

Material Safety Data Sheet

Product name

ULTRA-225

1. Chemical products and company information

A. Product name	ULTRA-225
B. Recommended use of the product and restrictions on use	
Recommended use of the product	high temperature chain oil (Conveyor chain oil)
Restrictions on product use	Limited to industrial use
C. Manufacturer information (In the case of imported products, include information on domestic suppliers who can be contacted in an emergency)	
Company Name	Taesung Industry Co., Ltd.
Address	38-3 Hoehak 3-gil, Onsan-eup, Ulju-gun, Ulsan-si
Emergency number	052-227--6471
D. Supplier Information	
Company Name	Lusys Co., Ltd.
Address	24-10, Banggi 8-gil, Samnam-eup, Ulju-gun, Ulsan-si
Phone number	052-223-3978

2. Hazards and risks

A. Hazard and risk classification	
-. Physical danger	No data
-. Health risk	Acute toxicity (inhalation: dust/mist) : Category 4 Serious eye damage/eye irritation : Category 2 Specific target organ toxicity (single exposure): Category 3 (respiratory system irritation) Specific target organ toxicity (repeated exposure) : Category 2 Aspiration hazard : Category 1
-. Environmental hazard	Chronic aquatic toxicity : Category 4
B. Warning label items including precautionary statements	

Pictogram



Signal word

Danger

Hazard and risk statements

H304 May be fatal if swallowed and enters airways
H319 Causes serious eye irritation.
H332 Harmful if inhaled
H335 May cause respiratory irritation
H373 May cause damage to respiratory system through prolonged or repeated exposure.
H413 May cause long term harmful effects to aquatic life.

Precautionary statements

P260 Do not breathe (dust/fume/gas/mist/vapours/spray).
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
P264 Wash area thoroughly after handling.

Prevention

P271 Use only outdoors or in a well-ventilated area.
P273 Avoid release to the environment.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P301+P310 If swallowed, seek medical attention immediately.

React

P304+P340 If inhaled, remove to fresh air and keep at rest in a position comfortable for breathing.
P305+P351+P338 IF IN EYE: Rinse cautiously with water for several minutes. Remove contact lenses if possible. keep washing
P312 If you feel unwell, seek medical attention.
P314 Get medical advice/attention if you feel unwell.
P331 Do not induce vomiting.
P337+P313 If eye irritation persists: Get medical advice/attention.

Save

P403+P233 Store container tightly closed in a well-ventilated place.

P405 Store in a locked storage area.

Dispose

P501 Dispose of contents container (in accordance with applicable laws and regulations).

3. Composition/Information on Ingredients

Substance name	Alias (usual name)	CAS number	Content(%)
Molybdenum disulfide (molybdenum disulfide) (MOLYBDENUM DISULFIDE)	MOLYBDIC SULFIDE	1317-33-5	3 ± 0.5
High molecular weight branched (C=18-50), cyclic and linear distillates (Fischer-Tropsch)		848301-69-9	25 ± 1.0
LIGHT MINERAL OIL	WHITE MINERAL OIL (PETROLEUM)	8042-47-5	70 ± 1.0
1-decene, homopolymer, hydrogenated	1-diken homopolymer hydrogenated (DEC- 1-ENE, HOMOPOLYMER, HYDROGENATED);	68037-01-4	2 ± 0.5

4. First aid measures

Get urgent medical attention

A. In case of eye contact

In case of contact with substance, immediately flush skin and eyes with running water for at least 20 minutes.

If in eyes, rinse cautiously with water for several minutes. Remove contact lenses if possible. keep washing

If eye irritation persists, seek medical advice/attention.

Get urgent medical attention

Remove contaminated clothing and shoes and isolate contaminated area.

B. In case of skin contact

Prevent spread of contamination in case of minor skin contact.

If you feel unwell, seek medical advice (doctor).

If you feel unwell, seek medical advice/attention.

If exposed to excessive dust or fumes, remove to fresh air and seek medical attention if cough or other symptoms develop.

Move to fresh air

If not breathing, give artificial respiration

C. Inhalation

Give oxygen if breathing is difficult

keep warm and calm

If you feel unwell, seek medical advice/attention.

