


## Vacuum Pump Oil PV-300

Date of Writing : 2021.04.05

### 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

- 1) Product Name Vacuum Pump Oil PV-300
- 2) Advisable use and Restriction
- Advisable use Vacuum Pump ( Two Stages )
  - Restriction Please avoid to mix with different oil  
Don't mix with water-soluble type oil.
- 3) Manufacturer informatio
- Manufacture information #34-14, Samdo-Ro, Hakwoon-Ri, Gimpo-City, Kyeonggi-Do , KOREA
  - Company Pochem Korea Co.,Ltd
  - Information service or emergency number 031-997-8737

### 2. HAZARD IDENTIFICATION

- 1) Hazard classification ACUTE TOXICITY(Inhalation:Dust/mist) Category 4
- 2) Allocation label elements
- Symbol 
  - Signal word Warning
  - Hazard statements H332 Harmful if inhaled
  - Precautionary statements
- Prevention P261 Avoid breathing dust/fume/gas/mist/vapours/spray.  
P271 Use only outdoors or in a well-ventilated area
- Response P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.  
PP312 Call a POISON CENTER or doctor/physician you feel unwell
- Storage P405 Store it sealed.
- Disposal No data
- 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 ability	Reactivity
1. DISTILLATES ,PETROLEUM ,HYDROTREATED HEAVY PARAFFINIC,	1	1	0
2. TRIMETHYOL PROPANE TRIOLEATE	1	1	0
3. N-PHENYL-1-NAPHTHYLANILINE	2	1	0

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### 3. INGREDIENT INFORMATION

Component	Common name	CAS No.	Content(wt%)
1. DISTILLATES ,PETROLEUM , HYDROTREATED HEAVY PARAFFINIC	DISTILLATES,PETROLEUM,HYDROTREATED HEAVY PARAFFINIC	64742-54-7	85 ~ 90
2. TRIMETHYOL PROPANE TRIOLEATE	9-OCTADECENOIC ACID (Z)-, 2-ETHYL-2- (((1-OXO-9-OCTADECENYL) OXYMETHYL) -1) 3PROPANEDIYL ESTER	57675-44-2	5 ~ 10
3. N-PHENYL-1-NAPHTHYLANILINE	N-PHENYL-1-NAPHTHYLANILINE	90-30-2	0.5 ~ 3

### 4. First Aid Measures

- |                           |  |
|---------------------------|--|
| 1) Following eye contact  | <ul style="list-style-type: none"> <li>• Get medical aid immediately.</li> <li>• In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes.</li> </ul>  |
| 2) Following Skyn contact | <ul style="list-style-type: none"> <li>• Call a POISON CENTER or doctor/physician you feel unwell.</li> <li>• For minor skin contact, avoid spreading material on unaffected skin.</li> <li>• In case of contact with material, immediately flush skin with running water for at least 15 minutes.</li> <li>• Remove and isolate contaminated clothing and shoes.</li> <li>• Get medical aid immediately.</li> </ul>   |
| 3) Following inhalation   | <ul style="list-style-type: none"> <li>• Administer oxygen if breathing is difficult</li> <li>• 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.</li> <li>• Give artificial respiration if victim is not breathing</li> <li>• IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.</li> <li>• If exposed to excessive levels of dusts or fumes, remove to fresh air and get medical attention if cough or other symptoms develop.</li> <li>• Keep victim warm and quiet</li> <li>• Move to fresh air.</li> <li>• Seek immediate medial assistance. .</li> </ul> |
| 4) Following ingestion    | <ul style="list-style-type: none"> <li>• 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.</li> </ul>  |

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5) Advice to physician

- Get medical aid immediately.
- If unconscious but breathing, never give anything by mouth.
- 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

