물질안전보건자료
(Material Safety Data Sheet)

Name of the product	KUT570(B)

1. Information about chemicals and companies

A. Product name	KUT570(B)
B. Recommended use of the product and restriction	
Recommended use of the product	general industrial hardener
Product usage restrictions	Do not use anything other than the intended use
C. Supplier information (in case of imported goods, enter information of domestic suppliers that can be contacted urgently)	
Corporate name	Geumgang Paint Industrial Co., Ltd.
Address	454-2 Yongjeon-ri, Gokyeong-myeon, Yeongcheon-si, Gyeongsangbuk-do
Emergency phone number	054-338-7722

2. Harmful and dangerous

A. Classification of hazards and risks

Flammable liquid: classification2
Skin Corrosive/Skin Irritability: Classification
Severe eye damage/eye irritation: classification2
Carcinogenicity: Classification 1B
Reproductive cell variability: Classification 1B
Specific target organ toxicity (1 exposure): Classification 3 (anesthesia)
Specific target organ toxicity (1 exposure): Classification 3 (breathing machine
Aspiration hazard: classification1
Hazardous Chronic Aquatic Environment: Classification 3

B. Warning sign items including precautionary statements

Picture Text

Signal word: Danger

Hazardous and hazardous statements:
H225 Highly flammable liquids and vapors
H304 May be fatal if swallowed and introduced into the airway
H315 Causes skin irritation
H319 Causes severe eye irritation
H335 May cause respiratory irritation
H336 May cause drowsiness or dizziness
H340 May cause genetic defects
May cause H350 cancer
H412 Harmful to aquatic organisms due to long-term effects

Precautionary statement

Prevention:
P201 Obtain the handling manual before use.
P202 Do not handle all safety precautions until you have read and understood them.
P210 Stay away from heat, spark, flame and high heat - No smoking
P233 Seal the container tightly.
Connect or ground the P240 container and shelter.
P241 Use electrical, ventilation, lighting, (...) and equipment to prevent explosion.
Use only tools that do not cause P242 sparks.
P243 Take anti-static measures.
P261 Avoid inhalation of dust, fume, gas, mist, steam, spray.
P264 Wash the handling area thoroughly after handling.

Response:
P271 Handle only outdoors or in well ventilated areas.
P273 Do not discharge into the environment.

Response	P280 Wear protective gloves, protective clothing, eye protection, and face protection. P301+P310 If swallowed, seek medical attention immediately. P302+P352 Wash with plenty of water/... if it gets on your skin. P303+P361+P353 Take off all contaminated clothing if it is on the skin (or hair). Wash/Shower your skin with water. P304+P340 When inhaled, move to a place with fresh air and stabilize in a breathable position. P305+P351+P338 If it gets on your eyes, wash it carefully with water for a few minutes. Remove contact lenses if possible. Keep washing. P308+P313 If exposed or feared exposed, seek medical attention. P312 If you feel uncomfortable, consult a medical institution. P321 (…) Treat. P331 Don't make me throw up. P332+P313 If skin irritation occurs, seek medical measures and advice. P337+P313 If eye irritation persists, seek medical measures and advice. P362+P364 Take off contaminated clothing and clean it before using again. P370+P378 To extinguish fire in case of fire (…)Use .
Storage	Store the P403+P233 container tightly sealed in a well ventilated area. P403+P235 Store in a well-ventilated place and keep it low. P405 Store in a storage area with a lock.
Disposal	P501 Dispose of the container (as specified in the relevant laws and regulations).

솔벤트 나프타 (석유), 경질 방향족화합물(SOLVENT NAPHTHA (PETROLEUM), LIGHT AROMATIC)

Health	1
Fire	2
Reactive	0

Butyl acetic acid

Health	3
Fire	2
Reactive	0

Xylene

Health	1
Fire	3
Reactive	0

Propylene glycol monomethyl ether acetic acid

Health	1
Fire	2
Reactive	0

폴리(헥사메틸렌 디아이소시안산)(POLY(HEXAMETHYLENE DIISOCYANATE))

Health	2
Fire	1
Reactive	1

4-methylbenzensulfonyl isocyanic acid

Health	2
Fire	1
Reactive	2

3. Name and content of components

Material name	Nomenclature (tolerance)	CAS number	content (%)
Solvent naphtha (oil), SOLVENT NAPHTHA (PETROLEUM), LIGHT AROMATIC	aromatic naphtha, type I	64742-95-6	10 ~ 20
Butyl acetic acid	Nomal-Chic Acid Butyl	123-86-4	1 ~ 10
Xylene	n-secondary butyl Xylene, o,m,p-isomers Xylene(o,m,p-isomers)	1330-20-7	1 ~ 10

Propylene glycol monomethyl ether acetic acid	1-methoxy-2-propanol acetic acid (1-METHOXY-2-PROPANOL ACETATE);	108-65-6	20 ~ 30
Poly(Hexamethylene diisocyanate) (POLY)	1,6-DISSOCYANATOHEXANE HOMOPOLYMER);	28182-81-2	40 ~ 50
4-methylbenzensulfonyl isocyanic acid	benzensulfonyl isocyanate, 4-methyl-(BENZENESULFONYL ISOCYANATE);	4083-64-1	0.1 ~ 0.9

4. First aid measures

A. When you get in the eye,	If it gets on your eyes, wash it carefully with water for a few minutes. Remove contact lenses if possible. Keep washing.
	If irritation persists, seek medical measures and advice.
B. When you come into contact with your skin,	Take off all contaminated clothing if it is on your skin (or hair). Wash/Shower your skin with water.
	If skin irritation occurs, seek medical measures and advice.
	Get emergency medical attention.
	Remove contaminated clothing and shoes and isolate contaminated areas.
	Prevent the spread of contaminated areas in case of minor skin contact.
	In case of burns, cool the affected area immediately with cold water for as long as possible, and do not remove clothes that stick to the skin.
	Wash your skin with soap and water.
C. When you inhale it.	If you are exposed or are concerned about exposure, seek medical measures and advice.
	Don't make me throw up.
	Remove excess dust or fume with clean air and take medical measures if you have cough or other symptoms.
D. When you eat.	If swallowed, seek medical attention immediately.
	Don't make me throw up.
	When eating or inhaling substances, do not use mouth-to-mouth respiration techniques and use appropriate breathing apparatus.
E. Other medical precautions	Contact the medical staff and take special emergency measures such as follow-up investigation when exposing.
	Let medical personnel be aware of the substance and take protective measures.

5. How to deal with explosions and fires

A. Adequate (inappropriate) digestive medicine

Adequate (inappropriate) digestive medicine	Use alcohol foam, carbon dioxide or water spray when extinguishing this substance.
	Use dry sand or soil for asphyxiation

B. Specific hazards arising from chemicals

Specific hazards arising from chemicals	Highly flammable liquids and vapors
	Can cause fire and explosion due to intense polymerization
	Steam can be transferred to the ignition source and ignited
	May cause irritating and highly toxic gases by pyrolysis or combustion during burning
	Explosive mixture may be formed at or above the ignition point
	Containers may explode when heated
	Highly flammable: easily ignited by heat, sparks and flames
	Leaks are at risk of fire/explosion
	Risk of vapor explosion in indoor, outdoor, and sewer systems
Specific hazards arising from chemicals	Some may burn but do not ignite easily
	Steam can form explosive mixtures with air
	Non-inflammatory, the substance itself does not burn, but may decompose during heating, resulting in corrosive/toxic fume

C. Protective equipment and preventive measures to be worn in the event of a fire.

솔벤트 나프타 (석유), 경질 방향족화합물 (SOLVENT NAPHTHA (PETROLEUM), LIGHT AROMATIC)	Rescuers should wear appropriate protective gear.
	Keep a safe distance away from the area and digest it.
	Most of them are lighter than water, so be careful.

