


Material Safety Data Sheet(MSDS)

This Material Safety Data Sheet(MSDS) has been provided

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

1. Product Name : GT COOL 270A
2. Advisable use and Restriction
 - Advisable use : Water Soluble Cutting Oil
 - Restriction :
 - Do not use product for any other non-recommended purposes
3. Manufacturer information
 - Manufacture information : KOREA HOUGHTON CORPORATION 20-31, Seobunam-ro 151beon-gil, Seonjang-myeon, Asan-si, Chungnam-do, S.KOREA
 - Company : KOREA HOUGHTON CORPORATION
 - Address : 20-31, Seobunam-ro 151beon-gil, Seonjang-myeon, Asan-si, Chungnam-do, S.KOREA
 - Information service or emergency number : +82-2-3284-3362
 - Dept. responsible for information/contact number : KOREA HOUGHTON CORPORATION R&D CENTER Metal Cutting & Forming Oil Team Noh Shin Park

2. HAZARD IDENTIFICATION

1. Hazard classification
 - ACUTE TOXICITY(Inhalation:Dust/mist) Category 4
 - SKIN CORROSION/IRRITATION Category 1
 - SERIOUS EYE DAMAGE/EYE IRRITATION Category 1
 - SKIN SENSITIZATION Category 1
 - LONG-TERM AQUATIC HAZARD Category 4
2. Allocation label elements
 - Symbol
 - 
 - Signal word : DANGER
 - Hazard statements
 - H314 Causes severe skin burns and eye damage.
 - H317 May cause an allergic skin reaction.
 - H318 Causes serious eye damage.
 - H332 Harmful if inhaled.
 - H413 May cause long lasting harmful effects to aquatic life.
 - Precautionary statements

- Prevention
 - P260 Do not breathe dust/fume/gas/mist/vapours/spray.
 - P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
 - P264 Wash thoroughly after handling.
 - P271 Use only outdoors or in a well-ventilated area.
 - P272 Contaminated work clothing should not be allowed out of the workplace.
 - P273 Avoid release to the environment.
 - P280 Wear protective gloves/protective clothing/eye protection/face protection.
- Response
 - P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
 - P302+P352 IF ON SKIN: Wash with plenty of soap and water.
 - P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
 - P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
 - P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses` if present and easy to do. Continue rinsing.
 - P310 Immediately call a POISON CENTER or doctor/physician.
 - P312 Call a POISON CENTER or doctor/physician you feel unwell.
 - P321 Specific treatment (see on this label).
 - P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
 - P363 Wash contaminated clothing before reuse.
- Storage
 - P405 Store locked up.
- Disposal
 - P501 Dispose of contents/container to ...

3. Other hazard information not included in hazard classification (NFPA)

※ No NFPA data of the product. thus NFPA data was described by the product component.

Chemical Name	NFPA Level		
	Health	Flamm	Reactivity
1. DISTILLATES, PETROLEUM, HYDROTREATED LIGHT PARAFFINIC	1	1	0
2. WATER	0	0	0
3. 9-OCTADECENOIC ACID, 12-HYDROXY-, [R-(Z)]-	0	0	0
4. TALL OIL ROSIN	1	1	0
5. 2-AMINO-2-METHYL-1-PROPANOL	2	2	0
6. CASTOR OIL, ETHOXYLATED	0	1	0
7. ALCOHOLS, C16-18, ETHOXYLATED PROPOXYLATED	No Data	No Data	No Data
8. SULFONIC ACIDS, PETROLEUM, SODIUM SALTS	1	1	0
9. CARBOXYLIC ACIDS, DI-, C4-11	1	1	0

10. 1,2-BENZISOTHIAZOLIN-3-ONE	3	0	0
11. Substance1	3	1	0
12. Substance2	3	1	0
13. Substance3	1	1	0
14. Substance4	No Data	No Data	No Data
15. Substance5	No Data	No Data	No Data

3. INGREDIENT INFORMATION

Components	Common name	CAS No.	PCT(W%)
1) DISTILLATES, PETROLEUM, HYDROTREATED LIGHT PARAFFINIC	DISTILLATES, PETROLEUM, HYDROTREATED LIGHT PARAFFINIC	64742-55-8	25.0~35.0
2) WATER	WATER	7732-18-5	15.0~25.0
3) 9-OCTADECENOIC ACID, 12-HYDROXY-, [R-(Z)]-	9-OCTADECENOIC ACID, 12-HYDROXY-, [R-(Z)]-	141-22-0	5.0~10.0
4) TALL OIL ROSIN	TALL OIL ROSIN	8052-10-6	1.0~5.0
5) 2-AMINO-2-METHYL-1-PROPANOL	2-AMINO-2-METHYL-1-PROPANOL	124-68-5	1.0~5.0
6) CASTOR OIL, ETHOXYLATED	CASTOR OIL, ETHOXYLATED	61791-12-6	1.0~5.0
7) ALCOHOLS, C16-18, ETHOXYLATED PROPOXYLATED	ALCOHOLS, C16-18, ETHOXYLATED PROPOXYLATED	68002-96-0	1.0~5.0
8) SULFONIC ACIDS, PETROLEUM, SODIUM SALTS	SULFONIC ACIDS, PETROLEUM, SODIUM SALTS	68608-26-4	1.0~5.0
9) CARBOXYLIC ACIDS, DI-, C4-11	CARBOXYLIC ACIDS, DI-, C4-11	68937-72-4	1.0~5.0
10) 1,2-BENZISOTHIAZOLIN-3-ONE	1,2-BENZISOTHIAZOLIN-3-ONE	2634-33-5	0.1~0.5
11) Substance1	-	-	1.0~5.0
12) Substance2	-	-	1.0~5.0
13) Substance3	-	-	1.0~5.0
14) Substance4	-	-	1.0~5.0
15) Substance5	-	-	1.0~5.0

4. FIRST AID MEASURES

1. Following eye contact

- Get medical aid immediately.
- IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses` if present and easy to do. Continue rinsing.
- In case of contact with material, immediately flush eyes with running water for at least 15 minutes.

- In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes.
- Seek immediate medical assistance.

2. Following skin contact

- Call a POISON CENTER or doctor/physician you feel unwell.
- For hot product, immediately immerse in or flush the affected area with large amounts of cold water to dissipate heat.
- For minor skin contact, avoid spreading material on unaffected skin.
- Get medical aid immediately.
- IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
- IF ON SKIN: Wash with plenty of soap and water.
- If skin irritation or rash occurs: Get medical advice/attention.
- In case of contact with material, immediately flush skin with running water for at least 15 minutes.
- In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes.
- Launder contaminated clothing and shoes before re-use.
- Remove and isolate contaminated clothing and shoes.
- Seek immediate medical assistance.
- Wash contaminated clothing before reuse.

