물질안전보건자료
(Material Safety Data Sheet)

Name of the product	OPTICAL hardener.

1. Information on chemical products and companies.

A. Product name.	OPTICAL hardener.
B. The recommended use of the product and restrictions or	
Recommended use of the product.	General industrial hardener.
Restrictions on the use of the product.	Prohibition of use other than intended use.
C. Supplier information (in the case of imported goods, information on domestic suppliers that can be contacted urgently)	
Corporate name	Geumgang Paint Industrial Co., Ltd.
Address	86-75 Chugok-gil, Gogyeong-myeon, Yeongcheon-si, Gyeongsangbuk-do.
Emergency phone number.	054 338 7722

2. Hazardous and dangerous.

A.Hazardous and Hazardous Classification	Flammable liquid: Classification 2.
	Skin corrosiveness/skin irritation: 2nd classification
	Carcinogenicity: Classification 1B
	Reproductive cell variability: Classification 1B
	Hazard of aspiration: Classification 1.
	Chronic Aquatic Environment Harmfulness: Classification 3

B. Items of warning signs including precautionary measures.

Picture writing.

Signal language.	Dangerous.
Hazardous and dangerous phrases.	H225 Highly flammable liquids and vapors.
	H304 can be fatal if swallowed and introduced into the airways
	H315 causes irritation to the skin.
	H340 Can cause genetic defects
	Can cause H350 cancer
	H412 Harmful to aquatic organisms due to long-term effects
Preventive measures.	
Prevention	Get the P201 pre-use instruction manual.
	P202 Do not handle all safety precautions until you read and understand them.
	P210 Stay away from heat, spark, flame, and high heat - No smoking
	Seal the P233 container tightly.
	Bond or ground the P240 container and the accommodation facility.
	P241 Use electricity, ventilation, lighting, (...), and equipment to prevent explosion.
	Use only tools that do not cause P242 sparks.
	P243 Take antistatic measures.
	After handling P264, wash the handling area thoroughly.
	Do not discharge to the P273 environment.
	Wear P280 (protective gloves, protective clothing, protective goggles, facial protective equipment).
Response	P301+P310 If swallowed, see a medical institution (doctor) immediately.
	If it gets on your skin, wash it with a large amount of water/(...).
	P303+P361+P353 If it gets on your skin (or hair), take off all contaminated clothing. Wash your skin with water/shower.
Response	P308+P313 If you are exposed or concerned about exposure, seek medical action or advice.

	Treat P321 (…).
	P331 Don't make me vomit.
	P332+P313 If skin irritation occurs, seek medical measures and advice.
	Remove P362+P364 contaminated clothing and wash it before use again.
	P370+P378 To extinguish the fire in the event of a fire (…Use) as in .
Storage	Store P403+P235 in a well-ventilated place and keep it at low temperatures.
	Store in a storage with a P405 lock.
Scrap it.	Discard P501 (according to the provisions of the relevant laws and regulations).

3. Name and content of components

Material name	Nomenclature (tolerance)	CAS number	content (%)
솔벤트 나프타 (석유), 경질 방향족화합물(SOLVENT NAPHTHA (PETROLEUM), LIGHT AROMATIC)	방향족 나프타, 타입 I(Aromatic naphtha, type I)	64742-95-6	20 ~ 30
Butyl acetate.	Normal butyl acetate n-butyl acetate	123-86-4	10 ~ 20
폴리(헥사메틸렌 디아이소시안산)(POLY(HEXAMETHYLENE DIISOCYANATE))	1,6-디아이소시아네이토헥산 호모중합물(1,6-DIISOCYANATOHEXANE HOMOPOLYMER);	28182-81-2	60 ~ 70
4-methylbenzenesulfonyl isocyanic acid.	벤젠설포닐 아이소시아네이트, 4-메틸-(BENZENESULFONYL ISOCYANATE, 4-METHYL-);	4083-64-1	0.1 ~ 0.9

4. First aid tips.

A. When it goes into your eyes.	Wash your eyes under running water for at least 20 minutes immediately upon contact with a substance.
	Take medical measures immediately.
	Get medical treatment.
	Wash your skin and eyes under running water for at least 20 minutes immediately upon contact with a substance.
	Wash your eyes carefully with water for a few minutes. Remove contact lenses if possible. Keep washing up.
	If eye irritation persists, seek medical measures and advice.
B. When I touch my skin,	Wash your skin under running water for at least 20 minutes immediately upon contact with a substance.
	Remove contaminated clothes and shoes and isolate them.
	Wash your clothes and shoes completely before reuse.
	Take medical measures immediately.
	Get medical treatment.
	Remove contaminated clothes and shoes and isolate contaminated areas.
	Wash your skin and eyes under running water for at least 20 minutes immediately upon contact with a substance.
	Prevent the spread of contaminated areas in case of minor skin contact.
	In the case of burns, immediately cool the area with cold water as long as possible, and do not remove clothes that stick to the skin.
	Wash your skin with soap and water.
	Take off or remove all contaminated clothing if it gets on your skin (or hair). Wash your skin with water/shower.
	Take off all contaminated clothing if it gets on your skin (or hair). Wash your skin with water/shower.
	If you feel uncomfortable, see a medical institution (doctor).
C. When you inhale it.	Get medical treatment.
	Move to a place with fresh air.
	If you don't breathe, do artificial respiration.
	If you can't breathe well, supply oxygen.
	If exposed to excess dust or fume, remove it with clean air and take medical measures if you have cough or other symptoms.
C. When you inhale it.	Move to a place with fresh air.
	If you don't breathe, do artificial respiration.

	If you can't breathe well, supply oxygen.
	Please make it warm and stable.
	If you are exposed or concerned about exposure, seek medical measures and advice.
	See a medical institution (doctor).
	Don't make me vomit.
D. When you eat it was...	Don't feed anything to unconscious people.
	Take medical measures immediately.
	Get medical treatment.
	If swallowed, see a medical institution (doctor) immediately.
	Don't make me vomit.
E. Other doctor's precautions.	Have medical personnel know about the substance and take protective measures.
	Contact your medical staff in case of disclosure and take special emergency measures such as follow-up.
	Symptoms of contact and inhalation may be delayed.
	Ensure that medical personnel are aware of the substance and take protective measures.

5. How to deal with an explosion or a fire.

A. Appropriate (inappropriate) digestive medicine.	
Appropriate (inappropriate) digestive medicine.	Small fire: Dry sand, dry chemical, alcohol-resistant foam, water spray, general foam, CO2 (appropriate fire extinguishing agent)
	Large fire: Water spray/fog, general foam (appropriate fire extinguishing agent)
	High-pressure drinking (inappropriate digestive medicine)
	Use alcohol foam, carbon dioxide or water spray for digestion related to this substance.
	Use dry sand or soil for choking digestion.
B. Specific hazards from chemicals.	
Specific hazards from chemical substances.	It can ignite by heat, spark, or flame.
	Container can explode when heated.
	Some of them can burn, but they don't ignite easily.
	In case of fire, it can generate irritating and toxic gases.
	Inhalation of substances can be harmful.
	Some liquids can cause dizziness and suffocation.
	It can cause fire and explosion by violently polymerizing.
	Steam can be transferred to the ignition source and ignited.
	Stimulating and very toxic gas may be generated by pyrolysis or combustion during burning.
	Can form explosive mixtures at or above flashpoints.
	Container can explode when heated.
	High flammability: easily ignited by heat, spark, and flame
	Leakage is at risk of fire/explosion.
	There's a risk of steam explosion indoors, outdoors, and in sewers.
	Some of them can burn, but they don't ignite easily.
	Steam can form an explosive mixture with air.
	Steam can move to the ignition source and flash back
	Non-flammable, the material itself does not burn, but it may decompose when heated and cause corrosive/toxic fume.
	Steam can cause dizziness or suffocation without awareness.
	In case of fire, irritating, corrosive, and toxic gases can be generated.
	Inhalation and contact can irritate the skin and eyes or cause burns.
	It can be toxic when inhaling and absorbing the skin.
	Flammable liquids and vapors.
C. Protective equipment and preventive measures to wear when extinguishing a fire.	
Solvent naphtha (oil), hard aromatic compound (PETROLEUM), LIGHT AROMATIC (SOLVENT	The rescuer should wear proper protective gear.

