td>Silver nitrate</td>
<td>4 %</td>
<td>Solely for products intended for coloring eyelashes and eyebrows Prohibited for other uses</td>
</tr>
<tr>
<td>Amylvinylcarbinyl acetate</td>
<td>0.3 %</td>
<td></td>
</tr>
<tr>
<td>Amylcyclopentenone</td>
<td>0.1 %</td>
<td></td>
</tr>
<tr>
<td>Acetyl hexamethyl indan</td>
<td>2 % for leave-on products</td>
<td></td>
</tr>
<tr>
<td>Acetyl hexamethyl tetralin</td>
<td>0.1 % in leave-on products (except: hydro alcoholic products: 1 %, fine fragrance: 2.5 %, fragrance cream: 0.5 %) 0.2 % in rinse-off products</td>
<td></td>
</tr>
<tr>
<td>RH Oligopeptide-1</td>
<td>0.001 %</td>
<td></td>
</tr>
<tr>
<td>(Epidermal Growth Factor)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>---------------------------</td>
<td>--</td>
<td></td>
</tr>
<tr>
<td>Allantoin Chlorohydroxy Aluminium (Alcoloxa)</td>
<td>1 %</td>
<td></td>
</tr>
<tr>
<td>Allyl heptine carbonate</td>
<td>0.002 %</td>
<td></td>
</tr>
<tr>
<td></td>
<td>This material should not be used in combination with any other 2-alkynoic acid ester (e.g. methyl heptane carbonate)</td>
<td></td>
</tr>
<tr>
<td>Chlorates of alkali metals</td>
<td>3 %</td>
<td></td>
</tr>
<tr>
<td>Ammonia</td>
<td>6 %</td>
<td></td>
</tr>
<tr>
<td>Ethyl Lauroyl Arginate hydrochloride</td>
<td>0.8% in dandruff and itching relief wash-off products (shampoo)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Prohibited for other uses</td>
<td></td>
</tr>
<tr>
<td>Ethanol·Boric acid·Sodium lauryl sulphate (4:1:1)</td>
<td>12 %, only for external intimate hygiene products</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Prohibited for other uses</td>
<td></td>
</tr>
<tr>
<td>Etidronic acid and its salts (1-hydroxyethylidene-diphosphonic acid and its salts)</td>
<td>1.5 % as acid in Hair-cares, 0.2 % as acid in Body cleansing products</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Prohibited for other uses</td>
<td></td>
</tr>
<tr>
<td>Opopanax</td>
<td>0.6 %</td>
<td></td>
</tr>
<tr>
<td>Oxalic acid, its esters and alcaline salts</td>
<td>5 % in Hair care products</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Prohibited for other uses</td>
<td></td>
</tr>
<tr>
<td>Urea</td>
<td>10 %</td>
<td></td>
</tr>
<tr>
<td>Isobergamate</td>
<td>0.1 %</td>
<td></td>
</tr>
<tr>
<td>Isocyclogeraniol</td>
<td>0.5 %</td>
<td></td>
</tr>
<tr>
<td>Zinc phenolsulfonate</td>
<td>2 % for cosmetics not washed away after use</td>
<td></td>
</tr>
<tr>
<td>Zinc pyrithione</td>
<td>1.0 % as a total Pyrithione to cosmetics used for dandruff and itching relief. to be washed away after use (shampoo, rinse)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Prohibited for other uses</td>
<td></td>
</tr>
<tr>
<td>Thioglycollic acid, its salts and esters</td>
<td>2-11 % as Thioglycolic acid to permanent wave products and hair straightener 1~5 % as Thioglycolic acid only for two-phase heat assisted hair straightener</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Prohibited for other uses</td>
<td></td>
</tr>
<tr>
<td>Ingredient</td>
<td>Concentration</td>
<td>Purpose</td>
</tr>
<tr>
<td>------------------------------------------------------</td>
<td>---------------</td>
<td>--------------------------------------------------------------</td>
</tr>
<tr>
<td>Thioglycolic acid</td>
<td>8~19%</td>
<td>Only if it is the main ingredient and used in second phase exothermic permanent wave products which is mixed as using the 1st material.</td>
</tr>
<tr>
<td>Calcium hydroxide</td>
<td>7%</td>
<td>Hair straighteners</td>
</tr>
<tr>
<td>Commiphora erythrea var. glabrescens gum extract and oil</td>
<td>0.6%</td>
<td></td>
</tr>
<tr>
<td>Cuminum cyminum fruit oil and extract</td>
<td>0.4%</td>
<td>0.4% of Cumin oil (except Rinse-off products)</td>
</tr>
<tr>
<td>Quinine and its salts</td>
<td>Shampoos: 0.5% calculated as quinine base, hair lotions (b) 0.2% calculated as quinine base</td>
<td>Prohibited for other uses</td>
</tr>
<tr>
<td>Cloramine T</td>
<td>0.2%</td>
<td></td>
</tr>
<tr>
<td>Toluene</td>
<td>25%</td>
<td>Nail care products only</td>
</tr>
<tr>
<td>Trialkylamines, trialkanolamines and their salts</td>
<td>2.5%</td>
<td>For leave-on products</td>
</tr>
<tr>
<td>Perillaldehyde</td>
<td>0.1%</td>
<td></td>
</tr>
<tr>
<td>Peru balsam (Exudation of Myroxylon pereirae) extracts, distillates</td>
<td>0.4%</td>
<td></td>
</tr>
<tr>
<td>Potassium Hydroxide or Sodium Hydroxide</td>
<td>5% to dissolve nails pH 11 and below to cosmetics when the ingredient is used for the purpose of adjusting pH and if the cosmetic shall not be subject to the pH standards according to paragraph 4 of Article 5.</td>
<td></td>
</tr>
<tr>
<td>Polyacrylamides</td>
<td>0.00001%</td>
<td></td>
</tr>
<tr>
<td>Ingredient</td>
<td>Acrylamide Content</td>
<td></td>
</tr>
<tr>
<td>-------------------------------------------</td>
<td>---------------------</td>
<td></td>
</tr>
<tr>
<td>Liquidambar styraciflua balsam oil and its extract</td>
<td>0.6%</td>
<td></td>
</tr>
<tr>
<td>Propylidenephthalide</td>
<td>0.01%</td>
<td></td>
</tr>
<tr>
<td>trans-2-hexenal</td>
<td>0.002%</td>
<td></td>
</tr>
<tr>
<td>2-Hexylidene cyclopentanone</td>
<td>0.06%</td>
<td></td>
</tr>
</tbody>
</table>

* Salts: salts of the cations sodium, potassium, calcium, magnesium, ammonium and ethanolamines: salts of the anions chloride, bromide, sulphate, acetate
* Esters: esters of methyl, ethyl, propyl, isopropyl, butyl, isobutyl, phenyl
1. Definition of Terms
The following are the definition of terms used herein.

a. “Human cell and tissue culture media” refers to the remaining culture media of cells and tissues removed after being cultivated from the human body.
b. “Donor” refers to a person who supplies cells or tissues used for culture media.
c. “Donor qualification test” refers to conducting medical examinations and tests and others on donors to determine whether or not said donor is qualified to provide cells or tissues used in cell culture media.
d. “Window period” refers to the period in which bacteria, fungi, virus and its antigens, antibodies, genes and others cannot be detected during the early stage of infection.
e. “Clean grade” refers to the level of maintenance in which particles and microorganisms are controlled from entering or residing so that it can be maintained at a certain level.

2. General

a. No one shall take profit in cash or property from trading of cells and/or tissues.
b. No one shall provide information on donors and/or advertise that a certain individual’s cell or tissue was used.
c. Cells and tissues needed to prepare human cell and tissue culture media shall be used that were only collected from medical centers in which sanitary control in collection and preservation is possible.
d. Medical centers that collect cells and tissues and manufacturers of human cell and tissue culture media shall develop and maintain a documented procedure needed to perform tasks and keep records accordingly.
e. Cosmetic marketing authorization holder shall thoroughly manage and supervise institutions that collected cells and tissues, conducted tests, manufactured culture media and others to ensure human cell and tissue culture media are manufactured safely and meet the same quality. It shall also receive all documents related to safety standards, records and reviews and keep them for at least five years from the manufacturing date of the finished product.

3. Donor Qualification Test

a. Donors shall be adults in good health and shall not be diagnosed with the following infectious disease or illness.
- HBV (Hepatitis B Virus), HCV (Hepatitis C Virus), HIV (Human Immunodeficiency Virus), HTLV (Human T Lymphotropic Virus), Parvo Virus B19, CMV (Cyomegalo Virus), EBV (Epstein-Barr Virus) infection
- TSE (Transmissible Spongiform Encephalopathy) infection or suspected of TSE infection
- Infections caused by bacteria (e.g. syphilis treponema, chlamydia, gonococcus, tubercular bacillus)
- Septicemia or suspected of septicemia
- Congenital or chronic diseases
b. Medical centers shall establish and comply with a standard guideline, such as establishing an observation period by taking into consideration the window period, needed to evaluate donor qualification.

4. Cell and Tissue Collection and Testing

a. The place for collecting cells and tissues shall be managed so that it can be free of external contamination.
b. The most appropriate and latest method shall be used to conduct a homogeneity test of stored cells and tissues, and relevant procedures shall be established and followed.
c. A record of cells and tissues collected and tested which include the following contents shall be prepared and kept, in order to verify data needed to ensure quality and safety of cells or tissues.
   (1) Name of medical center that collected cells and tissues
   (2) Date of collection
   (3) Donor serial number
   (4) Donor qualification test result
   (5) Consent form
   (6) Cell or tissue type, collection method, used materials and others

5. Management of Cultivation Facilities and Environment

a. Cultivation facilities that manufacture human cell and tissue culture media shall be established in an area rated above 1B (Class 10,000).
b. Manufacturing facilities and equipment shall be inspected regularly and positioned so that it does not disrupt the work process.
c. A standard guideline on sanitation management, such as preventing contamination during manufacturing process, shall be prepared and complied with.