3. Following inhalation

- Administer oxygen if breathing is difficult.
- Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.
- Give artificial respiration if victim is not breathing.
- If exposed to excessive levels of dusts or fumes, remove to fresh air and get medical attention if cough or other symptoms develop.
- IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
- Immediately call a POISON CENTER or doctor/physician.
- Keep victim warm and quiet.
- Move to fresh air.
- Seek immediate medical assistance.

4. Following ingestion

- Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.
- Get medical aid immediately.
- IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
- If unconscious but breathing, never give anything by mouth.
- Seek immediate medical assistance.

5. Advice to physician

- Do not apply drugs of the adrenaline ephedrine group.
- Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

5. FIRE FIGHTING MEASURES

1. Suitable (and unsuitable) extinguishing media

- Suitable extinguishing media
 - Regular foam., Use alcohol foam, carbon dioxide, or water spray when fighting fires involving this material., Use dry sand or earth to smother fire., Water spray., CO₂., Dry chemical.
- Unsuitable extinguishing media
 - High-pressure water., Direct water.
- Large fire
 - Alcohol-resistant foam., CO₂., Water spray/fog., Dry chemical., Excess water., Foam.

2. Special hazards arising from the substance

- Pyrolytic product
 - During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion.
 - Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes.
- Risk of fire and explosion
 - Containers may explode when heated.
 - Fire may produce irritating and/or toxic gases.
 - May ignite from heat, friction or contamination.
 - Some may burn but none ignite readily.

3. Special protective equipment for firefighters

- Contact may cause burns to skin and eyes.
- Dike fire-control water for later disposal; do not scatter the material.
- Evacuate area and fight fire from a safe distance.
- Fire involving Tanks: ALWAYS stay away from tanks engulfed in fire.
- Fire involving Tanks: Cool containers with flooding quantities of water until well after fire is out.
- Fire involving Tanks: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles.
- Fire involving Tanks: For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn.
- Fire involving Tanks: Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank.
- Move containers from fire area if you can do it without risk.
- Rescuers should put on appropriate protective gear.
- Runoff may cause pollution.

- Substance may be transported hot.
- Substance may be transported in a molten form.

6. ACCIDENTAL RELEASE MEASURES

1. Health considerations and protective equipment

- Avoid breathing dust/fume/gas/mist/vapours/spray.
- Clean up spills immediately, observing precautions in Protective Equipment section.
- Cover with plastic sheet to prevent spreading.
- Do not breathe dust/fume/gas/mist/vapours/spray.
- Do not enter areas which have more than 23.5% oxygen in the atmosphere, without respirator or air supplied mask.
- Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.
- Do not touch or walk through spilled material.
- ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area).
- Please note that materials and conditions to be avoided.
- Prevent dust cloud.
- Stop leak if you can do it without risk.
- Ventilate the contaminated area.

2. Environmental precautions

- Avoid release to the environment.
- Keep out of waterways.
- Prevent entry into waterways, sewers, basements or confined areas.

3. For cleaning up

- Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers.
- Absorb spill with inert material (e.g., dry sand or earth), then place in a chemical waste container.
- Absorb the liquid and scrub the area with detergent and water.
- Cover powder spill with plastic sheet or tarp to minimize spreading and keep powder dry.
- Large Spill: Dike far ahead of liquid spill for later disposal.
- Reduce airborne dust and prevent scattering by moistening with water.
- Small Spill: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal.
- Small Spill: Flush area with flooding quantities of water.
- With clean shovel place material into clean, dry container and cover loosely; move containers from spill area.

7. HANDLING AND STORAGE

1. Precautions for safe handling

- Avoid any skin and eye contact when insert undiluted solution. Wash ... thoroughly after handling.

- Caution: Dangerous fire hazard when exposed to heat, or flame, sparks.
 - Use adequate machine for prevention when package handling.
 - Wear an appropriate Personal protection. (See Exposure Controls/Personal Protection section.)
2. Conditions for safe storage (including any incompatibilities.
- Choose a place that can be protected from strong oxidizers and acid.
 - Drum Handling: Must work at safe place., Loading more than 3 stack is prohibited.
 - Store containers: AVOID the place where can be damage and contamination.
 - Store in a cool/low-temperature, well-ventilated {dry} place {away from heat and ignition sources}

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

1. Exposure exposure limits, Biological exposure standard :
- ※ No exposure limits and biological exposure data of the product. thus data was described
- 1) **DISTILLATES, PETROLEUM, HYDROTREATED LIGHT PARAFFINIC**
 - Other regulation (Domestic) : Not established
 - ACGIH : Not established
 - Biological standard : Not established
 - 2) **WATER**
 - Other regulation (Domestic) : Not established
 - ACGIH : Not established
 - Biological standard : Not established
 - 3) **9-OCTADECENOIC ACID, 12-HYDROXY-, [R-(Z)]-**
 - Other regulation (Domestic) : Not established
 - ACGIH : Not established
 - Biological standard : Not established
 - 4) **TALL OIL ROSIN**
 - Other regulation (Domestic) : Not established
 - ACGIH : Not established
 - Biological standard : Not established
 - 5) **2-AMINO-2-METHYL-1-PROPANOL**
 - Other regulation (Domestic) : Not established
 - ACGIH : Not established
 - Biological standard : Not established
 - 6) **CASTOR OIL, ETHOXYLATED**
 - Other regulation (Domestic) : Not established
 - ACGIH : Not established
 - Biological standard : Not established
 - 7) **ALCOHOLS, C16-18, ETHOXYLATED PROPOXYLATED**
 - Other regulation (Domestic) : Not established
 - ACGIH : Not established
 - Biological standard : Not established

8) SULFONIC ACIDS, PETROLEUM, SODIUM SALTS

- Other regulation (Domestic) : Not established
- ACGIH : Not established
- Biological standard : Not established

9) CARBOXYLIC ACIDS, DI-, C4-11

- Other regulation (Domestic) : Not established
- ACGIH : Not established
- Biological standard : Not established

10) 1,2-BENZISOTHIAZOLIN-3-ONE

- Other regulation (Domestic) : Not established
- ACGIH : Not established
- Biological standard : Not established

11) Substance1

- Other regulation (Domestic) : Not established
- ACGIH : Not established
- Biological standard : Not established

12) Substance2

- Other regulation (Domestic) : Not established
- ACGIH : Not established
- Biological standard : Not established

13) Substance3

- Other regulation (Domestic) : Not established
- ACGIH : Not established
- Biological standard : Not established

14) Substance4

- Other regulation (Domestic) : Not established
- ACGIH : Not established
- Biological standard : Not established

15) Substance5

- Other regulation (Domestic) : Not established
- ACGIH : Not established
- Biological standard : Not established

2. Appropriate engineering controls

- Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.
- If user operations generate dust, fume, or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.
- Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.
- Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.

