

## 1. Identification

- A. Product name : HIQ HV PRIMER-SURFACER PS-240  
○ Usage category : No Data
- B. Recommended Use and Restriction on Use  
○ General use : automotive refinish  
○ Restriction on use : Restricted to use other than recommended use
- C. Manufacturer / Supplier / distributor information  
○ Company name : NOROO Paint & Coatings Co., Ltd.  
○ Address : 351, Bakdal-ro, Manan-gu, Anyang-si, Gyeonggi-do, Korea  
○ Emergency telephone number : +82-31-467-6114

## 2. Hazard identification

- A. GHS Classification  
Flammable liquids Category 2  
Acute Toxicity (Inhalation: dust / mist) Category 4  
Carcinogenicity Category 2  
Serious eye damage/irritation Category 2A  
Specific target organ toxicity(Single exposure) Category 1  
Specific target organ toxicity(Single exposure) Category 3  
Specific target organ toxicity(Repeated exposure) Category 1  
Skin corrosion/irritation Category 2  
Aspiration hazard Category 1  
Ozone Layer Hazards

- B. GHS label elements  
○ Hazard symbols



- Signal words : DANGER
- Hazard statements :
- H225 Highly flammable liquid and vapour
  - H332 Harmful if inhaled
  - H351 Suspected of causing cancer
  - H319 Causes serious eye irritation
  - H370 Causes damage to organs: central nervous system (CNS), gastrointestinal tract(Refer Section SDS 11)
  - H335+H336 May cause respiratory irritation, May cause drowsiness and dizziness.
  - H372 Prolonged or repeated exposure may cause lung damage to the body (Refer Section SDS 11)
  - H315 Causes skin irritation
  - H304 May be fatal if swallowed and enters airways
  - H420 It destroys the upper layer of the ozone layer and is harmful to public health and environment.
- Precautionary statements
- Prevention
    - P210 Keep away from heat, hot surfaces, sparks, open flames and other sources of ignition. no smoking
    - P223 Do not contact with water
    - P240 Ground container and receiving equipment
    - P241 Use explosion-proof equipment (electricity, ventilation, lighting, etc.)
    - P242 Use only non-sparking tools. Flammable liquids (chapter 2.6) 1, 2, 3
    - P243 Take precautionary measures against static discharge.
    - P280 Wear protective gloves/protective clothing/eye protection/face protection.
    - P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
    - P271 Use only outdoors or in a well-ventilated area.
    - P201 Obtain special instructions before use.
    - P202 Do not handle until all safety precautions have been read and understood.
    - P264 Wash hands and contact areas thoroughly after handling.
    - P260 Do not breathe dust/fume/gas/mist/vapours/spray.
    - P270 Do not eat, drink or smoke when using this product.
  - Response
    - P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
    - P370+P378 In case of fire: Use Suitable extinguishing media for extinction(Refer Section MSDS 5).
    - P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
    - P312 Call a POISON CENTER or doctor/physician if you feel unwell.
    - P308+P313 If exposed or concerned: Get medical advice / attention.
    - P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
    - P337+P313 If eye irritation persists, get medical attention / attention.

P308+P311 If exposed or concerned: Get medical advice / attention.  
 P321 Specific treatment  
 P314 Get medical advice/attention if you feel unwell.  
 P302+P352 IF ON SKIN: Wash with plenty of soap and water.  
 P332+P313 If skin irritation occurs: Get medical advice/attention.  
 P362+P364 Take off contaminated clothing and wash before reuse.  
 P301+P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.  
 P331 Do NOT induce vomiting.

- Storage

P403+P235 Store in a well-ventilated place. Keep cool.  
 P405 Save by locking.  
 P403+P233 Store in a well-ventilated place. Keep container tightly closed

- Disposal

P501 Dispose of the contents and containers in accordance with waste-related laws.  
 P502 Please refer to the information on (recycling/recycling) provided by (manufacturer/supplier).

C. Other hazards which do not result in classification : (NFPA Classification)

Chemical Name	NFPA grade	Health	Flammability	Reactivity	GHS Classification
Talc(Containing no asbestos fibers)		1	0	0	H332
Toluene		2	3	0	H304, H315, H319, H335+H336, H370, H372
2-Methyl-2-propenoic acid polymer with butyl 2-methyl-2-propenoate and methyl 2-methyl-2-propenoate		NO DATA	NO DATA	NO DATA	NO DATA
Barium sulfate, natural		1	0	0	NO DATA
Titanium dioxide		1	0	0	NO DATA
2-Propanol		2	3	0	H335+H336
Acetic acid ethyl ester		1	3	0	H335+H336
4-Methyl-2-pentanone		1	3	0	H335+H336
Trade secret		NO DATA	NO DATA	NO DATA	NO DATA
Xylene		NO DATA	NO DATA	NO DATA	H304, H315, H319, H335+H336, H372
Ethylbenzene		2	3	0	H304, H315, H319, H335+H336, H420

3. Composition/information on ingredients

Chemical Name	Trade names and Synonyms	CAS-NO	Content(%)
Talc(Containing no asbestos fibers)	Talc(Containing no asbestos fibers)	14807-96-6	20~30
Toluene	Toluene	108-88-3	23~33
2-Methyl-2-propenoic acid polymer with butyl 2-methyl-2-propenoate and methyl 2-methyl-2-propenoate	2-Methyl-2-propenoic acid polymer with butyl 2-methyl-2-propenoate and methyl 2-methyl-2-propenoate	28262-63-7	15~25
Barium sulfate, natural	Barium sulfate, natural	7727-43-7	11~21
Titanium dioxide	Titanium dioxide	13463-67-7	1~11
2-Propanol	2-Propanol	67-63-0	1~10
Acetic acid ethyl ester	Acetic acid ethyl ester	141-78-6	1~10
4-Methyl-2-pentanone	4-Methyl-2-pentanone	108-10-1	1~10
Trade secret	-	-	1~10
Xylene	Xylene	1330-20-7	1~10
Ethylbenzene	Ethylbenzene	100-41-4	0.1~4