(PETROLEUM), LIGHT AROMATIC (SOLVENT NAPHTHA (PETROLEUM)	Get out of the area and maintain a safe distance. It's lighter than most water, so be careful. Since most steam is heavier than air, it can diffuse along the ground and accumulate in low or confined spaces. It can be carried in a hot state, so be careful. If it's not dangerous, move the container from the fire area. In the event of a tank fire, extinguish it from the maximum distance or use unmanned fire extinguishing equipment. In the event of a tank fire, cool the container with a large amount of water even after extinguishing the fire. In the event of a tank fire, step back immediately if there is a high pitch in the pressure discharge device or if the tank is discolored. In case of tank fire, step back from the tank covered in flames. In the event of a tank fire, use unmanned fire extinguishing equipment and, if impossible, allow it to burn away.
Butyl acetate.	The rescuer should wear proper protective gear. Get out of the area and maintain a safe distance. It's lighter than most water, so be careful. Since most steam is heavier than air, it can diffuse along the ground and accumulate in low or confined spaces. In the event of a tank fire, extinguish it from the maximum distance or use unmanned fire extinguishing equipment. In the event of a tank fire, cool the container with a large amount of water even after extinguishing the fire. In the event of a tank fire, step back immediately if there is a high pitch in the pressure discharge device or if the tank is discolored. In case of tank fire, step back from the tank covered in flames. In the event of a tank fire, use unmanned fire extinguishing equipment and, if impossible, allow it to burn away.
Poly(hexamethylene diisocyanate) (POLY(HEXAMETHYLENE DIISOCYANATE))	If it's not dangerous, move the container from the fire area. Some can be transported to high temperatures. Leakage can cause contamination. It can burn your skin and eyes when you touch it. Dig a ditch to dispose of the digestive water and trap it so that the substance doesn't scatter. If it's not dangerous, move the container from the fire area. In the event of a tank fire, cool the container with a large amount of water even after extinguishing the fire. In the event of a tank fire, step back immediately if there is a high pitch in the pressure discharge device or if the tank is discolored. In case of tank fire, step back from the tank covered in flames. In the event of a tank fire, use unmanned fire extinguishing equipment and, if impossible, allow it to burn away.
4-methylbenzenesulfonyl isocyanic acid.	The rescuer should wear proper protective gear. Get out of the area and maintain a safe distance. It can melt and be transported, so be careful. Dig a ditch to dispose of the digestive water and trap it so that the substance doesn't scatter. If it's not dangerous, move the container from the fire area. In the event of a tank fire, extinguish it from the maximum distance or use unmanned fire extinguishing equipment. In the event of a tank fire, cool the container with a large amount of water even after extinguishing the fire. In the event of a tank fire, step back immediately if there is a high pitch in the pressure discharge device or if the tank is discolored. In case of tank fire, step back from the tank covered in flames. In the event of a tank fire, use unmanned fire extinguishing equipment and, if impossible, allow it to burn away.

6. How to deal with leakage accidents.

A. Measures and protective equipment necessary to	Remove all ignition sources.

protect the human body.	If it's not dangerous, stop leaking.
	Pay attention to substances and conditions to avoid.
	Ventilate contaminated areas.
A. Measures and protective equipment necessary to protect the human body.	Don't touch or walk around the exposed area.
	Prevent dust formation.
	Remove all ignition sources as very fine particles can cause fire or explosion.
	Wipe off the spilled immediately and follow the precautions against protective gear.
	Isolate the contaminated area.
	Do not enter if you do not need to enter or are not equipped with protective equipment.
	Don't touch or walk around the exposed area.
	Remove all ignition sources.
	Make sure to ground all equipment when handling substances.
	If it's not dangerous, stop leaking.
	Do not touch damaged containers or leaks without wearing appropriate protective clothing.
	Steam suppression foam can be used to reduce steam generation.
	Cover it with a plastic sheet to prevent it from spreading.
	Pay attention to substances and conditions to avoid.
	Avoid inhalation of (dust, fume, gas, mist, steam, spray).
B. Measures necessary to protect the environment.	Prevent inflow into waterways, sewers, cellars, and confined spaces.
	Leakage can cause contamination.
	Prevent inflow into waterways, sewers, cellars, and confined spaces.
	Do not discharge it to the environment.
C. Purification or removal method.	In the event of a small leak, wash the contaminated area with a large amount of water.
	In case of small leakage, absorb sand and non-combustible substances and put them in a container.
	If you leak a lot, make a ditch far away from liquid leakage.
	Place the leakage in a clean, dry container with a clean shovel, close it loosely, and move the container from the leak area.
	Cover it with a plastic sheet to prevent diffusion and keep it dry in case of powder leakage.
	Build an embankment and collect water for digestion.
	Absorb spills with inert substances (e.g., dry sand or soil) and place them in chemical waste containers.
	Remove air dust and wet it with water to prevent it from dispersing.
	Absorb the liquid and wash the contaminated area with detergent and water.
	If you leak a lot, make a ditch away from liquid leakage.
	Use a clean explosion-proof tool to collect absorbed substances.
	Collect the leaks.

7. Handling and storage methods.

A. How to handle safety.	Pay attention to substances and conditions to avoid.
	Wash thoroughly after handling it.
	Please refer to engineering care and personal protective equipment.
	Be careful of the high temperature.
	Do not apply pressure, cut, weld, solder, bond, pierce, grind or expose to heat, flame, flame, static electricity or other sources of ignition.
	Follow all MSDS/Label precautions as product debris may remain even after the container is emptied.
	Use it carefully for handling/storing.
	Carefully open the cap before opening.
	Do not breathe steam from heated substances.
	Do not enter the storage area unless there is adequate ventilation.

A. How to handle safety.	Make sure to ground all equipment when handling substances.
	Pay attention to substances and conditions to avoid.
	Pay attention to substances and conditions to avoid.
	Please refer to engineering care and personal protective equipment.
	Be careful of the heat.
	Measure and ventilate the oxygen concentration in the air during work because there is a risk of oxygen deficiency when working in a low-lying enclosed space.
	Do not handle all safety precautions until you read and understand them.
	Use electricity, ventilation, lighting, (...), and equipment to prevent explosion.
	Use only tools that do not spark.
	Take antistatic measures.
	Avoid inhalation of (dust, fume, gas, mist, steam, spray).
	After handling, wash the handling area thoroughly.
	Handle only outdoors or in well-ventilated places.
B. Safe way to save.	Keep it sealed.
	Store in a cool, dry place.
	Pay attention to substances and conditions to avoid.
	Completely drain and properly block the empty drum container and immediately return it to the drum regulator or place it properly.
	Pay attention to substances and conditions to avoid.
	Stay away from heat, spa, flame, and high fever. - No smoking.
	Seal the container tightly.
	Store the container tightly sealed in a well-ventilated place.
	Store in a well-ventilated place and keep at low temperatures.
	Save it in a storage with a lock.