3. Personal protection

○ Respiratory protection

- If high frequency of use or exposure, wear air respirator.
- Wear breathing protection, which needs a confirmation from the Korea Occupational Safety and Health Agency.

○ Eye protection

- Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.
- Wear face shield to protect eyes from scattering dust or hazardous liquid.
- Wear Non-moisture permeable goggle for dust protection.

○ Hand protection

- Wear Non-moisture permeable chemical resistance protective gloves(latex, nitrile rubber, PVC) for prevent skin contact.

○ Body protection

- When contact is likely wear chemical resistant, oil and grease resistant, non-moisture permeable shoes and clothes.

9. PHYSICAL AND CHEMICAL PROPERTIES

1. Appearance : Amber
2. Odour : Mild Amine
3. Odour threshold : No data available
4. pH Values : 9.4 ± 0.3 (3.3% Sol.)
5. Melting point/freezing point : No data available
6. Initial boiling point and boiling range : No data available
7. Flash point : 156°C
8. Evaporation rate : No data available
9. Flammability(solid, gas) : Not applicable
10. Upper/lower flammability or explosive limits : No data available
11. Solubility : No data available
12. Vapour pressure : No data available
13. Relative density : 0.97 ± 0.02 (15/4°C)
14. n-octanol/water partition coefficient : No data available
15. Auto ignition temperature : No data available
16. Decomposition temperature : No data available
17. Vapor Densities : No data available
18. Viscosity : No data available
19. Molecular weight(mass) : No data available

10. STABILITY AND REACTIVITY

1. Stability and hazardous reactivity

- Containers may explode when heated.

- Fire may produce irritating and/or toxic gases.
- Fire may produce irritating, corrosive and/or toxic gases.
- May cause toxic effects if inhaled.
- Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes.
- Some liquids produce vapors that may cause dizziness or suffocation.
- Some may burn but none ignite readily.
- Stable under normal temperatures and pressures.

2. Conditions to avoid

- Heat.
- Ignition source(heat, spark, flame, etc.).

3. Incompatible materials

- Combustibles, reducing material.
- Combustibles.
- Irritating and/or toxic gas.

4. Hazardous decomposition products

- Corrosive/toxic fume.
- During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion.
- Irritating and/or toxic gas.
- Irritating, corrosive and/or toxic gas.

11. TOXICOLOGICAL INFORMATION

1. Exposure route information

- Following eye contact : Irritating
- Following ingestion : Aspiration hazard, Diarrhea, Headache, Internal hemorrhage, Sicchasia, Spasm, Stomachache, Vomiting
- Following inhalation : Dyspnoea, Headache, Irritating, Pulmonary abnormality, Sicchasia, Voice loss, Vomiting
- Following skin contact : Allergic reaction, Dermatological disorders, Headache, Irritating, May occur absorption, Sicchasia, Vomiting

2. Health hazard information

※ No data of the product. thus data was described by the product component.

1) DISTILLATES, PETROLEUM, HYDROTREATED LIGHT PARAFFINIC

- ACUTE TOXICITY
 - Oral : Not classified / LD50 > 5000 mg/kg Rat
 - Dermal : Not classified / LD50 > 2000 mg/kg Rabbit
 - Inhalation-Gases : No data available
 - Inhalation-Vapours : No data available
 - Inhalation-Dust/mist : Category 4 / LC50 2.18 mg/L Rat
- SKIN CORROSION/IRRITATION : Category 2 / Irritating Rabbit
- SERIOUS EYE DAMAGE/EYE IRRITATION : Category 2 / Not irritating Rabbit

- RESPIRATORY SENSITIZATION : No data available
- SKIN SENSITIZATION : Not classified / Not sensitising Guinea pig
- CARCINOGENICITY : Not classified
 - Notice of Employment and Labor : Not applicable
 - IARC : Not applicable
 - OSHA : Not applicable
 - ACGIH : Not applicable
 - NTP : Not applicable
 - EU CLP : Not applicable (Excluded if under 3% of DMSO extract, measured by IP346 method)
- GERM CELL MUTAGENICITY : Not classified / Negative Mouse
- REPRODUCTIVE TOXICITY : Not classified / Reproductive performance was not adversely affected at any dose level evaluated. Rat
- SPECIFIC TARGET ORGAN TOXICITY SINGLE EXPOSURE : No data available
- SPECIFIC TARGET ORGAN TOXICITY REPEATED EXPOSURE : Not classified / No systemic effects were observed. Rat
- ASPIRATION HAZARD : No data available

2) WATER

- ACUTE TOXICITY
 - Oral : Not classified / LD50 > 90 mL/kg
 - Dermal : No data available
 - Inhalation–Gases : No data available
 - Inhalation–Vapours : No data available
 - Inhalation–Dust/mist : No data available
- SKIN CORROSION/IRRITATION : No data available
- SERIOUS EYE DAMAGE/EYE IRRITATION : No data available
- RESPIRATORY SENSITIZATION : No data available
- SKIN SENSITIZATION : No data available
- CARCINOGENICITY : Not classified
 - Notice of Employment and Labor : Not applicable
 - IARC : Not applicable
 - OSHA : Not applicable
 - ACGIH : Not applicable
 - NTP : Not applicable
 - EU CLP : Not applicable
- GERM CELL MUTAGENICITY : Not classified / Negative Salmonella typhimurium
- REPRODUCTIVE TOXICITY : No data available
- SPECIFIC TARGET ORGAN TOXICITY SINGLE EXPOSURE : No data available
- SPECIFIC TARGET ORGAN TOXICITY REPEATED EXPOSURE : No data available
- ASPIRATION HAZARD : No data available

3) 9-OCTADECENOIC ACID, 12-HYDROXY-, [R-(Z)]-

- ACUTE TOXICITY
 - Oral : No data available
 - Dermal : No data available
 - Inhalation-Gases : No data available
 - Inhalation-Vapours : No data available
 - Inhalation-Dust/mist : No data available
- SKIN CORROSION/IRRITATION : No data available
- SERIOUS EYE DAMAGE/EYE IRRITATION : Not classified / Slightly irritating Guinea pig
- RESPIRATORY SENSITIZATION : No data available
- SKIN SENSITIZATION : No data available
- CARCINOGENICITY : Not classified
 - Notice of Employment and Labor : Not applicable
 - IARC : Not applicable
 - OSHA : Not applicable
 - ACGIH : Not applicable
 - NTP : Not applicable
 - EU CLP : Not applicable
- GERM CELL MUTAGENICITY : No data available
- REPRODUCTIVE TOXICITY : No data available
- SPECIFIC TARGET ORGAN TOXICITY SINGLE EXPOSURE : No data available
- SPECIFIC TARGET ORGAN TOXICITY REPEATED EXPOSURE : No data available
- ASPIRATION HAZARD : No data available