	Most vapors are heavier than air, so they can spread along the ground and accumulate in lowlands or confined spaces It can be carried hot, so be careful. If it's not dangerous, move the containers from the fire area. In the event of a tank fire, fire it at maximum distance or use unmanned fire extinguishing equipment. In the event of a tank fire, cool the container with plenty of water even after extinguishing the fire. In case of a tank fire, withdraw immediately if there is a high-pitched sound or if the tank discolors. In the event of a tank fire, get out of the tank in flames. In the event of a tank fire, use unmanned fire extinguishing equipment for large-scale fires, and if it's impossible, let it burn. Butyl acetic acid
Butyl acetic acid	Rescuers should wear appropriate protective gear. Keep a safe distance away from the area and digest it. Most of them are lighter than water, so be careful. Most vapors are heavier than air, so they can spread along the ground and accumulate in lowlands or confined spaces In the event of a tank fire, fire it at maximum distance or use unmanned fire extinguishing equipment. In the event of a tank fire, cool the container with plenty of water even after extinguishing the fire. In case of a tank fire, withdraw immediately if there is a high-pitched sound or if the tank discolors. In the event of a tank fire, get out of the tank in flames. In the event of a tank fire, use unmanned fire extinguishing equipment for large-scale fires, and if it's impossible, let it burn.
Xylene	Rescuers should wear appropriate protective gear. Keep a safe distance away from the area and digest it. Most of them are lighter than water, so be careful. Most vapors are heavier than air, so they can spread along the ground and accumulate in lowlands or confined spaces If it's not dangerous, move the containers from the fire area. In the event of a tank fire, fire it at maximum distance or use unmanned fire extinguishing equipment. In the event of a tank fire, cool the container with plenty of water even after extinguishing the fire. In case of a tank fire, withdraw immediately if there is a high-pitched sound or if the tank discolors. In the event of a tank fire, get out of the tank in flames. In the event of a tank fire, use unmanned fire extinguishing equipment for large-scale fires, and if it's impossible, let it burn.
	Propylene glycol monomethyl ether acetic acid
Propylene glycol monomethyl ether acetic acid	Rescuers should wear appropriate protective gear. Keep a safe distance away from the area and digest it. Most of them are lighter than water, so be careful. Most vapors are heavier than air, so they can spread along the ground and accumulate in lowlands or confined spaces If it's not dangerous, move the containers from the fire area. Do not directly water the exposed source or safety device as it may freeze in the event of a tank fire. In the event of a tank fire, fire it at maximum distance or use unmanned fire extinguishing equipment. In the event of a tank fire, cool the container with plenty of water even after extinguishing the fire. In case of a tank fire, withdraw immediately if there is a high-pitched sound or if the tank discolors.

	In the event of a tank fire, get out of the tank in flames.
Propylene glycol monomethyl ether acetic acid	In the event of a tank fire, use unmanned fire extinguishing equipment for large-scale fires, and if it's impossible, let it burn.
폴리(헥사메틸렌 디아이소시안산)(POLY(HEXAMETHYLENE DIISOCYANATE))	If it's not dangerous, move the containers from the fire area.
	Some may be transported at high temperatures
	Leaks can cause contamination
	May cause burns to the skin and eyes on contact
	Dig a ditch to dispose of the fire hydrant, lock it up, and keep the matter from scattering.
	If it's not dangerous, move the containers from the fire area.
	In the event of a tank fire, cool the container with plenty of water even after extinguishing the fire.
	In case of a tank fire, withdraw immediately if there is a high-pitched sound or if the tank discolors.
	In the event of a tank fire, get out of the tank in flames.
4-methylbenzensulfonyl isocyanic acid	Rescuers should wear appropriate protective gear.
	Keep a safe distance away from the area and digest it.
	It may be molten and transported, so be careful.
	Dig a ditch to dispose of the fire hydrant, lock it up, and keep the matter from scattering.
	If it's not dangerous, move the containers from the fire area.
	In the event of a tank fire, fire it at maximum distance or use unmanned fire extinguishing equipment.
	In the event of a tank fire, cool the container with plenty of water even after extinguishing the fire.
	In case of a tank fire, withdraw immediately if there is a high-pitched sound or if the tank discolors.
	In the event of a tank fire, get out of the tank in flames.
	In the event of a tank fire, use unmanned fire extinguishing equipment for large-scale fires, and if it's impossible, let it burn.

6. How to deal with leakage accidents

A. Actions and protective gear required to protect the human body	Avoid inhalation of dust, fume, gas, mist, steam, spray.
	Remove all sources of ignition as very fine particles can cause fire or explosion.
	Wipe off any spills immediately and follow the precautions in the protective gear.
	Isolate the contaminated area.
	Do not enter if you do not need to enter or do not have protective equipment.
	Remove all sources of ignition.
	Be sure to ground all equipment when handling substances.
	Stop the leak if it's not dangerous.
	Do not touch damaged containers or leaks without proper protective clothing.
	Steam suppression foam may be used to reduce steam generation
	Cover it with plastic sheets to stop the spread.
	Prevent dust formation.
	Pay attention to substances and conditions to avoid
B. Necessary measures to protect the environment	Do not discharge into the environment.
	Prevent entry into waterways, sewers, basements, and confined spaces.
C. Purification or removal method	Build embankments and collect water for digestion.
	Absorb spills with inert material (e.g., dry sand or soil) and place in chemical waste container.
	Absorb liquids and wash contaminated areas with detergent and water.
	In the event of a large leak, keep it away from the liquid leak and create a ditch.
	Use a clean explosion proof tool to collect the absorbed substances.
	Place the leak in a clean, dry container with a clean shovel, close loosely, and move the container away from the leak area.
	In case of powder leakage, cover with a plastic sheet to prevent spread and keep it dry.

In the event of a small leak, absorb sand, non-flammable substances, and place them in a container.

7. HANDLING AND STORAGE METHOD

A. Safety handling tips.	Do not handle all safety precautions until you have read and understood them.
	Use electrical, ventilation, lighting, (...) and equipment to prevent explosions.
	Use only tools that do not cause sparks.
	Take anti-static measures.
	Avoid inhalation of dust, fume, gas, mist, steam, spray.
	Wash the handling area thoroughly after handling.
	Handle only outdoors or in well ventilated areas.
	Do not apply pressure, cut, weld, solder, bond, pierce, grind or expose to heat, flame, flame, static or other sources of ignition.
	Follow all MSDS/label precautions as the product may remain after the container has been emptied.
	Handle/Save carefully.
	Carefully open the cap before opening.
	Avoid prolonged or continuous skin contact.
	Be sure to ground all equipment when handling substances.
	Pay attention to substances and conditions to avoid
	Watch out for the high temperature.
	Pay attention to the heat.
	Measure and ventilate oxygen concentrations in the air while working in a low-lying enclosed space as there is a risk of oxygen deficiency.
B. Safe Storage Methods	Stay away from fever, spark, flame, high fever - No smoking
	Store containers tightly sealed in well ventilated areas.
	Store in a well-ventilated place and keep it low.
	Drain and properly seal the empty drum barrel and immediately return it to the drum regulator or place it properly.