Do not induce vomiting.

Get urgent medical attention

If the substance is ingested or inhaled, do not perform mouth-to-mouth artificial respiration and use appropriate respiratory medical equipment.

D. When eaten

If swallowed, seek medical attention immediately.

Do not induce vomiting.

E. Other doctor's notes

Make sure medical personnel are aware of the substance and take protective measures.

5. How to deal with explosions and fires

A. Appropriate (inappropriate)

Use alcohol foam, carbon dioxide or water spray for extinguishing involving this material.

When extinguishing by suffocation, use dry sand or earth

B. Specific hazards arising from chemicals

May decompose at high temperatures to produce toxic gases

Irritating and highly toxic gases may be evolved by thermal decomposition or combustion during burning.

Containers may explode when heated

Some can burn but do not ignite easily

Non-flammable, material itself does not burn, but may decompose when heated to generate corrosive/toxic fumes

In case of fire, irritating, corrosive and toxic gases may be generated.

C. Protective equipment and precautions to be worn when fighting a fire

Rescuers should wear suitable protective equipment.

Get out of the area and extinguish at a safe distance.

Be careful as it may be melted and transported.

Dig a ditch for disposal of fire extinguishing water and keep the material from dispersing.

Move container from fire area if you can do it without risk.

In case of tank fire, extinguish at maximum distance or use unmanned fire extinguishing equipment.

In case of tank fire, cool containers with plenty of water even after fire is out.

In the event of a tank fire, leave immediately if there is a high-pitched sound from the pressure relief device or if the tank is discolored.

In case of tank fire, get away from tank in flames

In case of a tank fire, in case of a large-scale fire, use unmanned fire extinguishing equipment, and if not possible, leave and let it burn.

6. How to deal with leakage accidents

Wipe up spills immediately and follow precautions in the section on protective equipment.

Eliminate all sources of ignition

Stop leak if without risk

Do not touch broken containers or spills without wearing appropriate protective clothing.

Cover with plastic sheet to prevent spread.

Prevent dust formation

Note the substances and conditions to be avoided

Do not breathe (dust/fume/gas/mist/vapor/spray).

Avoid inhalation of (dust/fume/gas/mist/vapor/spray).

Prevent entry into waterways, sewers, basements and confined spaces.

Do not release to the environment.

Absorb spillage with inert material (eg dry sand or earth) and place in a chemical waste container.

Remove airborne dust and moisten with water to prevent dispersal.

Absorb liquid and flush contaminated area with detergent and water.

In case of large spills, make a ditch away from liquid spills.

Use a clean shovel to scoop spillage into a clean, dry container, close it loosely and move the container away from the spill area.

In case of powder spill, cover with plastic sheet to prevent spread and keep dry.

In case of small spill, absorb with sand or non-combustible material and place in a container.

A. Necessary measures and protective gear to protect the human body

B. Necessary measures to protect the environment

C. Purification or Removal Methods

D. Purification or Removal Methods

7. Handling and storage

Follow all MSDS/label precautions as product residue may remain after container is emptied.

Use with caution in handling/storage.

Open cap carefully before opening.

Do not enter storage area without adequate ventilation.

Note the substances and conditions to be avoided

Work with reference to engineering controls and personal protective equipment

Beware of high temperatures

Avoid inhalation of (dust/fume/gas/mist/vapor/spray).

Wash treated area thoroughly after handling.

Handle only outdoors or in a well-ventilated area.

Empty drums should be completely drained and properly capped and immediately returned to drum conditioner or properly positioned.

Store container tightly closed in a well-ventilated place.

Store in a locked storage area.