8. Exposure protection and personal protective equipment.

A. The exposure standards of chemicals, biological exposure standards, etc.

Domestic regulations.

Solvent naphtha (oil), hard aromatic compound (PETROLEUM), LIGHT AROMATIC (SOLVENT NAPHTHA (PETROLEUM)	No data.
Butyl acetate.	TWA - 150ppm STEL - 200ppm
Poly(hexamethylene diisocyanate) (POLY(HEXAMETHYLENE DIISOCYANATE))	No data.
4-methylbenzenesulfonyl isocyanic acid.	No data.

ACGIH regulations.

Solvent naphtha (oil), hard aromatic compound (PETROLEUM), LIGHT AROMATIC (SOLVENT NAPHTHA (PETROLEUM)	No data.
Butyl acetate.	TWA 50 ppm
Butyl acetate.	STEL 150 ppm
Poly(hexamethylene diisocyanate) (POLY(HEXAMETHYLENE DIISOCYANATE))	Not applicable.
4-methylbenzenesulfonyl isocyanic acid.	No data.

Biological exposure standards.

Solvent naphtha (oil), hard aromatic compound (PETROLEUM), LIGHT AROMATIC (SOLVENT NAPHTHA (PETROLEUM)	No data.
Butyl acetate.	No data.
Poly(hexamethylene diisocyanate) (POLY(HEXAMETHYLENE DIISOCYANATE))	Not applicable.
4-methylbenzenesulfonyl isocyanic acid.	No data.

Other exposure standards.

Solvent naphtha (oil), hard aromatic compound (PETROLEUM), LIGHT AROMATIC (SOLVENT NAPHTHA (PETROLEUM)	No data.

Butyl acetate.	No data.
Poly(hexamethylene diisocyanate) (POLY(HEXAMETHYLENE DIISOCYANATE))	No data.
4-methylbenzenesulfonyl isocyanic acid.	No data.
Me. Proper engineering management.	Use process isolation, local exhaust, or keep the air level below the exposure standard.
Me. Proper engineering management.	Use process isolation, local exhaust, or other engineering management that adjusts the air level below the exposure standard.
Me. Proper engineering management.	If dust, fume, or mist is generated during operation, ventilate air pollution to remain below the exposure standard.
Me. Proper engineering management.	Install washing facilities and safety showers for facilities that store or use this substance.
All. Personal protective equipment.	
Respiratory protection.	
Solvent naphtha (oil), hard aromatic compound (PETROLEUM), LIGHT AROMATIC (SOLVENT NAPHTHA (PETROLEUM)	Wear respiratory protective equipment certified by the Occupational Safety and Health Agency to suit the physicochemical characteristics of the gas/liquid being exposed.
Solvent naphtha (oil), hard aromatic compound (PETROLEUM), LIGHT AROMATIC (SOLVENT NAPHTHA (PETROLEUM)	"For gas/liquid substances, the following respiratory protection is recommended. -Isolated front gas mask (for organic compounds (for acidic gases, for acidic gas)) or isolated front gas mask (for organic compounds (for acidic gases, for acidic gas)) or direct front gas mask (for organic compounds (for acidic gas) or other gas mask (for organic compounds (for acidic gas) or electric gas)
Butyl acetate.	If oxygen is scarce (<19.5%), wear a respirator or a self-contained air respirator.
Butyl acetate.	Wear respiratory protective equipment certified by the Korea Occupational Safety and Health Agency to suit the exposed gas/liquid physicochemical characteristics.
Butyl acetate.	If the exposure concentration is lower than 1500 ppm, wear an appropriate filter or purifier, while protective gear.
Butyl acetate.	Wear a loose-fitting hood/helmet-type electric respirator or continuous flow dustproof mask/gas mask (dustproof mask is only for liquid aerosol) if the exposure concentration is lower than 3750 ppm.
Butyl acetate.	If the exposure concentration is lower than 7500 ppm, wear front or electric or air-supplied continuous flow/pressure requirement type respirator equipped with an appropriate filter or canister.
Butyl acetate.	If the exposure concentration is lower than 150000 ppm, wear a front or helmet/hood type, pressure-requiring blower mask equipped with an appropriate filter or purifier.
Poly(hexamethylene diisocyanate) (POLY(HEXAMETHYLENE DIISOCYANATE))	Wear self-air supply (SCBA) or pressure-requiring self-air supply (SCBA) respirators with appropriate filters or purifiers if the exposure concentration is lower than 1500000 ppm.
Poly(hexamethylene diisocyanate) (POLY(HEXAMETHYLENE DIISOCYANATE))	Wear respiratory protective equipment certified by the Occupational Safety and Health Agency to suit the physicochemical characteristics of the gas/liquid being exposed.
Poly(hexamethylene diisocyanate) (POLY(HEXAMETHYLENE DIISOCYANATE))	"For gas/liquid substances, the following respiratory protection is recommended. -Isolated front gas mask (for organic compounds (for acidic gases, for acidic gas)) or isolated front gas mask (for organic compounds (for acidic gases, for acidic gas)) or direct front gas mask (for organic compounds (for acidic gas) or other gas mask (for organic compounds (for acidic gas) or electric gas)
4-methylbenzenesulfonyl isocyanic acid.	If oxygen is scarce (<19.5%), wear a respirator or a self-contained air respirator.
4-methylbenzenesulfonyl isocyanic acid.	Wear respiratory protective equipment certified by the Occupational Safety and Health Agency to suit the physicochemical characteristics of the gas/liquid being exposed.
Eye protection.	"For gas/liquid substances, the following respiratory protection is recommended. -Isolated front gas mask (for organic compounds (for acidic gases, for acidic gas)) or isolated front gas mask (for organic compounds (for acidic gases, for acidic gas)) or direct front gas mask (for organic compounds (for acidic gas) or other gas mask (for organic compounds (for acidic gas) or electric gas)

	If oxygen is scarce (<19.5%), wear a respirator or a self-contained air respirator. Wear safety goggles or breathable goggles to protect your eyes from organic substances in vapor conditions that cause eye irritation or other health problems.
Eye protection.	Install emergency washing facilities (shower type) and washing facilities in a location where workers can easily access.
Eye protection.	Wear safety goggles or breathable goggles to protect your eyes from vapor-based organic substances that cause eye irritation or other health problems.
Eye protection.	Install emergency washing facilities (shower type) and washing facilities in a location where workers can easily access.
Protect your hands.	Wear protective gloves of appropriate material considering the physical and chemical properties of the chemical.
Protecting my body.	Wear appropriate protective clothing considering the physical and chemical properties of chemicals.

9. Physiochemical characteristics.

A. Appearance.	
His personality.	a liquid body
Color	Transparent
B. Smell.	The smell of solvent.
C. Smell threshold.	No data.
D. pH.	No data.
E. Melting point/Eo-eo-jeom.	No data.
B. Initial boiling point and boiling point range.	No data.
Sa. Print point.	No data.
Ah. The evaporation rate.	No data.
Now. Flammability (solid, gas)	No data.
Vehicle. Upper/lower limit of the range of ignition or explosion.	No data.
Car. Steam pressure.	No data.
Get in. The solubility.	No data.
Green onion. Steam density.	No data.
Ha. The proportion.	1.00 ~ 1.10
Large. n-octanol/water distribution coefficient (Kow)	No data.
You. Natural ignition temperature.	No data.
The decomposition temperature.	No data.
L. Mole.	No data.
Molecular weight.	No data.