4. First-aid measures

- A. Eye Contact : Flush exposed eyes with plenty of water for more than 15minutes.  
 If irritation, pain, swelling, tears or glaring happens, take medical assistant immediately  
 Do not rub your eyes.  
 If you wear a contact lenses, remove them first.
- B. Skin Contact : Remove exposed clothing, and wash off exposed area with soap and water.  
 If symptoms like irritation or pain occurs, take medical assistant immediately.  
 Wash off with soap and water for more than 15 minutes. And take medical assistant immediately.  
 If symptoms like redness or irritation occurs, take medical assistant immediately.  
 Wash carefully after handling.  
 Wear gloves while washing the patient and avoid contact with exposed clothes.
- C. Inhalation : Avoid from exposure, and move into an area with fresh air.  
 If not breathing, perform the artificial respiration.  
 If inhaled or swallowed, do not perform the inhalation phase of breathing  
 Perform the artificial respiration, using the pocket mask with one way valves or other respiratory medical devices.  
 If hard to breathe, administering oxygen  
 Remove contaminated clothing and shoes, and isolate it.  
 Take a medical assistant immediately.
- D. Ingestion Contact : Inducing vomit.  
 If unconscious, do not induce vomiting. In case of vomiting, keep head down under hip to prevent lung inhalation.

If ingested large quantity, take medical assistant.  
Take proper medical assistant by symptoms.  
It is need to be considered that early removal of some ingested material by gastric lavage must be weighed against potential complications of bleeding or perforation  
Flush mouth with water immediately.

E. Notes to Physician : There is no specific antidote and take an appropriate medical treatment.

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## 5. Fire-fighting measures

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- A. Suitable (Unsuitable) extinguishing media
- Suitable extinguishing media : Powder extinguishing agent, gaseous Extinguishing Agent, and regular foam.
  - (Unsuitable) extinguishing media : Water is not appropriate extinguishing agent  
Avoid use waterjet as fire extinguishing agent.  
Avoid extinguishing fire with halogenting agent.
  - Case of big fire : Spread large amount of the extinguishing agent as a mist form with staying against wind.  
Stay away more than 800m to avoid tank explosion.  
Use appropriate protective device depend on the situation.
- B. Specific hazards arising from the chemical
- Pyrolysate : Carbon dioxide, toxic carbon compounds/Nitrogen compounds/sulfur compounds  
Irritating and highly toxic gases may produced during the combustion by pyrolysis or combustion itself.
  - Fire and Explosion danger : Risk of medium-sized fire.  
Aqueous (Exclude water-soluble one) products does not have risk of fire or explosion hazard by itself.  
Vapor may be released to the ignition source and ignited.  
May form explosive mixture at or above ignition point  
Container may explode when heating  
Leakages may fire / explosion hazard and could be easily ignited by heat, sparks or flames.  
Vapors may explode indoors, outdoors, and in drains
- C. Special protective actions for fire-fighters
- Personal Precautions, protective equipment : Gas mask or air respirator, heat resistant clothing, heat resistant helmet, heat resistant gloves, heat resistant boots
  - Emergency procedures : Use appropriate extinguishing agents to catch fire.  
If there is no risk, moving containers away from fire.  
Cooling containers with water long time after extinguish fire.  
Block the area except for the fire-suppression personnel.  
Protect others from access and prohibit access to dangerous areas.  
Tell the fire department, location of the fire and the hazardous features.  
Use an unmanned fire extinguishing device, in case of large-sized fire. If not, leave it to burn.  
Avoid inhalation of the substance or combustion products.  
Do not approach if the tank is on fire.

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## 6. Accidental release measures

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- A. Personal Precautions, protective equipment and emergency procedures
- Personal Precautions, protective equipment : Gas mask for organic gases, other appropriate protective device / clothing / gloves.
  - Emergency procedures : Take an action to block the leakage if there is no risk.  
Spray water to reduce amount of steam.  
Do work with the personal protected devices such as gas mask for organic gases other appropriate protective devices / clothing / gloves.  
Do not contact on the bare skin
- B. Environmental precautions
- Atmosphere : Do install the local ventilations and full ventilation system  
Using local ventilation to Minimize the exposure to worker.
  - Soil : Trap spilled material at bottom in deep water pockets, excavated holding areas or within sand bag barriers.  
Use absorbent to collect the appropriate container.
  - Under water : Use absorbent to collect the appropriate container.  
Collect spilled material with mechanic devices
- C. Methods and materials for containment and cleaning up
- Small spill : Absorb for use sand or other non-combustible material.  
Move to appropriate container for disposal of spilled material collected.
  - Large spill : Prohibit access of unnecessary people, isolate hazard area to secure.  
Notify to central and local government, when emissions are above regulation.

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## 7. Handling and storage

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- A. Precautions for safe handling : Keep or handle followed by Dangerous goods Safety Management Act  
Ground for preventing the static discharge  
Seal the container for minimizing the petroleum steam  
Use local ventilations and a full ventilation system when handling  
Wash carefully after handling.  
Avoid contact with prohibited materials in mixture.  
Do not handle until read and understood all safety precautions.  
Do not inhale vapor for long-term or repeatedly.  
Avoid contact with heat, sparks, flames or other sources of ignition.  
Do not take contaminated clothings away from the work area.  
Storing with combustible substances such as stained clothes or paper may cause fire by spontaneous ignition. Thus do not stack it, and keep it in a non-flammable container with cap filled with water and dispose it.

B. Conditions for safe storage, including any incompatibilities : Because of evaporation and contamination concerns, airtight the container and store in a well-ventilated building.  
Avoid direct sunlight while storing outdoor.  
Storage temperature: 5 ~ 35 °C  
Avoid strong oxidizing agents, acid.  
Stored in an isolated place, freezing caution, high temperature body caution.  
Storage temperature: 5 ~ 15 °C  
Storage temperature: 15 ~ 25 °C  
Storage temperature: 25 ~ 35 °C  
Store in a cool, dry, well-ventilated area.  
Check periodically for leaks  
Store in accordance with all current law and regulations.  
Store in original container only.  
Prevent static electricity and do not store near heat sources.  
Collect in an airtight container to dispose.  
Store away from waterworks and sewers.