6. Manufacturing of Human Cell and Tissue Culture Media

a. Bacteria, fungi, virus and others shall be deactivated or removed when manufacturing human cell and tissue culture media.
b. A record of human cell and tissue culture media ingredients which include the following contents shall be prepared and kept, in order to verify data needed to ensure quality and safety of cells and tissues used to manufacture culture media.
   (1) Name of institution that collected (and stored) cells and tissues
   (2) Date of collection
   (3) Test results
   (4) Cell and tissue handling process
   (5) Serial number
   (6) Results of testing whether or not there is a virus that may be infectious and pathogenic for humans

c. A standard guideline on human cell and tissue culture media ingredients shall be established which include all the ingredients used to manufacture culture media such as culture media, added substances, reagents and others. Whether or not substances safe for humans have been acquired shall be checked and its evidentiary data shall be kept.
d. Manufacturing records shall include the following information and shall be kept.
(1) Manufacturing number, manufacturing date, manufacturing quantity
(2) List of used ingredients, quantity and specification
(3) Component of medium used, cultivation conditions, cultivation period, percentage of water
(4) Stage-by-stage handling and management process

e. In the case there is need to store the collected cells and tissues for a certain period of time, storage conditions and period shall be determined to maintain the same quality based on appropriate evidentiary data. Viral tests (e.g. bacteria, fungi, virus, and microplasma) shall be conducted on the stored cells and tissues before using it to manufacture human cell and tissue culture media.

f. A manufacturing standard guideline along with a standard manual related to the manufacturing process of human cell and tissue culture media such as working conditions and period shall be prepared and complied with.

7. Safety Assessment of Human Cell and Tissue Culture Media

a. The following safety test data shall be prepared and kept to ensure the safety of human cell and tissue culture media.

   (1) Single dose toxicity test
   (2) Repeated dose toxicity test
   (3) Primary skin irritation test
   (4) Eye irritation or other mucous membrane irritation test
   (5) Skin sensitization test
   (6) Phototoxicity and photosensitization test (except in the case absorption spectrophotometry test data is submitted that proves there was no UV radiation)
   (7) Data on the components of human cell and tissue culture media
   (8) Genetic toxicity test
   (9) Human patch test

b. Safety test data shall meet the 「Non-Clinical Test Management Standard (KFDA Notice). Human patch test shall be conducted by local and overseas universities or professional research centers, and shall be conducted and evaluated under the guided supervision of professional doctors in the relevant field or those with more than five years of experience in human patch testing at research centers, hospitals and other relevant institutions.

c. The Safety Assessment Committee (toxic experts and other outside experts appointed), organized by the human cell and tissue culture media manufacturer, shall review the safety test data to determine its appropriateness and its evaluation results shall be documented and kept. The Safety Assessment Committee shall recommend other safety test data (e.g. carcinogen test) to be prepared and kept, if necessary, based on the safety test data evaluation results mentioned in Section 7.a.

8. Human Cell and Tissue Culture Media Test

a. A standard guideline on the quality management of human cell and tissue culture media which include the following shall be established and quality tests shall be conducted accordingly in order to ensure quality of culture media.

   (1) Appearance
(2) Sterility test
(3) Microplasma test
(4) In vitro virus test
(5) Verification test
(6) Purity test (e.g. test for the absence of origin cells and tissues)

b. The appropriateness of the standards and test methods by category needed for quality management shall be scientifically acknowledged.
c. Quality control tests on human cell and tissue culture media shall be conducted on every manufacturing number and its test reviews shall be kept.

9. Record Keeping
Cosmetic marketing authorization holders shall keep all the documents including specifications, records and quality results related to the safety standards for at least three years from the manufacturing date of finished products.
Test methods of Safety Management on In-market Cosmetics
(related to Article 5)

I. General Cosmetics
1. Lead
Test with an appropriate method among the following:

a) Dithizone Method
   ① Sample Preparation: Choose either Method 1 or Method 2 of the followings.
   - Method 1: Take about 1.0g of sample and put it into a porcelain crucible (if the sample
     contains moisture, evaporate it in a water bath). Ignite at about 500°C for 2 ~ 3 hours.
     Add 10mL of dilute hydrochloric acid and 10mL of dilute nitric acid to the ashes and warm
     it in the water bath for 30 minutes. Pass the supernatant liquid through a glass filter
     (G4) and wash residue with dilute hydrochloric acid or water. Add the washing liquid to
     the filtered one to make 50mL of liquid in total.
   - Method 2: Take about 1.0g of sample and put it into a 300mL kjeldahl digestion flask. Add
     5mL of sulfuric acid and 10mL of nitric acid and heat carefully until white fumes are
     evolved. Cool it and add 5mL of nitric acid again. Heat again until white fumes are
     evolved and repeat that until the contents become colorless or pale yellow. After
     digestion, add 5mL of saturated ammonium hydroxides solution and heat to remove nitric
     acid. Transfer the digested material to a 50mL volume flask and wash the kjeldahl
     digestion flask used for digestion with water, adding the washing to the volume flask
     until the volume is 50mL and mix.

   ② Procedure: With this sample solution, perform the test in compliance with “7. Lead
     limit test” of VI-1. Ingredients. in VI. General test of Functional cosmetic standards
     and test methods. Prepare the control solution with 2.0mL of Standard Lead Solution.

b) Atomic Absorption Spectrophotometry
   ① Sample Preparation: Weigh accurately about 0.5g of sample and put it into a vessel of
     the microwave digester which is made of quartz or tetra fluoro methane. Be cautious not to
     touch the wall of the vessel. To digest the sample, add 7mL of nitric acid, 2mL of
     hydrochloric acid and 1mL of sulfuric acid, and close the lid. Place the vessel onto the
     microwave digester and digest it until it turns colorless or pale yellow in accordance
     with the condition.
     Cool to about room temperature and cautiously open the lid to transfer the digested
     material to a 25mL volume flask, and wash the vessel and the lid with water. Add the
     washing and water to make 25mL in total and use it as the sample solution. If sediment is
     found, filter it before use. Again, take 7mL of nitric acid, 2mL of hydrochloric acid and
     1mL of sulfuric acid, and proceed in the same manner as the preparation of the sample
     solution to use it as the blank solution. The type and volume of acid which is used to
     digest the sample, and condition of the microwave digester can be changed, if needed.
   <Condition>
   Maximum power: 1000W
   Highest temperature: 200°C
Digestion time: About 35 minutes
Take 25mL of this sample solution and blank solution each, or 25mL of the sample solution and the blank solution which were made as prepared in the Dithizone method. Add 10mL of ammonium citrate solution (1→4) and 2 drops of the bromothymol blue solution to each. Add the ammonia solution until the color changes from yellow to green. Add 10mL of ammonium sulfate solution (2→5) and water to make 100mL in total. Add 10mL of sodium diethyldithiocarbamate solution (1→20) to it and mix well. Allow to stand for several minutes and add 20.0mL of methylisobutyl ketone. Shake strongly to mix well and leave it again.
Take the methylisobutyl ketone layer and filter it if needed, to use them as the test solutions.
② Standard Preparation: Take 0.5mL, 1.0mL and 2.0mL of Standard Lead Solution (10μg/mL) respectively and add 10mL of ammonium citrate solution (1→4) and 2 drops of the bromothymol blue solution. After then proceed in the same manner as the preparation of the test solutions to obtain the calibration curve.
③ Procedure: According to the following condition, inject each of the standard solution into atomic absorption spectrometer to obtain the calibration curve of lead. Measure the quantity of lead in the sample solution with the obtained calibration curve.
<Condition>
Gas used: Inflammable gas: Acetylene or Hydrogen
Gas that helps ignition: Air
Lamp: Lead hollow cathode lamp
Wave length: 283.3nm

c) Use of Inductively Coupled Plasma Spectrometer
① Sample Preparation: Weigh accurately 0.2g of the sample and put it into a vessel of the microwave digester which is made of quartz or tetra fluoro methane. Be cautious not to touch the wall of the vessel. To digest the sample, add 7mL of nitric acid, 2mL of hydrochloric acid and 1mL of sulfuric acid, and close the lid. Place the vessel onto the microwave digester and digest in accordance with the condition until it turns colorless or pale yellow. Cool to room temperature and then cautiously open the lid to transfer the digested material to 50mL volume flask. Wash the vessel and the lid with distilled water. Add the washing and distilled water to make 50mL and use it as the sample solution. If sediment is found, filter it for use. Again take another 7mL of nitric acid, 2mL of hydrochloric acid and 1mL of sulfuric acid and proceed in the same manner as the preparation of the sample solution to use it as the blank solution. The type and volume of acid which is used to digest the sample, and condition of the microwave digester can be changed, if needed.
<Condition>
Maximum power: 1000W
Highest temperature: 200°C
Digestion time: About 35 minutes
② Standard Preparation: Add 0.5% nitric acid to the undiluted Standard Lead Solution (1000 μg/mL) to make 3 or more standard solutions for the calibration curve with different
concentrations. The concentrations of these standard solutions should be within the range of 0.01 ~ 0.2 μg of lead per 1 mL of the solution.

3 Procedure: According to the following condition, inject each of the standard solution to the inductively coupled plasma spectrometer to obtain a calibration curve of lead. Measure the quantity of lead in sample solution with the obtained calibration curve.