A. Precautions for safe handling

B. Safe storage conditions

8. Exposure control and personal protective equipment

A. Chemical exposure standards, biological exposure standards, etc.

Domestic regulations

MOLYBDENUM DISULFIDE No data

1-decene, homopolymer, hydrogenated No data

LIGHT MINERAL OIL No data

High molecular weight branched (C=18~50), cyclic and linear distillates (Fischer-Tropsch) No data

ACGIH Rule

MOLYBDENUM DISULFIDE	No data
1-decene, homopolymer, hydrogenated	No data
LIGHT MINERAL OIL	No data
High molecular weight branched (C=18~50), cyclic and linear distillates (Fischer-Tropsch)	No data
Biological Exposure Limit	
MOLYBDENUM DISULFIDE	No data
1-decene, homopolymer, hydrogenated	No data
LIGHT MINERAL OIL	No data
High molecular weight branched (C=18~50), cyclic and linear distillates (Fischer-Tropsch)	No data
Other Exposure Criteria	
MOLYBDENUM DISULFIDE	No data
1-decene, homopolymer, hydrogenated	No data
LIGHT MINERAL OIL	No data
High molecular weight branched (C=18~50), cyclic and linear distillates (Fischer-Tropsch)	No data
	Use process isolation, local ventilation, or other engineering controls to control air levels below exposure limits.
B. Appropriate Engineering Controls	If driving generates dust, fumes or mist, provide ventilation to keep air pollution below exposure standards. Facilities storing or using this material should be equipped with eyewash facilities and safety showers.
C. Personal protective equipment	Wear respiratory protection that has been certified by the Occupational Safety and Health Agency in accordance with the physical and chemical characteristics of the particulate matter to be exposed. "For particulate matter, the following respiratory protection is recommended – Face-piece filtering dust mask or air filtering dust mask (high-efficiency particulate filtering material) or electric fan-attached dust mask (filtering material for dust, mist, fume)" In case of insufficient oxygen (<19.6%), wear a supplied air mask or self-contained respirator.
respiratory protection	Wear respiratory protection that has been certified by the Occupational Safety and Health Agency in accordance with the physical and chemical characteristics of the gas/liquid to be exposed. physical and chemical characteristics of the gas/liquid to be exposed. "For gas/liquid substances, the following respiratory protection is recommended – Isolation-type full-face gas mask (for organic compounds (for acid gas in case of acid gas)) or isolation half-type gas mask (for organic compounds (for acid gas in case of acid gas)) or direct-coupled full-face gas mask (for acid gas) For organic compounds (for acid gases in case of acid gases)) or half-type gas mask (for organic compounds (for acid gases in case of acid gases)) or powered gas masks"
eye protection	Wear breathable safety goggles to protect eyes against particulate matter that may cause eye irritation or other health hazards. Install emergency washing facility (shower type) and face washing facility in a location where workers can easily access.
hand protection	Wear protective gloves made of appropriate material considering the physical and chemical properties of chemicals.
body protection	Wear appropriate protective clothing considering the physical and chemical properties of chemicals.

9. Physical and chemical properties

A. Appearance

Appearance	Liquid
Color	grey-black

B. Smell

No data

C. Odor Threshold

No data

D. pH

neutrality

E. Melting Point/Freezing Point

Below minus 88 °C

F. Initial Boiling Point and Boiling Range

285 °C

G. Flash point

285 °C (C.C.) / Measurement method – Sealed type

H. Evaporation rate

No data

I. Flammability (solid, gaseous)

No data

J. Upper/lower flammable or explosive limits	No data
K. Vapor pressure	0.065 KPA(20 °C)
L. Solubility	No data
M. vapor density	No data
N. specific gravity	0.78 ± 0.05
O. n-octanol/water partition coefficient (Kow)	No data
P. Autoignition temperature	No data
Q. Decomposition temperature	No data
R. Viscosity	5 cst at 40 °C
S. molecular weight	Not available as a mixture

10. Stability and Responsiveness

A. Chemical Stability and Possibility of Hazardous Reactions

Containers may explode when heated
Some can burn but do not ignite easily
Non-flammable, material itself does not burn, but may decompose when heated to generate corrosive/toxic fumes
In case of fire, irritating, corrosive and toxic gases may be generated.
May decompose at high temperatures to produce toxic gases

B. Conditions to avoid

Ignition sources such as heat, sparks, flames, etc.