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## 8. Exposure controls/personal protection

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### A. Exposure Limits

- Talc(Containing no asbestos fibers)
  - ACGIH : NO DATA
  - Biological exposure indices : NO DATA
- Toluene
  - ACGIH : NO DATA
  - Biological exposure indices : NO DATA
- 2-Methyl-2-propenoic acid polymer with butyl 2-methyl-2-propenoate and methyl 2-methyl-2-propenoate
  - ACGIH : NO DATA
  - Biological exposure indices : NO DATA
- Barium sulfate, natural
  - ACGIH : NO DATA
  - Biological exposure indices : NO DATA
- Titanium dioxide
  - ACGIH : NO DATA
  - Biological exposure indices : NO DATA
- 2-Propanol
  - ACGIH : NO DATA
  - Biological exposure indices : NO DATA
- Acetic acid ethyl ester
  - ACGIH : NO DATA
  - Biological exposure indices : NO DATA
- 4-Methyl-2-pentanone
  - ACGIH : TWA, 20 ppm (82 mg/m<sup>3</sup>) STEL 75 ppm (307 mg/m<sup>3</sup>)
  - Biological exposure indices : While urinating - Methyl isobutyl ketone : 1 mg/L (After work)
- Trade secret
  - ACGIH : NO DATA
  - Biological exposure indices : NO DATA
- Xylene
  - ACGIH : NO DATA
  - Biological exposure indices : NO DATA
- Ethylbenzene
  - ACGIH : NO DATA
  - Biological exposure indices : NO DATA

### B. Engineering Controls :

- ▷ Do install the local ventilations and full ventilation system
- ▷ Using local ventilation to Minimize the exposure to worker.
- ▷ NO DATA
- ▷ NO DATA

### C. Personal Protective Equipment

- Respiratory protection : Respirators should be authorized by Korea Occupational Safety and Health Agency  
Use the personal protect respirator for organic solvent or higher level of capacity when workers are supposed to be exposed under unsuitable respiratory working condition, or longer period exposure than standard level.  
Consider warning properties before use.  
Respiratory protection may be needed, while frequent use or heavy exposure.  
Respiratory protection is ranked in order from minimum to maximum  
If there is possibility of direct contact or exposure to these substances should wear a authorized dust-proof mask or respirator for organic compounds
- Eye protection : Use the respirator for organic solvent or higher level.  
Install washing facilities and an emergency washing facilities close to workplace.  
Let workers do wear the safety glasses in case hazard caused by mist may be expected.  
If there is possibility of direct contact or exposure to these substances should wear authorized safty glasses or mask.
- Hand protection : Do the workers wear the impermeable protective gloves made from rubber/PVC due to skin irritation may be supposed by chronicle and long period exposure.  
Wear the chemical protective gloves  
Wear appropriate protective gloves  
If there is possibility of direct contact or exposure to these substances should wear authorized safety gloves for

chemicals.

○ Skin protection : Work after wearing the impermeable protective apron made by rubber/PVC in case hazard caused by exposure or spill, wear the impermeable whole body protective clothing if needed.

Wear appropriate chemical protective clothing.

Wear cleanroom garment or appropriate protective clothing to prevent contamination

If there is a possibility of direct contact or exposure to the substance Wear protective clothing for chemical substances

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## 9. Physical and chemical properties

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- A. Appearance : Gray
- B. Odor : Solvent Odor
- C. Odor threshold : NO DATA
- D. PH : NO DATA
- E. Melting point/Freezing point(°C) : NO DATA
- F. Initial Boiling Point/Boiling Ranges(°C) : 75.5~172.8
- G. Flash point(°C) : 9.2
- H. Evaporating Rate : NO DATA
- I. Flammability(solid, gas)(°C) : NON Flammable
- J. Upper/Lower Flammability or explosive limits : NO DATA
- K. Vapour pressure : NO DATA
- L. Solubility : NO DATA
- M. Vapour density : Higher than
- N. Specific gravity : 1.2~1.6
- O. Partition coefficient of n-octanol/water : NO DATA
- P. Autoignition temperature(°C) : 354
- Q. Decomposition temperature(°C) : NO DATA
- R. Viscosity : NO DATA
- S. Molecular weight : NO DATA

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## 10. Stability and reactivity

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- A. Chemical stability : NO DATA
- B. Possibility of hazardous reactions : Do not contact with heat, spark, flame or other flammable sources  
Avoid contaminants and friction
- C. Conditions to avoid : Oxidation agent, metal and combustible materials
- D. Hazardous decomposition products : Thermal decomposition products (carbon etc..)

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## 11. Toxicological information

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- A. Information on the likely routes of exposure
  - Respiratory tracts : Adverse lung effects, Dyspnoea, Hypothermia, Vomitting
  - Oral : Vomitting, Diarrhea, Stomach pain, Irregular heartbeat
  - Skin : Irritation, Burn, Adverse nerve effects
  - Eye : Irritation, eye damage
- B. Delayed and immediate effects and also chronic effects from short and long term exposure
  - Talc(Containing no asbestos fibers)
    - Acute toxicity
      - Oral : NO DATA
      - Dermal : NO DATA
      - Inhalation : NO DATA
    - Skin corrosion/irritation : 300µg/3day(human) : weak stimulus
    - Serious eye damage/irritation : NO DATA
    - Respiratory sensitization : NO DATA
    - Skin sensitization : NO DATA
    - Carcinogenicity
      - IARC : Group 2B
      - OSHA : NO DATA
      - ACGIH : A4
      - NTP : NO DATA
      - EU CLP : NO DATA
    - Germ cell mutagenicity : Salmonella species / Negative
    - Reproductive toxicity : Salmonella species / Negative
    - STOT-single exposure : NO DATA
    - STOT-repeated exposure : NO DATA
    - Aspiration hazard : NO DATA
  - Toluene
    - Acute toxicity