4) TALL OIL ROSIN

- ACUTE TOXICITY
 - Oral : Not classified / LD50 7600 mg/kg Rat
 - Dermal : No data available
 - Inhalation-Gases : No data available
 - Inhalation-Vapours : No data available
 - Inhalation-Dust/mist : No data available
- SKIN CORROSION/IRRITATION : Category 2 / Irritating
- SERIOUS EYE DAMAGE/EYE IRRITATION : Category 2 / Not irritating
- RESPIRATORY SENSITIZATION : No data available
- SKIN SENSITIZATION : Category 1 / Sensitising Guinea pig
- CARCINOGENICITY : Not classified
 - Notice of Employment and Labor : Not applicable
 - IARC : Not applicable
 - OSHA : Not applicable

- ACGIH : Not applicable
- NTP : Not applicable
- EU CLP : Not applicable
- GERM CELL MUTAGENICITY : No data available
- REPRODUCTIVE TOXICITY : No data available
- SPECIFIC TARGET ORGAN TOXICITY SINGLE EXPOSURE : No data available
- SPECIFIC TARGET ORGAN TOXICITY REPEATED EXPOSURE : No data available
- ASPIRATION HAZARD : No data available

5) 2-AMINO-2-METHYL-1-PROPANOL

- ACUTE TOXICITY
 - Oral : Not classified / LD50 2900 mg/kg Rat
 - Dermal : Not classified / LD50 > 2000 mg/kg Rabbit
 - Inhalation-Gases : No data available
 - Inhalation-Vapours : No data available
 - Inhalation-Dust/mist : No data available
- SKIN CORROSION/IRRITATION : Category 2 / Highly irritating Rabbit
- SERIOUS EYE DAMAGE/EYE IRRITATION : Category 1 / Severe irritating Rabbit
- RESPIRATORY SENSITIZATION : No data available
- SKIN SENSITIZATION : Not classified / Not sensitising Guinea pig
- CARCINOGENICITY : Not classified
 - Notice of Employment and Labor : Not applicable
 - IARC : Not applicable
 - OSHA : Not applicable
 - ACGIH : Not applicable
 - NTP : Not applicable
 - EU CLP : Not applicable
- GERM CELL MUTAGENICITY : Not classified / Negative Mouse
- REPRODUCTIVE TOXICITY : Not classified / There were no treatment related effects on reproductive performance at the 100 mg/kg in rats. Rat
- SPECIFIC TARGET ORGAN TOXICITY SINGLE EXPOSURE : No data available
- SPECIFIC TARGET ORGAN TOXICITY REPEATED EXPOSURE : No data available
- ASPIRATION HAZARD : No data available

6) CASTOR OIL, ETHOXYLATED

- ACUTE TOXICITY
 - Oral : No data available
 - Dermal : No data available
 - Inhalation-Gases : No data available
 - Inhalation-Vapours : No data available
 - Inhalation-Dust/mist : No data available

- SKIN CORROSION/IRRITATION : No data available
- SERIOUS EYE DAMAGE/EYE IRRITATION : No data available
- RESPIRATORY SENSITIZATION : No data available
- SKIN SENSITIZATION : No data available
- CARCINOGENICITY : Not classified
 - Notice of Employment and Labor : Not applicable
 - IARC : Not applicable
 - OSHA : Not applicable
 - ACGIH : Not applicable
 - NTP : Not applicable
 - EU CLP : Not applicable
- GERM CELL MUTAGENICITY : No data available
- REPRODUCTIVE TOXICITY : No data available
- SPECIFIC TARGET ORGAN TOXICITY SINGLE EXPOSURE : Category 3 (Respiratory tract irritation) / May cause respiratory irritation if inhaled
- SPECIFIC TARGET ORGAN TOXICITY REPEATED EXPOSURE : No data available
- ASPIRATION HAZARD : No data available

7) ALCOHOLS, C16–18, ETHOXYLATED PROPOXYLATED

- ACUTE TOXICITY
 - Oral : No data available
 - Dermal : No data available
 - Inhalation–Gases : No data available
 - Inhalation–Vapours : No data available
 - Inhalation–Dust/mist : No data available
- SKIN CORROSION/IRRITATION : No data available
- SERIOUS EYE DAMAGE/EYE IRRITATION : No data available
- RESPIRATORY SENSITIZATION : No data available
- SKIN SENSITIZATION : No data available
- CARCINOGENICITY : Not classified
 - Notice of Employment and Labor : Not applicable
 - IARC : Not applicable
 - OSHA : Not applicable
 - ACGIH : Not applicable
 - NTP : Not applicable
 - EU CLP : Not applicable
- GERM CELL MUTAGENICITY : No data available
- REPRODUCTIVE TOXICITY : No data available
- SPECIFIC TARGET ORGAN TOXICITY SINGLE EXPOSURE : No data available
- SPECIFIC TARGET ORGAN TOXICITY REPEATED EXPOSURE : No data available
- ASPIRATION HAZARD : No data available

8) SULFONIC ACIDS, PETROLEUM, SODIUM SALTS

- ACUTE TOXICITY
 - Oral : Not classified / LD50 > 5000 mg/kg Rat
 - Dermal : Not classified / LD50 > 5000 mg/kg Rabbit
 - Inhalation-Gases : No data available
 - Inhalation-Vapours : No data available
 - Inhalation-Dust/mist : Not classified / LC50 > 1.9 mg/L Rat
- SKIN CORROSION/IRRITATION : Not classified / Not irritating Rabbit
- SERIOUS EYE DAMAGE/EYE IRRITATION : Not classified / Not irritating Rabbit
- RESPIRATORY SENSITIZATION : No data available
- SKIN SENSITIZATION : Not classified / Not sensitizing Human
- CARCINOGENICITY : Not classified
 - Notice of Employment and Labor : Not applicable
 - IARC : Not applicable
 - OSHA : Not applicable
 - ACGIH : Not applicable
 - NTP : Not applicable
 - EU CLP : Not applicable
- GERM CELL MUTAGENICITY : Not classified / Negative Mouse
- REPRODUCTIVE TOXICITY : Not classified / No effects on the reproductive and developmental toxicity. Rat
- SPECIFIC TARGET ORGAN TOXICITY SINGLE EXPOSURE : Not classified / The substance is a serious irritation of the eyes, skin, and respiratory system.
- SPECIFIC TARGET ORGAN TOXICITY REPEATED EXPOSURE : Not classified / NOAEL 500 mg/kg Rat
- ASPIRATION HAZARD : No data available