8. Exposure Prevention and Personal Protection

A. Exposure criteria for chemicals, biological exposure criteria, etc.

domestic regulations	
솔벤트 나프타 (석유), 경질 방향족화합물 (SOLVENT NAPHTHA (PETROLEUM), LIGHT AROMATIC)	No data
Butyl acetic acid	TWA - 150ppm STEL - 200ppm
Xylene	TWA - 100ppm STEL - 150ppm
Propylene glycol monomethyl ether acetic acid	No data
폴리(헥사메틸렌 디아이소시안산)(POLY(HEXAMETHYLENE DIISOCYANATE))	No data
4-methylbenzensulfonyl isocyanic acid	No data
ACGIH 규정	
솔벤트 나프타 (석유), 경질 방향족화합물 (SOLVENT NAPHTHA (PETROLEUM), LIGHT AROMATIC)	No data
Butyl acetic acid	TWA 150 ppm
Butyl acetic acid	STEL 200 ppm
Xylene	STEL 150 ppm
Xylene	TWA 100 ppm
Propylene glycol monomethyl ether acetic acid	자료없음
폴리(헥사메틸렌 디아이소시안산)(POLY(HEXAMETHYLENE DIISOCYANATE))	Not Applicable
4-methylbenzensulfonyl isocyanic acid	No data
Biological exposure criteria	
솔벤트 나프타 (석유), 경질 방향족화합물 (SOLVENT NAPHTHA (PETROLEUM), LIGHT AROMATIC)	No data

Butyl acetic acid	No data
Xylene	No data
Propylene glycol monomethyl ether acetic acid	No data
폴리(헥사메틸렌 디아이소시안산)(POLY(HEXAMETHYLENE DIISOCYANATE))	Not Applicable
4-methylbenzensulfonyl isocyanic acid	No data

Other Exposure Criteria

솔벤트 나프타 (석유), 경질 방향족화합물 (SOLVENT NAPHTHA (PETROLEUM), LIGHT AROMATIC)	No data
Butyl acetic acid	No data
Xylene	No data
Propylene glycol monomethyl ether acetic acid	No data
폴리(헥사메틸렌 디아이소시안산)(POLY(HEXAMETHYLENE DIISOCYANATE))	No data
4-methylbenzensulfonyl isocyanic acid	No data

B. Proper engineering management

- For workplaces that emit gas, steam, mist, fume or dust, it is recommended that the concentration contained in the air does not exceed the level of health hazard.

Intimacy

C. Personal protective gear

○ Respiratory protection

- Respiratory protection is classified from minimum to maximum concentration.
- Consider warning characteristics before use.
- gas mask (for direct compact, organic compounds)
- Air filtration type respirator (purification tank for organic compounds and front type)
- In case of unknown concentration or other imminent danger to life or health: transmission mask (complex air line mask), air respirator (front type)
- If there is a possibility of direct exposure or exposure to the substance, wear a gas mask certified by the Korea Occupational Safety and Health Agency.

○ Eye protection

- Safety glasses for chemicals certified by the Korea Occupational Safety and Health Agency in case of possible harm due to direct exposure or potential exposure to the substance to wear
- Install washing and emergency cleaning equipment (shower type) near the workplace.

○ Hand Protection

- Wear protective gloves for suitable chemicals certified by the Korea Occupational Safety and Health Corporation if necessary

○ Physical Protection

- Wear protective clothing or protective clothing for suitable chemicals certified by the Korea Occupational

9. PHYSICAL CHEMICAL CHARACTERISTICS

A. Appearance

a personality of a person	a liquid body
Color	Colored
Smell.	No data
C. Odor threshold	No data
D. pH	No data
E. Melting point/fish point	No data
F. Initial boiling point and boiling point range	No data
G. Print shop	28℃
Ah. Evaporation rate.	No data
Now. Flammability (solid, gas)	No data
J. Upper/lower limits of the range of prints or explos	No data
C. Vapor pressure	No data
Get in. Solubility.	No data
Par. Steam density	No data

Ha. Weight	No data
N-octanol/water distribution coefficient	No data
You. Natural ignition temperature.	No data
More. Decomposition temperature	No data
R. Viscosity	No data
M. molecular weight	No data

10. Stability and Reactivity

A. Chemical stability and potential for hazardous react

솔벤트 나프타 (석유), 경질 방향족화합물 (SOLVENT NAPHTHA (PETROLEUM), LIGHT AROMATIC)	Flammable liquids and vapors
솔벤트 나프타 (석유), 경질 방향족화합물 (SOLVENT NAPHTHA (PETROLEUM), LIGHT AROMATIC)	Can cause fire and explosion due to intense polymerization
솔벤트 나프타 (석유), 경질 방향족화합물 (SOLVENT NAPHTHA (PETROLEUM), LIGHT AROMATIC)	Explosive mixture may be formed at or above the ignition point
솔벤트 나프타 (석유), 경질 방향족화합물 (SOLVENT NAPHTHA (PETROLEUM), LIGHT AROMATIC)	Containers may explode when heated
솔벤트 나프타 (석유), 경질 방향족화합물 (SOLVENT NAPHTHA (PETROLEUM), LIGHT AROMATIC)	Highly flammable: easily ignited by heat, sparks and flames
솔벤트 나프타 (석유), 경질 방향족화합물 (SOLVENT NAPHTHA (PETROLEUM), LIGHT AROMATIC)	Leaks are at risk of fire/explosion
솔벤트 나프타 (석유), 경질 방향족화합물 (SOLVENT NAPHTHA (PETROLEUM), LIGHT AROMATIC)	Risk of vapor explosion in indoor, outdoor, and sewer systems
솔벤트 나프타 (석유), 경질 방향족화합물 (SOLVENT NAPHTHA (PETROLEUM), LIGHT AROMATIC)	Steam can form explosive mixtures with air
솔벤트 나프타 (석유), 경질 방향족화합물 (SOLVENT NAPHTHA (PETROLEUM), LIGHT AROMATIC)	Steam can cause dizziness or suffocation without awareness
솔벤트 나프타 (석유), 경질 방향족화합물 (SOLVENT NAPHTHA (PETROLEUM), LIGHT AROMATIC)	Stimulates or burns skin and eyes during inhalation and contact
Butyl acetic acid	Flammable liquids and vapors
Butyl acetic acid	Can cause fire and explosion due to intense polymerization
Butyl acetic acid	Explosive mixture may be formed at or above the ignition point
Butyl acetic acid	Containers may explode when heated
Butyl acetic acid	Highly flammable: easily ignited by heat, sparks and flames
Butyl acetic acid	Leaks are at risk of fire/explosion
Butyl acetic acid	Risk of vapor explosion in indoor, outdoor, and sewer systems
Butyl acetic acid	Steam can form explosive mixtures with air
Butyl acetic acid	Steam can be moved to the ignition source to flash back
Butyl acetic acid	May cause irritable, corrosive and toxic gases in case of fire
Butyl acetic acid	May be toxic during inhalation and skin absorption
Xylene	Highly flammable liquids and vapors
Xylene	Can cause fire and explosion due to intense polymerization
Xylene	Explosive mixture may be formed at or above the ignition point
Xylene	Containers may explode when heated
Xylene	Highly flammable: easily ignited by heat, sparks and flames
Xylene	Leaks are at risk of fire/explosion
Xylene	Risk of vapor explosion in indoor, outdoor, and sewer systems
Xylene	Steam can form explosive mixtures with air
Xylene	Steam can be moved to the ignition source to flash back
Xylene	Steam can cause dizziness or suffocation without awareness