- Oral : rat LD50=2600 mg/kg
- Dermal : rabbit LD50=12,000 mg/kg
- Inhalation : rabbit LD50=12,000 mg/kg
- Skin corrosion/irritation : Rabbit skin irritation test using the results of the Causes moderate irritation.
- Serious eye damage/irritation : Eyes irritant test using a rabbit raised for 6 days reversible irritation.
- Respiratory sensitization : NO DATA
- Skin sensitization : Tests with negative results Guinea
- Carcinogenicity
  - IARC : Group 3
  - OSHA : NO DATA
  - ACGIH : A4
  - NTP : NO DATA
  - EU CLP : NO DATA
- Germ cell mutagenicity : Dominant lethal test negative, positive micronucleus test, chromosome aberration test positive
- Reproductive toxicity : Dominant lethal test negative, positive micronucleus test, chromosome aberration test positive
- STOT-single exposure : Causes acts on the central nervous system in humans, fatigue, drowsiness, dizziness, respiratory irritation, agitation, vomiting, central nervous system depression, confusion, gait abnormalities. Eyes, nose, causing irritation of the throat. In experimental animals
- STOT-repeated exposure : Headaches accompanied by people from hearing loss or visual field constriction, or nystagmus, tremor, ataxia, loss of memory, such as chronic central nervous system disorder that appears. Noewichuk is observed. It appears kidney dysfunction such as hematuria or pro
- Aspiration hazard : NO DATA
- 2-Methyl-2-propenoic acid polymer with butyl 2-methyl-2-propenoate and methyl 2-methyl-2-propenoate
  - Acute toxicity
    - Oral : NO DATA
    - Dermal : NO DATA
    - Inhalation : NO DATA
  - Skin corrosion/irritation : NO DATA
  - Serious eye damage/irritation : NO DATA
  - Respiratory sensitization : NO DATA
  - Skin sensitization : NO DATA
  - Carcinogenicity
    - IARC : NO DATA
    - OSHA : NO DATA
    - ACGIH : NO DATA
    - NTP : NO DATA
    - EU CLP : NO DATA
  - Germ cell mutagenicity : NO DATA
  - Reproductive toxicity : NO DATA
  - STOT-single exposure : NO DATA
  - STOT-repeated exposure : NO DATA
  - Aspiration hazard : NO DATA
- Barium sulfate, natural
  - Acute toxicity
    - Oral : LD50 > 3000 mg/kg Rat
    - Dermal : NO DATA
    - Inhalation : NO DATA
  - Skin corrosion/irritation : Non-irritating to human
  - Serious eye damage/irritation : e irritation have been reported in humans.
  - Respiratory sensitization : NO DATA
  - Skin sensitization : NO DATA
  - Carcinogenicity
    - IARC : NO DATA
    - OSHA : NO DATA
    - ACGIH : NO DATA
    - NTP : NO DATA
    - EU CLP : NO DATA
  - Germ cell mutagenicity : NO DATA
  - Reproductive toxicity : NO DATA
  - STOT-single exposure : NO DATA
  - STOT-repeated exposure : NO DATA
  - Aspiration hazard : NO DATA
- Titanium dioxide
  - Acute toxicity
    - Oral : LD50 > 10000 mg/kg Rat
    - Dermal : LD50 > 10000 mg/kg Rabbit
    - Inhalation : LD50 > 10000 mg/kg Rabbit
  - Skin corrosion/irritation : (in rabbit) skin Irritation test result weak Irritation or non-irritating
  - Serious eye damage/irritation : Using the rabbit eye irritation test results - Mild irritant
  - Respiratory sensitization : NO DATA
  - Skin sensitization : negative patch test results in people
  - Carcinogenicity
    - IARC : Group 2B
    - OSHA : NO DATA
    - ACGIH : A4
    - NTP : NO DATA
    - EU CLP : NO DATA
  - Germ cell mutagenicity : Mouse Micronucleustest Negative, Mouse Chromosomal abnormalitiestest Negative
  - Reproductive toxicity : Mouse Micronucleustest Negative, Mouse Chromosomal abnormalitiestest Negative
  - STOT-single exposure : NO DATA