9) CARBOXYLIC ACIDS, DI-, C4-11

- ACUTE TOXICITY
 - Oral : No data available
 - Dermal : No data available
 - Inhalation-Gases : No data available
 - Inhalation-Vapours : No data available
 - Inhalation-Dust/mist : No data available
- SKIN CORROSION/IRRITATION : No data available
- SERIOUS EYE DAMAGE/EYE IRRITATION : No data available
- RESPIRATORY SENSITIZATION : No data available
- SKIN SENSITIZATION : No data available
- CARCINOGENICITY : Not classified
 - Notice of Employment and Labor : Not applicable
 - IARC : Not applicable

- OSHA : Not applicable
- ACGIH : Not applicable
- NTP : Not applicable
- EU CLP : Not applicable
- GERM CELL MUTAGENICITY : No data available
- REPRODUCTIVE TOXICITY : No data available
- SPECIFIC TARGET ORGAN TOXICITY SINGLE EXPOSURE : No data available
- SPECIFIC TARGET ORGAN TOXICITY REPEATED EXPOSURE : No data available
- ASPIRATION HAZARD : No data available

10) 1,2-BENZISOTHIAZOLIN-3-ONE

- ACUTE TOXICITY
 - Oral : Category 4 / LD50 1020 mg/kg Rat
 - Dermal : No data available
 - Inhalation-Gases : No data available
 - Inhalation-Vapours : No data available
 - Inhalation-Dust/mist : No data available
- SKIN CORROSION/IRRITATION : No data available
- SERIOUS EYE DAMAGE/EYE IRRITATION : No data available
- RESPIRATORY SENSITIZATION : No data available
- SKIN SENSITIZATION : No data available
- CARCINOGENICITY : Not classified
 - Notice of Employment and Labor : Not applicable
 - IARC : Not applicable
 - OSHA : Not applicable
 - ACGIH : Not applicable
 - NTP : Not applicable
 - EU CLP : Not applicable
- GERM CELL MUTAGENICITY : No data available
- REPRODUCTIVE TOXICITY : No data available
- SPECIFIC TARGET ORGAN TOXICITY SINGLE EXPOSURE : No data available
- SPECIFIC TARGET ORGAN TOXICITY REPEATED EXPOSURE : No data available
- ASPIRATION HAZARD : No data available

11) Substance1

- ACUTE TOXICITY
 - Oral : Category 4 / LD50 373 mg/kg Rat
 - Dermal : No data available
 - Inhalation-Gases : No data available
 - Inhalation-Vapours : No data available

- Inhalation–Dust/mist : No data available
- SKIN CORROSION/IRRITATION : Category 1 / Severe irritating Rabbit
- SERIOUS EYE DAMAGE/EYE IRRITATION : Category 1 / Severe irritating Rabbit
- RESPIRATORY SENSITIZATION : No data available
- SKIN SENSITIZATION : No data available
- CARCINOGENICITY : Not classified
 - Notice of Employment and Labor : Not applicable
 - IARC : Not applicable
 - OSHA : Not applicable
 - ACGIH : Not applicable
 - NTP : Not applicable
 - EU CLP : Not applicable
- GERM CELL MUTAGENICITY : No data available
- REPRODUCTIVE TOXICITY : No data available
- SPECIFIC TARGET ORGAN TOXICITY SINGLE EXPOSURE : No data available
- SPECIFIC TARGET ORGAN TOXICITY REPEATED EXPOSURE : No data available
- ASPIRATION HAZARD : No data available

12) Substance2

- ACUTE TOXICITY
 - Oral : Category 4 / LD50 2000 mg/kg Rat
 - Dermal : No data available
 - Inhalation–Gases : No data available
 - Inhalation–Vapours : No data available
 - Inhalation–Dust/mist : No data available
- SKIN CORROSION/IRRITATION : Not classified / Not irritating Rabbit
- SERIOUS EYE DAMAGE/EYE IRRITATION : Category 2 / Moderate to severe irritating Rabbit
- RESPIRATORY SENSITIZATION : No data available
- SKIN SENSITIZATION : Not classified / Not irritating Guinea pig
- CARCINOGENICITY : Not classified
 - Notice of Employment and Labor : Not applicable
 - IARC : Not applicable
 - OSHA : Not applicable
 - ACGIH : Not applicable
 - NTP : Not applicable
 - EU CLP : Not applicable
- GERM CELL MUTAGENICITY : No data available
- REPRODUCTIVE TOXICITY : No data available
- SPECIFIC TARGET ORGAN TOXICITY SINGLE EXPOSURE : Category 3(Respiratory tract irritation) / Irritating to eye, skin, respiratory. Effect to CNS, peripheral nervous system by damaged fuction

- SPECIFIC TARGET ORGAN TOXICITY REPEATED EXPOSURE : Not classified / The liquid defats the skin. The substance may have effects on the central nervous system. This may result in impaired functions.
- ASPIRATION HAZARD : No data available

13) Substance3

- ACUTE TOXICITY
 - Oral : Not classified / LD50 = 4680 mg/kg Rat
 - Dermal : Not classified / LD50 = 5990 mg/kg Rabbit
 - Inhalation-Gases : No data available
 - Inhalation-Vapours : Not classified / Exposure to substantially saturated vapour for 6 hours resulted in 0/5 deaths. Rat
 - Inhalation-Dust/mist : No data available
- SKIN CORROSION/IRRITATION : Not classified / Not irritating Rabbit
- SERIOUS EYE DAMAGE/EYE IRRITATION : Category 2 / Irritating Rabbit
- RESPIRATORY SENSITIZATION : No data available
- SKIN SENSITIZATION : Not classified / Not sensitising Guinea pig
- CARCINOGENICITY : Not classified
 - Notice of Employment and Labor : Not applicable
 - IARC : Not applicable
 - OSHA : Not applicable
 - ACGIH : Not applicable
 - NTP : Not applicable
 - EU CLP : Not applicable
- GERM CELL MUTAGENICITY : Not classified / Negative
- REPRODUCTIVE TOXICITY : Not classified / No test substance-related adverse findings at 100 and 300 mg/kg/day Rat
- SPECIFIC TARGET ORGAN TOXICITY SINGLE EXPOSURE : No data available
- SPECIFIC TARGET ORGAN TOXICITY REPEATED EXPOSURE : Not classified / Cutaneous treatment of rats produced severe irritation at the site of treatment but no systemic effects. Rat
- ASPIRATION HAZARD : No data available