- Use dry sand or earth to smother fire.
- Large fire: Water spray/fog, regular foam (Suitable extinguishing media).
- Large fire: Foam (Suitable extinguishing media).
- Small fire: CO2 (Suitable extinguishing media).
- Direct water (Unsuitable extinguishing media).
- Large fire: Dry chemical (Suitable extinguishing media).
- Small fire: Dry chemical (Suitable extinguishing media).
- Large fire: Excess water (Suitable extinguishing media).
- Small fire: Dry sand, dry chemical, alcohol-resistant foam, water spray, regular foam, CO2 (Suitable extinguishing media).
- Small fire: Regular foam (Suitable extinguishing media).
- Small fire: Dry sand, dry chemical, alcohol-resistant foam, water spray, regular foam, CO2 (Suitable extinguishing media).
- High-pressure water (Unsuitable extinguishing media).
- Large fire: CO2 (Suitable extinguishing media).
- Large fire: Alcohol-resistant foam (Suitable extinguishing media).

2) Special hazards arising from the substance

Risk of fi

- 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.
- Fire involving Tanks: ALWAYS stay away from tanks engulfed in fire.
- **Fire involving Tanks: Cool containers with flooding quantities**

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- of water until well after fire is out.
- 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
- Runoff may cause pollution
- Substance may be transported hot

### 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 enter areas which have more than 23.5% oxygen in the atmosphere, without respirator or air supplied mask.
- Do not touch or walk through spilled materia
- 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
- Prevent dust cloud

#### 2) Environmental precautions

- 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 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

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### 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 by the product component.

##### 1. DISTILLATES, PETROLEUM, HYDROTREATED HEAVY PARAFFINIC

- Other regulation (Domestic) : No reference
- ACGIH : No reference
- Biologische standard : No reference

##### 2. TRIMETHYOL PROPANE TRIOLEATE

- Other regulation (Domestic) : No reference
- ACGIH : No reference
- Biologische standard : No reference

##### 3. N-PHENYL-1-NAPHTHYLANILINE

- Other regulation (Domestic) : No reference
- ACGIH : No reference
- Biologische standard : No reference

#### 2) Appropriate engineering controls

- Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits
- If user operations generate dust, fume, or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

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### 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	Yellowish brown liquid
2) Odour	Slight specific Odour
3) Odour threshold	No data available
4) pH Values	Not applicable
5) Melting point/freezing point	max. -12.5℃ (Pour point)
6) Initial boiling point and boiling range	min. 204℃
7) Flash point(C.O.C)	min. 230 ℃
8) Evaporation rate	No data available
9) Flammability (solid, gas)	No data available
10) Upper/lower flammability or explosive limits	LEL : 0.9% , UEL: 7%
11) Vapour pressure	Max 0.002 Torr (at 50 ℃) / Max 0.1Kpa at 20 ℃
12) Solubility	Insoluble (water)
13) Vapor Densities	No data available
14) Relative density (15/4℃)	0.86±0.05 (15/4℃)
15) n-octanol/water partition coefficient	No data available
16) Auto ignition temperature	No data available
17) Decomposition temperature	No data available
18) Viscosity (40℃, cSt)	100 ± 10.0 cSt (40℃, mm <sup>2</sup> /s)
19) Molecular weight(mass)	No data available

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### 10. STABILITY AND REACTIVITY

- 1) Stability and hazardous reactivity
  - Containers may explode when heated.
  - Fire may produce irritating, corrosive and/or toxic gases.
  - Stable under normal temperatures and pressures
  - Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes.
  - May cause toxic effects if inhaled.
  - Some liquids produce vapors that may cause dizziness or suffocation.
  - Some may burn but none ignite readily.
- 2) Conditions to avoid :
  - Ignition source(heat, spark, flame, etc.).
- 3) Incompatible materials
  - Combustibles, reducing material. Irritating and/or toxic gas.
- 4) Hazardous decomposition products
  - Corrosive/toxic fume.
  - Irritating, corrosive and/or toxic gas