Xylene	May cause irritable, corrosive and toxic gases in case of fire
Xylene	Stimulates or burns skin and eyes during inhalation and contact
Xylene	May be toxic during inhalation and skin absorption
Propylene glycol monomethyl ether acetic acid	Flammable liquids and vapors
Propylene glycol monomethyl ether acetic acid	Can cause fire and explosion due to intense polymerization
Propylene glycol monomethyl ether acetic acid	Explosive mixture may be formed at or above the ignition point
Propylene glycol monomethyl ether acetic acid	Containers may explode when heated
Propylene glycol monomethyl ether acetic acid	Highly flammable: easily ignited by heat, sparks and flames
Propylene glycol monomethyl ether acetic acid	Leaks are at risk of fire/explosion
Propylene glycol monomethyl ether acetic acid	Risk of vapor explosion in indoor, outdoor, and sewer systems
Propylene glycol monomethyl ether acetic acid	Steam can form explosive mixtures with air
Propylene glycol monomethyl ether acetic acid	Steam can be moved to the ignition source to flash back
Propylene glycol monomethyl ether acetic acid	Steam can cause dizziness or suffocation without awareness
Propylene glycol monomethyl ether acetic acid	May cause irritable, corrosive and toxic gases in case of fire
Propylene glycol monomethyl ether acetic acid	Stimulates or burns skin and eyes during inhalation and contact
폴리(헥사메틸렌 디아이소시안산)(POLY(HEXAMETHYLENE DIISOCYANATE))	Stable under room temperature and pressure
폴리(헥사메틸렌 디아이소시안산)(POLY(HEXAMETHYLENE DIISOCYANATE))	Containers may explode when heated
폴리(헥사메틸렌 디아이소시안산)(POLY(HEXAMETHYLENE DIISOCYANATE))	Some may burn but do not ignite easily
폴리(헥사메틸렌 디아이소시안산)(POLY(HEXAMETHYLENE DIISOCYANATE))	May cause irritable, toxic gases in case of fire
폴리(헥사메틸렌 디아이소시안산)(POLY(HEXAMETHYLENE DIISOCYANATE))	inhalation of substances may be harmful
폴리(헥사메틸렌 디아이소시안산)(POLY(HEXAMETHYLENE DIISOCYANATE))	Some liquids may cause dizziness and suffocation.
4-methylbenzensulfonyl isocyanic acid	Containers may explode when heated
4-methylbenzensulfonyl isocyanic acid	Some may burn but do not ignite easily
4-methylbenzensulfonyl isocyanic acid	Non-inflammatory, the substance itself does not burn, but may decompose during heating, resulting in corrosive/toxic fume
4-methylbenzensulfonyl isocyanic acid	May cause irritable, corrosive and toxic gases in case of fire
B. Conditions to avoid	
솔벤트 나프타 (석유), 경질 방향족화합물(SOLVENT NAPHTHA (PETROLEUM), LIGHT AROMATIC)	Stay away from fever, spark, flame, high fever - No smoking
Butyl acetic acid	Stay away from fever, spark, flame, high fever - No smoking
Xylene	Stay away from fever, spark, flame, high fever - No smoking
Propylene glycol monomethyl ether acetic acid	Stay away from fever, spark, flame, high fever - No smoking
폴리(헥사메틸렌 디아이소시안산)(POLY(HEXAMETHYLENE DIISOCYANATE))	sources of heat, sparks, flames, etc.
4-methylbenzensulfonyl isocyanic acid	sources of heat, sparks, flames, etc.
C. Substances to avoid	
솔벤트 나프타 (석유), 경질 방향족화합물(SOLVENT NAPHTHA (PETROLEUM), LIGHT AROMATIC)	No data.
Butyl acetic acid	No data.
Xylene	No data.
Propylene glycol monomethyl ether acetic acid	No data.
폴리(헥사메틸렌 디아이소시안산)(POLY(HEXAMETHYLENE DIISOCYANATE))	flammable substances
폴리(헥사메틸렌 디아이소시안산)(POLY(HEXAMETHYLENE DIISOCYANATE))	Irritable, toxic gas
4-methylbenzensulfonyl isocyanic acid	Flammable substances, reducing substances
D. Hazardous substances produced during disassembly	
솔벤트 나프타 (석유), 경질 방향족화합물(SOLVENT NAPHTHA (PETROLEUM), LIGHT AROMATIC)	Irritable, corrosive, toxic gases
Butyl acetic acid	Irritable, corrosive, toxic gases

Xylene	May cause irritating and highly toxic gases by pyrolysis or combustion during burning
Propylene glycol monomethyl ether acetic acid	Irritable, corrosive, toxic gases
폴리(헥사메틸렌 디아이소시안산)(POLY(HEXAMETHYLENE DIISOCYANATE))	No data.
4-methylbenzensulfonyl isocyanic acid	May cause irritating and highly toxic gases by pyrolysis or combustion during burning
4-methylbenzensulfonyl isocyanic acid	Corrosive/toxic fume

11. Information about toxicity

A. Information about likely exposure pathways	
Solvent naphtha (oil), SOLVENT NAPHTHA (PETROLEUM), LIGHT AROMATIC	No data
Butyl acetic acid	No data
Xylene	No data
Propylene glycol monomethyl ether acetic acid	No data
Poly(Hexamethylene diisocyanate) (POLY)	"Short-term exposure can cause irritation, allergic reactions, chest pain, shortness of breath and lung congestion. May cause allergic reactions, chest
4-methylbenzensulfonyl isocyanic acid	Short-term exposure may cause irritation, vomiting.
B. Health Hazard Information	May cause irritation, allergic reactions.
	May cause irritation."
Acute toxicity	No data
epigram	
Butyl acetic acid	LD50 12.2 ㎖/㎏ Rat (OECD TG 423)
Xylene	LD50 3523 ㎎/㎏ Rat (EU Method B1)
Propylene glycol monomethyl ether acetic acid	LD50 8532 ㎎/㎏ Rat
Poly(Hexamethylene diisocyanate) (POLY)	(No data)
4-methylbenzensulfonyl isocyanic acid	LD50 2234 ㎎/㎏ Rat
Transdermal construction	
Solvent naphtha (oil), SOLVENT NAPHTHA (PETROLEUM), LIGHT AROMATIC	LD50 > 2000 ㎎/㎏ Rabbit
Butyl acetic acid	LD50 > 16 Rabbit (OECD TG 402)
Poly(Hexamethylene diisocyanate) (POLY)	(No data)
4-methylbenzensulfonyl isocyanic acid	No data
Inhalation	
Solvent naphtha (oil), SOLVENT NAPHTHA (PETROLEUM), LIGHT AROMATIC	Mist LC503400 ppm 4 hr Rat
Butyl acetic acid	Steam LC50 > 4.9 ㎎/㎤ 4 hr Rat
Xylene	"증기 LC50 5922 ppm 4 hr Rat (25.713 mg/L
Propylene glycol monomethyl ether acetic acid	EPA OPP 81-3, GLP)"
Poly(Hexamethylene diisocyanate) (POLY)	Steam LC50 4345 ppm 6 hr Rat
4-methylbenzensulfonyl isocyanic acid	(18500 mg/m3, 1 hour rat - LC50)
Skin corrosive or irritability	Steam LC50 > 1290 ㎎/㎤ 4 hr Rat
Solvent naphtha (oil), SOLVENT NAPHTHA (PETROLEUM), LIGHT AROMATIC	
Butyl acetic acid	Weak stimulation (rabbit)
Xylene	Skin corrosivity/irritability test results for rabbits do not show irritation OECD TG 4
Propylene glycol monomethyl ether acetic acid	Skin irritation test using rabbits. EU Method B.4 Result 1st Skin Irritation Index 3 for moderate irritation.
Poly(Hexamethylene diisocyanate) (POLY)	Rabbit: No irritation
4-methylbenzensulfonyl isocyanic acid	500 mg Rabbit - Normal Stimulation
Severe eye damage or irritability	Standard Draze Test Rabbit Amount: 500 uL/24H; Response: Mild (horizontal)
Solvent naphtha (oil), SOLVENT NAPHTHA (PETROLEUM), LIGHT AROMATIC	
Butyl acetic acid	Weak stimulation (rabbit)