- STOT-repeated exposure : Reported occupational pneumoconiosis in the exposed workers for more than 20 years.
- Aspiration hazard : NO DATA
- 2-Propanol
  - Acute toxicity
    - Oral : LD50 = 4710mg/kg Rat
    - Dermal : LD50 = 12870 mg/kg rabbit
    - Inhalation : LD50 = 12870 mg/kg rabbit
  - Skin corrosion/irritation : (using rabbit) skin Irritation test result weak Irritation and in people non-irritating
  - Serious eye damage/irritation : The rabbit eye irritation test results of weak or too irritating impartial
  - Respiratory sensitization : NO DATA
  - Skin sensitization : Guinea pig test results negative
  - Carcinogenicity
    - IARC : Group 3
    - OSHA : NO DATA
    - ACGIH : A4
    - NTP : NO DATA
    - EU CLP : NO DATA
  - Germ cell mutagenicity : (Using mouse bone marrow cells)Micronucleus test - Negative
  - Reproductive toxicity : (Using mouse bone marrow cells)Micronucleus test - Negative
  - STOT-single exposure : By inhalation exposure in rats decreased the activity is displayed. Stimulation of the digestive tract in humans during acute intoxication, blood pressure, body temperature, such as depression, central nervous system symptoms, renal failure appears.
  - STOT-repeated exposure : In mice it was 4 gaewol inhalation exposure experiment reported that the effect on the blood vessels, liver, spleen, kidneys and may impact on the anesthetic action is recognized
  - Aspiration hazard : Test mice when administered within 24 hours of the spectacle of death from cardiopulmonary arrest is recognized, an
- Acetic acid ethyl ester
  - Acute toxicity
    - Oral : LD50 5620 mg/kg Rat
    - Dermal : LD50 > 18000 mg/kg Rabbit
    - Inhalation : LD50 > 18000 mg/kg Rabbit
  - Skin corrosion/irritation : Unstimulated human and rabbit
  - Serious eye damage/irritation : Since the stimulus is shown, but recovered within seven days from the eyes of rabbits nine minutes outside (nite).
  - Respiratory sensitization : NO DATA
  - Skin sensitization : Skin sensitization tests in humans and rabbits negative
  - Carcinogenicity
    - IARC : NO DATA
    - OSHA : NO DATA
    - ACGIH : NO DATA
    - NTP : NO DATA
    - EU CLP : NO DATA
  - Germ cell mutagenicity : In vivo micronucleus test negative
  - Reproductive toxicity : In vivo micronucleus test negative
  - STOT-single exposure : It causes upper respiratory tract irritation in humans. When exposed to near lethal levels of anesthesia and the concentration causing lung damage.
  - STOT-repeated exposure : NO DATA
  - Aspiration hazard : NO DATA
- 4-Methyl-2-pentanone
  - Acute toxicity
    - Oral : LD50 2080 mg/kg Rat (NITE, ECHA)
    - Dermal : LD50 >16,000 mg/kg rabbit (NITE)
    - Inhalation : vapor LC50 8.2 ~ 16.4 mg/ℓ 4h Rat (ECHA)
  - Skin corrosion/irritation : Skin corrosion/irritation test results in rabbits, no irritation observed OECD TG 404 (ECHA)
  - Serious eye damage/irritation : As a result of severe eye damage/irritation test using rabbits, a weak irritation corneal index of 0.08, iris of 0, and congestion of 0.8 were observed OECD TG 405 (ECHA)
  - Respiratory sensitization : NO DATA
  - Skin sensitization : Skin sensitization test on guinea pigs, did not cause sensitization (ECHA)
  - Carcinogenicity
    - IARC : Group 2B
    - OSHA : NO DATA
    - ACGIH : A3
    - NTP : NO DATA
    - EU CLP : NO DATA
  - Germ cell mutagenicity : Bacterial reversion mutation test results using in vitro microorganisms OECD TG 476, mammalian chromosome abnormality test results OECD TG 473, negative in the absence of metabolic activity system, micronucleus test results using mammalian red blood cells in vivo, negative OECD TG 474, GLP (ECHA)
  - Reproductive toxicity : As a result of developmental toxicity/teratogenicity test using rats, kidney weight increase, fetal weight loss, and ossification delay were observed, but no evidence of anomaly was observed (NOAEL 1 000 ppm) (ECHA)
  - STOT-single exposure : salam-eseo gido · jeommag jageugseong, dutong · hyeongijeung · guto deung-ui machwi jag-yong-eul subanhaneun jungchu singyeong jeungsang-i natanam. dongmul silheom-eseo machwi jag-yong-i natanam. (NITE)82/5000In humans, symptoms of central nervous system accompanied by anesthetic action such as airway/mucosal irritation, headache, dizziness, and vomiting appear. Anesthesia is shown in animal experiments. (NITE)
  - STOT-repeated exposure : 90-day oral repeat toxicity test OECD TG408 results NOAEL 250 mg/kg bw/day (ECHA) due to increase in kidney weight
  - Aspiration hazard : NO DATA
- Trade secret

- Acute toxicity
  - Oral : NO DATA
  - Dermal : NO DATA
  - Inhalation : NO DATA
- Skin corrosion/irritation : NO DATA
- Serious eye damage/irritation : NO DATA
- Respiratory sensitization : NO DATA
- Skin sensitization : NO DATA
- Carcinogenicity
  - IARC : NO DATA
  - OSHA : NO DATA
  - ACGIH : NO DATA
  - NTP : NO DATA
  - EU CLP : NO DATA
- Germ cell mutagenicity : NO DATA
- Reproductive toxicity : NO DATA
- STOT-single exposure : NO DATA
- STOT-repeated exposure : NO DATA
- Aspiration hazard : NO DATA
- Xylene
  - Acute toxicity
    - Oral : LD50=3550 mg/kg rat
    - Dermal : LD50 4350 mg/kg Rabbit
    - Inhalation : LD50 4350 mg/kg Rabbit
  - Skin corrosion/irritation : Skin irritation test in rabbits Causes moderate irritation.
  - Serious eye damage/irritation : Skin irritation test in rabbits Causes moderate irritation.
  - Respiratory sensitization : NO DATA
  - Skin sensitization : NO DATA
  - Carcinogenicity
    - IARC : Group 3
    - OSHA : NO DATA
    - ACGIH : A4
    - NTP : NO DATA
    - EU CLP : NO DATA
  - Germ cell mutagenicity : If three people a voice dynamics, somatic cell mutagenicity tests in vivo (micronucleus test, chromosome test) Voice
  - Reproductive toxicity : If three people a voice dynamics, somatic cell mutagenicity tests in vivo (micronucleus test, chromosome test) Voice
  - STOT-single exposure : NO DATA
  - STOT-repeated exposure : NO DATA
  - Aspiration hazard : In the liquid can cause chemical pneumonia if swallowed.
- Ethylbenzene
  - Acute toxicity
    - Oral : LD50 = 3500 mg/kg Rat
    - Dermal : LD50 = 15400 mg/kg Rabbit
    - Inhalation : Steam LC50 = 4000 ppm 4 hr Rat (Equivalents : 17.4 mg/L)
  - Skin corrosion/irritation : skin Irritation test result weak Irritation
  - Serious eye damage/irritation : Rabbit eye irritation test results in a slight conjunctival irritation, recoverable damage.
  - Respiratory sensitization : NO DATA
  - Skin sensitization : NO DATA
  - Carcinogenicity
    - IARC : Group 2B
    - OSHA : NO DATA
    - ACGIH : A3
    - NTP : NO DATA
    - EU CLP : NO DATA
  - Germ cell mutagenicity : Micronucleustest Negative (7)
  - Reproductive toxicity : Micronucleustest Negative (7)
  - STOT-single exposure : It causes central nervous system effects in laboratory animals and airway irritation.
  - STOT-repeated exposure : NO DATA
  - Aspiration hazard : Hydrocarbons. Swallowing the liquid by aspiration may cause chemical pneumonia. Ties seongryul 0.74 mm<sup>2</sup> / s (25 °C)