C. Incompatible materials

Combustible materials, reducing materials

D. Harmful substances produced during decomposition

Irritating and highly toxic gases may be evolved by thermal decomposition or combustion during burning.
Corrosive/toxic fumes
irritant, toxic gas
Irritating, corrosive and toxic gases

11. Toxicity information

A. Information on likely routes of exposure

MOLYBDENUM DISULFIDE	No data
1-decene, homopolymer, hydrogenated	No data
LIGHT MINERAL OIL	No data
High molecular weight branched (C=18~50), cyclic and linear distillates (Fischer-Tropsch)	No data

B. Health Hazard Information

Acute toxicity

Oral-

MOLYBDENUM DISULFIDE	(Rat LD > 2000mg/kg)
1-decene, homopolymer, hydrogenated	No data
LIGHT MINERAL OIL	LD50 > 5000 mg/kg Rat
High molecular weight branched (C=18~50), cyclic and linear distillates (Fischer-Tropsch)	LD50 > 5000 mg/kg Rat ((OECD TG 401, GLP))

Transdermal

MOLYBDENUM DISULFIDE	LD > 2000 mg/kg Rabbit
1-decene, homopolymer, hydrogenated	No data
LIGHT MINERAL OIL	No data
High molecular weight branched (C=18~50), cyclic and linear distillates (Fischer-Tropsch)	No data

Inhale

MOLYBDENUM DISULFIDE	Dust LC50> 2820 mg/m ³ 4 hr Rat
1-decene, homopolymer, hydrogenated	No data
LIGHT MINERAL OIL	No data

High molecular weight branched (C=18~50), cyclic and linear distillates (Fischer-Tropsch)	No data
Skin corrosion or irritation	
MOLYBDENUM DISULFIDE	No data
1-decene, homopolymer, hydrogenated	No data
LIGHT MINERAL OIL	Rabbit/Draize test (24hr): No irritation
High molecular weight branched (C=18~50), cyclic and linear distillates (Fischer-Tropsch)	Skin irritation test results on rabbits showed no irritation (OECD Guideline 404, GLP)
Serious eye damage or irritation	
MOLYBDENUM DISULFIDE	No data
1-decene, homopolymer, hydrogenated	Causes eye irritation in short-term contact
LIGHT MINERAL OIL	Rabbit/Draize test: No irritation
High molecular weight branched (C=18~50), cyclic and linear distillates (Fischer-Tropsch)	No data
Respiratory hypersensitivity	
MOLYBDENUM DISULFIDE	No data
1-decene, homopolymer, hydrogenated	No data
LIGHT MINERAL OIL	No data
High molecular weight branched (C=18~50), cyclic and linear distillates (Fischer-Tropsch)	No data
Skin sensitivity	
MOLYBDENUM DISULFIDE	No data
1-decene, homopolymer, hydrogenated	No data
LIGHT MINERAL OIL	Guinea pigs: no hypersensitivity
High molecular weight branched (C=18~50), cyclic and linear distillates (Fischer-Tropsch)	Skin irritation test results on rabbits showed no irritation (OECD Guideline 404, GLP)
Carcinogenicity	
Occupational Safety and Health Act	
MOLYBDENUM DISULFIDE	No data
1-decene, homopolymer, hydrogenated	No data
LIGHT MINERAL OIL	No data
High molecular weight branched (C=18~50), cyclic and linear distillates (Fischer-Tropsch)	No data
Notice of the Ministry of Employment and Labor	
MOLYBDENUM DISULFIDE	No data
1-decene, homopolymer, hydrogenated	No data
LIGHT MINERAL OIL	No data
High molecular weight branched (C=18~50), cyclic and linear distillates (Fischer-Tropsch)	No data
IARC	
MOLYBDENUM DISULFIDE	No data
1-decene, homopolymer, hydrogenated	No data
LIGHT MINERAL OIL	No data
High molecular weight branched (C=18~50), cyclic and linear distillates (Fischer-Tropsch)	No data
OSHA	
MOLYBDENUM DISULFIDE	No data
1-decene, homopolymer, hydrogenated	No data
LIGHT MINERAL OIL	No data
High molecular weight branched (C=18~50), cyclic and linear distillates (Fischer-Tropsch)	No data
ACGIH	
MOLYBDENUM DISULFIDE	No data
1-decene, homopolymer, hydrogenated	No data
LIGHT MINERAL OIL	No data
High molecular weight branched (C=18~50), cyclic and linear distillates (Fischer-Tropsch)	No data