14) Substance4

- ACUTE TOXICITY
 - Oral : No data available
 - Dermal : No data available
 - Inhalation-Gases : No data available
 - Inhalation-Vapours : No data available
 - Inhalation-Dust/mist : No data available
- SKIN CORROSION/IRRITATION : No data available
- SERIOUS EYE DAMAGE/EYE IRRITATION : No data available
- RESPIRATORY SENSITIZATION : No data available
- SKIN SENSITIZATION : No data available

- CARCINOGENICITY : Not classified
 - Notice of Employment and Labor : Not applicable
 - IARC : Not applicable
 - OSHA : Not applicable
 - ACGIH : Not applicable
 - NTP : Not applicable
 - EU CLP : Not applicable
- GERM CELL MUTAGENICITY : No data available
- REPRODUCTIVE TOXICITY : No data available
- SPECIFIC TARGET ORGAN TOXICITY SINGLE EXPOSURE : No data available
- SPECIFIC TARGET ORGAN TOXICITY REPEATED EXPOSURE : No data available
- ASPIRATION HAZARD : No data available

15) Substance5

- ACUTE TOXICITY
 - Oral : No data available
 - Dermal : No data available
 - Inhalation-Gases : No data available
 - Inhalation-Vapours : No data available
 - Inhalation-Dust/mist : No data available
- SKIN CORROSION/IRRITATION : No data available
- SERIOUS EYE DAMAGE/EYE IRRITATION : No data available
- RESPIRATORY SENSITIZATION : No data available
- SKIN SENSITIZATION : No data available
- CARCINOGENICITY : Not classified
 - Notice of Employment and Labor : Not applicable
 - IARC : Not applicable
 - OSHA : Not applicable
 - ACGIH : Not applicable
 - NTP : Not applicable
 - EU CLP : Not applicable
- GERM CELL MUTAGENICITY : No data available
- REPRODUCTIVE TOXICITY : No data available
- SPECIFIC TARGET ORGAN TOXICITY SINGLE EXPOSURE : No data available
- SPECIFIC TARGET ORGAN TOXICITY REPEATED EXPOSURE : No data available
- ASPIRATION HAZARD : No data available

12. ECOLOGICAL INFORMATION

1. Aquatic toxicity

1) DISTILLATES, PETROLEUM, HYDROTREATED LIGHT PARAFFINIC

- Fish : LC50 > 5000 mg/L Fish

- Crustacea : EC50 > 1000 mg/L Aquatic invertebrates
 - Aquatic algae : NOEC >= 100 mg/L Aquatic algae
- 2) **WATER**
- Fish : No data available
 - Crustacea : No data available
 - Aquatic algae : No data available
- 3) **9-OCTADECENOIC ACID, 12-HYDROXY-, [R-(Z)]-**
- Fish : LC50 0.09 mg/L Fish
 - Crustacea : No data available
 - Aquatic algae : No data available
- 4) **TALL OIL ROSIN**
- Fish : LC50 100 mg/L Fish
 - Crustacea : EC50 327 mg/L Aquatic invertebrates
 - Aquatic algae : EC50 200 mg/L Aquatic algae
- 5) **2-AMINO-2-METHYL-1-PROPANOL**
- Fish : LC50 190 mg/L Fish
 - Crustacea : LC50 179 mg/L Aquatic invertebrates
 - Aquatic algae : EC50 402 mg/L Aquatic algae
- 6) **CASTOR OIL, ETHOXYLATED**
- Fish : LC50 116 mg/L Fish
 - Crustacea : LC50 116 mg/L Aquatic invertebrates
 - Aquatic algae : NOEC 0.07 mg/L Aquatic algae
- 7) **ALCOHOLS, C16-18, ETHOXYLATED PROPOXYLATED**
- Fish : No data available
 - Crustacea : No data available
 - Aquatic algae : No data available
- 8) **SULFONIC ACIDS, PETROLEUM, SODIUM SALTS**
- Fish : LC50 > 10000 mg/L Fish
 - Crustacea : EC50 > 1000 mg/L Aquatic invertebrates
 - Aquatic algae : EC50 > 1000 mg/L Aquatic algae
- 9) **CARBOXYLIC ACIDS, DI-, C4-11**
- Fish : No data available
 - Crustacea : No data available
 - Aquatic algae : No data available
- 10) **1,2-BENZISOTHIAZOLIN-3-ONE**
- Fish : LC50 10 mg/L Fish
 - Crustacea : EC50 0.062 mg/L Aquatic invertebrates
 - Aquatic algae : No data available
- 11) **Substance1**
- Fish : LC50 62 mg/L Fish

- Crustacea : EC50 8 mg/L Aquatic invertebrates
- Aquatic algae : EC50 > 1 mg/L Aquatic algae

12) Substance2

- Fish : LC50 344 mg/L Fish
- Crustacea : EC50 > 500 mg/L Aquatic invertebrates
- Aquatic algae : EC50 500 mg/L Aquatic algae

13) Substance3

- Fish : LC50 1466 mg/L Fish
- Crustacea : EC50 233 mg/L Aquatic invertebrates
- Aquatic algae : EC50 > 100 mg/L Aquatic algae

14) Substance4

- Fish : No data available
- Crustacea : No data available
- Aquatic algae : No data available

15) Substance5

- Fish : No data available
- Crustacea : No data available
- Aquatic algae : No data available

2. Persistence and degradation

1) DISTILLATES, PETROLEUM, HYDROTREATED LIGHT PARAFFINIC

- Degradation : No data available
- n-octanol water partition coefficient : log Kow 6

2) WATER

- Degradation : No data available
- n-octanol water partition coefficient : No data available

3) 9-OCTADECENOIC ACID, 12-HYDROXY-, [R-(Z)]-

- Degradation : No data available
- n-octanol water partition coefficient : log Kow 6.19

4) TALL OIL ROSIN

- Degradation : No data available
- n-octanol water partition coefficient : log Kow 6.46

5) 2-AMINO-2-METHYL-1-PROPANOL

- Degradation : BOD5/COD 0.005
- n-octanol water partition coefficient : log Kow -0.63

6) CASTOR OIL, ETHOXYLATED

- Degradation : No data available
- n-octanol water partition coefficient : No data available

7) **ALCOHOLS, C16–18, ETHOXYLATED PROPOXYLATED**

- Degradation : No data available
- n-octanol water partition coefficient : No data available