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## 12. Ecological information

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### A. Ecotoxicity

- Talc(Containing no asbestos fibers)
  - Fish : LC50 > 100000 mg/ℓ 24 hr Brachydanio rerio
  - Crustaceans : LC50 = 94983.781 mg/ℓ 48 hr
  - Algae : LC50 = 48545.539 mg/ℓ
- Toluene
  - Fish : LC50 24 mg/ℓ 96 hr Oncorhynchus mykiss
  - Crustaceans : EC50 11.5 mg/ℓ 48 hr Daphnia magna
  - Algae : NO DATA
- 2-Methyl-2-propenoic acid polymer with butyl 2-methyl-2-propenoate and methyl 2-methyl-2-propenoate
  - Fish : NO DATA
  - Crustaceans : NO DATA
  - Algae : NO DATA
- Barium sulfate, natural
  - Fish : NO DATA
  - Crustaceans : EC50 = 32 mg/ℓ 48 hr Daphnia magna



- Algae : EC50 = 1890.263 mg/ℓ 96 hr
  - Titanium dioxide
    - Fish : NO DATA
    - Crustaceans : EC50 > 1000 mg/ℓ 48 hr
    - Algae : NO DATA
  - 2-Propanol
    - Fish : LC50 > 100 mg/ℓ 96 hr
    - Crustaceans : NO DATA
    - Algae : EC50 = 2.2 mg/ℓ 96 hr
  - Acetic acid ethyl ester
    - Fish : LC50 230 mg/ℓ 96 hr Pimephales promelas
    - Crustaceans : EC50 717 mg/ℓ 48 hr Daphnia magna
    - Algae : EC50 1800 ~ 3200 mg/ℓ 72 hr (Selenastrum sp.)
  - 4-Methyl-2-pentanone
    - Fish : ECHA LD50 >179 mg/ℓ 96 hr Brachydanio rerio (ECHA)
    - Crustaceans : ECHA EC50 >200 mg/ℓ 48 hr Daphnia magna (ECHA)
    - Algae : NO DATA
  - Trade secret
    - Fish : NO DATA
    - Crustaceans : NO DATA
    - Algae : NO DATA
  - Xylene
    - Fish : NO DATA
    - Crustaceans : NO DATA
    - Algae : NO DATA
  - Ethylbenzene
    - Fish : LC50 = 9.09 mg/ℓ 96 hr
    - Crustaceans : LC50 = 0.4 mg/ℓ 96 hr
    - Algae : NO DATA
- B. Persistence and degradability
- Talc(Containing no asbestos fibers)
    - Persistence : log Kow = -1.50
    - Degradability : NO DATA
  - Toluene
    - Persistence : log Kow 2.73
    - Degradability : NO DATA
  - 2-Methyl-2-propenoic acid polymer with butyl 2-methyl-2-propenoate and methyl 2-methyl-2-propenoate
    - Persistence : NO DATA
    - Degradability : NO DATA
  - Barium sulfate, natural
    - Persistence : log Kow = 0.63
    - Degradability : NO DATA
  - Titanium dioxide
    - Persistence : NO DATA
    - Degradability : NO DATA
  - 2-Propanol
    - Persistence : NO DATA
    - Degradability : NO DATA
  - Acetic acid ethyl ester
    - Persistence : log Kow 0.73
    - Degradability : BOD5/COD 0.81
  - 4-Methyl-2-pentanone
    - Persistence : log Kow 1.9 (ECHA)
    - Degradability : NO DATA
  - Trade secret
    - Persistence : NO DATA
    - Degradability : NO DATA
  - Xylene
    - Persistence : NO DATA
    - Degradability : NO DATA
  - Ethylbenzene
    - Persistence : NO DATA
    - Degradability : NO DATA
- C. Bioaccumulative potential
- Talc(Containing no asbestos fibers)
    - Bioaccumulative potential : NO DATA
    - Biodegradation : NO DATA
  - Toluene
    - Bioaccumulative potential : NO DATA
    - Biodegradation : 86 (%) 20 day
  - 2-Methyl-2-propenoic acid polymer with butyl 2-methyl-2-propenoate and methyl 2-methyl-2-propenoate
    - Bioaccumulative potential : NO DATA
    - Biodegradation : NO DATA
  - Barium sulfate, natural
    - Bioaccumulative potential : BCF = 3.162
    - Biodegradation : NO DATA
  - Titanium dioxide
    - Bioaccumulative potential : NO DATA
    - Biodegradation : NO DATA
  - 2-Propanol

- Bioaccumulative potential : NO DATA
  - Biodegradation : NO DATA
  - Acetic acid ethyl ester
    - Bioaccumulative potential : BCF 30
    - Biodegradation : 100 (%) 28 day
  - 4-Methyl-2-pentanone
    - Bioaccumulative potential : NO DATA
    - Biodegradation : 83% 28 day (ECHA)
  - Trade secret
    - Bioaccumulative potential : NO DATA
    - Biodegradation : NO DATA
  - Xylene
    - Bioaccumulative potential : NO DATA
    - Biodegradation : 39 (%)
  - Ethylbenzene
    - Bioaccumulative potential : NO DATA
    - Biodegradation : NO DATA
- D. Mobility in soil
- Talc(Containing no asbestos fibers)
    - ▷ NO DATA
  - Toluene
    - ▷ NO DATA
  - 2-Methyl-2-propenoic acid polymer with butyl 2-methyl-2-propenoate and methyl 2-methyl-2-propenoate
    - ▷ NO DATA
  - Barium sulfate, natural
    - ▷ NO DATA
  - Titanium dioxide
    - ▷ NO DATA
  - 2-Propanol
    - ▷ NO DATA
  - Acetic acid ethyl ester
    - ▷ NO DATA
  - 4-Methyl-2-pentanone
    - ▷ Koc 101.85 (Estimate)
  - Trade secret
    - ▷ NO DATA
  - Xylene
    - ▷ log Kow = 3.12 (measured) (ortho), 3.2 (measured) (meta), 3.15 (measurements) (p) (5)
  - Ethylbenzene
    - ▷ log Kow = 3.15 (11)
- E. Other adverse effects
- Talc(Containing no asbestos fibers)
    - ▷ NO DATA
  - Toluene
    - ▷ NO DATA
  - 2-Methyl-2-propenoic acid polymer with butyl 2-methyl-2-propenoate and methyl 2-methyl-2-propenoate
    - ▷ NO DATA
  - Barium sulfate, natural
    - ▷ NO DATA
  - Titanium dioxide
    - ▷ NO DATA
  - 2-Propanol
    - ▷ NO DATA
  - Acetic acid ethyl ester
    - ▷ NO DATA
  - 4-Methyl-2-pentanone
    - ▷ crustaceans(Daphnia magna) : NOEC 21 d=78 mg/L (ECHA)
  - Trade secret
    - ▷ NO DATA
  - Xylene
    - ▷ NO DATA
  - Ethylbenzene
    - ▷ NO DATA