Xylene	Severe eye damage/irritation test results in rabbits, no eye irritation: corneal index:0.33/4, iris index:0.56/2, conjunctival index 1/3, conjunctival edema
Propylene glycol monomethyl ether acetic acid	Effects of eye and respiratory irritation on the human body exposed to mixed xylene of 100 ppm STEL based on short-term exposure
Poly(Hexamethylene diisocyanate) (POLY)	Rabbit: weak irritability
4-methylbenzensulfonyl isocyanic acid	100 mg Rabbit - Normal Stimulation
Respiratory hypersensitivity	Standard Drays Test Rabbit Amount: 100 uL; Response: Moderate (middle stimu
Solvent naphtha (oil), SOLVENT NAPHTHA (PETROLEUM), LIGHT AROMATIC	
Butyl acetic acid	No data
Xylene	No data
Xylene	Inactive OECD TG 406 as a result of Buehler test using guinea pigs
Propylene glycol monomethyl ether acetic acid	Mouth Local Lymph node test OECD TG 429 Inertia
Poly(Hexamethylene diisocyanate) (POLY)	Guinea pig/maximization test (GLP): No hypersensitivity
4-methylbenzensulfonyl isocyanic acid	No data
Carcinogenic	H334 (can cause allergic and asthma symptoms and difficulty breathing)
Industrial Safety and Health Act	
Solvent naphtha (oil), SOLVENT NAPHTHA (PETROLEUM), LIGHT AROMATIC	
Butyl acetic acid	No data
Xylene	No data
Propylene glycol monomethyl ether acetic acid	No data
Poly(Hexamethylene diisocyanate) (POLY)	No data
4-methylbenzensulfonyl isocyanic acid	No data
Ministry of Employment and Labor Notice	No data
Solvent naphtha (oil), SOLVENT NAPHTHA (PETROLEUM), LIGHT AROMATIC	
Butyl acetic acid	No data
Xylene	No data
Propylene glycol monomethyl ether acetic acid	No data
Poly(Hexamethylene diisocyanate) (POLY)	No data
4-methylbenzensulfonyl isocyanic acid	No data
IARC	No data
Solvent naphtha (oil), SOLVENT NAPHTHA (PETROLEUM), LIGHT AROMATIC	
Butyl acetic acid	No data
Xylene	No data
Propylene glycol monomethyl ether acetic acid	3
Poly(Hexamethylene diisocyanate) (POLY)	No data
4-methylbenzensulfonyl isocyanic acid	No data
OSHA	No data
Solvent naphtha (oil), SOLVENT NAPHTHA (PETROLEUM), LIGHT AROMATIC	
Butyl acetic acid	No data
Xylene	No data
Propylene glycol monomethyl ether acetic acid	No data
Poly(Hexamethylene diisocyanate) (POLY)	No data
4-methylbenzensulfonyl isocyanic acid	No data
ACGIH	No data
Solvent naphtha (oil), SOLVENT NAPHTHA (PETROLEUM), LIGHT AROMATIC	
Butyl acetic acid	No data
Xylene	A4
Propylene glycol monomethyl ether acetic acid	No data

Poly(Hexamethylene diisocyanate) (POLY)	No data
4-methylbenzensulfonyl isocyanic acid	No data
NTP	
Solvent naphtha (oil), SOLVENT NAPHTHA (PETROLEUM), LIGHT AROMATIC	No data
Butyl acetic acid	No data
Xylene	No data
Propylene glycol monomethyl ether acetic acid	No data
Poly(Hexamethylene diisocyanate) (POLY)	No data
Propylene glycol monomethyl ether acetic acid	
Poly(Hexamethylene diisocyanate) (POLY)	
4-methylbenzensulfonyl isocyanic acid	
Specific target organ toxicity (1 exposure)	
Solvent naphtha (oil), SOLVENT NAPHTHA (PETROLEUM), LIGHT AROMATIC	
Butyl acetic acid	
Xylene	
Propylene glycol monomethyl ether acetic acid	
Propylene glycol monomethyl ether acetic acid	"The second generation of reproductive toxicity tests on rats showed weight, weight gain and a decrease in food intake at 1500 ppm to 2000 ppm (NOAELsystemic toxicity, adultrats=750 ppm (nominal))) (OECD TG 416, GLP)
Poly(Hexamethylene diisocyanate) (POLY)	Fetal developmental toxicity tests in rats have shown reduced weight and liver weight, reduced size of young and rib deformities, but are considered to be more maternal than developmental toxicity (NOAELmaternal toxicity=2.5 mg/Lair(nominal), NOAELterogenicity=10 mg/Lair(nominal)))) (GELP, OECD,
4-methylbenzensulfonyl isocyanic acid	No toxic effects related to reproduction and development were observed until the highest concentration (500 ppm) tested in the second generation of rat reproductive toxicity (absorption repeated exposure, EPA OPPTS870.3800). NOAEC (Production/Development/Parent Toxicity) = Developmental Suction Toxicity Test using 500 ppm rats (OECD TG414) results in BMCL10 (Development) = 5761 mg/m3 due to weight loss in newborns, and BMCL10 (Parent Toxicity) = 2675 mg/m3 due to weight loss.
Aspiration hazard	"Rats/Oral (0, 100, 300, 1000 mg/kg/day for 44D (M) and 41-45D(F))) (GLP): no toxic effects on reproductive variables
Solvent naphtha (oil), SOLVENT NAPHTHA (PETROLEUM), LIGHT AROMATIC	Rats/Inhalation (500, 2000, 4000 ppm for 21D) (GLP): No malformation or other toxic effects."
Butyl acetic acid	No data
Xylene	No data
Propylene glycol monomethyl ether acetic acid	
Poly(Hexamethylene diisocyanate) (POLY)	No data
4-methylbenzensulfonyl isocyanic acid	Causes central nerve disturbances, pulmonary edema, respiratory tract irritation in humans, target organs: central nerve, respiratory system
Other Harmful Effects	Dizziness reported in humans, significant awakening, progression, and anesthesia in the experimental animals. Exposure to 100 ppm442 mg/£ in humans weak irritation to the eyes and upper airway and slight central nervous system effects
Solvent naphtha (oil), SOLVENT NAPHTHA (PETROLEUM), LIGHT AROMATIC	Rats (male, female) / oral (500, 1000, 2000, 4000, 6300, 100000 mg/kg): lethargy (climbing), filoeration (mouth), watery eyes, anorexia, shadow baking, and salivation are observed.
Butyl acetic acid	No data
Solvent naphtha (oil), SOLVENT NAPHTHA (PETROLEUM), LIGHT AROMATIC	H335 (May cause respiratory irritation)
Butyl acetic acid	"[CAS No. 71-36-3] Rats recovered within an hour after exposure in 600 mg/kg concentration group, with central nervous system abnormalities such as exercise loss and decreased activity, but no other special effects were observed NOAEL=level:125 mg/day bts b/day
Xylene	90-day inhalation toxicity test for rats showed acute, short-term symptoms of low activity levels at moderate and highest concentrations, reduced weight and food intake, upper respiratory irritation symptoms of nasal cavity NOAEC=500 ppm GLP, EPA OTS 798.2450"

	103 weeks carcinogenicity test with rats showed no effect on systemic toxicity or carcinogenicity due to mixed xylene administration; 90 days repeated oral toxicity test with rats showed limited weight loss, increased inter-relative weight and elongation, but no histopathic effects were observed (NOAEL=150 mg/kg "Rats/Oral (0, 100, 300, 1000 mg/kg/day for 44D(M) and 41-55D(F))) (GLP): No toxic effects were observed. Rat (male, female)/intake (300, 1000, 3000 ppm for 2W) (GLP): slight olfactory epithelial damage, no other symptoms observed."
Propylene glycol monomethyl ether acetic acid	Where the risk may be increased by exposure: abnormalities in breathing apparatus, skin diseases, and allergies;
Poly(Hexamethylene diisocyanate) (POLY)	No data
Poly(Hexamethylene diisocyanate) (POLY)	R20, R23, R26
4-methylbenzensulfonyl isocyanic acid	
Other Harmful Effects	No data
Solvent naphtha (oil), SOLVENT NAPHTHA (PETROLEUM), LIGHT AROMATIC	No data