8) **SULFONIC ACIDS, PETROLEUM, SODIUM SALTS**

- Degradation : BOD5/COD 97
- n-octanol water partition coefficient : log Kow 41.63

9) **CARBOXYLIC ACIDS, DI-, C4–11**

- Degradation : No data available
- n-octanol water partition coefficient : log Kow 1.21

10) **1,2-BENZISOTHIAZOLIN-3-ONE**

- Degradation : No data available
- n-octanol water partition coefficient : log Kow 1.45

11) **Substance1**

- Degradation : No data available
- n-octanol water partition coefficient : No data available

12) **Substance2**

- Degradation : No data available
- n-octanol water partition coefficient : log Kow 1.16

13) **Substance3**

- Degradation : No data available
- n-octanol water partition coefficient : No data available

14) **Substance4**

- Degradation : No data available
- n-octanol water partition coefficient : No data available

15) **Substance5**

- Degradation : No data available
- n-octanol water partition coefficient : No data available

3. Bioaccumulative potential

1) **DISTILLATES, PETROLEUM, HYDROTREATED LIGHT PARAFFINIC**

- Bioaccumulation : No data available
- Biodegradation : BOD 6 %

2) **WATER**

- Bioaccumulation : No
- Biodegradation : No data available

- 3) **9-OCTADECENOIC ACID, 12-HYDROXY-, [R-(Z)]-**
- Bioaccumulation : No data available
 - Biodegradation : No data available
- 4) **TALL OIL ROSIN**
- Bioaccumulation : No data available
 - Biodegradation : BOD 28 %
- 5) **2-AMINO-2-METHYL-1-PROPANOL**
- Bioaccumulation : BCF 320 Aquatic algae
 - Biodegradation : BOD 30 %
- 6) **CASTOR OIL, ETHOXYLATED**
- Bioaccumulation : No data available
 - Biodegradation : No data available
- 7) **ALCOHOLS, C16-18, ETHOXYLATED PROPOXYLATED**
- Bioaccumulation : No data available
 - Biodegradation : No data available
- 8) **SULFONIC ACIDS, PETROLEUM, SODIUM SALTS**
- Bioaccumulation : No data available
 - Biodegradation : No data available
- 9) **CARBOXYLIC ACIDS, DI-, C4-11**
- Bioaccumulation : No data available
 - Biodegradation : No data available
- 10) **1,2-BENZISOTHIAZOLIN-3-ONE**
- Bioaccumulation : No data available
 - Biodegradation : BOD 0 %
- 11) **Substance1**
- Bioaccumulation : No data available
 - Biodegradation : BOD > 90 %
- 12) **Substance2**
- Bioaccumulation : No data available
 - Biodegradation : BOD 75 %
- 13) **Substance3**
- Bioaccumulation : No data available
 - Biodegradation : No data available

14) Substance4

- Bioaccumulation : No data available
- Biodegradation : No data available

15) Substance5

- Bioaccumulation : No data available
- Biodegradation : No data available

4. Mobility in soil

1) DISTILLATES, PETROLEUM, HYDROTREATED LIGHT PARAFFINIC

- No data available

2) WATER

- No data available

3) 9-OCTADECENOIC ACID, 12-HYDROXY-, [R-(Z)]-

- No data available

4) TALL OIL ROSIN

- No data available

5) 2-AMINO-2-METHYL-1-PROPANOL

- No data available

6) CASTOR OIL, ETHOXYLATED

- No data available

7) ALCOHOLS, C16-18, ETHOXYLATED PROPOXYLATED

- No data available

8) SULFONIC ACIDS, PETROLEUM, SODIUM SALTS

- Koc 10000000000

9) CARBOXYLIC ACIDS, DI-, C4-11

- No data available

10) 1,2-BENZISOTHIAZOLIN-3-ONE

- No data available

11) Substance1

- No data available

12) Substance2

- No data available

13) Substance3

- No data available

14) Substance4

- No data available

15) Substance5

- No data available

5. Other adverse effects

1) DISTILLATES, PETROLEUM, HYDROTREATED LIGHT PARAFFINIC

- No data available

2) WATER

- No data available

- 3) 9-OCTADECENOIC ACID, 12-HYDROXY-, [R-(Z)]-
 - No data available
- 4) TALL OIL ROSIN
 - No data available
- 5) 2-AMINO-2-METHYL-1-PROPANOL
 - No data available
- 6) CASTOR OIL, ETHOXYLATED
 - No data available
- 7) ALCOHOLS, C16-18, ETHOXYLATED PROPOXYLATED
 - No data available
- 8) SULFONIC ACIDS, PETROLEUM, SODIUM SALTS
 - No data available
- 9) CARBOXYLIC ACIDS, DI-, C4-11
 - No data available
- 10) 1,2-BENZISOTHIAZOLIN-3-ONE
 - No data available
- 11) Substance1
 - No data available
- 12) Substance2
 - No data available
- 13) Substance3
 - No data available
- 14) Substance4
 - No data available
- 15) Substance5
 - No data available

13. DISPOSAL CONSIDERATIONS

1. Disposal methods

- Every commercial waste producer shall either treat wastes generated from his/her place of business by him/herself or commission the treatment of such wastes to a person who has license for a waste treatment business under Article 26(3), a person who recycles of such wastes under Article 44(2), a person who has installed and operates a waste disposal facility under Article 4 or 5, a person who has completed the registration of a business of discharging wastes into the sea under Article 18 of the Marine Environment Management Act

2. Precautions (including disposal of contaminated container of package.

- Dispose of contents/container to ...
- Do not allow spill material to enter sewers, storm water drains, soil, etc.
- Empty containers may explode and residues can be ignited when pressured, cut, weld, heated.

- Empty containers may rupture when pressured.
- Empty containers recycled under environmental laws.
- Wear an appropriate Personal protection. (See Exposure Controls/Personal Protection section.)

