

1. Identification

- A. Product name : BODYIAN URETHANE THINNER MR-10
 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: vapor) Category 4
 Carcinogenicity Category 1B
 Germ cell mutagenicity Category 1B
 Chronic aquatic toxicity Category 3
 Serious eye damage/irritation Category 2A
 Specific target organ toxicity(Single exposure) Category 2
 Specific target organ toxicity(Single exposure) Category 3
 Specific target organ toxicity(Repeated exposure) Category 1
 Specific target organ toxicity(Repeated exposure) Category 2
 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
 - H350 May cause cancer
 - H340 May cause genetic defects
 - H412 Harmful to aquatic life with long lasting effects
 - H319 Causes serious eye irritation
 - H371 Causes damage to the immune system and kidneys in the body. (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)
 - H373 Prolonged or repeated exposure may cause damage to the liver, testes, skin, respiratory system, blood and central nervous system of 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.
 - P273 Avoid release to the environment.
 - 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.
- P314 Get medical advice/attention if you feel unwell.
- P302+P352 IF ON SKIN: Wash with plenty of soap and water.
- P321 Specific treatment
- 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 Store 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
Toluene		2	3	0
n-Butyl acetate		2	3	0
Methyl Ethyl Ketone		1	3	0
Acetic acid ethyl ester		1	3	0
Xylene		NO DATA	NO DATA	NO DATA
Solvent naphtha (petroleum), light arom.		1	2	0
Ethylbenzene		2	3	0

3. Composition/information on ingredients

Chemical Name	Trade names and Synonyms	CAS-NO	Content(%)
Toluene	Toluene	108-88-3	58~68
n-Butyl acetate	n-Butyl acetate	123-86-4	9~19
Methyl Ethyl Ketone	Methyl Ethyl Ketone	78-93-3	7~17
Acetic acid ethyl ester	Acetic acid ethyl ester	141-78-6	6~16
Xylene	Xylene	1330-20-7	1~11
Solvent naphtha (petroleum), light arom.	Solvent naphtha (petroleum), light arom.	64742-95-6	1~10
Ethylbenzene	Ethylbenzene	100-41-4	0.1~4

4. First-aid measures

- A. Eye Contact : If irritation, pain, swelling, tears or glaring happens, take medical assistant immediately Flush exposed eyes with plenty of water for more than 15minutes.
- B. Skin Contact : Wash off with soap and water for more than 15 minutes. And take medical assistant immediately. If symptoms like irritation or pain occurs, take medical assistant immediately. Remove exposed clothing, and wash off exposed area with soap and water.
- C. Inhalation : Take a medical assistant immediately. Remove contaminated clothing and shoes, and isolate it. If hard to breathe, administering oxygen Perform the artificial respiration, using the pocket mask with one way valves or other respiratory medical devices. If inhaled or swallowed, do not perform the inhalation phase of breathing If not breathing, perform the artificial respiration. Avoid from exposure, and move into an area with fresh air.
- D. Ingestion Contact : 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 Take proper medical assistant by symptoms. If ingested large quantity, take medical assistant. If unconscious, do not induce vomiting. In case of vomiting, keep head down under hip to prevent lung inhalation. Inducing vomit.
- E. Notes to Physician : There is no specific antidote and take an appropriate medical treatment.

5. Fire-fighting measures

- 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
 - Case of big fire : Use appropriate protective device depend on the situation. Stay away more than 800m to avoid tank explosion. Spread large amount of the extinguishing agent as a mist form with staying against wind.
- B. Specific hazards arising from the chemical
- Pyrolysate : Carbon dioxide, toxic carbon compounds/Nitrogen compounds/sulfur compounds
 - Fire and Explosion danger : Risk of medium-sized fire.
- 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 : Block the area except for the fire-suppression personnel. Cooling containers with water long time after extinguish fire. If there is no risk, moving containers away from fire. Use appropriate extinguishing agents to catch fire.

6. Accidental release measures

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

7. Handling and storage

- A. Precautions for safe handling : Use local ventilations and a full ventilation system when handling Seal the container for minimizing the petroleum steam Ground for preventing the static discharge Keep or handle followed by Dangerous goods Safety Management Act
- B. Conditions for safe storage, including any incompatibilities : Stored in an isolated place, freezing caution, high temperature body caution. Avoid strong oxidizing agents, acid. Storage temperature: 5 ~ 35 °C Avoid direct sunlight while storing outdoor. Because of evaporation and contamination concerns, airtight the container and store in a well-ventilated building.