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### 13. Disposal considerations

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- A. Disposal methods : Disposal material should keep in the airtighted container, and consign according to Waste Mateial Management Act  
 Pre-treat with oil-water separation method when it is available.  
 Recycle the recycleable materials, such as organic solvents, and then incinerate the residue at high temperature.  
 To prevent environmental pollution, dispose it to a licensed waste disposal company.
- B. Special precautions for disposal : Prohibit the unauthorized disposal and incineration due to adversely affect natural ecosystems  
 Discard it followed by appropriate regulations

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### 14. Transport information

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- A. UN number : 1263
- B. Proper shipping name : Paint (including paint, lacquer, enamel, colorants, shellac solutions, varnish, polish, liquid filler and liquid lacquer sealer) or related materials (including paint diluent and reductant).

- C. Hazard class : 3
- D. Packing group : II
- E. Marine pollutant : N/A
- F. Special precautions for user related to transport or transportation measures
  - EmS FIRE SCHEDULE : F-E
  - EmS SPILLAGE SCHEDULE : S-E

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## 15. Regulatory information

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- Talc(Containing no asbestos fibers)
  - Information of EU Classification
    - ▷ Classification : NO DATA
    - ▷ Risk Phrases : NO DATA
    - ▷ Safety Phrase : NO DATA
  - U.S. Federal regulations
    - ▷ OSHA PROCESS SAFETY (29CFR1910.119) : notapplicable
    - ▷ CERCLA Section 103 (40CFR302.4) : notapplicable
    - ▷ EPCRA Section 302 (40CFR355.30) : notapplicable
    - ▷ EPCRA Section 304 (40CFR355.40) : notapplicable
    - ▷ EPCRA Section 313 (40CFR372.65) : notapplicable
  - Rotterdam Convention listed ingredients : NO DATA
  - Stockholm Convention listed ingredients : NO DATA
  - Montreal Protocol listed ingredients : NO DATA
- Toluene
  - Information of EU Classification
    - ▷ Classification : NO DATA
    - ▷ Risk Phrases : NO DATA
    - ▷ Safety Phrase : NO DATA
  - U.S. Federal regulations
    - ▷ OSHA PROCESS SAFETY (29CFR1910.119) : notapplicable
    - ▷ CERCLA Section 103 (40CFR302.4) : 453.599 kg 1000 lb
    - ▷ EPCRA Section 302 (40CFR355.30) : notapplicable
    - ▷ EPCRA Section 304 (40CFR355.40) : notapplicable
    - ▷ EPCRA Section 313 (40CFR372.65) : pertinent
  - Rotterdam Convention listed ingredients : NO DATA
  - Stockholm Convention listed ingredients : NO DATA
  - Montreal Protocol listed ingredients : NO DATA
- 2-Methyl-2-propenoic acid polymer with butyl 2-methyl-2-propenoate and methyl 2-methyl-2-propenoate
  - Information of EU Classification
    - ▷ Classification : NO DATA
    - ▷ Risk Phrases : NO DATA
    - ▷ Safety Phrase : NO DATA
  - U.S. Federal regulations
    - ▷ OSHA PROCESS SAFETY (29CFR1910.119) : notapplicable
    - ▷ CERCLA Section 103 (40CFR302.4) : notapplicable
    - ▷ EPCRA Section 302 (40CFR355.30) : notapplicable
    - ▷ EPCRA Section 304 (40CFR355.40) : notapplicable
    - ▷ EPCRA Section 313 (40CFR372.65) : notapplicable
  - Rotterdam Convention listed ingredients : NO DATA
  - Stockholm Convention listed ingredients : NO DATA
  - Montreal Protocol listed ingredients : NO DATA
- Barium sulfate, natural
  - Information of EU Classification
    - ▷ Classification : NO DATA
    - ▷ Risk Phrases : NO DATA
    - ▷ Safety Phrase : NO DATA
  - U.S. Federal regulations
    - ▷ OSHA PROCESS SAFETY (29CFR1910.119) : notapplicable
    - ▷ CERCLA Section 103 (40CFR302.4) : notapplicable
    - ▷ EPCRA Section 302 (40CFR355.30) : notapplicable
    - ▷ EPCRA Section 304 (40CFR355.40) : notapplicable
    - ▷ EPCRA Section 313 (40CFR372.65) : notapplicable
  - Rotterdam Convention listed ingredients : NO DATA
  - Stockholm Convention listed ingredients : NO DATA
  - Montreal Protocol listed ingredients : NO DATA
- Titanium dioxide
  - Information of EU Classification
    - ▷ Classification : NO DATA
    - ▷ Risk Phrases : NO DATA
    - ▷ Safety Phrase : NO DATA
  - U.S. Federal regulations
    - ▷ OSHA PROCESS SAFETY (29CFR1910.119) : notapplicable
    - ▷ CERCLA Section 103 (40CFR302.4) : notapplicable
    - ▷ EPCRA Section 302 (40CFR355.30) : notapplicable
    - ▷ EPCRA Section 304 (40CFR355.40) : notapplicable
    - ▷ EPCRA Section 313 (40CFR372.65) : notapplicable
  - Rotterdam Convention listed ingredients : NO DATA
  - Stockholm Convention listed ingredients : NO DATA
  - Montreal Protocol listed ingredients : NO DATA

