Material Safety Data Sheet(MSDS)

This Material Safety Data Sheet(MSDS) has been provided

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

1. Product Name : Tectyl Clean 280

2. Advisable use and Restriction
   - ○ Advisable use : Water Soluble Cleaner
   - ○ Restriction :
     - Do not use product for any other non-recommended purposes

3. Manufacturer information
   - ○ Manufacture information : Tectyl Oil & Chemicals Vina Lot C_2D_CN, My Phuoc 3 Park,Thoi Hoa Ward, BenCat, Binh Duong Province (933854940)
   - ○ Company : Tectyl Oil & Chemicals Vina
   - ○ Address : Lot C_2D_CN, My Phuoc 3 Park,Thoi Hoa Ward, BenCat, Binh Duong Province
   - ○ Information service or emergency number : 933854940
   - ○ Dept. responsible for information/contact number : Tectyl Oil & Chemicals Vina R&D CENTER Technology & Management Team Jeon Young Sik

2. HAZARD IDENTIFICATION

1. Hazard classification
   - SKIN CORROSION/IRRITATION Category 2
   - SERIOUS EYE DAMAGE/EYE IRRITATION Category 1
   - LONG-TERM AQUATIC HAZARD Category 2

2. Allocation label elements
   - ○ Symbol

   - ○ Signal word : DANGER
   - ○ Hazard statements

     H315 Causes skin irritation.

     H318 Causes serious eye damage.

     H411 Toxic to aquatic life with long lasting effects.
   - ○ Precautionary statements
     - Prevention

P264 Wash ... thoroughly after handling.

P273 Avoid release to the environment.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

- Response

P302+P352 IF ON SKIN: Wash with plenty of soap and water.

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.

P321 Specific treatment (see ... on this label).

P332+P313 If skin irritation occurs: Get medical advice/ attention.

P362 Take off contaminated clothing and wash before reuse.

P391 Collect spillage.

- 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

Chemical Name	NFPA Level		
	Health	Flamm	Reactivity
1. WATER	0	0	0
2. SODIUM BICARBONATE	2	0	0
3. POTASSIUM HYDROXIDE	3	0	1
4. Substance1	No Data	No Data	No Data
5. Substance2	0	1	0
6. Substance3	0	1	0
7. Substance4	No Data	No Data	No Data

3. INGREDIENT INFORMATION

Components	Common name	CAS No.	PCT(W%)
1) WATER	WATER	7732-18-5	72-80
2) SODIUM BICARBONATE	SODIUM BICARBONATE	144-55-8	1-5
3) POTASSIUM HYDROXIDE	POTASSIUM HYDROXIDE	1310-58-3	1-4.9
4) Substance1	-	-	1-5
5) Substance2	-	-	1-5
6) Substance3	-	-	1-5
7) Substance4	-	-	1-5

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 medial assistance.

2. Following skin contact
   - 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: Wash with plenty of soap and water.
   - If skin irritation 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 medial assistance.
   - Take off contaminated clothing and wash before reuse.
3. Following inhalation
   - Administer oxygen if breathing is difficult.
   - Give artificial respiration if victim is not breathing.
   - Immediately call a POISON CENTER or doctor/physician.
   - Keep victim warm and quiet.
   - Move to fresh air.
   - Seek immediate medial assistance.
4. Following ingestion
   - Get medical aid immediately.
   - If unconscious but breathing, never give anything by mouth.
   - Seek immediate medial 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 ignited 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
   - Clean up spills immediately, observing precautions in Protective Equipment section.
   - Cover with plastic sheet to prevent spreading.
   - 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.
   - Collect spillage.
   - 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.
   - 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) WATER