### 11. TOXICOLOGICAL INFORMATION

#### 1) Exposure route information

- by respiratory organ : Asthma, kidney trouble, liver trouble, nausea, vomiting, diarrhea, stomach pain, gait disorder, numbness, nerve damage, irritation, dizziness, dyspnea, bluish Vomiting, gastrointestinal disorders, diarrhea, stomach pain, bluish skin color, nervous disorders, paralysis, kidney disorders, liver disorders, digestive disorders
- by mouth :
- by skin and contact : Tingling sensation, itching, nausea, vomiting, diarrhea, stomach pain, gait disorder, numbness, nerve damage, irritation,Bluish skin color, kidney abnormalities, liver abnormalities
- by eye and contact : Irritation, tearing, redness, swelling

#### 2) Health hazard information

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

#### 1. DISTILLATES, PETROLEUM, HYDROTREATED HEAVY PARAFFINI

##### ACUTE TOXICITY

- Oral : Not applicable / LD50 > 5000 mg/kg Rat
- Dermal : Not applicable / LD50 > 2000 mg/kg Rabbit
- Inhalation-Gases :

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- Inhalation-Vapours :
- Inhalation-Dust/mist :  
Causes skin irritation.  
Rabbit STANDARD DRAIZE TEST Causes mild irritation.
- SKIN CORROSION / IRRITATION :  
Rabbit STANDARD DRAIZE TEST Causes mild irritation.
- SERIOUS EYE DAMAGE/EYE IRRITATION :  
Not classified
- RESPIRATORY SENSITIZATION :  
Not classified
- SKIN SENSITIZATION :  
Not classified
- CARCINOGENICITY :  
Not classified  
  - Ministry of Employment and Labor :  
Not classified
  - IARC :  
No data available
  - OSHA :  
No data available
  - ACGIH :  
No data available
  - NTP :  
No data available
  - EU CLP :  
Not classified  
(Except when the DMSO extract is less than 3% as measured by the IP346 method)
- GERM CELL MUTAGENICITY :  
Not applicable / Negative CHO cell
- REPRODUCTIVE TOXICITY :  
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 applicable / No systemic effects were observed. Rat
- ASPIRATION HAZARD :  
No data available

### 2. TRIMETHYOL PROPANE TRIOLEATE

- ACUTE TOXICITY
  - Oral :  
No data available
  - Dermal :  
No data available
  - Inhalation-Gases  
No data available
  - Inhalation-Vapou  
No data available
  - Inhalation-Dust/n  
No data available
- SKIN CORROSION/IRRITAT  
No data available
- SERIOUS EYE DAMAGE/EYE IRRITAT  
No data available
- RESPIRATORY SENSITIZATION :  
Not applicable
- SKIN SENSITIZATION :  
Not applicable
- CARCINOGENICITY :  
  - Ministry of Employment and Labor :  
Not applicable



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- IARC : No data available
- OSHA : No data available
- ACGIH : No data available
- NTP : No data available
- EU CLP : Not classified  
(Except when the DMSO extract is less than 3% as measured by the IP346 method)

- GERM CELL MUTAGENICITY : Not applicable / Negative CHO cell
- 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. N-PHENYL-1-NAPHTHYLAMINE

- ACUTE TOXICITY
  - Oral : Category 4 / LD50 1625 mg/kg Rat
  - Dermal : No data available
  - Inhalation-Gases No data available
  - Inhalation-Vapou No data available
  - Inhalation-Dust/n No data available
- SKIN CORROSION/IRRIT# Category 2 / Causes skin irritation
- SERIOUS EYE DAMAGE/EYE IRRITATION Category 2 / Causes eye irritation
- RESPIRATORY SENSITIZATION : No data available
- SKIN SENSITIZATION : Category 1 / Repeated exposure may cause skin irritation
- CARCINOGENICITY :
  - Ministry of Employment and Labor : Not applicable
  - IARC : No data available
  - OSHA : No data available
  - ACGIH : No data available
  - NTP : No data available
  - EU CLP : No data available
- GERM CELL MUTAGENICITY : No data available
- REPRODUCTIVE TOXICITY :

Category 2 / Rats - 40 days Gastrointestinal injection Implants ovarian cell swelling and panic. (Latendresse et al.1993).