10. Stability and reactivity.

A. The possibility of chemical stability and adverse rea	
Solvent naphtha (oil), hard aromatic compound (PETROLEUM), LIGHT AROMATIC (SOLVENT NAPHTHA (PETROLEUM)	Flammable liquids and vapors.
Solvent naphtha (oil), hard aromatic compound (PETROLEUM), LIGHT AROMATIC (SOLVENT NAPHTHA (PETROLEUM)	It can cause fire and explosion by violently polymerizing.
Solvent naphtha (oil), hard aromatic compound (PETROLEUM), LIGHT AROMATIC (SOLVENT NAPHTHA (PETROLEUM)	Can form explosive mixtures at or above flashpoints.
Solvent naphtha (oil), hard aromatic compound (PETROLEUM), LIGHT AROMATIC (SOLVENT NAPHTHA (PETROLEUM)	Container can explode when heated.
Solvent naphtha (oil), hard aromatic compound (PETROLEUM), LIGHT AROMATIC (SOLVENT NAPHTHA (PETROLEUM)	High flammability: easily ignited by heat, spark, and flame

Solvent naphtha (oil), hard aromatic compound (PETROLEUM), LIGHT AROMATIC (SOLVENT NAPHTHA (PETROLEUM)	Leakage is at risk of fire/explosion.
Solvent naphtha (oil), hard aromatic compound (PETROLEUM), LIGHT AROMATIC (SOLVENT NAPHTHA (PETROLEUM)	There's a risk of steam explosion indoors, outdoors, and in sewers.
Solvent naphtha (oil), hard aromatic compound (PETROLEUM), LIGHT AROMATIC (SOLVENT NAPHTHA (PETROLEUM)	Steam can form an explosive mixture with air.
Solvent naphtha (oil), hard aromatic compound (PETROLEUM), LIGHT AROMATIC (SOLVENT NAPHTHA (PETROLEUM)	Steam can cause dizziness or suffocation without awareness.
Solvent naphtha (oil), hard aromatic compound (PETROLEUM), LIGHT AROMATIC (SOLVENT NAPHTHA (PETROLEUM)	Inhalation and contact can irritate the skin and eyes or cause burns.
Butyl acetate.	Flammable liquids and vapors.
Butyl acetate.	It can cause fire and explosion by violently polymerizing.
Butyl acetate.	Can form explosive mixtures at or above flashpoints.
Butyl acetate.	Container can explode when heated.
Butyl acetate.	High flammability: easily ignited by heat, spark, and flame
Butyl acetate.	Leakage is at risk of fire/explosion.
Butyl acetate.	There's a risk of steam explosion indoors, outdoors, and in sewers.
Butyl acetate.	Steam can form an explosive mixture with air.
Butyl acetate.	Steam can move to the ignition source and flash back
Butyl acetate.	In case of fire, irritating, corrosive, and toxic gases can be generated.
Butyl acetate.	It can be toxic when inhaling and absorbing the skin.
Poly(hexamethylene diisocyanate) (POLY(HEXAMETHYLENE DIISOCYANATE))	Stable at room temperature and pressure.
Poly(hexamethylene diisocyanate) (POLY(HEXAMETHYLENE DIISOCYANATE))	Container can explode when heated.
Poly(hexamethylene diisocyanate) (POLY(HEXAMETHYLENE DIISOCYANATE))	Some of them can burn, but they don't ignite easily.
Poly(hexamethylene diisocyanate) (POLY(HEXAMETHYLENE DIISOCYANATE))	In case of fire, it can generate irritating and toxic gases.
Poly(hexamethylene diisocyanate) (POLY(HEXAMETHYLENE DIISOCYANATE))	Inhalation of substances can be harmful.
Poly(hexamethylene diisocyanate) (POLY(HEXAMETHYLENE DIISOCYANATE))	Some liquids can cause dizziness and suffocation.
4-methylbenzenesulfonyl isocyanic acid.	Container can explode when heated.
4-methylbenzenesulfonyl isocyanic acid.	Some of them can burn, but they don't ignite easily.
4-methylbenzenesulfonyl isocyanic acid.	Non-flammable, the material itself does not burn, but it may decompose when heated and cause corrosive/toxic fume.
4-methylbenzenesulfonyl isocyanic acid.	In case of fire, irritating, corrosive, and toxic gases can be generated.
Me. Conditions to avoid.	
Solvent naphtha (oil), hard aromatic compound (PETROLEUM), LIGHT AROMATIC (SOLVENT NAPHTHA (PETROLEUM)	Stay away from heat, spa, flame, and high fever. - No smoking.
Butyl acetate.	Stay away from heat, spa, flame, and high fever. - No smoking.
Poly(hexamethylene diisocyanate) (POLY(HEXAMETHYLENE DIISOCYANATE))	Heat, spark, flame and other sources of ignition.
4-methylbenzenesulfonyl isocyanic acid.	Heat, spark, flame and other sources of ignition.
C. Substances to avoid.	
Solvent naphtha (oil), hard aromatic compound (PETROLEUM), LIGHT AROMATIC (SOLVENT NAPHTHA (PETROLEUM)	No data.
Butyl acetate.	No data.
Poly(hexamethylene diisocyanate) (POLY(HEXAMETHYLENE DIISOCYANATE))	Flammable substances.
Poly(hexamethylene diisocyanate) (POLY(HEXAMETHYLENE DIISOCYANATE))	Irritating, toxic gas.
4-methylbenzenesulfonyl isocyanic acid.	Flammable material, reducing material.
D. Hazardous substances produced during decomposition.	

Solvent naphtha (oil), hard aromatic compound (PETROLEUM), LIGHT AROMATIC (SOLVENT NAPHTHA (PETROLEUM)	Irritating, corrosive, toxic gases.
Butyl acetate.	Irritating, corrosive, toxic gases.
Poly(hexamethylene diisocyanate) (POLY(HEXAMETHYLENE DIISOCYANATE))	No data.
4-methylbenzenesulfonyl isocyanic acid.	Stimulating and very toxic gas may be generated by pyrolysis or combustion during burning.
4-methylbenzenesulfonyl isocyanic acid.	Corrosive/toxic fume.

11. Information on toxicity.

A. Information on a highly likely exposure route.

Butyl acetate.	No data.
Poly(hexamethylene diisocyanate) (POLY(HEXAMETHYLENE DIISOCYANATE))	"Short-term exposure can cause irritation, allergic reactions, chest pain, shortness of breath, and pulmonary congestion. Long-term exposure can cause allergic reactions, chest pain, shortness of breath, and lung abnormalities.
4-methylbenzenesulfonyl isocyanic acid.	Short-term exposure can cause irritation and vomiting.
Me. Information on health hazards.	It can cause irritation, allergic reactions.
	It can cause irritation."
Acute toxicity.	No data.

epigram

Solvent naphtha (oil), hard aromatic compound (PETROLEUM), LIGHT AROMATIC (SOLVENT NAPHTHA (PETROLEUM)

Butyl acetate.