12. Environmental impact

A. Ecotoxicity.	
Fish	
Solvent naphtha (oil), SOLVENT NAPHTHA (PETROLEUM), LIGHT AROMATIC	LC50 9.22 ㎎/ℓ 96 hr Oncorhynchus mykiss
Butyl acetic acid	LC50 18 ㎎/ℓ 96 hr Pimephales promelas (유수식, OECD Guideline 203)
Xylene	LC50 2.6 ㎎/ℓ 96 hr (OECD Guideline 203)
Propylene glycol monomethyl ether acetic acid	LC50 ≥ 100 ㎎/ℓ 96 hr Oryzias latipes
Poly(Hexamethylene diisocyanate) (POLY)	(No data)
4-methylbenzensulfonyl isocyanic acid	LC50 133 ㎎/ℓ 14 day
Crustaceans	
Solvent naphtha (oil), SOLVENT NAPHTHA (PETROLEUM), LIGHT AROMATIC	EC50 6.14 ㎎/ℓ 48 hr Daphnia magna
Butyl acetic acid	EC50 44 ㎎/ℓ 48 hr Daphnia magna
Xylene	LC50 3.6 ㎎/ℓ 24 hr (OECD TG202)
Propylene glycol monomethyl ether acetic acid	EC50 373 ㎎/ℓ 48 hr Daphnia magna
Poly(Hexamethylene diisocyanate) (POLY)	(No data)
4-methylbenzensulfonyl isocyanic acid	No data
bird	
Solvent naphtha (oil), SOLVENT NAPHTHA (PETROLEUM), LIGHT AROMATIC	EC50 19 ㎎/ℓ 72 hr Selenastrum capricornutum
Butyl acetic acid	No data
Xylene	ErC50 4.06 ㎎/ℓ 73 hr (OECD TG201, GLP)
Propylene glycol monomethyl ether acetic acid	EC50 ≥ 1000 ㎎/ℓ 72 hr Selenastrum capricornutum
Poly(Hexamethylene diisocyanate) (POLY)	(No data)
4-methylbenzensulfonyl isocyanic acid	No data
B. Residuality and decomposition	
Residuality	
Solvent naphtha (oil), SOLVENT NAPHTHA (PETROLEUM), LIGHT AROMATIC	log Kow 2.1 ~ 6 (추정치)
Solvent naphtha (oil), SOLVENT NAPHTHA (PETROLEUM), LIGHT AROMATIC	log Kow 2.3 (25 °C, OECD TG 117)
Butyl acetic acid	log Kow 3.15
Xylene	log Kow 0.43
Propylene glycol monomethyl ether acetic acid	(NOT APPLICABLE)
Poly(Hexamethylene diisocyanate) (POLY)	log Kow 2.34 (estimated)
4-methylbenzensulfonyl isocyanic acid	
C. Bio-enriched	BOD5/COD 0.43

Concentration	No data
Solvent naphtha (oil), SOLVENT NAPHTHA (PETROLEUM), LIGHT AROMATIC	No data
Butyl acetic acid	No data
Xylene	(No data)
Propylene glycol monomethyl ether acetic acid	No data
Poly(Hexamethylene diisocyanate) (POLY)	
4-methylbenzensulfonyl isocyanic acid	
Biodegradable	No data
Solvent naphtha (oil), SOLVENT NAPHTHA (PETROLEUM), LIGHT AROMATIC	No data
Butyl acetic acid	BCF 25.9 (Oncorhynchus mykiss)
Xylene	No data
Propylene glycol monomethyl ether acetic acid	(No data)
Poly(Hexamethylene diisocyanate) (POLY)	BCF 12.7
4-methylbenzensulfonyl isocyanic acid	
D. Soil dynamic	No data
Solvent naphtha (oil), SOLVENT NAPHTHA (PETROLEUM), LIGHT AROMATIC	83 % 28 day (OECD TG 301D)
Butyl acetic acid	90% 28 days (Disoluble, OECD TG301F, GLP)
Xylene	> 60 (%) 28 day
Propylene glycol monomethyl ether acetic acid	(No data)
Poly(Hexamethylene diisocyanate) (POLY)	No data
4-methylbenzensulfonyl isocyanic acid	
E. Other harmful effects	No data
Solvent naphtha (oil), SOLVENT NAPHTHA (PETROLEUM), LIGHT AROMATIC	No data
Butyl acetic acid	No data
Xylene	No data
Propylene glycol monomethyl ether acetic acid	No data
Poly(Hexamethylene diisocyanate) (POLY)	No data
4-methylbenzensulfonyl isocyanic acid	No data

13. Precautions for disposal

A. Disposal method	
Solvent naphtha (oil), SOLVENT NAPHTHA (PETROLEUM), LIGHT AROMATIC	"1) Separate oil and water, incinerate separated oil components, and dispose of remaining water in water pollution prevention facilities. 2) After processing it by evaporating or concentrating, incinerate or stabilize the residue. 3) After processing by cohesion and precipitation, incinerate the remaining materials. 4) Refine by separating, distilling, extracting, filtration, and thermal decompositic 5) Incinerate or stabilize."
Butyl acetic acid	"1) Neutralize, hydrolyze, oxidize, and reduce. 2) Digitize at high temperature or melt at high temperature. 3) Solidify."
Xylene	"Take care of it in one of the following ways: 1. Incinerate. 2. After processing it by evaporating and concentrating, incinerate the residue. 3. After purification by separation, distillation, extraction, and filtration, incinerate the residue. 4. Use the reaction of neutralization, oxidation, reduction, polymerization, and accumulation. 5. Incinerate the remnants or dispose of them again by means of agglomeration, sedimentation, filtration and dehydration, and incinerate the
Propylene glycol monomethyl ether acetic acid	1) If oil and water can be separated, pre-treated by separating oil and water.

Poly(Hexamethylene diisocyanate) (POLY)	Dispose of the contents and containers according to the regulations provided for in the Waste Management Act.

B. Precautions for disposal

Solvent naphtha (oil), SOLVENT NAPHTHA (PETROLEUM), LIGHT AROMATIC	Dispose of the contents and containers according to the regulations provided for in the Waste Management Act.
Butyl acetic acid	Dispose of the container (in accordance with the relevant laws and regulations).
Xylene	Dispose of the container (in accordance with the relevant laws and regulations).
Propylene glycol monomethyl ether acetic acid	Dispose of the container (in accordance with the relevant laws and regulations).
Poly(Hexamethylene diisocyanate) (POLY)	Dispose of the container (in accordance with the relevant laws and regulations).
4-methylbenzensulfonyl isocyanic acid	Dispose of the container (in accordance with the relevant laws and regulations).

14. Information required for transportation

A. United Nations number (UN No.)	1263
B. Proper shipping name	Paint including paint, lacquer, enamel, stain, shellac solutions, varnish, polish, liquid filler, and liquid lacquer base
C. Risks in transportation	3
D. Courage grade	III

E. Marine pollutants.

Solvent naphtha (oil), SOLVENT NAPHTHA (PETROLEUM), LIGHT AROMATIC	relevant
Butyl acetic acid	Comparative sugar
Xylene	Comparative sugar
Propylene glycol monomethyl ether acetic acid	No data
Poly(Hexamethylene diisocyanate) (POLY)	No data
4-methylbenzensulfonyl isocyanic acid	No data

F. Special safety measures that users need to know or need to know about transportation or transportation;

Emergency measures in case of fire

Solvent naphtha (oil), SOLVENT NAPHTHA (PETROLEUM), LIGHT AROMATIC	F-E
Butyl acetic acid	F-E
Xylene	F-E
Propylene glycol monomethyl ether acetic acid	F-E
Poly(Hexamethylene diisocyanate) (POLY)	Not Applicable
4-methylbenzensulfonyl isocyanic acid	F-A

Emergency measures in case of leakage

Solvent naphtha (oil), SOLVENT NAPHTHA (PETROLEUM), LIGHT AROMATIC	S-E
Butyl acetic acid	S-D
Xylene	S-D
Propylene glycol monomethyl ether acetic acid	S-D
Poly(Hexamethylene diisocyanate) (POLY)	Not Applicable

15. Status of legal regulations

A. Regulations under the Occupational Safety and Health Act

Solvent naphtha (oil), SOLVENT NAPHTHA (PETROLEUM), LIGHT AROMATIC	Substances subject to process safety report (PSM) submission
Butyl acetic acid	Substances subject to process safety report (PSM) submission
Butyl acetic acid	Hazardous substances subject to management
Butyl acetic acid	Substances subject to measurement of working environment (Measurement cycle: 6 months)
Butyl acetic acid	Exposure reference setting substance
Xylene	Substances subject to process safety report (PSM) submission
Xylene	Hazardous substances subject to management
Xylene	Substances subject to measurement of working environment (Measurement cycle: 6 months)
Xylene	Substances subject to special health examination (Diagnosis cycle: 12 months)
Xylene	Exposure reference setting substance