<Condition>
Wave length: 220.353nm (If impedance is contained, select other peculiar wave length of lead)
Plasma gas: Argon (99.99 v/v% or above)

4 Use of Inductively Coupled Plasma Mass Spectrometer

① Sample Preparation: Weigh accurately 0.2g of the sample and put it into a vessel of the microwave digester which is made of Teflon. Be cautious not to touch the wall of the vessel. To digest the sample, add 7mL of nitric acid and 2mL of hydrofluoric acid, and close the lid. Place the vessel onto the microwave digester and digest in accordance with the condition 1 until it turns colorless or pale yellow. Cool to room temperature and then cautiously open the lid to add 20mL of diluted boric acid(5→100) and close it. Then place the vessel onto the microwave digester and inactivate fluoride according to below Condition 2. When use Teflon instead of quartz for sample inductor, the inactivation process of fluoride can be exempted.

Cool to room temperature and then cautiously open the lid to transfer the digested material to 100mL volume flask. Wash the vessel and the lid with distilled water. Add the washing and distilled water to make 100mL. If sediment is found, filter it for use. Dilute 5 times with distilled water and use it as the sample solution. Again take another 7mL of nitric acid, 2mL of hydrofluoric acid and proceed in the same manner as the preparation of the sample solution to use it as the blank solution. The type and volume of acid which is used to digest the sample, and condition of the microwave digester can be changed, if needed.

<Condition 1> <Condition 2>
Maximum power: 1000W Maximum power: 1000W
Highest temperature: 200°C Highest temperature: 180°C
Digestion time: About 20 minutes Digestion time: About 10 minutes

② Standard Preparation: Add diluted nitric acid(2→100) to the undiluted Standard Lead Solution (1000 μg/mL) to make 3 or more standard solutions for the calibration curve with different concentrations. The concentrations of these standard solutions should be within the range of 1 ~ 20 ng of lead per 1 mL of the solution.

③ Procedure: According to the following condition, inject each of the standard solution to the Inductively Coupled Plasma Mass Spectrometer (ICP-MS) to obtain a calibration curve of lead. Measure the quantity of lead in sample solution with the obtained calibration curve.

<Condition>
Atomic weight: 206, 207, 208 (select in range without an interference phenomenon)
Plasma gas: Argon (99.99 v/v% or above)
2. Arsenic
Test with an appropriate method among the following:

a) Colorimetric Method:
Weigh about 1.0g of sample to make a sample solution in accordance with Method 3 of “15. Arsenic test method” of VI. General test method in Functional Cosmetic Standards and Test methods (KFDA notice). Test with the method using Apparatus-A.

b) Atomic Absorption Spectrophotometry
① Sample Preparation: Weigh accurately 0.2g of sample and put it into a vessel of the microwave digester which is made of quartz or tetra fluoro methane. Be cautious not to touch the wall of the vessel. To digest the sample, add 7mL of nitric acid, 2mL of hydrochloric acid and 1mL of sulfuric acid, and close the lid. Place the vessel onto the microwave digester and digest in accordance with the condition until it turns colorless or pale yellow.

Cool to room temperature and then cautiously open the lid to transfer the digested material to 50mL volume flask. Wash the vessel and the lid with water. Add the washing and water to make 50mL and use it as the sample solution. If sediment is found, filter it for use. Take another 7mL of nitric acid, 2mL of hydrochloric acid and 1mL of sulfuric acid and proceed in the same manner as the preparation of the sample solution to use it as the blank solution.

The type and volume of acid which is used to digest the sample, and condition of the microwave digester can be changed, if needed.

<Condition>
Maximum power: 1000W
Highest temperature: 200℃
Digestion time: About 35 minutes

② Standard Preparation: Add 0.5% nitric acid to the undiluted Standard Arsenic Solution (1000 μg/mL) to make 3 or more standard solutions for the calibration curve with different concentrations. The concentration of this standard solutions should be within the range of 0.01 ~ 0.2 μg of arsenic per 1 mL of the solution.

③ Procedure: According to the following condition, inject each of the standard solution into the atomic absorption spectrometer by using hydride generation system and the heating cuvette to obtain the calibration curve of arsenic. Measure the quantity of arsenic in the sample solution with the obtained calibration curve.

<Condition>
Gas used: Inflammable gas: Acetylene or Hydrogen
Gas which helps ignition of fire: Air
Lamp: Arsenic hollow cathode lamp or electrodeless discharge lamp
Wave length: 193.7 nm

c) Use of Inductively Coupled Plasma Spectrometer
① Sample and Standard Preparation: Prepare the sample and the standard solution with the same manner as the preparation of the sample and standard solution used in the atomic absorption spectrophotometry.

② Procedure: According to the following condition, inject each of the standard solution into the inductively coupled plasma spectrometer to obtain the calibration curve of arsenic. Measure the quantity of arsenic in the sample solution by the obtained calibration curve.

Condition
Wave length: 193.759nm (If impedance is contained, select other particular wave length of arsenic)
Plasma gas: Argon (99.99 v/v% or above)

d) Use of Inductively Coupled Plasma Mass Spectrometer
① Sample Preparation: Weigh accurately 0.2g of the sample and put it into a vessel of the microwave digester which is made of Teflon. Be cautious not to touch the wall of the vessel.

To digest the sample, add 7mL of nitric acid and 2mL of hydrofluoric acid, and close the lid.

Place the vessel onto the microwave digester and digest in accordance with the condition 1 until it turns colorless or pale yellow. Cool to room temperature and then cautiously open the lid to add 20mL of diluted boric acid(5→100) and close it. Then place the vessel onto the microwave digester and inactivate fluoride according to below Condition 2. When use Teflon instead of quartz for sample inductor, the inactivation process of fluoride can be exempted.

Cool to room temperature and then cautiously open the lid to transfer the digested material to 100mL volume flask. Wash the vessel and the lid with distilled water. Add the washing and distilled water to make 100mL. If sediment is found, filter it for use. Dilute 5 times with distilled water and use it as the sample solution. Again take another 7mL of nitric acid, 2mL of hydrofluoric acid and proceed in the same manner as the preparation of the sample solution to use it as the blank solution. The type and volume of acid which is used to digest the sample, and condition of the microwave digester can be changed, if needed.

<Condition 1> <Condition 2>
Maximum power: 1000W Maximum power: 1000W
Highest temperature: 200℃ Highest temperature: 180℃
Digestion time: About 20 minutes Digestion time: About 10 minutes

② Standard Preparation: Add diluted nitric acid(2→100) to the undiluted Arsenic Standard Solution (1000 μg/mL) to make 3 or more standard solutions for the calibration curve with different concentrations. The concentrations of these standard solutions should be within the range of 1 ~ 4 ng of arsenic per 1 mL of the solution.

③ Procedure: According to the following condition, inject each of the standard solution to the Inductively Coupled Plasma Mass Spectrometer (ICP-MS) to obtain a calibration curve of arsenic. Measure the quantity of arsenic in sample solution with the obtained calibration curve.
<Condition>
Atomic weight: 75 (apparatus can be used not to interfere 40Ar35Cl+)
Plasma gas: Argon (99.99 v/v% or above)

3. Mercury

a) Use of Mercury-combustion apparatus

① Sample Preparation: Transfer 1.0mg of the sample, accurately weighed, to a flask of mercury-combustion apparatus (Fig.1), add a few glass beads and connect the flask to the apparatus. Pass cold water through condenser and add 10ml of nitric acid through dropping funnel. Then, heat gently with fastening the stopcocks of the funnel and loosening the stopcocks of the reaction flask, until fumes of nitrous acid are bright yellow and no longer noticeable. At this moment, disconnect the condenser from absorber tube and prevent the diluted sulfuric acid (1→100) in the absorber tube from flowing back to the apparatus. Cool, add 5ml of sulfuric acid and heat gently. Digestion is accelerated by concentrating the acid heating with a stopcock fastened, if not, repeat adding nitric and sulfuric acid and heat in the same manner. Heat until the solution becomes colorless or bright yellow and cool. At this moment, disconnect the condenser from absorber tube and prevent the diluted sulfuric acid (1→100) in the absorber tube from flowing back to the apparatus. Cool, add small quantities of potassium permanganate and heat. In the process of heating, potassium permanganate is added gradually so as not to be decolorized. Cool, and decolorize the solution by adding hydrogen peroxide solution. Add 10ml of urea solution and fasten the stopcock of the dropping funnel. Because the inside of apparatus condense rapidly become cool, the diluted sulfuric acid (1→100) in the absorber tube flow back. After a back flow is over, evaporate nitrous acid gas completely by gently heating and cooling. Transfer this solution to 100ml volumetric flask and wash the inside of an apparatus with small quantities of the hot and diluted sulfuric acid (1→100). Add the washing and mix them. Cool and add water to make 100ml.

② Blank solution preparation: Prepare the blank solution as the same manner of the sample solution without the use of sample.

③ Standard preparation: Dry mercuric chloride in a desiccator (silica gel) for 6 hours, dissolve 13.5mg of it in 10ml of dilute nitric acid and add sufficient water to make 1 liter. Take 10ml of this solution accurately, and add 10ml of dilute nitric acid and sufficient water to make standard preparation of 1 liter. 1ml of this standard solution contains the equivalent of 0.1 ug of mercury.

④ Procedure (Reductive vaporization): Transfer the sample and the blank solution to a test-bottle, add 5% potassium permanganate solution vertically, if decolorized, add another potassium permanganate for one minute and decolorize with 1.5% hydroxylamine hydrochloride solution. Take 10ml of standard mercury solution accurately and dilute with water to 100ml. Transfer to a test-bottle, add 5% potassiumpermanganate is added. Allow to stand for one minute, add 2ml of 50% sulfuric acid and 2ml of 3.5% nitric acid and decolorized with 1.5% hydroxylamine hydrochloride solution.
To the standard, the test sample and blank solutions which are pretreated as described beforehand, add 10ml of 1% copper(I) chloride and 0.5N sulfuric acid solution. Connect with circulation pump of atomic absorption spectrometer and make the mercury gas circulate through the cuvette and dry vessel. Then, measure absorbency when it reaches constant value rapidly at the wavelength of 253.7nm. The absorbency of test sample should not be greater than that of standard preparation.

b) Use of Mercury Analyzer
   ① Sample Preparation: Weigh accurately 50mg of the sample to make sample solution.
   ② Standard preparation: Dilute Mercury standard solution with 0.001% of L-cystein solution and to make 0.1, 1, 10 μg/mL as standard solution.
   ③ Procedure: Measure by Mercury Analyzer with sample and standard solution. Separately conduct a blank test and may add additives if necessary.
* 0.001% of L-cystein solution: Take 10mg of L-cystein and put 2mL of nitric acid. Add water to make 1000mL. Keep this solution in cold-dark place.