Poly(hexamethylene diisocyanate) (POLY(HEXAMETHYLENE DIISOCYANATE))

4-methylbenzenesulfonyl isocyanic acid.	LD50 8400 ㎎/㎏ Rat
Percutaneous.	LD50 3200 ㎖/㎏ Rat (OECD TG 423)
Solvent naphtha (oil), hard aromatic compound (PETROLEUM), LIGHT AROMATIC (SOLVENT NAPHTHA (PETROLEUM)	(No data)
Butyl acetate.	LD50 2234 ㎎/㎏ Rat
Poly(hexamethylene diisocyanate) (POLY(HEXAMETHYLENE DIISOCYANATE))	
4-methylbenzenesulfonyl isocyanic acid.	LD50 > 2000 ㎎/㎏ Rat (OECD Guideline 402,GLP))
Inhale.	LD50 > 17600 ㎎/㎏ Rabbit (OECD TG 402)
Solvent naphtha (oil), hard aromatic compound (PETROLEUM), LIGHT AROMATIC (SOLVENT NAPHTHA (PETROLEUM)	(No data)
Butyl acetate.	No data.

Poly(hexamethylene diisocyanate) (POLY(HEXAMETHYLENE DIISOCYANATE))

4-methylbenzenesulfonyl isocyanic acid.	Steam LC50 5.160 mg/l 4 hr Rat ((OECD TG 403, GLP) Rat no markedable clinic signs and nomortities)
Corrosive or irritating skin.	Steam LC50 1802 mg/L Rat.
Solvent naphtha (oil), hard aromatic compound (PETROLEUM), LIGHT AROMATIC (SOLVENT NAPHTHA (PETROLEUM)	(18500 mg/m3), 1 hour rat - LC50).
Butyl acetate.	Steam LC50>1290 mg/L 4 hr Rat

Poly(hexamethylene diisocyanate) (POLY(HEXAMETHYLENE DIISOCYANATE))

4-methylbenzenesulfonyl isocyanic acid.	Skin irritation was observed in the rabbit's irritation test (OECD TG 404). Mean erythema score (5 treated animals; 24, 48, 72 hr average): 2.56.
Severe eye damage or irritation.	Skin corrosion/stimulation test results for rabbits do not show irritation OECD TG 404.

Solvent naphtha (oil), hard aromatic compound (PETROLEUM), LIGHT AROMATIC (SOLVENT NAPHTHA (PETROLEUM)	500 mg Rabbit - Normal stimulation
Butyl acetate.	Standard draze test Rabbit Amount: 500 uL/24H; Reaction: Mild (hard stimulation)

Poly(hexamethylene diisocyanate) (POLY(HEXAMETHYLENE DIISOCYANATE))

4-methylbenzenesulfonyl isocyanic acid.	No significant eye irritation observed in rabbit stimulation test Not irritating in rabbit (OECD TG 405). Mean conjunctival score (24, 48, 72 hour average): 0.05
Respiratory irritability.	Severe eye damage/stimulation test results for rabbits showed no eye irritation Corneal index: 0.33/4, iris index: 0.56/2, conjunctival index: 1/3, conjunctival edema index: 0.33/4 OECD TG 405, GLP 100 mg Rabbit - Normal stimulation Standard Draze Test Rabbit Amount: 100 uL; Reaction: Moderate (Medium Stimulus)

Solvent naphtha (oil), hard aromatic compound (PETROLEUM), LIGHT AROMATIC (SOLVENT NAPHTHA (PETROLEUM)

Butyl acetate.

Poly(hexamethylene diisocyanate) (POLY(HEXAMETHYLENE DIISOCYANATE))

4-methylbenzenesulfonyl isocyanic acid.	No data.
I'm sensitive to skin irritability.	No data.
Solvent naphtha (oil), hard aromatic compound (PETROLEUM), LIGHT AROMATIC (SOLVENT NAPHTHA (PETROLEUM)	No data.
Butyl acetate.	No data.

Poly(hexamethylene diisocyanate) (POLY(HEXAMETHYLENE DIISOCYANATE))

4-methylbenzenesulfonyl isocyanic acid.	Buehler TEST (OECD Guideline 406, GLP) for Guinea Pig is irritable.
Carcinogenic.	Buehler test results using guinea pigs are irritable OECD TG 406
Occupational Safety and Health Act.	No data.
Solvent naphtha (oil), hard aromatic compound (PETROLEUM), LIGHT AROMATIC (SOLVENT NAPHTHA (PETROLEUM)	H334 (can cause allergies, asthma symptoms, and shortness of breath)
Butyl acetate.	

Poly(hexamethylene diisocyanate) (POLY(HEXAMETHYLENE DIISOCYANATE))

4-methylbenzenesulfonyl isocyanic acid.	No data.
Ministry of Employment and Labor Notice.	No data.
Solvent naphtha (oil), hard aromatic compound (PETROLEUM), LIGHT AROMATIC (SOLVENT NAPHTHA (PETROLEUM)	No data.
Butyl acetate.	No data.

Poly(hexamethylene diisocyanate) (POLY(HEXAMETHYLENE DIISOCYANATE))

4-methylbenzenesulfonyl isocyanic acid.	No data.
IARC	No data.
Solvent naphtha (oil), hard aromatic compound (PETROLEUM), LIGHT AROMATIC (SOLVENT NAPHTHA (PETROLEUM)	No data.
Butyl acetate.	No data.

Poly(hexamethylene diisocyanate) (POLY(HEXAMETHYLENE DIISOCYANATE))

4-methylbenzenesulfonyl isocyanic acid.	No data.
OSHA	No data.
Solvent naphtha (oil), hard aromatic compound (PETROLEUM), LIGHT AROMATIC (SOLVENT NAPHTHA (PETROLEUM)	No data.
Butyl acetate.	No data.

Poly(hexamethylene diisocyanate) (POLY(HEXAMETHYLENE DIISOCYANATE))

4-methylbenzenesulfonyl isocyanic acid.	No data.
ACGIH	No data.
Solvent naphtha (oil), hard aromatic compound (PETROLEUM), LIGHT AROMATIC (SOLVENT NAPHTHA (PETROLEUM)	No data.
Butyl acetate.	No data.

Poly(hexamethylene diisocyanate) (POLY(HEXAMETHYLENE DIISOCYANATE))

4-methylbenzenesulfonyl isocyanic acid.	No data. No data. No data. No data.

NTP

Solvent naphtha (oil), hard aromatic compound (PETROLEUM), LIGHT AROMATIC (SOLVENT NAPHTHA (PETROLEUM)
Butyl acetate.

Poly(hexamethylene diisocyanate) (POLY(HEXAMETHYLENE DIISOCYANATE))

4-methylbenzenesulfonyl isocyanic acid.	No data.
EU CLP	No data.
Solvent naphtha (oil), hard aromatic compound (PETROLEUM), LIGHT AROMATIC (SOLVENT NAPHTHA (PETROLEUM)	No data.
Butyl acetate.	No data.

Poly(hexamethylene diisocyanate) (POLY(HEXAMETHYLENE DIISOCYANATE))

4-methylbenzenesulfonyl isocyanic acid.	1B
Reproductive cell degeneration.	No data.
Solvent naphtha (oil), hard aromatic compound (PETROLEUM), LIGHT AROMATIC (SOLVENT NAPHTHA (PETROLEUM)	No data.
Butyl acetate.	No data.