8. Exposure controls/personal protection

- A. Exposure Limits
- Toluene
 - ACGIH : NO DATA
 - Biological exposure indices : NO DATA
 - n-Butyl acetate
 - ACGIH : NO DATA
 - Biological exposure indices : NO DATA
 - Methyl Ethyl Ketone
 - ACGIH : NO DATA
 - Biological exposure indices : NO DATA
 - Acetic acid ethyl ester
 - ACGIH : NO DATA
 - Biological exposure indices : NO DATA
 - Xylene
 - ACGIH : NO DATA
 - Biological exposure indices : NO DATA
 - Solvent naphtha (petroleum), light arom.
 - 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 : 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. Respirators should be authorized by Korea Occupational Safety and Health Agency
 - Eye protection : Let workers do wear the safety glasses in case hazard caused by mist may be expected. Install washing facilities and an emergency washing facilities close to workplace. Use the respirator for organic solvent or higher level.
 - Hand protection : Wear the chemical protective gloves 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.
 - Skin protection : Wear appropriate chemical protective clothing. 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.

9. Physical and chemical properties

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- A. Appearance : transparent liquid
 - 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) : 76~173
 - G. Flash point(°C) : 5
 - 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 air
 - N. Specific gravity : 0.8-0.9
 - O. Partition coefficient of n-octanol/water : NO DATA
 - P. Autoignition temperature(°C) : 407
 - Q. Decomposition temperature(°C) : NO DATA
 - R. Viscosity : NO DATA
 - S. Molecular weight : NO DATA
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10. Stability and reactivity

- A. Chemical stability : NO DATA
 - B. Possibility of hazardous reactions : Avoid contaminants and friction Do not contact with heat, spark, flame or other flammable sources
 - 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

- 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
 - 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
 - n-Butyl acetate
 - Acute toxicity
 - Oral : LD50 = 14130 mg/kg Rat
 - Dermal : LD50 = 17600 mg/kg Rabbit
 - Inhalation : LD50 = 17600 mg/kg Rabbit

- Skin corrosion/irritation : Causes a weak stimulus person.
- Serious eye damage/irritation : Non-irritating to rabbit eye irritation
- Respiratory sensitization : NO DATA
- Skin sensitization : Not a skin sensitizer
- 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 : Central nervous system disorders who. pulmonary edema, respiratory irritation.
- STOT-repeated exposure : NO DATA
- Aspiration hazard : NO DATA
- Methyl Ethyl Ketone
 - Acute toxicity
 - Oral : LD50 2737 mg/kg Rat
 - Dermal : LD50 6480 mg/kg rabbit
 - Inhalation : LD50 6480 mg/kg rabbit
 - Skin corrosion/irritation : Moderate irritation (Rabbit)
 - Serious eye damage/irritation : It appears not to be irritating by vapor exposure 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 : Mammalian erythrocyte micronucleus test using Voice
 - Reproductive toxicity : Mammalian erythrocyte micronucleus test using Voice
 - STOT-single exposure : In the rat or mouse inhalation exposure test results appear in the relatively low concentration the effect on the central nervous system. It appears also affect the kidneys at concentrations in the rat courtyard. This prayer appears irritant by inhalation exposure
 - STOT-repeated exposure : NO DATA
 - Aspiration hazard : Ketones less than 13 carbon atoms
- 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
- 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.
- Solvent naphtha (petroleum), light arom.

- Acute toxicity
 - Oral : LD50 = 8400 mg/kg Rat
 - Dermal : LD50 > 2000 mg/kg Rabbit
 - Inhalation : LD50 > 2000 mg/kg Rabbit
- Skin corrosion/irritation : weakstimulus(rabbit)
- Serious eye damage/irritation : Mild irritant(rabbit)
- Respiratory sensitization : NO DATA
- Skin sensitization : Non-sensitizer (Guinea pig)
- Carcinogenicity
 - IARC : NO DATA
 - OSHA : NO DATA
 - ACGIH : NO DATA
 - NTP : NO DATA
 - EU CLP : Carc. 1B
- Germ cell mutagenicity : EU CLP: 1B (case containing less than 0.1% of the benzene in a weight ratio of the material not applied to the present classification)
- Reproductive toxicity : EU CLP: 1B (case containing less than 0.1% of the benzene in a weight ratio of the material not applied to the present classification)
- STOT-single exposure : Affecting the central nervous system. Inhalation of high concentrations vapors may cause loss of consciousness.
- STOT-repeated exposure : NO DATA
- Aspiration hazard : Harmful aspiration concerns
- 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 mm² / s (25 °C)