Propylene glycol monomethyl ether acetic acid	Substances subject to process safety report (PSM) submission
Poly(Hexamethylene diisocyanate) (POLY)	No data
4-methylbenzensulfonyl isocyanic acid	No data
B. Regulations under the Chemical Substances Control Act	
Solvent naphtha (oil), SOLVENT NAPHTHA (PETROLEUM), LIGHT AROMATIC	No data
Butyl acetic acid	No data
Xylene	toxic substances
Propylene glycol monomethyl ether acetic acid	No data
Poly(Hexamethylene diisocyanate) (POLY)	No data
4-methylbenzensulfonyl isocyanic acid	No data
C. Regulations under the Dangerous Goods Safety Management Act	
Solvent naphtha (oil), SOLVENT NAPHTHA (PETROLEUM), LIGHT AROMATIC	No data
Butyl acetic acid	Fourth-class second-class petroleum (non-waterable) 1000L
Xylene	Fourth-class second-class petroleum (non-waterable) 1000L
Propylene glycol monomethyl ether acetic acid	Fourth-class second-class petroleum (non-waterable liquid) 1000 liters.
Poly(Hexamethylene diisocyanate) (POLY)	No data
4-methylbenzensulfonyl isocyanic acid	No data
D. Regulations under the Waste Management Act	
Solvent naphtha (oil), SOLVENT NAPHTHA (PETROL	No data
Butyl acetic acid	designated waste
Xylene	designated waste
Propylene glycol monomethyl ether acetic acid	No data
Poly(Hexamethylene diisocyanate) (POLY)	designated waste
4-methylbenzensulfonyl isocyanic acid	No data
E. Other regulations under domestic and foreign law	
domestic regulations	
Residual Organic Pollutants Control Act	
Solvent naphtha (oil), SOLVENT NAPHTHA (PETROLEUM), LIGHT AROMATIC	Not Applicable
Butyl acetic acid	Not Applicable
Xylene	Not Applicable
Propylene glycol monomethyl ether acetic acid	Not Applicable
Poly(Hexamethylene diisocyanate) (POLY)	Not Applicable
4-methylbenzensulfonyl isocyanic acid	Not Applicable
Foreign regulations	
US Management Information (OSHA Regulations)	
Solvent naphtha (oil), SOLVENT NAPHTHA (PETROLEUM), LIGHT AROMATIC	Not Applicable
Solvent naphtha (oil), SOLVENT NAPHTHA (PETROLEUM), LIGHT AROMATIC	Not Applicable
Butyl acetic acid	2267.995kg 5000lb
Xylene	45.3599kg 100lb
Propylene glycol monomethyl ether acetic acid	Not Applicable
Poly(Hexamethylene diisocyanate) (POLY)	Not Applicable
4-methylbenzensulfonyl isocyanic acid	
US Management Information (EPCRA 302 Regulations)	Not Applicable
Solvent naphtha (oil), SOLVENT NAPHTHA (PETROLEUM), LIGHT AROMATIC	2267.995kg 5000lb
Butyl acetic acid	45.3599kg 100lb
Xylene	Not Applicable
Propylene glycol monomethyl ether acetic acid	Not Applicable
Poly(Hexamethylene diisocyanate) (POLY)	Not Applicable
4-methylbenzensulfonyl isocyanic acid	
US Management Information (EPCRA 304 Regulation	Not Applicable

Solvent naphtha (oil), SOLVENT NAPHTHA (PETROLEUM), LIGHT AROMATIC	Not Applicable
Butyl acetic acid	Not Applicable
Xylene	Not Applicable
Propylene glycol monomethyl ether acetic acid	Not Applicable
Poly(Hexamethylene diisocyanate) (POLY)	Not Applicable
4-methylbenzensulfonyl isocyanic acid	
US Management Information (EPCRA 313 Regulatior	Not Applicable
Solvent naphtha (oil), SOLVENT NAPHTHA (PETROLEUM), LIGHT AROMATIC	Not Applicable
Butyl acetic acid	Not Applicable
Xylene	Applicable
Propylene glycol monomethyl ether acetic acid	Not Applicable
Poly(Hexamethylene diisocyanate) (POLY)	Not Applicable
4-methylbenzensulfonyl isocyanic acid	
US Management Information (Lotterdam Convention	Not Applicable
Solvent naphtha (oil), SOLVENT NAPHTHA (PETROLEUM), LIGHT AROMATIC	Not Applicable
Butyl acetic acid	Not Applicable
Xylene	Not Applicable
Propylene glycol monomethyl ether acetic acid	Not Applicable
Poly(Hexamethylene diisocyanate) (POLY)	Not Applicable
4-methylbenzensulfonyl isocyanic acid	
US Management Information (Stockholm Convention	Not Applicable
Solvent naphtha (oil), SOLVENT NAPHTHA (PETROLEUM), LIGHT AROMATIC	Not Applicable
Butyl acetic acid	Not Applicable
Xylene	Not Applicable
Propylene glycol monomethyl ether acetic acid	Not Applicable
Poly(Hexamethylene diisocyanate) (POLY)	Not Applicable
4-methylbenzensulfonyl isocyanic acid	
US Management Information (Montreal Emotional Ma	Not Applicable
Solvent naphtha (oil), SOLVENT NAPHTHA (PETROLEUM), LIGHT AROMATIC	Not Applicable
	Not Applicable
Butyl acetic acid	Not Applicable
Xylene	Not Applicable
Propylene glycol monomethyl ether acetic acid	Not Applicable
Poly(Hexamethylene diisocyanate) (POLY)	
4-methylbenzensulfonyl isocyanic acid	Not Applicable
EU Classification Information (Confirmed Classification Result)	
4-methylbenzensulfonyl isocyanic acid	Not Applicable
EU Classification Information (Risk Statements)	Not Applicable
Solvent naphtha (oil), SOLVENT NAPHTHA (PETROLEUM), LIGHT AROMATIC	Not Applicable
Butyl acetic acid	Not Applicable
Xylene	Not Applicable
Propylene glycol monomethyl ether acetic acid	
Poly(Hexamethylene diisocyanate) (POLY)	Carc. Cat. 2; R45/Muta. Cat. 2; R46, Xn; R65
4-methylbenzensulfonyl isocyanic acid	Flam. Liq. 3
EU Classification Information (Safety Statement)	Flam. Liq. 3
Solvent naphtha (oil), SOLVENT NAPHTHA (PETROLEUM), LIGHT AROMATIC	R10Xi; R36
Butyl acetic acid	Not Applicable
Xylene	R14Xi; R36/37/38R42
Propylene glycol monomethyl ether acetic acid	

Poly(Hexamethylene diisocyanate) (POLY)	R45, R65, R46
Butyl acetic acid	H226
Xylene	H226
Propylene glycol monomethyl ether acetic acid	R10, R36
Poly(Hexamethylene diisocyanate) (POLY)	Not Applicable
4-methylbenzensulfonyl isocyanic acid	R14, R36/37/38, R42
EU Classification Information (Safety Statement)	
Solvent naphtha (oil), SOLVENT NAPHTHA (PETROLEUM), LIGHT AROMATIC	S53, S45
Butyl acetic acid	Not Applicable
Xylene	Not Applicable
Propylene glycol monomethyl ether acetic acid	S2, S25
Poly(Hexamethylene diisocyanate) (POLY)	Not Applicable

16. Other Notes

A. Source of data

Solvent naphtha (oil), SOLVENT NAPHTHA (PETROLEUM), LIGHT AROMATIC

IUCLID (Nature)

IUCLID (E. melting point/fish point)

NLM (bar. Initial boiling point and boiling point range)

IUCLID (company. printing point)

IUCLID (Car. Vapor Pressure)

IUCLID (TA. Solubility)

IUCLID (Lower. Weight)

IUCLID(거. n-octanol/water distribution coefficient)

IUCLID (you. natural ignition temperature)

RTECS (Oral)

IUCLID (percutaneous)

IUCLID (Inhalation)

IUCLID (skin-corrosive or irritability

RTECS (severe eye damage or irritability)

IUCLID (residual)

Butyl acetic acid

ICSC (Nature)

ICSC (Color)

ECHA Registered substances(나. 냄새)