4. Antimony
   ① Sample Preparation: Weigh accurately 0.2g of the sample and put it into a vessel of the microwave digester which is made of Teflon. Be cautious not to touch the wall of the vessel. To digest the sample, add 7mL of nitric acid and 2mL of hydrofluoric acid, and close the lid. Place the vessel onto the microwave digester and digest in accordance with the condition 1 until it turns colorless or pale yellow. Cool to room temperature and then cautiously open the lid to add 20mL of diluted boric acid(5→100) and close it. Then place the vessel onto the microwave digester and inactivate fluoride according to below Condition 2. When use Teflon instead of quartz for sample inductor, the inactivation process of fluoride can be exempted. Cool to room temperature and then cautiously open the lid to transfer the digested material to 100mL volume flask. Wash the vessel and the lid with distilled water. Add the washing and distilled water to make 100mL. If sediment is found, filter it for use. Dilute 5 times with distilled water and use it as the sample solution. Again take another 7mL of nitric acid, 2mL of hydrofluoric acid and proceed in the same manner as the preparation of the sample solution to use it as the blank solution. The type and volume of acid which is used to digest the sample, and condition of the microwave digester can be changed, if needed.
   ② Standard preparation: Add diluted nitric acid(2→100) to the undiluted Antimony Standard Solution (1000 μg/mL) to make 3 or more standard solutions for the calibration curve with different concentrations. The concentrations of these standard solutions should be within the range of 1 ~ 20 ng of Antimony per 1 mL of the solution.
   ③ Procedure: According to the following condition, inject each of the standard solution to the Inductively Coupled Plasma Mass Spectrometer (ICP-MS) to obtain a calibration curve
of antimony. Measure the quantity of antimony in sample solution with the obtained calibration curve.

<Condition>
Atomic weight: 121, 123 (select in range without an interference phenomenon)
Plasma gas: Argon (99.99 v/v% or above)

④ Measure by Inductively Coupled Plasma Spectrometer (ICP) or Atomic Absorption Spectrophotometry (AAS) instead of Inductively Coupled Plasma Mass Spectrometer (ICP-MS) if sufficient linearity of the calibration curves and recovery are occurred.

5. Cadmium

① Sample Preparation: Weigh accurately 0.2g of the sample and put it into a vessel of the microwave digester which is made of Teflon. Be cautious not to touch the wall of the vessel. To digest the sample, add 7mL of nitric acid and 2mL of hydrofluoric acid, and close the lid. Place the vessel onto the microwave digester and digest in accordance with the condition 1 until it turns colorless or pale yellow. Cool to room temperature and then cautiously open the lid to add 20mL of diluted boric acid (5→100) and close it. Then place the vessel onto the microwave digester and inactivate fluoride according to below Condition 2. When use Teflon instead of quartz for sample inductor, the inactivation process of fluoride can be exempted. Cool to room temperature and then cautiously open the lid to transfer the digested material to 100mL volume flask. Wash the vessel and the lid with distilled water. Add the washing and distilled water to make 100mL. If sediment is found, filter it for use. Dilute 5 times with distilled water and use it as the sample solution. Again take another 7mL of nitric acid, 2mL of hydrofluoric acid and proceed in the same manner as the preparation of the sample solution to use it as the blank solution.

The type and volume of acid which is used to digest the sample, and condition of the microwave digester can be changed, if needed.

<Condition 1> <Condition 2>
Maximum power: 1000W Maximum power: 1000W
Highest temperature: 200°C Highest temperature: 180°C
Digestion time: About 20 minutes Digestion time: About 10 minutes

② Standard Preparation: Add diluted nitric acid (2→100) to the undiluted Antimony Standard Solution (1000 μg/mL) to make 3 or more standard solutions for the calibration curve with different concentrations. The concentrations of these standard solutions should be within the range of 1 ~ 20 ng of Cadmium per 1 mL of the solution.

③ Procedure: According to the following condition, inject each of the standard solution to the Inductively Coupled Plasma Mass Spectrometer (ICP-MS) to obtain a calibration curve of cadmium. Measure the quantity of cadmium in sample solution with the obtained calibration curve.

<Condition>
Atomic weight: 110, 111, 112 (select in range without an interference phenomenon)
Plasma gas: Argon (99.99 v/v% or above)

④ Measure by Inductively Coupled Plasma Spectrometer (ICP) or Atomic Absorption Spectrophotometry (AAS) instead of Inductively Coupled Plasma Mass Spectrometer (ICP-MS) if sufficient linearity of the calibration curves and recovery are occurred.
Spectrophotometry (AAS) instead of Inductively Coupled Plasma Mass Spectrometer (ICP-MS) if sufficient linearity of the calibration curves and recovery are occurred.

6. Dioxane
Pour 1.0mL of 20% sodium sulfate solution into 1.0g of the sample and shake well to use as a testing sample. Dilute the standard 1,4-dioxane with water to make 0.0125, 0.025, 0.05, 0.1, 0.2, 0.4 and 0.8mg/mL. Extract exactly 50.0μL each and add approximately 1.0g of polyethylene glycol 400 and 1.0mL of 20% sodium sulfate solution. Shake well and use it as a standard solution. Test the testing sample and standard solution, respectively, using the absolute calibration method in gas chromatography. If needed, the sample extraction amount or dilution ratio can be adjusted within the scope of the calibration curve of the standard solution.

(Test conditions)
- Detector: Mass spectrometry
- Interface temperature: 240°C
- Ion source temperature: 230°C
- Scan scope: 40 ~ 200 amu
- Mass spectrometry mode: optional ion mode (88, 58, 43)
- Head Space
  - Injection volume (loop): 1mL
  - Vial equilibrium temperature: 95°C
  - Loop temperature: 110°C
  - Injection line temperature: 120°C
  - Vial purge pressure: 20 psi
  - Vial equilibrium time: 30min
  - Vial purge time: 0.5min
  - Loop filling time: 0.3min
  - Loop equilibrium time: 0.05min
  - Injection time: 1min
- Column: Charge the pipe approximately 0.32mm in internal diameter and approximately 60m in length covered by a 500μm diatomite-based gas chromatography in which polyethylene wax was silanized.
- Column temperature: Maintain temperature of 50°C for two minutes at first and then raise temperature by 10°C every minute till it reaches 160°C.
- Carrier gas: Helium
- Flow rate: 1,4-dioxane needs to be maintained for approximately 10 minutes
- Split ratio: Approximately 1:10

7. Methanol
Test with an appropriate method among the followings.
a) Fuchsin sulphite process
b) Gas chromatography
   ① Distillation
   ② Dilution
8. Formaldehyde

Pour 20mL of acetic acid·sodium acetate buffer solution 1) into the 1.0g sample and extract after boiling for one hour and filter. Extract exactly 1mL of the solution and add water to make 200mL. Pour 4mL of acetic acid·sodium acetate buffer solution1) into exactly 100mL of the solution extracted and mix well. Then add 6mol/L of hydrogen chloride or 6mol/L of sodium hydroxide solution so that pH is adjusted to 5. Pour 6.0mL of 2,4-dinitrophenyl hydrazine solution 2) and boil for one hour at a temperature of 40℃.

Extract three times using 20mL of dichloromethane and filtrate dichloromethane layer using absorbent cotton that contain 5.0g of anhydrous sodium sulfate. Heat and evaporate the filtrated solution at a reduced pressure, and pour 5.0mL of acetonitrile into the residue to melt and use it as a testing sample. Dilute the standard formaldehyde with water to make 0.05, 0.1, 0.2, 0.5, 1 and 2 µg/mL. Extract exactly 100mL each and go through the same process like the testing sample and use it as a standard solution. Test 10µL of the testing sample and standard solution, respectively, using the absolute calibration method in liquid chromatography. If needed, the sample extraction amount or dilution ratio can be adjusted within the scope of the calibration curve of the standard solution.

<Test conditions>

- Detector: UV spectrophotometer (measured wave length: 355 nm)
- Column: Charge 5 µm of the silica gel octadecylated with liquid chromatography in a stainless tube approximately 4.6mm in internal diameter and approximately 25cm in length.
- Supercritical fluid: Mixed solution of 0.01 mol/L hydrogen chloride and acetonitrile (40:60)
- Flow rate: 1.5 mL/min

Note 1) Acetic Acid·Sodium Acetate Buffer Solution:
Add 40mL of 5mol/L acetic acid into 60mL of 5mol/L sodium acetate solution and mix well. Then, add 6mol/L of hydrogen chloride or sodium hydroxide solution so that the pH is adjusted to 5.

Note 2) 2,4-Dinitrophenyl Hydrazine Solution:
Pour acetonitrile into 0.3g of 2,4-dinitrophenyl hydrazine and melt to make 100mL.

9. Phthalates (Dibutyl phthalate, Butyl phthalate and Diethyl hexylphthalate)

Pour mixed hexane/acetone solution (8:2) into the 1.0g sample to make exactly 10mL and disperse using ultrasonic waves and then centrifuged. Take exactly 4.0mL of the solution and pour 4.0 mL of the internal standard solution* and add the mixed hexane/acetone solution (8:2) to make 10.0 mL. This solution is used as a testing sample. Standard dibutyl phthalate, standard butyl benzyl phthalate and standard di-ethylhexyl phthalate is each diluted using the mixed hexane/acetone solution (8:2). Take some volumes and pour 4.0 mL the internal standard solution and add the mixed hexane/acetone solution (8:2) to make 10.0 mL. And make 0.1, 0.5, 1.0, 5.0, 10.0 and 25.0 µg/mL of standard solution. Conduct a test based on the internal standard method in gas chromatography using 1µL each of the testing sample and standard solution. If needed, the sample extraction amount or dilution ratio can be adjusted within the scope of the calibration curve of the standard solution.