Poly(hexamethylene diisocyanate) (POLY(HEXAMETHYLENE DIISOCYANATE))

4-methylbenzenesulfonyl isocyanic acid.	** EU CLP: 1B
Reproductive toxicity.	"As a result of the bacterial return mutation test using microorganisms in the vitro, negative OECD Guideline 471 regardless of the presence or absence of metabolic activity."
Solvent naphtha (oil), hard aromatic compound (PETROLEUM), LIGHT AROMATIC (SOLVENT NAPHTHA (PETROLEUM)	In vivo mammalian red blood cell micronuclear test results negative OECD Guideline 474"
Butyl acetate.	No data.
Poly(hexamethylene diisocyanate) (POLY(HEXAMETHYLENE DIISOCYANATE))	No data.
4-methylbenzenesulfonyl isocyanic acid.	
Specific target organ toxicity (1 exposure)	No data.
Solvent naphtha (oil), hard aromatic compound (PETROLEUM), LIGHT AROMATIC (SOLVENT NAPHTHA (PETROLEUM)	"Second-generation reproductive toxicity tests in rats showed weight, weight gain, and loss in food intake at 1500 ppm to 2000 ppm (NOAEL Systemic Toxicity, adultrats=750 ppm (nominal)) (OECD TG 416, GLP)
Butyl acetate.	Fetal developmental toxicity tests in rats showed weight and liver weight loss, baby size loss, and rib malformations, but were judged to be more maternal toxicity than developmental toxicity (NOAELmaternal toxicity=2.5 mg/Lair (nominal), NOAELteratogenicity=10 mg/Lair (nominal4) (OECD)
Poly(hexamethylene diisocyanate) (POLY(HEXAMETHYLENE DIISOCYANATE))	No data.
4-methylbenzenesulfonyl isocyanic acid.	No data.
Specific target organ toxicity (repeated exposure)	

Solvent naphtha (oil), hard aromatic compound (PETROLEUM), LIGHT AROMATIC (SOLVENT NAPHTHA (PETROLEUM)	No data. Causes central nervous system irritation, wastewater species, and respiratory system irritation in humans. Target organ: central nervous system, respiratory system
	No data.
	H335 (can cause breathing stimulation)
	No data.
Butyl acetate.	"As a result of 90 days of repeated administration of rodents in rats, <similar substance CAS No. 71-36-3>, central nervous system abnormalities such as loss of exercise and decreased activity were observed 2 to 3 minutes after exposure in the 600 mg/kg concentration group. Other effects are considered to be alcohol effects. NOAEL=level: 125 mg/kg binwald"
Poly(hexamethylene diisocyanate) (POLY(HEXAMETHYLENE DIISOCYANATE))	90-day inhalation toxicity test in rats showed acute and short-term symptoms of decreased activity levels at moderate and highest concentrations, decreased weight and prey intake, and symptoms of nasal upper respiratory irritation NOAEC=500 ppm GLP, EPAOTS 798.2450"
4-methylbenzenesulfonyl isocyanic acid.	In cases where exposure can increase the risk: respiratory abnormalities, skin diseases, and allergies
It's harmful to people's	No data.

Solvent naphtha (oil), hard aromatic compound (PETROLEUM), LIGHT AROMATIC (SOLVENT NAPHTHA (PETROLEUM)	
Butyl acetate.	EU CLP Harmony Classification 1
Poly(hexamethylene diisocyanate) (POLY(HEXAMETHYLENE DIISOCYANATE))	No data.
4-methylbenzenesulfonyl isocyanic acid.	No data.
Other harmful effects.	R20, R23, R26

Solvent naphtha (oil), hard aromatic compound (PETROLEUM), LIGHT AROMATIC (SOLVENT NAPHTHA (PETROLEUM)	
Butyl acetate.	No data.
Poly(hexamethylene diisocyanate) (POLY(HEXAMETHYLENE DIISOCYANATE))	No data.
4-methylbenzenesulfonyl isocyanic acid.	No data.
	No data.

12. Impact on the environment.

A. Ecotoxicity.

Fish.

Solvent naphtha (oil), hard aromatic compound (PETROLEUM), LIGHT AROMATIC (SOLVENT NAPHTHA (PETROLEUM)	LC50 9.22 ㎎/ℓ 96 hr Oncorhynchus mykiss
Butyl acetate.	LC50 18 mg/ 96 96 hr Pimphales prolas (Equivalent, OECD Guideline 203)
Poly(hexamethylene diisocyanate) (POLY(HEXAMETHYLENE DIISOCYANATE))	(No data)
4-methylbenzenesulfonyl isocyanic acid.	LC50 133 ㎎/ℓ 14 day

Crustaceans.

Solvent naphtha (oil), hard aromatic compound (PETROLEUM), LIGHT AROMATIC (SOLVENT NAPHTHA (PETROLEUM)	EC50 6.14 ㎎/ℓ 48 hr Daphnia magna
Butyl acetate.	EC50 44 ㎎/ℓ 48 hr Daphnia magna
Poly(hexamethylene diisocyanate) (POLY(HEXAMETHYLENE DIISOCYANATE))	(No data)
4-methylbenzenesulfonyl isocyanic acid.	No data.

bird

Solvent naphtha (oil), hard aromatic compound (PETROLEUM), LIGHT AROMATIC (SOLVENT NAPHTHA (PETROLEUM)	EC50 19 ㎎/ℓ 72 hr Selenastrum capricornutum
Butyl acetate.	EC50 335 ㎎/ℓ 72 hr Selenastrum capricornutum

Poly(hexamethylene diisocyanate) (POLY(HEXAMETHYLENE DIISOCYANATE))	(No data)
4-methylbenzenesulfonyl isocyanic acid.	No data.
B. Residuality and resolution.	
Residuality.	
Solvent naphtha (oil), hard aromatic compound (PETROLEUM), LIGHT AROMATIC (SOLVENT NAPHTHA (PETROLEUM)	Log Kow 2.1~6 (estimated)
Butyl acetate.	log Kow 1.78
Poly(hexamethylene diisocyanate) (POLY(HEXAMETHYLENE DIISOCYANATE))	(Not applicable)
4-methylbenzenesulfonyl isocyanic acid.	Log Kow 2.34 (estimated)
Decomposable.	
Solvent naphtha (oil), hard aromatic compound (PETROLEUM), LIGHT AROMATIC (SOLVENT NAPHTHA (PETROLEUM)	BOD5/COD 0.43
Butyl acetate.	No data.
Poly(hexamethylene diisocyanate) (POLY(HEXAMETHYLENE DIISOCYANATE))	(No data)
4-methylbenzenesulfonyl isocyanic acid.	No data.
C. Bioconcentration.	
Concentrated.	
Solvent naphtha (oil), hard aromatic compound (PETROLEUM), LIGHT AROMATIC (SOLVENT NAPHTHA (PETROLEUM)	No data.
Butyl acetate.	No data.
Poly(hexamethylene diisocyanate) (POLY(HEXAMETHYLENE DIISOCYANATE))	(No data)
4-methylbenzenesulfonyl isocyanic acid.	BCF 12.7
Biodegradable.	
Solvent naphtha (oil), hard aromatic compound (PETROLEUM), LIGHT AROMATIC (SOLVENT NAPHTHA (PETROLEUM)	No data.
Butyl acetate.	83 % 28 day (OECD TG 301D)
Poly(hexamethylene diisocyanate) (POLY(HEXAMETHYLENE DIISOCYANATE))	(No data)
4-methylbenzenesulfonyl isocyanic acid.	No data.
D. Soil migration.	
Solvent naphtha (oil), hard aromatic compound (PETROLEUM), LIGHT AROMATIC (SOLVENT NAPHTHA (PETROLEUM)	No data.
Butyl acetate.	No data.
Poly(hexamethylene diisocyanate) (POLY(HEXAMETHYLENE DIISOCYANATE))	No data.
4-methylbenzenesulfonyl isocyanic acid.	No data.
Ma. Other harmful effects.	
Solvent naphtha (oil), hard aromatic compound (PETROLEUM), LIGHT AROMATIC (SOLVENT NAPHTHA (PETROLEUM)	No data.
Butyl acetate.	No data.
Poly(hexamethylene diisocyanate) (POLY(HEXAMETHYLENE DIISOCYANATE))	No data.
4-methylbenzenesulfonyl isocyanic acid.	No data.