These results suggest that ovarian cell hyperplasia, reduction of testicles and weight loss at 400 mg / kg / day at 20, 40 and 60 days of gavage insertion (Latendresse et al.1994).

Male sperm abnormalities exposed to 100 mg / kg / day (Carlton et al.1987).

At the Rat-13 week feeding study, atrophy was observed at 430 mg / kg / day, and

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SPECIFIC TARGET ORGAN TOXICITY: (SINGLE EXPOSURE)

Category 3 (Anesthetic action, Respiratory tract irritation) / May cause respiratory irritation if inhaled

SPECIFIC TARGET ORGAN TOXICITY: (REPEATED EXPOSURE)

Category 2 / Long term exposure may cause kidney damage or liver damage.

ASPIRATION HAZARD :

No data available

### 12. ECOLOGICAL INFORMATION

#### 1) Aquatic toxicity

##### 1. DISTILLATES, PETROLEUM, HYDROTREATED HEAVY PARAFFINI

- Fish, : LC50 > 100 mg/L Fish
- Crustacean : LC50 > 10000 mg/L Aquatic invertebrates
- Acuatic algae : NOEC > 100 mg/L Aquatic algae

##### 2. TRIMETHYOL PROPANE TRIOLEATE

- Fish, : LC50 0.000000000097 mg/l 96 hr  
(Water solubility of less than 1 mg / L are not classified as the test medium is difficult to dissolve.)  
(Water solubility : 0.000000000000000000007481mg/L)
- Crustacean : LC50 0.0000000000000000000152 mg/l 48 hr  
(Water solubility of less than 1 mg / L are not classified as the test medium is difficult to dissolve.)  
(Water solubility : 0.000000000000000000007481mg/L)
- Acuatic algae : EC50 0.0000000000178 mg/l 96 hr  
(Water solubility of less than 1 mg / L are not classified as the test medium is difficult to dissolve.)  
(Water solubility : 0.000000000000000000007481mg/L)

##### 3. N-PHENYL-1-NAPHTHYLANILINE

- Fish, Crustacean, Acuatic algae : No data available

#### 2) Persistence and degradation

##### 1. DISTILLATES, PETROLEUM, HYDROTREATED HEAVY PARAFFINI

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

##### 2. TRIMETHYOL PROPANE TRIOLEATE

- n-octanol water partition coefficient : log Kow 3(>3)
- n-octanol water Degradability : No data available

##### 3. N-PHENYL-1-NAPHTHYLANILINE

- n-octanol water partition coefficient : log Kow 4.2
- n-octanol water Degradability : No data available

#### 3) Bioaccumulative potential & Biodegradable potential

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### 1. DISTILLATES, PETROLEUM, HYDROTREATED HEAVY PARAFFINI

- Bioaccumulation No data available
- Biodegradability BOD 77 %

### 2. TRIMETHYOL PROPANE TRIOLEATE

- Bioaccumulation No data available
- Biodegradability 72.5 ~ 80 % / 28 days

### 3. N-PHENYL-1-NAPHTHYLANILINE

- Bioaccumulation BCF 6
- Biodegradability No data available

4) Mobility in soil : No data available

### 5) Other adverse effects

- 1. DISTILLATES, PETROLEUM, HYDROTREATED HEAVY PARAFFINI : No data available
- 2. TRIMETHYOL PROPANE TRIOLEATE : No data available
- 3. N-PHENYL-1-NAPHTHYLANILINE : No data available

## 13. DISPOSAL CONSIDERATIONS

### 1) Disposal method

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)

- 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

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- |   |                |
|---|----------------|
| 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 HEAVY PARAFFINI : No data available
2. TRIMETHYOL PROPANE TRIOLEATE : No data available
3. N-PHENYL-1-NAPHTHYLANILINE : No data available
4. TRICRESYL PHOSPHATE : No data available