○ Other regulation (Domestic) : Not established

○ ACGIH : Not established

○ Biological standard : Not established

2) SODIUM BICARBONATE

○ Other regulation (Domestic) : Not established

○ ACGIH : Not established

○ Biological standard : Not established

3) POTASSIUM HYDROXIDE

○ Other regulation (Domestic) : Not established

○ ACGIH : Not established

○ Biological standard : Not established

4) Substance1

○ Other regulation (Domestic) : Not established

○ ACGIH : Not established

○ Biological standard : Not established

5) Substance2

○ Other regulation (Domestic) : Not established

○ ACGIH : Not established

○ Biological standard : Not established

6) Substance3

○ Other regulation (Domestic) : Not established

○ ACGIH : Not established

○ Biological standard : Not established

7) Substance4

○ 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.
- Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible 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 : Clear transparent liquid
2. Odour : No data available
3. Odour threshold : No data available
4. pH Values : 13.1(3%sol'n)
5. Melting point/freezing point : No data available
6. Initial boiling point and boiling range : No data available
7. Flash point : Not applicable
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 : 1.11(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 : Burn, Irritating

   ○Following ingestion : Burn, Diarrhea, Irritating, Vomiting

   ○Following inhalation : Burn, Irritating

   ○Following skin contact : Burn, Irritating

2. Health hazard information

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

   1) 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

2) SODIUM BICARBONATE

○ ACUTE TOXICITY

- Oral : Not classified / LD50 > 4000 mg/kg Rat
- Dermal : No data available
- Inhalation-Gases : No data available
- Inhalation-Vapours : No data available
- Inhalation-Dust/mist : Not classified / LC50 > 5.3325 mg/L Rat

○ SKIN CORROSION/IRRITATION : Not classified / Slightly irritating Rabbit

○ SERIOUS EYE DAMAGE/EYE IRRITATION : Not classified / Slight to moderately 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 : Not classified / Negative Escherichia coli

○ REPRODUCTIVE TOXICITY : Not classified / No effects observed at the highest dose tested Rat

○ SPECIFIC TARGET ORGAN TOXICITY SINGLE EXPOSURE : No data available

○ SPECIFIC TARGET ORGAN TOXICITY REPEATED EXPOSURE : No data available

○ ASPIRATION HAZARD : No data available

3) POTASSIUM HYDROXIDE

○ ACUTE TOXICITY

- Oral : Not classified / LD50 333 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 / Potentially corrosive Human

○ SERIOUS EYE DAMAGE/EYE IRRITATION : Not classified / Extremely irritating and corrosive 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 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

4) Substance1

○ 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

5) Substance2

○ 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

6) Substance3

○ ACUTE TOXICITY

- Oral : Not classified / LD50 3000 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 / 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) 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