- 2-Propanol
  - Information of EU Classification
    - ▷ Classification : NO DATA
    - ▷ Risk Phrases : NO DATA
    - ▷ Safety Phrase : NO DATA
  - U.S. Federal regulations
    - ▷ OSHA PROCESS SAFETY (29CFR1910.119) : notapplicable
    - ▷ CERCLA Section 103 (40CFR302.4) : notapplicable
    - ▷ EPCRA Section 302 (40CFR355.30) : notapplicable
    - ▷ EPCRA Section 304 (40CFR355.40) : notapplicable
    - ▷ EPCRA Section 313 (40CFR372.65) : pertinent
  - Rotterdam Convention listed ingredients : NO DATA
  - Stockholm Convention listed ingredients : NO DATA
  - Montreal Protocol listed ingredients : NO DATA
- Acetic acid ethyl ester
  - Information of EU Classification
    - ▷ Classification : NO DATA
    - ▷ Risk Phrases : NO DATA
    - ▷ Safety Phrase : NO DATA
  - U.S. Federal regulations
    - ▷ OSHA PROCESS SAFETY (29CFR1910.119) : notapplicable
    - ▷ CERCLA Section 103 (40CFR302.4) : 2267.995 kg 5000 lb
    - ▷ EPCRA Section 302 (40CFR355.30) : notapplicable
    - ▷ EPCRA Section 304 (40CFR355.40) : notapplicable
    - ▷ EPCRA Section 313 (40CFR372.65) : notapplicable
  - Rotterdam Convention listed ingredients : NO DATA
  - Stockholm Convention listed ingredients : NO DATA
  - Montreal Protocol listed ingredients : NO DATA
- 4-Methyl-2-pentanone
  - Information of EU Classification
    - ▷ Classification : NO DATA
    - ▷ Risk Phrases : NO DATA
    - ▷ Safety Phrase : NO DATA
  - U.S. Federal regulations
    - ▷ OSHA PROCESS SAFETY (29CFR1910.119) : NO DATA
    - ▷ CERCLA Section 103 (40CFR302.4) : 2267.995 kg 5000 lb
    - ▷ EPCRA Section 302 (40CFR355.30) : NO DATA
    - ▷ EPCRA Section 304 (40CFR355.40) : NO DATA
    - ▷ EPCRA Section 313 (40CFR372.65) : Applicable
  - Rotterdam Convention listed ingredients : NO DATA
  - Stockholm Convention listed ingredients : NO DATA
  - Montreal Protocol listed ingredients : NO DATA
- Trade secret
  - Information of EU Classification
    - ▷ Classification : NO DATA
    - ▷ Risk Phrases : NO DATA
    - ▷ Safety Phrase : NO DATA
  - U.S. Federal regulations
    - ▷ OSHA PROCESS SAFETY (29CFR1910.119) : NO DATA
    - ▷ CERCLA Section 103 (40CFR302.4) : NO DATA
    - ▷ EPCRA Section 302 (40CFR355.30) : NO DATA
    - ▷ EPCRA Section 304 (40CFR355.40) : NO DATA
    - ▷ EPCRA Section 313 (40CFR372.65) : NO DATA
  - Rotterdam Convention listed ingredients : NO DATA
  - Stockholm Convention listed ingredients : NO DATA
  - Montreal Protocol listed ingredients : NO DATA
- Xylene
  - Information of EU Classification
    - ▷ Classification : NO DATA
    - ▷ Risk Phrases : NO DATA
    - ▷ Safety Phrase : NO DATA
  - U.S. Federal regulations
    - ▷ OSHA PROCESS SAFETY (29CFR1910.119) : notapplicable
    - ▷ CERCLA Section 103 (40CFR302.4) : 45.3599 kg 100 lb
    - ▷ EPCRA Section 302 (40CFR355.30) : notapplicable
    - ▷ EPCRA Section 304 (40CFR355.40) : notapplicable
    - ▷ EPCRA Section 313 (40CFR372.65) : pertinent
  - Rotterdam Convention listed ingredients : NO DATA
  - Stockholm Convention listed ingredients : NO DATA
  - Montreal Protocol listed ingredients : NO DATA
- Ethylbenzene
  - Information of EU Classification
    - ▷ Classification : NO DATA
    - ▷ Risk Phrases : NO DATA
    - ▷ Safety Phrase : NO DATA
  - U.S. Federal regulations
    - ▷ OSHA PROCESS SAFETY (29CFR1910.119) : notapplicable
    - ▷ CERCLA Section 103 (40CFR302.4) : 453.599 kg 1000 lb
    - ▷ EPCRA Section 302 (40CFR355.30) : notapplicable
    - ▷ EPCRA Section 304 (40CFR355.40) : notapplicable
    - ▷ EPCRA Section 313 (40CFR372.65) : pertinent

- Rotterdam Convention listed ingredients : NO DATA
- Stockholm Convention listed ingredients : NO DATA
- Montreal Protocol listed ingredients : NO DATA

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## 16. Other information

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### A. Reference

- The information contained herein is believed to be accurate. It is provided independently of any sale of the product for purpose of hazard communication. It is not intended to constitute performance information concerning the product. No express warranty, or implied warranty of merchantability or fitness for a particular purpose is made with respect to the product or the information contained herein.

- This Safety Data Sheet was compiled with data and information from the following sources: KOSHA, NITE, ESIS,NLM, SIDS, IPCS

B. Issue date : 2016-03-23

C. Revision number and Last date revised : 7. 2021-01-13

D. Other : " [WWW.NOROO.CO.KR](http://WWW.NOROO.CO.KR) "