14. TRANSPORT INFORMATION

1. UN No : Not Classified
2. Proper shipping name : Not Classified
3. Class or division : Not Classified
4. Packing group : Not Classified
5. Marine pollutant : Not Classified
6. Special safety response for transportation or transportation measure :
 - Emergency measures in case of fire : Not Classified
 - Emergency measures in the effluent : Not Classified

15. REGULATORY INFORMATION

1. Occupational safety and health act
 - 1) **DISTILLATES, PETROLEUM, HYDROTREATED LIGHT PARAFFINIC**
 - Not classified
 - 2) **WATER**
 - Not classified
 - 3) **9-OCTADECENOIC ACID, 12-HYDROXY-, [R-(Z)]-**
 - Not classified
 - 4) **TALL OIL ROSIN**
 - Not classified
 - 5) **2-AMINO-2-METHYL-1-PROPANOL**
 - Not classified
 - 6) **CASTOR OIL, ETHOXYLATED**
 - Not classified
 - 7) **ALCOHOLS, C16-18, ETHOXYLATED PROPOXYLATED**
 - Not classified
 - 8) **SULFONIC ACIDS, PETROLEUM, SODIUM SALTS**
 - Not classified
 - 9) **CARBOXYLIC ACIDS, DI-, C4-11**
 - Not classified

10) **1,2-BENZISOTHIAZOLIN-3-ONE**

- Not classified

11) **Substance1**

- Not classified

12) **Substance2**

- Not classified

13) **Substance3**

- Not classified

14) **Substance4**

- Not classified

15) **Substance5**

- Not classified

2. Chemical control act

1) **DISTILLATES, PETROLEUM, HYDROTREATED LIGHT PARAFFINIC**

- Existing Chemical Substance

2) **WATER**

- Existing Chemical Substance

3) **9-OCTADECENOIC ACID, 12-HYDROXY-, [R-(Z)]-**

- Existing Chemical Substance

4) **TALL OIL ROSIN**

- Existing Chemical Substance

5) **2-AMINO-2-METHYL-1-PROPANOL**

- Existing Chemical Substance

6) **CASTOR OIL, ETHOXYLATED**

- Existing Chemical Substance

7) **ALCOHOLS, C16-18, ETHOXYLATED PROPOXYLATED**

- Existing Chemical Substance

8) **SULFONIC ACIDS, PETROLEUM, SODIUM SALTS**

- Existing Chemical Substance

9) **CARBOXYLIC ACIDS, DI-, C4-11**

- Not classified

10) **1,2-BENZISOTHIAZOLIN-3-ONE**

- Existing Chemical Substance

11) **Substance1**

- Existing Chemical Substance

12) **Substance2**

- Existing Chemical Substance

13) **Substance3**

- Existing Chemical Substance

14) **Substance4**

- Existing Chemical Substance

15) **Substance5**

- Existing Chemical Substance

3. Safety Control of hazardous substances act in Korea

Class 4 Third Petroleum liquids

4. Wastes Control Act in Korea

06-01-02, Grinding oil, coolant

5. Other regulations in Korea and overseas regulations

1) **DISTILLATES, PETROLEUM, HYDROTREATED LIGHT PARAFFINIC**

- Other regulation (Domestic) : Not classified
- National regulations :
 - EU Classification (CLASSIFICATION) : Carc.Cat.2; R45
 - EU Classification (Risk Phrases) : R45
 - EU Classification (Safety Phrases) : S:53-45

2) **WATER**

- Other regulation (Domestic) : Not classified
- National regulations : Not classified

3) **9-OCTADECENOIC ACID, 12-HYDROXY-, [R-(Z)]-**

- Other regulation (Domestic) : Not classified
- National regulations : Not classified

4) **TALL OIL ROSIN**

- Other regulation (Domestic) : Not classified
- National regulations :
 - EU Classification (CLASSIFICATION) : R43
 - EU Classification (Risk Phrases) : R43
 - EU Classification (Safety Phrases) : S:(2)-24-37

5) **2-AMINO-2-METHYL-1-PROPANOL**

- Other regulation (Domestic) : Not classified
- National regulations :
 - EU Classification (CLASSIFICATION) : Xi; R36/38 R52-53
 - EU Classification (Risk Phrases) : R36/38, R52-53
 - EU Classification (Safety Phrases) : S:(2)-61

6) **CASTOR OIL, ETHOXYLATED**

- Other regulation (Domestic) : Not classified
- National regulations : Not classified

7) ALCOHOLS, C16–18, ETHOXYLATED PROPOXYLATED

- Other regulation (Domestic) : Not classified
- National regulations : Not classified

8) SULFONIC ACIDS, PETROLEUM, SODIUM SALTS

- Other regulation (Domestic) : Not classified
- National regulations : Not classified

9) CARBOXYLIC ACIDS, DI-, C4–11

- Other regulation (Domestic) : Not classified
- National regulations : Not classified

10) 1,2-BENZISOTHIAZOLIN-3-ONE

- Other regulation (Domestic) : Not classified
- National regulations :
 - EU Classification (CLASSIFICATION) : Xn; R22 Xi; R38–41 R43 N; R50
 - EU Classification (Risk Phrases) : R22, R38–41, R43, R50
 - EU Classification (Safety Phrases) : S:(2)–24–26–37/39–61

11) Substance1

- Other regulation (Domestic) : Not classified
- National regulations :
 - EU Classification (CLASSIFICATION) : Xn; R22 C; R34 N; R50–53
 - EU Classification (Risk Phrases) : R22, R34, R50–53
 - EU Classification (Safety Phrases) : S:(1/2)–26–36/37/39–45–60–61

12) Substance2

- Other regulation (Domestic) : Not classified
- National regulations :
 - EU Classification (CLASSIFICATION) : Xn; R22 Xi; R36
 - EU Classification (Risk Phrases) : R22, R36
 - EU Classification (Safety Phrases) : S:(2)–26

13) Substance3

- Other regulation (Domestic) : Not classified
- National regulations :
 - EU Classification (CLASSIFICATION) : Xi; R36
 - EU Classification (Risk Phrases) : R36
 - EU Classification (Safety Phrases) : S:(2)–24

14) Substance4

- Other regulation (Domestic) : Not classified
- National regulations : Not classified

15) Substance5

- Other regulation (Domestic) : Not classified
- National regulations : Not classified

16. OTHER INFORMATION

1. Reference

- (Q)SAR
- Arch. Toxicol. (1996) 70:195–201

- Canada Domestic Substance List
- CCR
- CCRIS
- ECOTOX
- EPISUITE
- EU CLP
- Food Research. Vol. 21, Pg. 348
- HSDB
- ICSC
- IUCLID
- J. Toxicol. Cut. Ocular Toxicol
- J-CHECK
- NTP
- OECD SIDS
- Patty's Industrial Hygiene and Toxicol
- Publication
- QSAR
- Review article or handbook
- Study report
- The Chemical Database
- TOPKAT
- U.S. EPA
- USEPA; United States Environmental Protection Agency; Draft Cleaner Technologies Substitutes Assessment (CTSA)
- Vet Human Toxicol 40
- Water Res.24(8): 965-972,1990

2. Prepare date : 2011-05-16

3. Revised date

Ver 3.0 2020-07-20, Updated information of raw materials.

4. Other

Fill out based on the standard of the Ministry of Employment and Laborabout data, GHS, MSDS.