<Test conditions>
• Detector: Flame ionization detector
• Column: Cover the fused silica tube approximately 0.25mm in internal diameter and approximately 30m in length with 14% cyanopropyl phenyl and 86% methyl polysiloxane to make it 0.25μm thick.
• Column temperature: Maintain at a temperature of 150°C for two minutes, raise temperature by 10°C every minute till it reaches 260°C and maintain temperature for 15 minutes.
• Sample injection temperature: 250°C
• Detector temperature: 280°C
• Carrier gas: Nitrogen
• Flow rate: 1 mL/min
• Split ratio: Approximately 1:10

Note*) The internal standard solution: Extract 10mg of the standard benzyl benzoate using the internal standard solution and add the mixed hexane/acetone solution (8:2) to make 100mL.

10. Microbial limits
The following test methods are used in general. Automated equipment to detect presence of microorganisms, and microbial identification systems/kits can be used, in addition.

1) Pre-treatment of sample
Specimen preparation should be performed under aseptic condition. Sample should be completely collected at random and all components should be mixed, diluted, dissolved and suspended by the following procedures according to each sample formulation types.
   a) Liquid, Emulsion: Add 9mL of Letheen liquid medium into 1mL(g) of sample to make initial 1:10 dilution, and dilute this further, if necessary.
   b) Cream, Oil: Disperse 1mL(g) of sample with 1mL of dispersant and mix with 8mL of Letheen liquid medium to make initial 1:10 dilution. Dilute further, if necessary.
   c) Powder, Solid formulation: Disperse 1g of sample with 1mL of dispersant and mix with 8mL of Letheen liquid medium to make initial 1:10 dilution. Dilute further, if necessary. If it does not homogenize, add 5~7 of glass beads (5mm) [10~15 of glass beads(3mm)] after 30 minutes sterilization at 40°C.
   □ Sterilized Polysorbate 80 can be used as dispersant and it shall not have any effect on the growth and development of microorganisms.
   □ The validated medium or dilution that does not indicate anti-microbial activity in tests for total aerobic microbial count can be used for sample preparation.

2) Tests for total aerobic microbial count
Total aerobic microbial (bacteria and fungi) count test is the estimation of the number of viable aerobic microorganisms present in cosmetic products.
   a) Specimen preparation
   Prepare specimen according to article 1) procedure (as above).
   b) Media
   Use Modified letheen agar broth or Tryptic soy agar for the total aerobic microbial count test and Potato dextrose agar medium or Sabouraud dextrose agar that contains antibiotics
for the fungal assay. The other validated medium can be used and may not need to add
antibiotics when it does not indicate anti-microbial activity.

**Modified letheen broth**
Beef peptone 20.0 g  
Pancreatic Digest of Casein 5.0 g  
Yeast Extract 2.0 g  
Beef extract 5.0 g  
Sodium Chloride 5.0 g  
Polysorbate 80 5.0 g  
Lecithin 0.7 g  
Sodium thiosulfate 0.1 g  
Purified Water 1000 mL
Weight above all components and dissolve in 1L of purified water Adjust pH on 7.2±0.2 after sterilization and autoclave at 121° C for 15 minutes.

**Modified letheen agar**
Proteose Peptone 10.0 g  
Pancreatic Digest of Casein 10.0 g  
Yeast Extract 2.0 g  
Beef Extract 3.0 g  
Sodium Chloride 5.0 g  
Glucose 1.0 g  
Polysorbate 80 7.0 g  
Lecithin 1.0 g  
Sodium thiosulfate 0.1 g  
Agar 20.0 g  
Purified Water 1000 mL
Weight above all components and dissolve in 1L of purified water Adjust pH on 7.2±0.2 after sterilization and autoclave at 121° C for 15 minutes.

**Tryptic soy agar**
Casein Peptone 15.0 g  
Soy Peptone 5.0 g  
Sodium Chloride 5.0 g  
Agar 15.0 g  
Purified Water 1000 mL
Weight above all components and dissolve in 1L of purified water Adjust pH on 7.2±0.2 after sterilization and autoclave at 121° C for 15 minutes.

**Potato dextrose agar Medium added antibiotics**
Potato precipitate 200.0 g  
Dextrose 20.0 g  
Agar 15.0 g  
Purified Water 1000 mL
Weight above all components; dissolve in 1L of purified water and autoclave at 121° C for 15 minutes. Add 40mg of tetracycline hydrochloride per 1L prior to use to sterilized medium. Mix with 10% tartaric acid solution and adjust pH on 3.5 ±0.1.

**Sabouraud dextrose agar Medium added antibiotics**

Beef or Casein Peptone 10.0 g
Dextrose 20.0 g
Agar 15.0 g
Purified Water 1000 mL

Weight above all components; dissolve in 1L of purified water and autoclave at 121° C for 15 minutes and adjust pH on 5.6 ±0.2. Add 0.10g of potassium benzyl penicillin and 0.1g of tetracycline per 1000 mL medium as sterilized solution when using or add 50mg of chloramphenicol per 1000 mL medium.

c) Procedure

(1) For bacterial count test: ① **Spread plate method**: Spread more than 0.1ml of the prepared specimen solution onto the surface of harden Medium in 9-10cm diameter of petri dish.

② **Diluted Plate Method**: Pipet 1mL onto the same size of sterile petri dish, and add 15ml of sterile Modified Letheen Agar Medium cooled at 45 °C, cover the petri dish and then mix well. Prepare at least 2 agar plates per each dilution step and incubate at 30 – 35 °C for 48 hours. Select the plate observed the most of colonies not exceeded 300 CFU per g (mL) and count the total number of colonies per g or per mL of specimen.

(2) For fungal count test: Use medium for fungal count test, follow the procedure as (1) bacterial count test and incubate at 20 – 25 °C for 5 days at least. Following incubation, examine the plate for growth not exceeded 100 CFU, and count total number of colonies.

d) Suitability Test for Medium

Medium shall be tested per batch. Inoculate bacteria, yeast in table 1 to less than 100CFU. Test medium by inoculating 1 mL inoculum bacteria at least 48 hours at 30 ~ 35 °C, and fungus at 20 ~ 25 °C for at least 5 days of culture should be identified sufficient proliferation or the number of viable cells. For confirmation of the sterility of each sterilized batch of medium, diluent used and procedure, perform total aerobic microbial count test with sterilebuffered saline peptone solution (pH 7) as control. No growth of microorganism in testing medium should meet the requirement for sterility.

### Table 1

<table>
<thead>
<tr>
<th>Test Microorganisms &amp; conditions for Medium suitability tests</th>
<th>Medium Test Microorganism</th>
<th>Incubation conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Escherichia coli</td>
<td>ATCC 8739, NCIMB 8545,</td>
<td>Aerobic</td>
</tr>
<tr>
<td>Bacillus subtilis</td>
<td>CIP53.126,</td>
<td>At 30 ~ 35 °C</td>
</tr>
<tr>
<td>Staphylococcus aureus</td>
<td>NBRC 3972 or KCTC 2571</td>
<td>For 48 hrs</td>
</tr>
<tr>
<td></td>
<td>ATCC 6633, NCIMB 8054, CIP</td>
<td></td>
</tr>
</tbody>
</table>
52.62, NBRC 3134 or KCTC 1021
ATCC 6538, NCIMB 9518, CIP
4.83, NRRC 13276 or KCTC 3881

| Candida albicans | ATCC 10231, NCPF 3179, IP 48.72, NBRC 1594 or KCTC 7965 | Aerobic
At 20 ~ 25 °C for 5 days |
---|---|---|

e) Feasibility test for Test method
Compare the microbial counts from sample and control according to d). If proliferation is resisted by antibiotic activity due to preservatives in sample (in case microbial counts from sample are less than \(\frac{1}{2}\) of control), the test method for total aerobic microbial count shall be changed to secure results effectiveness. Dilutions and neutralizers of Table 2 can be used to neutralize antibiotic activities.

| Table 2. Neutralizers for antibiotic activities |
| --- | --- |
| Antimicrobials in cosmetics | Neutralizers for antibiotic activities |
| **Phenols:** Anilide including Paraben, Phenoxyethanol, Phenyl ethanol etc. | Lecithin, Polysorbate 80, Ethylene oxide condensate of Fatty alcohols Non-ionic surfactants |
| Quaternary ammonium compounds, cationic surfactants | Lecithin, Saponin, Polysorbate 80, Sodium Dodecyl Sulfate, Ethylene oxide condensate of Fatty alcohols |
| Aldehyde, Formaldehyde-free preparations | Glycine, Histidine |
| Oxidizing compounds | Sodium thiosulfate |
| Isothiazolinone, Imidazole | Lecithin, Saponin, Amin, Sulfate, Mercaptan, Sodium hydrogen sulphite, Sodium thioglycolate |
| Biguanide | Lecithin, Saponin, Polysorbate 80 |
| Metal salts (Cu, Zn, Hg), | Sodium hydrogen sulphite, |
3) Tests for specific bacteria

a) Test for Escherichia coli

(1) Specimen preparation and Procedure: Mix 1g or 1mL of specimen solution with 10mL of Fluid Lactose Medium and incubate at 30 - 35 °C for 24-72 hours. Shake inoculum gently, streak onto MacConkey Agar Medium with inoculating loop, then incubate at 30 - 35 °C for 18 – 24 hours. If gram-negative colonies brick-red colored having red precipitation layer in surround are not observed, the test result is negative for E. coli. If colonies having above morphologic characteristics present, transfer each representative suspect colony from the agar surface onto Eosin Methylene Blue (E.M.B) agar Medium by means of inoculating loop and incubate at 30 - 35 °C for 18 - 24 hours. If colonies having metallic sheen under reflected light and a blue-black appearance under transmitted light are found, transfer the suspect colonies individually, by means of an inoculating loop, to the fermentation tube containing Fluid Dextrose Medium and incubate in water bath at 44.3 - 44.7 °C for 22 - 26 hours. If gas release is observed, the colonies are suspected as E. coli and confirmed by identification test.