ECHA(라. pH)

ICSC,hsdb (E. melting point/fish point)

HSDB (bar. Initial boiling point and boiling point range)

ECHA (Company Print Point)

2 (Ah. Evaporative speed)

ICSC (Limit. Upper/lower limit of flammable or explosive range)

hSDB (car. vapor pressure)

Chemid plus (Ta. Solubility)

ICSC,hsdb (wave. steam density)

HSDB (lower. weight)

HSDB (base n-octanol/water distribution coefficient)

ICSC (you. natural ignition temperature)

HSDB (mer. molecular weight)

ECHA (Eural)

ECHA (transcutaneous)

ECHA (Inhalation)

ECHA (skin-corrosive or irritable)

Severe eye damage or irritability (ECHA)

ECHA (Skin Irritability)
ECHA (Growth Cell Variational Origin)
ECHA (Production Toxicity)
NLM (specific target organ toxicity (1 exposure))
ECHA (Specific Targeted Organ Toxicity (Repeat Exposure)
(Harmful inhalation)
ECHA (Fish)
ECHA (Capsule)
ECHA (Remainability)
ECHA (Biodegradable)
Xylene
HSDB (Nature)
HSDB (Color)
HSDB (B. Smell)
HSDB (C. Odor threshold)
HSDB (E. melting point/fish point)
ICSC (Bar. Initial Boiling and Boiling Point Range)
ECHA (Company Print Point)
SRC (Tea. Upper/lower limit of flammable or explosive range)
SRC (Car. Vapor Pressure)
HSDB (Other. Solubility)

HSDB (wave. steam density)
ICSC (Lower. Weight)
HSDB (base n-octanol/water distribution coefficient)
SRC (you. natural ignition temperature)
pubchem (mer. molecular weight)
ECHA (Skin Irritability)
ECHA (Growth Cell Variational Origin)
ECHA (Production Toxicity)
HSDB, IPCS, ECHA (specific target organ toxicity (1 exposure))
ECHA (Specific Targeted Organ Toxicity (Repeat Exposure)
Hydrocarbons, Tied rate of 0.603 mPa s 25℃ (intrusive hazard)
ECHA (Fish)
ECHA (Capsule)
ECHA (Tidal Current)
ECHA (Remainability)
ECHA (concentration)
ECHA (Biodegradable)
ECHA(D. Soil Dynamic)
ECHA (E. Other harmful effects)

Propylene glycol monomethyl ether acetic acid

The Chemical Database, The Department of Chemistry at the University of Akron(http://ull.chemistry.uakron.edu/erd)(성상)
The Chemical Database, The Department of Chemistry at the University of Akron(http://ull.chemistry.uakron.edu/erd)(색상)
The Chemical Database, The Department of Chemistry at the University of Akron(http://ull.chemistry.uakron.edu/erd)(나. 냄새)
International Uniform ChemicaL Information Database(IUCLID)(http://ecb.jrc.it/esis)(마. 녹는점/어는점)
International Uniform ChemicaL Information Database(IUCLID)(http://ecb.jrc.it/esis)(바. 초기 끓는점과 끓는점 범위)
International Uniform ChemicaL Information Database(IUCLID)(http://ecb.jrc.it/esis)(사. 인화점)
International Uniform ChemicaL Information Database(IUCLID)(http://ecb.jrc.it/esis)(차. 인화 또는 폭발 범위의 상한/하한)
National Institute of Technology and Evaluation(NITE)(http://www.safe.nite.go.jp/ghs/h18_bunrui.html)(카. 증기압)
International Uniform ChemicaL Information Database(IUCLID)(http://ecb.jrc.it/esis)(타. 용해도)
Intermational Programme on Chemical Safety(IPCS INCHEM)(http://www.inchem.org/)(파. 증기밀도)
International Uniform ChemicaL Information Database(IUCLID)(http://ecb.jrc.it/esis)(하. 비중)
International Uniform ChemicaL Information Database(IUCLID)(http://ecb.jrc.it/esis)(거. n-옥탄올/물분배계수)

International Uniform ChemicaL Information Database(IUCLID)(http://ecb.jrc.it/esis)(너. 자연발화온도)

The Chemical Database, The Department of Chemistry at the University of Akron(http://ull.chemistry.uakron.edu/erd)(머. 분자량)

International Uniform ChemicaL Information Database(IUCLID)(http://ecb.jrc.it/esis)(경구)

International Uniform ChemicaL Information Database(IUCLID)(http://ecb.jrc.it/esis)(경피)

OECD Screening Information Data Set(http://cs3-hq.oecd.org/scripts/hpv/)(피부부식성 또는 자극성)

OECD Screening Information Data Set(http://cs3-hq.oecd.org/scripts/hpv/)(심한 눈손상 또는 자극성)

International Uniform ChemicaL Information Database(IUCLID)(http://ecb.jrc.it/esis)(피부과민성)

OECD Screening Information Data Set(http://cs3-hq.oecd.org/scripts/hpv/)(피부과민성)

International Uniform ChemicaL Information Database(IUCLID)(http://ecb.jrc.it/esis)(생식세포변이원성)

OECD Screening Information Data Set(http://cs3-hq.oecd.org/scripts/hpv/)(생식세포변이원성)

International Uniform ChemicaL Information Database(IUCLID)(http://ecb.jrc.it/esis)(생식독성)

OECD Screening Information Data Set(http://cs3-hq.oecd.org/scripts/hpv/)(생식독성)

International Uniform ChemicaL Information Database(IUCLID)(http://ecb.jrc.it/esis)(특정 표적장기 독성 (1회 노출))

OECD Screening Information Data Set(http://cs3-hq.oecd.org/scripts/hpv/)(특정 표적장기 독성 (1회 노출))

International Uniform ChemicaL Information Database(IUCLID)(http://ecb.jrc.it/esis)(특정 표적장기 독성 (반복 노출))

OECD Screening Information Data Set(http://cs3-hq.oecd.org/scripts/hpv/)(특정 표적장기 독성 (반복 노출))

SIDS(어류)

SIDS(갑각류)

SIDS(조류)

International Uniform ChemicaL Information Database(IUCLID)(http://ecb.jrc.it/esis)(잔류성)

OECD Screening Information Data Set(http://cs3-hq.oecd.org/scripts/hpv/)(생분해성)

폴리(헥사메틸렌 디아이소시안산)(POLY(HEXAMETHYLENE DIISOCYANATE))

4-methylbenzensulfonyl isocyanic acid

14303 Chemical Products (Japan) (Nature)

14303 Chemical Products (Japan) (Color)

Corporate Solution From Thomson Micromedex(http://csi.micromedex.com)(머. 분자량)

Corporate Solution From Thomson Micromedex(http://csi.micromedex.com)(경구)

National Library of Medicine(NLM)(http://toxnet.nlm.nih.gov/cgi-bin/sis/htmlgen?CHEM)(경구)

Corporate Solution From Thomson Micromedex(http://csi.micromedex.com)(흡입)

National Library of Medicine(NLM)(http://toxnet.nlm.nih.gov/cgi-bin/sis/htmlgen?CHEM)(흡입)

Corporate Solution From Thomson Micromedex(http://csi.micromedex.com)(피부부식성 또는 자극성)

Corporate Solution From Thomson Micromedex(http://csi.micromedex.com)(심한 눈손상 또는 자극성)

Corporate Solution From Thomson Micromedex(http://csi.micromedex.com)(피부과민성)

(TOMES;LOLI)(특정 표적장기 독성 (1회 노출))

(TOMSON LOLI (EU directive 67/548))(흡인유해성)

Ecological Structure Activity Relationships(ECOSAR)(어류)

Quantitative Structure Activity Relation(QSAR)(농축성)

B. First created date 2020-12-11

C. Number of revisions and final revision date

Revised number of times 1

Final revision date 2024-03-25

D. Other

" ○ The prepared Material Safety Data Sheet (MSDS) shall be edited and partially modified by referring to the MSDS provided by the Korea Occupational Safety and Health Corporation.

Here's the data."