12. Ecological information

A. Ecotoxicity

- Toluene
 - Fish : LC50 24 mg/ℓ 96 hr *Oncorhynchus mykiss*
 - Crustaceans : EC50 11.5 mg/ℓ 48 hr *Daphnia magna*
 - Algae : NO DATA
- n-Butyl acetate
 - Fish : LC50 = 62 mg/ℓ 96 hr
 - Crustaceans : LC50 = 32 mg/ℓ 48 hr
 - Algae : NO DATA
- Methyl Ethyl Ketone
 - Fish : LC50 3220 mg/ℓ 96 hr *Pimephales promelas*
 - Crustaceans : EC50 5091 mg/ℓ 48 hr *Daphnia magna*
 - Algae : EC50 > 500 mg/ℓ 96 hr *Skeletonema costatum*
- 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.*)
- Xylene
 - Fish : NO DATA
 - Crustaceans : NO DATA
 - Algae : NO DATA
- Solvent naphtha (petroleum), light arom.
 - Fish : LC50 = 9.22 mg/ℓ 96 hr *Oncorhynchus mykiss*
 - Crustaceans : EC50 = 6.14 mg/ℓ 48 hr *Daphnia magna*
 - Algae : EC50 = 19 mg/ℓ 72 hr *Selenastrum capricornutum*
- Ethylbenzene
 - Fish : LC50 = 9.09 mg/ℓ 96 hr
 - Crustaceans : LC50 = 0.4 mg/ℓ 96 hr
 - Algae : NO DATA

B. Persistence and degradability

- Toluene
 - Persistence : log Kow 2.73
 - Degradability : NO DATA
- n-Butyl acetate

- Persistence : log Kow = 1.78
 - Degradability : NO DATA
 - Methyl Ethyl Ketone
 - Persistence : log Kow 0.29
 - Degradability : NO DATA
 - Acetic acid ethyl ester
 - Persistence : log Kow 0.73
 - Degradability : BOD5/COD 0.81
 - Xylene
 - Persistence : NO DATA
 - Degradability : NO DATA
 - Solvent naphtha (petroleum), light arom.
 - Persistence : log Kow = 2.1 ~ 6 (Estimates)
 - Degradability : BOD5/COD = 0.43
 - Ethylbenzene
 - Persistence : NO DATA
 - Degradability : NO DATA
- C. Bioaccumulative potential
- Toluene
 - Bioaccumulative potential : NO DATA
 - Biodegradation : 86 (%) 20 day
 - n-Butyl acetate
 - Bioaccumulative potential : NO DATA
 - Biodegradation : Biodegradability = 98 (%)
 - Methyl Ethyl Ketone
 - Bioaccumulative potential : NO DATA
 - Biodegradation : 89 (%) 20 day
 - Acetic acid ethyl ester
 - Bioaccumulative potential : BCF 30
 - Biodegradation : 100 (%) 28 day
 - Xylene
 - Bioaccumulative potential : NO DATA
 - Biodegradation : 39 (%)
 - Solvent naphtha (petroleum), light arom.
 - Bioaccumulative potential : NO DATA
 - Biodegradation : NO DATA
 - Ethylbenzene
 - Bioaccumulative potential : NO DATA
 - Biodegradation : NO DATA
- D. Mobility in soil
- Toluene
 - ▷ NO DATA
 - n-Butyl acetate
 - ▷ NO DATA
 - Methyl Ethyl Ketone
 - ▷ NO DATA
 - Acetic acid ethyl ester
 - ▷ NO DATA
 - Xylene
 - ▷ log Kow = 3.12 (measured) (ortho), 3.2 (measured) (meta), 3.15 (measurements) (p) (5)
 - Solvent naphtha (petroleum), light arom.
 - ▷ NO DATA
 - Ethylbenzene
 - ▷ log Kow = 3.15 (11)
- E. Other adverse effects
- Toluene
 - ▷ NO DATA
 - n-Butyl acetate
 - ▷ NO DATA
 - Methyl Ethyl Ketone
 - ▷ NO DATA
 - Acetic acid ethyl ester
 - ▷ NO DATA
 - Xylene
 - ▷ NO DATA
 - Solvent naphtha (petroleum), light arom.
 - ▷ NO DATA
 - Ethylbenzene
 - ▷ NO DATA

13. Disposal considerations

A. Disposal methods : Disposal material should keep in the airtighted container, and consign according to Waste Mateial Management Act

B. Special precautions for disposal : Discard it followed by appropriate regulations Prohibit the unauthorized disposal and incineration due to adversely affect natural ecosystems

14. Transport information

- 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

15. Regulatory information

- 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
- n-Butyl acetate
 - 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
- Methyl Ethyl Ketone
 - 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
- 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
- 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
- Solvent naphtha (petroleum), light arom.
 - 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
- 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

16. Other information

A. Reference

This MSDS is based on 'Industrial safety and health' Act paragraph 41 and Proclamation of Ministry of Labor and Employment 2016-19, and considered domestic regulations.

This MSDS is based on KOSHA, NITE, ESIS, NLM, SIDS, IPCS, NCIS.

B. Issue date : 2021-01-13

C. Revision number and Last date revised : 2. 2021-01-13

D. Other : " WWW.NOROO.CO.KR"