12. ECOLOGICAL INFORMATION

1. Aquatic toxicity

1) WATER

○ Fish : No data abailable

○ Crustacea : No data abailable

○ Aquatic algae : No data abailable

2) SODIUM BICARBONATE

○ Fish : LD50 7100 mg/L Fish

○ Crustacea : EC50 4100 mg/L Aquatic invertebrates

○ Aquatic algae : No data abailable

3) POTASSIUM HYDROXIDE

○ Fish : No data abailable

○ Crustacea : No data abailable

○ Aquatic algae : No data abailable

4) Substance1

○ Fish : No data abailable

○ Crustacea : No data abailable

○ Aquatic algae : No data abailable

5) Substance2

○ Fish : No data abailable

○ Crustacea : No data abailable

○ Aquatic algae : No data abailable

6) Substance3

○ Fish : LC50 0.218 mg/L Fish

○ Crustacea : No data abailable

○ Aquatic algae : No data abailable

7) Substance4

○ Fish : No data abailable

○ Crustacea : No data abailable

○ Aquatic algae : No data abailable

2. Persistence and degradation

1) WATER

○ Degradation : No data abailable

○ n-octanol water partition coefficient : No data abailable

2) SODIUM BICARBONATE

○ Degradation : No data abailable

○ n-octanol water partition coefficient : No data abailable

3) POTASSIUM HYDROXIDE

○ Degradation : No data abailable

○ n-octanol water partition coefficient : No data abailable

4) Substance1

○ Degradation : No data abailable

○ n-octanol water partition coefficient : No data abailable

5) Substance2

○ Degradation : No data abailable

○ n-octanol water partition coefficient : No data abailable

6) Substance3

○ Degradation : No data abailable

○ n-octanol water partition coefficient : log Kow 4.98

7) Substance4

○ Degradation : No data abailable

○ n-octanol water partition coefficient : No data abailable

3. Bioaccumulative potential

1) WATER

○ Bioaccumulation : No

○ Biodegradation : No data abailable

2) SODIUM BICARBONATE

○ Bioaccumulation : No data abailable

○ Biodegradation : No data abailable

3) POTASSIUM HYDROXIDE

○ Bioaccumulation : No data abailable

○ Biodegradation : No data abailable

4) Substance1

○ Bioaccumulation : No data abailable

○ Biodegradation : No data abailable

5) Substance2

○ Bioaccumulation : No data abailable

○ Biodegradation : No data abailable

6) Substance3

○ Bioaccumulation : No data abailable

○ Biodegradation : No data abailable

7) Substance4

○ Bioaccumulation : No data abailable

○ Biodegradation : No data abailable

4. Mobility in soil

1) WATER

- No data abailable

2) SODIUM BICARBONATE

- No data abailable

3) POTASSIUM HYDROXIDE

- No data abailable

4) Substance1

- No data abailable

5) Substance2

- No data abailable

6) Substance3

- No data abailable

7) Substance4

- No data abailable

5. Other adverse effects

1) WATER

- No data abailable

2) SODIUM BICARBONATE

- No data abailable

3) POTASSIUM HYDROXIDE

- No data abailable

4) Substance1

- No data abailable

5) Substance2

- No data abailable

6) Substance3

- No data abailable

7) Substance4

- No data abailable

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, storn 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) WATER

- Not classified

2) SODIUM BICARBONATE

- Not classified

3) POTASSIUM HYDROXIDE

- Threshold Limit Values (TLVs) chemicals, Hazardous Substances Subject to

4) Substance1

- Not classified

5) Substance2

- Not classified

6) Substance3

- Not classified

7) Substance4

- Not classified

2. Toxic chemical control act

1) WATER

- Existing Chemical Substance

2) SODIUM BICARBONATE

- Existing Chemical Substance

3) POTASSIUM HYDROXIDE

- Pollutant Release and Transfer Registers, Existing Chemical Substance, Toxic

4) Substance1

- Existing Chemical Substance

5) Substance2

- Existing Chemical Substance

6) Substance3

- Existing Chemical Substance

7) Substance4

- Not classified

3. Safety Control of hazardous substances act in Korea

4. Wastes Control Act in Korea

06-03-00, waste not classified elsewhere

5. Other regulations in Korea and overseas regulations

1) WATER

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

2) SODIUM BICARBONATE

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

3) POTASSIUM HYDROXIDE

○ Other regulation (Domestic) : Not classified
○ National regulations :
-EU Classification (CLASSIFICATION) : Xn; R22 C; R35
-EU Classification (Risk Phrases) : R22, R35
-EU Classification (Safety Phrases) : S:(1/2)-26-36/37/39-45

4) Substance1

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

5) Substance2

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

6) Substance3

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

7) Substance4

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

16. OTHER INFORMATION

1. Reference

- Alternative methods in toxicology, Vol. 1, 205-230
- BASF
- Canada Domestic Substance List
- CCRIS
- Food Research. Vol. 21, Pg. 348
- Fund. Appl. Toxicol., 8, 97-100
- IUCLID
- Kenkyu Nenpo-Tokyo-Toritsu Eisei Kenkyusho, 43, 219-227
- Mutation Research, vol. 133: 161-198
- NTP
- OECD SIDS
- QSAR
- Study report
- Toxicol. Appl. Pharmacol., 32, 239-245
- Toxicology and Applied Pharmacology, 42, 417-423
- Toxicology in Vitro, 20,547-559

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4. Other

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