(2) Media

**Fluid Lactose Medium**

<table>
<thead>
<tr>
<th>Component</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beef Extract</td>
<td>3.0 g</td>
</tr>
<tr>
<td>Pancreatic Digest of Gelatin</td>
<td>5.0 g</td>
</tr>
<tr>
<td>Lactose</td>
<td>5.0 g</td>
</tr>
<tr>
<td>Purified Water</td>
<td>1000 mL</td>
</tr>
</tbody>
</table>

Weight above all components, dissolve in 1L of purified water, and adjust pH on 6.9 - 7.1 after sterilization and autoclave at 121° C for 15~20 minutes. Cool as quickly as possible.

**MacConkey Agar Medium**

<table>
<thead>
<tr>
<th>Component</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pancreatic Digest of Gelatin</td>
<td>17.0 g</td>
</tr>
<tr>
<td>Pancreatic Digest of Casein</td>
<td>1.5 g</td>
</tr>
<tr>
<td>Proteose Peptone</td>
<td>1.5 g</td>
</tr>
<tr>
<td>Dextrose</td>
<td>10.0 g</td>
</tr>
<tr>
<td>Sodium deoxycholate</td>
<td>1.5 g</td>
</tr>
<tr>
<td>Sodium Chloride</td>
<td>5.0 g</td>
</tr>
<tr>
<td>Agar</td>
<td>13.5 g</td>
</tr>
<tr>
<td>Neutral Red</td>
<td>0.03 g</td>
</tr>
<tr>
<td>Methylosaline(?) Chloride</td>
<td>1.0 mg</td>
</tr>
<tr>
<td>Purified Water</td>
<td>1000 mL</td>
</tr>
</tbody>
</table>
Weight above all components, dissolve in 1L of purified water, adjust pH on 6.9-7.3 after sterilization, and then boil for 1 minute and autoclave at 121 °C for 15 ~20 minutes.

**Eosin Methylene Blue Agar Medium (EMB Agar Medium)**

Pancreatic Digest of Gelatin 10.0 g  
Diabasic Potassium Phosphate 2.0 g  
Dextrose 10.0 g  
Agar 15.0 g  
Eosin 0.4 g  
Methylene Blue 0.065 g  
Purified Water 1000 mL

Weight above all components, dissolve in 1L of purified water, and adjust pH on 6.9-7.3 after sterilization and autoclave at 121° C for 15~20 minutes.

b) Test for Pseudomonas aeruginosa  
(1) Preparation of specimen and procedure: Weigh 1g or 1ml of sample, dissolve in 10mL of Casein Digest-Soy Lecithin Medium and incubate at 35 - 37° C for 24-48 hours as initial inoculum. Transfer some portion of inoculum into Pseudomonas P or F plate, and incubate at 35 - 37° C for 72 hours. If, upon examination, Gram-negative rod and yellow colonies on Pseudomonas Agar Medium F for Detection of Fluorescein plate under ultraviolet light and blue colonies on Pseudomonas Agar Medium P for detection of Pyocyanin plate under ultraviolet light are observed, Oxidase test and motility test should be performed for confirmation. If there is color change to purple within 5-10 sec representing oxidase-positive and there is no change after 10 sec, this result represents Pseudomonas aeruginosa(-). The positive results for Oxidase test and Motility test suspected as Pseudomonas aeruginosa(+) and confirmed by identification test.

(2) Media

**Casein Digest-Soy Lecithin Medium**

Pancreatic Digest of Casein 17.0 g  
Papaic Digest of Soybean Meal 3.0 g  
Sodium Chloride 5.0 g  
Diabasic Potassium Phosphate 2.5 g  
Dextrose H2O 2.5 g  
Purified Water 1000 mL

Weight above all components, dissolve in 1L of purified water, adjust pH on 7.3±0.2 after sterilization, and autoclave at 121° C for 15 minutes.

**Cetrimide agar Medium**

Gelatin Peptone 20.0 g  
Magnesium Sulfate 3.0 g  
Potassium Sulfate 10.0 g  
Cetrimide 0.3g  
Glycerin 10.0 mL  
Agar 13.6 g  
Purified Water 1000 mL
Weight above all components, dissolve in purified water, add glycerin and adjust to total 1L. Adjust pH on 7.2±0.2 after sterilization and autoclave at 121°C for 15 minutes.

**NAC agar Medium**
Peptone 20.0 g  
Diabasic Potassium Phosphate 0.3 g  
Magnesium Sulfate 0.2 g  
Cetrimide 0.2g  
Nalidic acid 15 mL  
Agar 15.0 g  
Purified Water 1000 mL  
Final pH is 7.4±0.2 and the media melt with heating without sterilization.

**Pseudomonas agar Medium F for Detection of Fluorescein**
Casein Peptone 10.0 g  
Beef Peptone 10.0 g  
Diabasic Potassium Phosphate 1.5 g  
Magnesium Sulfate 1.5 g  
Glyserin 10.0 mL  
Agar 15.0 g  
Purified Water 1000 mL  
Weight above all components, dissolve in purified water, add glycerin and adjust to total 1L. Adjust pH on 7.2±0.2 after sterilization and autoclave at 121°C for 15 minutes.

**Pseudomonas agar Medium P for Detection of Pyocyanin**
Pancreatic Digest of Gelatin 20.0 g  
Magnesium 3.0 g  
Potassium Sulfate 10.0 g  
Glycerin 10.0 mL  
Agar 15.0 g  
Purified Water 1000 mL  
Weight above all components, dissolve in purified water, add glycerin and adjust volume to 1L. Adjust pH on 7.2±0.2 after sterilization and autoclave at 121°C for 15 minutes.

c) Test for Staphylococcus aureus

(1) Specimen preparation and Procedure: Dissolve 1g or 1 mL of sample in 10ml of Casein Digest-Soy Lecithin Medium and incubate at 35 – 37 °C for 24-48 hours. Streak a portion of inoculum on the surface of Vogel Johnson agar Medium by means of inoculating loop, and incubate at 35-37°C for 24hours. If black colored colonies surrounded by yellow zone are observed, Gram staining should be performed. If the result is Gram-positive, conduct enzyme coagulation test. Negative result represents Staphylococcus aureus(−) and positive result is suspected as Staphylococcus aureus(+) and confirmed by identification test.

(2) Media

**Vogel-Johnson agar Medium**
Pancreatic Digest of Casein 10.0 g
Yeast Extract 5.0 g
Mannitol 10.0 g
Diabasic Potassium Phosphate 5.0 g
Lithium Chloride 5.0 g
Glycin 10.0 g
Phenol red 25.0 mg
Agar 16.0 g
Purified Water 950 mL
Weight above all components, dissolve in purified water, and then boil for 1 minute with frequent agitation. Adjust on 7.2±0.2 after sterilization, and autoclave at 121° C for 15 minutes. Cool to between 45 and 50 °C and add 20mL of sterile 1%(w/v) potassium tellurite solution.

Baird-Parker Agar Medium
Pancreatic Digest of Casein 10.0 g
Beef Extract 5.0 g
Yeast Extract 1.0 g
Lithium Chloride 5.0 g
Glycin 12.0 g
Sodium Pyruvate 10.0 g
Agar 20.0 g
Purified Water 950 mL
Weight above all components, dissolve in purified water, and then boil for 1 minute with frequent agitation. Autoclave at 121° C for 15 minutes, cool to between 45 and 50 °C and adjust on 6.8±0.2 after sterilization. Add 10mL of sterile 1%(w/v) potassium tellurite solution and 50mL of yolk emulsion. Then stir without agitation and pour on petri dish. Yolk emulsion is made by around 30% of yolk and 70% of saline solution.

d) Test for Medium and suitability test for Test method
When test is performed with following strains and Media according to Table 3 using each inoculum to 100cfu and cultivate defined conditions, sufficient proliferation and proper characteristics shall be identified. Perform each test for E. coli, P. aeruginosa or S. aureus with or without sample. Positive result should meet the requirement of suitable Medium for each strain. If proliferation is resisted, neutralize antibiotic activities according to 2)-e).

<table>
<thead>
<tr>
<th>Microorganisms for Medium suitability tests of specific bacteria</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Escherichia coli</strong></td>
</tr>
<tr>
<td><strong>Pseudomonas aeruginosa</strong></td>
</tr>
<tr>
<td><strong>Staphylococcus aureus</strong></td>
</tr>
</tbody>
</table>

Page 71 of 80
11. Contents
a) Products which contents are declared by net volume:
Measure accurately the volume of water added to fill up a container holding the contents, then the contents of a container are removed completely. Wash and dry the inside of a container with water or appropriate organic solvents. Add water until a container is filled with water, then the volume of the added water is measured accurately. The net volume of products may be determined by the difference of water volume. However, mass cylinder should be used for the product which volume is more than 150 ml.
b) Products which contents are declared by net weight:
Wipe the outside of a container holding the contents and weigh a container precisely, then remove completely the contents of a container only. The contents of a container may be determined by the difference of weights.
c) Products which are declared by length: In case of pencil-type products, the radius and length of lead should be measured.
d) In case of the other products, “General test methods except ones defined in KP (the KFDA Notification) shall be applied.