13. Precautions for disposal

A. How to dispose of it.

"1) Separate oil from water and incinerate the separated oil components, and dispose of the remaining water in a water pollution prevention facility.

2) After treatment with evaporation and concentration, incinerate or stabilize the residue.

	3) After treatment with agglomeration and precipitation, incinerate the remnants. 4) Refine by separation, distillation, extraction, filtration, pyrolysis. 5) Incineration or stabilization." "1) Treat it with neutralization, hydrolysis, oxidation, and reduction.
Solvent naphtha (oil), hard aromatic compound (PETROLEUM), LIGHT AROMATIC (SOLVENT NAPHTHA (PETROLEUM)	2) High-temperature incineration or high-temperature melting treatment.
Butyl acetate.	3) Solidify it."
Poly(hexamethylene diisocyanate) (POLY(HEXAMETHYLENE DIISOCYANATE))	If specified in the Waste Control Act, discard the contents and containers in accordance with the regulations.
4-methylbenzenesulfonyl isocyanic acid.	If specified in the Waste Control Act, discard the contents and containers in accordance with the regulations.
B. Precautions for disposal.	
Solvent naphtha (oil), hard aromatic compound (PETROLEUM), LIGHT AROMATIC (SOLVENT NAPHTHA (PETROLEUM)	Discard the container of contents (as specified in the relevant laws and regulations).
Butyl acetate.	Discard the container of contents (as specified in the relevant laws and regulations).
Poly(hexamethylene diisocyanate) (POLY(HEXAMETHYLENE DIISOCYANATE))	If specified in the Waste Control Act, consider the precautions specified in the regulations.
4-methylbenzenesulfonyl isocyanic acid.	Discard the container of contents (as specified in the relevant laws and regulations).

14. Information necessary for transportation.

A. UN number (UN No.)	1263
	Paint including paint, lacquer, enamel, stain, shellac solutions, varnish, polish, liquid filler, and liquid lacquer base
Me. Proper shipping name.	
C. Risk rating in transportation.	3
	III
D. Courage level.	
4-methylbenzenesulfonyl isocyanic acid.	II
Hey, marine pollutants.	
Solvent naphtha (oil), hard aromatic compound (PETROLEUM), LIGHT AROMATIC (SOLVENT NAPHTHA (PETROLEUM)	relevant
Butyl acetate.	Contrasting.
Poly(hexamethylene diisocyanate) (POLY(HEXAMETHYLENE DIISOCYANATE))	No data.
4-methylbenzenesulfonyl isocyanic acid.	No data.
needs to know about transportation or means of transportation.	
Emergency measures in case of a fire.	
Solvent naphtha (oil), hard aromatic compound (PETROLEUM), LIGHT AROMATIC (SOLVENT NAPHTHA (PETROLEUM)	F-E
Butyl acetate.	F-E
Poly(hexamethylene diisocyanate) (POLY(HEXAMETHYLENE DIISOCYANATE))	Not applicable.
4-methylbenzenesulfonyl isocyanic acid.	F-A
Emergency measures in case of leakage.	
Solvent naphtha (oil), hard aromatic compound (PETROLEUM), LIGHT AROMATIC (SOLVENT NAPHTHA (PETROLEUM)	S-E
Butyl acetate.	S-D
Poly(hexamethylene diisocyanate) (POLY(HEXAMETHYLENE DIISOCYANATE))	Not applicable.
4-methylbenzenesulfonyl isocyanic acid.	S-A

15. Status of legal regulations

A. Regulations under the Occupational Safety and Health Act.

Solvent naphtha (oil), hard aromatic compound (PETROLEUM), LIGHT AROMATIC (SOLVENT NAPHTHA (PETROLEUM)	Substances subject to process safety report (PSM) submission
Butyl acetate.	Substances subject to process safety report (PSM) submission
Butyl acetate.	Hazardous substances to be managed.
Butyl acetate.	Substances subject to work environment measurement (measurement cycle: 6 months)
Butyl acetate.	Exposure criteria setting substance.
Poly(hexamethylene diisocyanate) (POLY(HEXAMETHYLENE DIISOCYANATE))	No data.
4-methylbenzenesulfonyl isocyanic acid.	No data.

B. Regulations under the Chemical Substance Control Act.

Solvent naphtha (oil), hard aromatic compound (PETROLEUM), LIGHT AROMATIC (SOLVENT NAPHTHA (PETROLEUM)	No data.
Butyl acetate.	No data.
Poly(hexamethylene diisocyanate) (POLY(HEXAMETHYLENE DIISOCYANATE))	No data.
4-methylbenzenesulfonyl isocyanic acid.	No data.

C. Regulations under the Dangerous Goods Safety Management Act.

Solvent naphtha (oil), hard aromatic compound (PETROLEUM), LIGHT AROMATIC (SOLVENT NAPHTHA (PETROLEUM)	No data.
Butyl acetate.	4th-rate 2nd petroleum (non-water-soluble) 1000L.
Poly(hexamethylene diisocyanate) (POLY(HEXAMETHYLENE DIISOCYANATE))	No data.
4-methylbenzenesulfonyl isocyanic acid.	No data.

D. Regulation under the Wastes Control Act.

Solvent naphtha (oil), hard aromatic compound (PETROLEUM), LIGHT AROMATIC (SOLVENT NAPHTHA (PETROLEUM)	No data.
Butyl acetate.	Designated waste.
Poly(hexamethylene diisocyanate) (POLY(HEXAMETHYLENE DIISOCYANATE))	Designated waste.
4-methylbenzenesulfonyl isocyanic acid.	No data.

E. Other regulations under domestic and foreign laws.

Domestic regulation.

Solvent naphtha (oil), hard aromatic compound (PETROLEUM), LIGHT AROMATIC (SOLVENT NAPHTHA (PETROLEUM)

Butyl acetate.

Poly(hexamethylene diisocyanate) (POLY(HEXAMETHYLENE DIISOCYANATE))

4-methylbenzenesulfonyl isocyanic acid.

Other domestic regulations.

Solvent naphtha (oil), hard aromatic compound (PETROLEUM), LIGHT AROMATIC (SOLVENT NAPHTHA (PETROLEUM)	Not applicable.
Butyl acetate.	Not applicable.
Poly(hexamethylene diisocyanate) (POLY(HEXAMETHYLENE DIISOCYANATE))	Not applicable.
4-methylbenzenesulfonyl isocyanic acid.	Not applicable.

Foreign regulation.

US Management Information (OSHA Regulations)

Solvent naphtha (oil), hard aromatic compound (PETROLEUM), LIGHT AROMATIC (SOLVENT NAPHTHA (PETROLEUM)	Not applicable.

Butyl acetate.	Not applicable.
Poly(hexamethylene diisocyanate) (POLY(HEXAMETHYLENE DIISOCYANATE))	Not applicable.
4-methylbenzenesulfonyl isocyanic acid.	Not applicable.

US Management Information (CERCLA Regulations)

Solvent naphtha (oil), hard aromatic compound (PETROLEUM), LIGHT AROMATIC (SOLVENT NAPHTHA (PETROLEUM)	Not applicable.
Butyl acetate.	2267.995kg 5000lb
Poly(hexamethylene diisocyanate) (POLY(HEXAMETHYLENE DIISOCYANATE))	Not applicable.
4-methylbenzenesulfonyl isocyanic acid.	Not applicable.