#### 2) Toxic chemical control act

1. DISTILLATES, PETROLEUM, HYDROTREATED HEAVY PARAFFINI : No data available
2. TRIMETHYOL PROPANE TRIOLEATE : Observation material
3. N-PHENYL-1-NAPHTHYLANILINE : No data available
4. TRICRESYL PHOSPHATE : No data available

#### 3) Safety Control gefährlicher Stoffe wirken in Korea

Fourth petroleum

#### 4) Abfälle Control Act in Korea

06-01-03, machine oil,hydraulic fluid

#### 5) Sonstige Vorschriften in Korea und im Ausland Vorschriften

##### 1. DISTILLATES, PETROLEUM, HYDROTREATED HEAVY PARAFFINI

- Other regulation (Domestic) : No data available
- National regulations :
  - EU Classification (CLASSIFICATION) : Carc.Cat.2; R45
  - EU Classification (Risk Phrases) : R45
  - EU Classification (Safety Phrases) : S:53-45

##### 2. TRIMETHYOL PROPANE TRIOLEATE : No data available

##### 3. N-PHENYL-1-NAPHTHYLANILINE : No data available

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### 16. OTHER INFORMATION

1) Reference

Akron University(<http://ull.chemistry.uakron.edu/erd/>)(가. 가능성이 높은 노출 경로에 관한 정보)  
 National Library of Medicine/Hazardous Substances Data Bank(NLM/HSDB)  
 (<http://toxnet.nlm.nih.gov/cgi-bin/sis/htmlgen?HSDB>) ( 1. Exposure route information)  
 National Library of Medicine/Hazardous Substances Data Bank(NLM/HSDB)  
 (<http://toxnet.nlm.nih.gov/cgi-bin/sis/htmlgen?HSDB>) ( Dermal )  
 Corporate Solution From Thomson Micromedex(<http://csi.micromedex.com>) ( SKIN CORROSION/IRRITATION )  
 National Library of Medicine/Hazardous Substances Data Bank ( NLM/HSDB )  
 (<http://toxnet.nlm.nih.gov/cgi-bin/sis/htmlgen?HSDB>) ( SKIN CORROSION/IRRITATION )  
 Corporate Solution From Thomson Micromedex(<http://csi.micromedex.com>) ( SERIOUS EYE DAMAGE / EYE IRRITATION )  
 National Library of Medicine/Hazardous Substances Data Bank(NLM/HSDB)  
 (<http://toxnet.nlm.nih.gov/cgi-bin/sis/htmlgen?HSDB>) ( SPECIFIC TARGET ORGAN TOXICITY SINGLE EXPOSURE )  
 ECOTOX ( Crustacean )  
 ECOSAR ( Persistence and degradation )  
 National Library of Medicine/Hazardous Substances Data Bank(NLM/HSDB)  
 (<http://toxnet.nlm.nih.gov/cgi-bin/sis/htmlgen?HSDB>) ( Advisable use )  
 UN RTDG Recommendations on the TRANSPORT OF DANGEROUS GOODS  
 IUCLID CHEMICAL Data Sheet. EC-ECB+A405  
 ECOTOX Database, EPA(<http://cfpub.epa.gov/ecotox>)  
 KOSHA Material Safety Data Sheet  
 OECD SIDS DATA SHEET  
 ACGIH 2008 Guide to occupational exposure values  
 Exposure Standards of Chemical Substances and Physical Factors in Labor Notice No.2008-26  
 Korean Lubrication Society (<http://www.kstle.or.kr>)  
 CNAWE ( Conservation of Clean Air and Water in Europe )

2) Prepare date 2012-10-25

3) Revised date  
 number of revisions 4 times

1th revised edition date	:	2013.05.24
2th revised edition date	:	2016.11.05
3th revision edition date	:	2018-02-22
4th revision edition date	:	2021.04.05

4) Other

1th revised edition	:	Change of KOSHA Characteristics Information
2th revised edition	:	Application of GHS Form
3th revision edition	:	Address Change and Application of GHS Form
4th revision edition date	:	TRICRESYL PHOSPHATE is excluded from the product