12. pH
Take about 2 g or 2 ml of sample in a 100 ml-beaker, add 30 ml of water and melt fat by heating on a water bath. Filter the fat by freezing in the refrigerator after shaking it. If oil phase and water phase are not separated, the mixture can be used as it is. Test with the filtrate under “47. pH measuring method” of VI-1. general test in Functional cosmetic standards and test methods. However, if the general appearance of sample is transparent, measure its pH without any preparation.

II. Permanent Wave and Hair Straightener Products

1. A two-phase cold permanent wave product which the principal ingredient is thioglycolic acid or its salt:
a. No. 1 agent:
① pH : test the sample in accordance with “47. pH measuring method” of VI-1. general test in Functional cosmetic standards and test methods.
② Alkali: create a sample solution by putting a 10mL sample in a flask and adding 100mL of water. Take 20mL of this sample solution to a 250mL Erlenmeyer flask and titrate with 0.1N hydrochloric acid. (Indicator: 2 drops of methylate solution).
③ Reducing agent after boiling in an acid state (thioglycolic acid): take 20 ml of the sample solution of ③ to an Erlenmeyer flask and add 50mL of water and 5mL of 30% sulfuric acid and boil for 5 minutes. Then cool and titrate with 0.1N iodine solution (indicator: 3mL starch solution) and set this quantity as the Aml.
Content (%) of the reducing agent after boiling in an acid state (in the thioglycolic acid state):
= 0.4606×A

④ Reducing agent other than the reducing agent after boiling in an acid state (sodium sulphite, sulfide, etc.): in a 250mL Erlenmeyer flask with a glass bung, add 50mL of water, 5mL of 30% sulfuric acid and 25mL of 0.1N iodine solution. Then add 20mL of the sample solution of ②, seal with the bung, shake to mix, leave at room temperature for 15 minutes and then titrate with 0.1N sodium thiosulfate (indicator: starch solution 3mL). Set this quantity as the B mL. Separately, add 70mL of water and 5mL of 30% sulfuric acid to the 250mL Erlenmeyer flask with a glass bung, add 25mL of iodine solution. Seal with bung, shake to mix, and use it for blank tests in accordance with the above method. The quantity is set as the CmL.

Quantity of 0.1N iodine solution consumed (mL) for the reducing agent other than the reducing agent after boiling the sample 1mL in an acid state=

⑤ Reducing agent after reduction (dithioglycolic acid): take precisely 20mL of the sample solution of ②, add 30mL of 1N hydrochloric acid and 1.5g of zinc powder. Mix it for 2 minutes with a stirrer, make sure bubbles are not formed, and filtrate it using a paper filter (4A). Wash the residue 3 times with a small amount of water and add the washed solution to the reduced contents and boil for 5 minutes. Then cool and titrate with 0.1N iodine solution (Indicator: starch solution 3mL) and set this quantity as the DmL. Also take precisely 10g of the sample solution, add 50mL of sodium lauryl sulfate solution (1→10) and 20mL of water, and warm it till it reaches 80℃ in a water bath. Then cool and bring the sample solution to 100mL, and use it for blank tests using the above method.

Reducing agent after reduction (%)=

⑥ Heavy Metal: take 20mL sample to conduct a test in accordance with method 2 of “43. heavy metal test” of VI-1. general test in Functional cosmetic standards and test methods. Add 4.0mL of lead standard solution to the comparative solution.

⑦ Arsenic: take a 20mL sample to a 300ml Keldahl flask, add 20mL of nitric acid and heat until reaction settles. Then cool and add 5mL of sulfuric acid and heat again. Then carefully add 2mL of nitric acid and heat until contents turn colorless or transparent light amber. Then cool and add 1mL of perchloric acid, heat until a white smoke of sulfuric acid is created and then set to cool. Then add 20mL of saturated ammonium oxalate and heat until white smoke is created. Then cool and add water to bring the sample solution to 100mL. Take 2mL of the sample solution and conduct a test in accordance with the arsenic test method B of “15. Arsenic test” of VI-1. general test in Functional cosmetic standards and test methods.

⑧ Iron: take 50mL of the sample solution of ⑦, cool and carefully add strong ammonia water solution to bring the solution to pH between 9.5 and 10.0. Separately, take 20mL of water to make a blank test solution using the same method. Then take 50mL of the blank test solution, add 2.0mL of a standard iron solution, cool and then carefully add strong ammonia-water solution to bring the control solution to pH between 9.5 and 10.0. Transfer the sample solution and the control solution to Nessle's tubes and add to each tube 1.0mL of thioglycolic acid and add water to bring each solution to 100mL. When comparing color, the color of the sample solution shall not be darker than the color of the control solution.
b. No. 2 agent

1) Sodium Bromate-Containing Agent:

① State of dissolution: tested only in a powder or solid state, take a sample of a dose for one person for a single use to a nessler tube, add water or warm water 200mL to dissolve and then observe against a white background.

② pH: take a sample of a dose for one person for a single use and dissolve in water or warm water 200mL and then test in accordance with “47. pH measuring method” of VI-1. general test in Functional cosmetic standards and test methods.

③ Heavy metal: take a sample of a dose for one person for a single use, add water to bring the sample to 100mL. Add 10mL of water and 1mL of hydrochloric acid to 2.0mL of the sample solution, and evaporate to dryness in a water bath. Then powderize at under 500°C and dissolve in 10mL of water and 2mL of light acetic acid. Then add water to bring the sample solution to 50mL. The sample solution shall be tested in accordance with the No.4 of “43. heavy metal test” of VI-1. general test in Functional cosmetic standards and test methods In the control solution, add 2.0mL of the standard lead solution.

④ Degree of oxidization: take precisely 1/10 of the dose for one person for a single use and dissolve in water or warm water and then place in a 200mL flask and add water to bring the sample to 200mL. Take 20mL of this solution, place in an Erlenmeyer flask with a glass bung, add 10mL of light sulfuric acid, seal with bung and lightly swirl once or twice to mix and then carefully add 10mL of potassium iodide solution. Stopper with bung and leave for 5 minutes in the dark and then titrate with 0.1N sodium thiosulfate solution and set this quantity as EmL. (Indicator: starch solution 3mL). Oxidation of dose for 1 person for single use = 0.0278×E

2) Hydrogen peroxide-containing agent:

① pH: take a sample and test in accordance with “47. pH measuring method” of VI-1. general test in Functional cosmetic standards and test methods.

② Heavy metal: test in accordance with ③ Heavy metal test Method of 1) Sodium Bromate-Containing Agent in thioglycolic acid permanent wave product.

③ Degree of oxidization: take a 1.0mL sample, place in an Erlenmeyer flask with a glass bung, add 10mL of water and 5mL of sulfuric acid, seal with bung and lightly swirl once or twice to mix. Carefully add 5mL of potassium iodide solution, seal with bung and leave it in the dark for 30 minutes. Then titrate with 0.1N sodium thiosulfate solution and set this quantity as FmL. (Indicator: starch solution 3mL).

Oxidation of dose for 1 person for single use = 0.0017007×F×dose for 1 person for single use (mL)

2. A two-phase cold permanent wave hair product which the principal ingredient is cysteine, cysteine salt or acetyl cysteine:

a. No. 1 agent:
① pH: test in accordance with “47. pH measuring method” of VI-1. general test in Functional cosmetic standards and test methods.

② Alkali: test in accordance with Test Method ② of thioglycolic acid permanent wave product No. 1 agent.

③ Cysteine: take precisely a 10mL sample and put it into a reflux condenser, add 40mL of water and 20mL of hydrochloric acid, and heat reflux for 2 hours. Then cool and put into a volumetric flask, add water to bring the sample solution to precisely 100mL. Take 25mL of the solution, filter through a column with a internal diameter between 8~15
mm filled with 20mL of strong acid cation exchanger (H-type) at a speed of 2mL/min. Continue to wash the cation exchanger with 60mL of 3N ammonia water at a speed of 2mL/min. Collect the outflowing solution in a 100mL flask and wash the cation exchanger with 40mL of water and also collect in the flask to bring the sample solution to 100mL. Take the sample solution and transfer to a 100mL volumetric flask, add water to bring the solution to 100mL. Then take precisely 20mL of this solution, neutralize with transparent hydrochloric acid if needed (Indicator: methyl orange solution), add 4g of potassium iodide and 5mL of transparent hydrochloric acid, and mix to melt. Then add precisely 10mL of 0.1N iodine solution, seal with bung, leave it in the dark for 20 minutes in ice water, and then titrate with 0.1N sodium thiosulfate solution (Indicator: starch solution 3mL). Set this quantity as the GmL. Conduct a blank test using the same test method and set the quantity as the HmL.

Cysteine content (%) = 1.2116 x 2 x (H-G)

④ Reducing agent after reduction (cysteine): take a 10mL sample and put into a volumetric flask, add water to bring the sample solution to precisely 100mL. Then precisely take 10mL of this sample solution, add 30mL of 1N hydrochloric acid and 1.5g of zinc powder. Mix it for 2 minutes with a stirrer, make sure bubbles aren’t formed, and filtrate it using a paper filter (4A). Wash the residue 3 times with a small amount of water and add the washed solution to the reduced contents. Add 4g of potassium iodide and mix well to melt. Add precisely 10mL of 0.1N iodin solution, leave it in the dark for 20 minutes in ice water, and then titrate with 0.1N sodium thiosulfate solution (Indicator: starch solution 3mL). Set the quantity as the JmL.