US Management Information (EPCRA 302 Regulations)

Solvent naphtha (oil), hard aromatic compound (PETROLEUM), LIGHT AROMATIC (SOLVENT NAPHTHA (PETROLEUM)	Not applicable.
Butyl acetate.	Not applicable.
Poly(hexamethylene diisocyanate) (POLY(HEXAMETHYLENE DIISOCYANATE))	Not applicable.
4-methylbenzenesulfonyl isocyanic acid.	Not applicable.

US Management Information (EPCRA 304 Regulations)

Solvent naphtha (oil), hard aromatic compound (PETROLEUM), LIGHT AROMATIC (SOLVENT NAPHTHA (PETROLEUM)	Not applicable.
Butyl acetate.	Not applicable.
Poly(hexamethylene diisocyanate) (POLY(HEXAMETHYLENE DIISOCYANATE))	Not applicable.
4-methylbenzenesulfonyl isocyanic acid.	Not applicable.

US Management Information (EPCRA 313)

Solvent naphtha (oil), hard aromatic compound (PETROLEUM), LIGHT AROMATIC (SOLVENT NAPHTHA (PETROLEUM)	Not applicable.
Butyl acetate.	Not applicable.
Poly(hexamethylene diisocyanate) (POLY(HEXAMETHYLENE DIISOCYANATE))	Not applicable.
4-methylbenzenesulfonyl isocyanic acid.	Not applicable.

US Management Information (Materials of Rotterdam Convention)

Solvent naphtha (oil), hard aromatic compound (PETROLEUM), LIGHT AROMATIC (SOLVENT NAPHTHA (PETROLEUM)	Not applicable.
Butyl acetate.	Not applicable.
Poly(hexamethylene diisocyanate) (POLY(HEXAMETHYLENE DIISOCYANATE))	Not applicable.
4-methylbenzenesulfonyl isocyanic acid.	Not applicable.

US Management Information (Stockholm Convention Material)

Solvent naphtha (oil), hard aromatic compound (PETROLEUM), LIGHT AROMATIC (SOLVENT NAPHTHA (PETROLEUM)	Not applicable.
Butyl acetate.	Not applicable.
Poly(hexamethylene diisocyanate) (POLY(HEXAMETHYLENE DIISOCYANATE))	Not applicable.
4-methylbenzenesulfonyl isocyanic acid.	Not applicable.

U.S. management information (Emotional material in Montreal)

Solvent naphtha (oil), hard aromatic compound (PETROLEUM), LIGHT AROMATIC (SOLVENT NAPHTHA (PETROLEUM)	Not applicable.
Butyl acetate.	Not applicable.
Poly(hexamethylene diisocyanate) (POLY(HEXAMETHYLENE DIISOCYANATE))	Not applicable.
4-methylbenzenesulfonyl isocyanic acid.	Not applicable.

EU classification information (confirmed classification result)

Solvent naphtha (oil), hard aromatic compound (PETROLEUM), LIGHT AROMATIC (SOLVENT NAPHTHA (PETROLEUM)	Carc. Cat. 2; R45/Muta. Cat. 2; R46, Xn; R65
Butyl acetate.	"Flam. Liq. 3
Poly(hexamethylene diisocyanate) (POLY(HEXAMETHYLENE DIISOCYANATE))	STOT SE 3"
4-methylbenzenesulfonyl isocyanic acid.	Not applicable.
EU classification information (risk phrase)	R14Xi; R36/37/38R42

Solvent naphtha (oil), hard aromatic compound (PETROLEUM), LIGHT AROMATIC (SOLVENT NAPHTHA (PETROLEUM)

Butyl acetate.	R45, R65, R46
Poly(hexamethylene diisocyanate) (POLY(HEXAMETHYLENE DIISOCYANATE))	"H226
4-methylbenzenesulfonyl isocyanic acid.	H336"
EU Classification Information (Safety Statement)	Not applicable.
Solvent naphtha (oil), hard aromatic compound (PETROLEUM), LIGHT AROMATIC (SOLVENT NAPHTHA (PETROLEUM)	R14, R36/37/38, R42
Butyl acetate.	S53, S45 Not applicable.
Poly(hexamethylene diisocyanate) (POLY(HEXAMETHYLENE DIISOCYANATE))	Not applicable.
4-methylbenzenesulfonyl isocyanic acid.	S2, S26, S28, S30

16. Other references.

A. Source of data.

Solvent naphtha (oil), hard aromatic compound (PETROLEUM), LIGHT AROMATIC (SOLVENT NAPHTHA (PETROLEUM)

IUCLID's image)

IUCLID (Ma. Melting point/Fish point)

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

IUCLID (The flash point)

IUCLID (car vapor pressure)

IUCLID (dissolvability)

IUCLID (Low. Specific gravity)

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

IUCLID (You. Natural ignition temperature)

RTECS.

ECHA.

ECHA.

ECHA (skin corrosion or irritation)

ECHA (severe eye damage or irritation)

ECHA.

EU CLP Harmony Classification (Hazardous)

IUCLID (Fish.

IUCLID.

IUCLID (Bird.

IUCLID (remaining)

Butyl acetate.

ICSC (Personality)

ICSC (Color)

ECHA Registered Substances (B. Smell)

ECHA (D. pH)

ICSC (Ma. Melting point/Fish point)

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

ICSC (company flash point)

2 (Ah, evaporation rate)

ICSC (upper/lower limit of vehicle. printing or explosion range)

hSDB (car vapor pressure)

Chemid plus (dissolvability)

ICSC, hsdb (wave.vapor density)

HSDB (Low. Specific gravity)

HSDB (large.n-octanol/water distribution coefficient (Kow))

ICSC (You. spontaneous ignition temperature)

ChemidPlus (Molecular weight)

ECHA.

ECHA.

ECHA.

ECHA (skin corrosion or irritation)

ECHA (severe eye damage or irritation)

ECHA.

ECHA (genesis of reproductive cell mutations)

ECHA (raw food toxicity)

NLM (specific target organ toxicity (1 exposure)

ECHA (specific target organ toxicity (repeated exposure))

(Hazardous)

ECHA.

ECHA.

ECHA.

HSDB (remaining property)

ECHA (biodegradable)

Poly(hexamethylene diisocyanate) (POLY(HEXAMETHYLENE DIISOCYANATE))

4-methylbenzenesulfonyl isocyanic acid.

14303 Chemical Products (Japan) (Statue)

14303 Chemical Product (Japan) (Color)

The Chemical Database, The Department of Chemistry at the University of Akron (http://ull.chemistry.uakron.edu/erd)(Ma. Melting Point/Cooking Point)

The Chemical Database, The Department of Chemistry at the University of Akron (http://ull.chemistry.uakron.edu/erd)(bar, initial boiling point and boiling point range)

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

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

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

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

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

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

Corporate Solution From Thomson Micromedex (http://csi.micromedex.com) (skin corrosion or irritation)

Corporate Solution From Thomson Micromedex (http://csi.micromedex.com) (severe eye damage or irritation)

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

(TOMES;LOL) (Specific target organ toxicity (1 exposure))

(TOMSON LOLI (EU directive 67/548) (intake harmful)

Ecological Structure Activity Relationships (ECOSAR) (Fish)

Quantitative Structure Activity Relation (QSAR) (Concentration)

Me. The date of writing.	2021-12-01

C. The number of revisions and the date of final revision.

The number of revisions.	회
Final revision date.	0

D. Guitar.

" ○ The prepared Material Safety and Health Data (MSDS) was edited and partially modified by referring to the MSDS provided by the Korea Occupational Safety and Health Agency.
This is the data."