Separately, obtain precisely a 10mL sample, neutralize with transparent hydrochloric acid if needed (Indicator: methyl orange solution), add 4g of potassium iodide and 5mL of transparent hydrochloric acid, and mix well to melt. Add precisely 10mL of 0.1N iodine solution, seal with bung, leave it in the dark for 20 minutes in ice water, and then titrate with 0.1N sodium thiosulfate solution (Indicator: starch solution 1mL). Set the quantity as the Kml. Conduct a blank test using the same test method and set the quantity as the LmL. Total content of reducing agent after reduction (%) = 1.201 x (J-I)-(L-K)

⑤ Heavy metal: test in accordance with Test Method ⑥ of thioglycolic acid permanent wave product No. 1 agent.
3. A two-phase cold permanent hair straightener product, which the principal ingredient is thioglycolic acid or its salt:
   a. No. 1 agent:
      ① pH: test in accordance with “47. pH measuring method” of VI-1. general test in Functional cosmetic standards and test methods.
      ② Alkali: test in accordance with Test Method ② of thioglycolic acid permanent wave product No.1 agent.
      ③ Reducing agent after boiling in an acid state (thioglycolic acid): test in accordance with Test Method ③ of thioglycolic acid permanent wave product No.1 agent.
      ④ Reducing agent other than the reducing agent after boiling in an acid state (sulfurous acid, sulfide, etc.): test in accordance with Test Method ④ of thioglycolic acid permanent wave product No.1 agent.
      ⑤ Reducing agent after reduction (dithioglycolic acid): test in accordance with Test Method ⑤ of thioglycolic acid permanent wave product No.1 agent.
      ⑥ Heavy metal: test in accordance with Test Method ⑥ of thioglycolic acid permanent wave product No.1 agent.
      ⑦ Arsenic: test in accordance with Test Method ⑦ of thioglycolic acid permanent wave product No.1 agent.
      ⑧ Iron: test in accordance with Test Method ⑧ of thioglycolic acid permanent wave product No.1 agent.
   b. No.2 agent: test in accordance with the standards and test method of thioglycolic acid permanent wave product No.2 agent.

   * If the sample is dense and therefore cannot be accurately measured in volume, the sample may be taken in weight at which 1g is regarded as 1mL.

4. A two-phase heat-assisted permanent wave product which the principal ingredient is thioglycolic acid or its salt:
   a. No 1. Agent: tested in accordance with the standards and test method of thioglycolic acid permanent wave product No.1 agent.
   b. No.2 agent: tested in accordance with the standards and test method of thioglycolic acid permanent wave product No.2 agent.
5. A two-phase heat-assisted permanent wave hair product which the principal ingredient is cysteine, cysteine salt or acetyl cysteine:
   a. No 1. Agent:
      ① pH: test in accordance with “47. pH measuring method” of VI-1. general test in Functional cosmetic standards and test methods.
      ② Alkali: test in accordance with Test Method ② of thioglycolic acid permanent wave product No.1 agent.
      ③ Cysteine: test in accordance with Test Method ③ of cysteine, cysteine salt or acetyl cysteine permanent wave product No.1 agent.
      ④ Reducing agent after reduction: test in accordance with Test Method ④ of cysteine, cysteine salt or acetyl cysteine permanent wave product No.1 agent.
      ⑤ Heavy metal: test in accordance with Test Method ⑤ of thioglycolic acid permanent wave product No.1 agent.
      ⑥ Arsenic: test in accordance with Test Method ⑥ of thioglycolic acid permanent wave product No.1 agent.
      ⑦ Iron: test in accordance with Test Method ⑦ of thioglycolic acid permanent wave product No.1 agent.
   b. No.2 agent: test in accordance with the standards and test method of thioglycolic acid permanent wave product No. 2 agent.

6. A two-phase heat-assisted permanent hair straightener product which the principal ingredient is thioglycolic acid or its salt:
   a. No.1 agent:
      ① pH: tested according to “47. pH measuring method” of VI-1. general test in Functional cosmetic standards and test methods.
      ② Alkali: test in accordance with Test Method ② of thioglycolic acid permanent wave product No.1 agent.
      ③ Reducing agent after boiling in an acid state (thioglycolic acid): test in accordance with Test Method ③ of thioglycolic acid permanent wave product No.1 agent.
      ④ Reducing agent other than the reducing agent after boiling in an acid state (sulfurous acid, sulfide, etc.): test in accordance with Test Method ④ of thioglycolic acid permanent wave product No.1 agent.
      ⑤ Reducing agent after reduction (dithioglycolic acid): test in accordance with Test Method ⑤ of thioglycolic acid permanent wave product No.1 agent.
      ⑥ Heavy metal: test in accordance with Test Method ⑥ of thioglycolic acid permanent wave product No.1 agent.
      ⑦ Arsenic: test in accordance with Test Method ⑦ of thioglycolic acid permanent wave product No.1 agent.
⑧ Iron: test in accordance with Test Method ⑧ of thioglycolic acid permanent wave product No. 1 agent.

b. No.2 agent: test in accordance with the standards and test method of thioglycolic acid permanent wave product No. 2 agent.

7. A two-phase heat-assisted permanent hair straightener product using a high temperature heating device, which the principal ingredient is thioglycolic acid or its salt:

a. No.1 agent:
   ① pH: tested according to “47. pH measuring method” of VI-1. general test in Functional cosmetic standards and test methods.
   ② Alkali: test in accordance with Test Method ② of thioglycolic acid permanent wave product No.1 agent.
   ③ Reducing agent after boiling in an acid state (thioglycolic acid): test in accordance with Test Method ③ of thioglycolic acid permanent wave product No.1 agent.
   ④ Reducing agent other than the reducing agent after boiling in an acid state (sulfurous acid, sulfide, etc.): test in accordance with Test Method ④ of thioglycolic acid permanent wave product No.1 agent.
   ⑤ Reducing agent after reduction (dithioglycolic acid): test in accordance with Test Method ⑤ of thioglycolic acid permanent wave product No.1 agent.
   ⑥ Heavy metal: test in accordance with Test Method ⑥ of thioglycolic acid permanent wave product No.1 agent.
   ⑦ Arsenic: test in accordance with Test Method ⑦ of thioglycolic acid permanent wave product No.1 agent.
   ⑧ Iron: test in accordance with Test Method ⑧ of thioglycolic acid permanent wave product No.1 agent.

b. No.2 agent: test in accordance with the standards and test method of thioglycolic acid permanent wave product No. 2 agent.

8. A one-phase cold permanent wave product, which the principal ingredient is thioglycolic acid or its salt:

a. Test Method: in accordance with the test methods of thioglycolic acid permanent wave product No.1 agent.

9. A second-phase exothermic permanent wave product, which the principal ingredient is thioglycolic acid or its salt and is prepared when using the No.1 agent:

a. No. 1-1 agent: in accordance with the test method of thioglycolic acid permanent wave product No.1 agent. Provided, add 50mL and not 25mL of 0.1N iodine solution
to ④.

b. No. 1–2 agent:

① pH: tested according to “47. pH measuring method” of VI-1. general test in Functional cosmetic standards and test methods.

② Heavy metal: test in accordance with Test Method ③ of thioglycolic acid permanent wave product No.2 agent.

③ Hydrogen peroxide: take precisely 1g of sample and put it in a 200mL Erlenmeyer flask, add 10mL of water and 5mL of 30% sulphuric acid, seal with bung, and lightly shake 1~2 times. Carefully put 5mL of potassium iodide solution in this sample solution, seal with bung, and leave it in the dark for 30 minutes. Then titrate with 0.1N sodium thiosulfate (Indicator: starch solution 3mL). Set the quantity as the Aml.

Content of Hydrogen Peroxide (%) = 0.0017007 x 100
Sample (g)

c. Compound of No.1–1 and No.1–2 agent:

This product, when mixed, generates heat so heat should be applied at 40℃. When tested, one dose for one person for a single use of the No.1–1 agent and No.1–2 agent shall be mixed, left at room temperature for 10 minutes, and then cooled to room temperature in running water to bring a sample.

① pH: tested according to “47. pH measuring method” of VI-1. Ingredients. in VI. General test of Functional cosmetic standards and test methods.

② Alkali: test in accordance with Test Method ② of thioglycolic acid permanent wave product No.1 agent.

③ Reducing agent after boiling in an acid state (thioglycolic acid): test in accordance with Test Method ③ of thioglycolic acid permanent wave product No.1 agent.

④ Reducing agent other than the reducing agent after boiling in an acid state (sulfurous acid, sulfide, etc.): test in accordance with Test Method ④ of thioglycolic acid permanent wave product No.1 agent.

⑤ Reducing agent after reduction (dithioglycolic acid): test in accordance with Test Method ⑤ Temperature rise: Put one dose for one person for a single use of the No.1–1 agent and No.1–2 agent each in a thermostat set to 25℃, measure the fluid temperature from time to time, and leave it till it reaches 25℃. Transfer the No.1–1 agent to a 100mL beaker with a thermometer and record the fluid temperature (To).

Then put in the No.1–2 agent, immediately stir, measure the temperature, and record the highest attainable temperature (T₁).

⑥ Temperature Difference (℃) = T₁− To

d. No.2 agent: test in accordance with the standards and test method of thioglycolic acid permanent wave product No.2 agent.
III. General

1. In the case of aerosol products, spray into a separatory funnel and leave for more than 1 hour, while simply opening the stop cock for time to time, and collect the separated solution as the sample.

2. If a sample is dense and therefore cannot be accurately measured in volume, it may be collected in weight at which 1g is regarded as 1mL.

3. Reagent, solution and standard solution
   1) Iron standard solution: exactly weigh 0.7021g of ferrous ammonium sulfate with 50mL of water and add 20mL of sulfuric acid and heat while adding 0.6% potassium permanganate until the pinkish color is maintained. Then cool and add water to a final volume of 1L. From this solution, take 10mL and transfer to a 100mL flask and add water to 100mL. One mL of this solution contains 0.01 mg of iron (Fe).
   2) Other reagents, solutions and standard solutions shall be in accordance with the reagents, solutions and volume analysis standard solutions (VI-3) of the VI. General test methods of the Functional cosmetic standards and test methods.