NTP		
	MOLYBDENUM DISULFIDE	No data
	1-decene, homopolymer, hydrogenated	No data
	LIGHT MINERAL OIL	No data
High molecular weight branched (C=18~50), cyclic and linear distillates (Fischer-Tropsch)		No data
EU CLP		
	MOLYBDENUM DISULFIDE	No data
	1-decene, homopolymer, hydrogenated	No data
	LIGHT MINERAL OIL	No data
High molecular weight branched (C=18~50), cyclic and linear distillates (Fischer-Tropsch)		No data
Germ cell mutagenicity		
	MOLYBDENUM DISULFIDE	No data
	1-decene, homopolymer, hydrogenated	No data
	LIGHT MINERAL OIL	In vitro – Salmonella typhimurium/TA98 (Ames test) (GLP): Negative with or without metabolic activation system (negative), mouse lymphocyte cell/gene mutation test (GLP): Negative with or without metabolic activation system
High molecular weight branched (C=18~50), cyclic and linear distillates (Fischer-Tropsch)		In vitro mammalian chromosomal abnormality test results were negative regardless of the presence or absence of metabolic activation system (OECD Guideline 473, GLP). In vitro bacterial reverse mutation test results were negative regardless of the presence or absence of metabolic activation system (OECD Guideline 471, GLP). In vivo chromosomal abnormality test result, negative (OECD Guideline 475)
Reproductive toxicity		
	MOLYBDENUM DISULFIDE	No data
	1-decene, homopolymer, hydrogenated	No data
	LIGHT MINERAL OIL	Rat/oral (4350 mg/kg/day) (OECD Guideline 415, GLP): No toxicity to reproduction.
High molecular weight branched (C=18~50), cyclic and linear distillates (Fischer-Tropsch)		As a result of a reproductive and developmental toxicity test on rats, no significant harmful effects were observed (NOAEL=1000mg/kg bw/day) (OECD Guideline 416, GLP)
Specific target organ toxicity (single exposure)		
	MOLYBDENUM DISULFIDE	Inhalation of high concentrations of molybdenum compounds can cause upper respiratory tract irritation
	1-decene, homopolymer, hydrogenated	Causes irritation when exposed to the respiratory tract.
	LIGHT MINERAL OIL	No data
High molecular weight branched (C=18~50), cyclic and linear distillates (Fischer-Tropsch)		No data
Specific target organ toxicity (repeated exposure)		
	MOLYBDENUM DISULFIDE	No data
	1-decene, homopolymer, hydrogenated	No data
	LIGHT MINERAL OIL	"Rat/oral (0, 1.7, 18, 180, 1800 mg/kg/day for 90D): Granulomatous effects on liver, histiocytosis observed in mesenteric lymph glands. Females more susceptible than males. Rat/oral (92000 mg/kg/92D): liver weight change, white blood cell count change, weight loss"
High molecular weight branched (C=18~50), cyclic and linear distillates (Fischer-Tropsch)		As a result of a 90-day repeated oral dose toxicity test in rats administered 50, 200 and 1000 mg/kg/day, harmful effects of liver and mesenteric serum were observed, but were not considered as secondary effects due to inhalation (NOAEL) =200 and 1000mg/kg bw/day)(OECD Guideline 408, GLP)
Aspiration hazard		
	MOLYBDENUM DISULFIDE	No data
	1-decene, homopolymer, hydrogenated	No data
	LIGHT MINERAL OIL	If swallowed, aspiration into the lungs may cause interstitial pneumonia.
High molecular weight branched (C=18~50), cyclic and linear distillates (Fischer-Tropsch)		It is a hydrocarbon UVCB material and is supplied in three forms with a viscosity of 10, 18, and 44mm ² /s at 40°C, and the low viscosity form corresponds to aspiration hazard category 1.
Other adverse effects		
	MOLYBDENUM DISULFIDE	No data
	1-decene, homopolymer, hydrogenated	No data
	LIGHT MINERAL OIL	No data

High molecular weight branched (C=18~50), cyclic and linear distillates (Fischer-Tropsch) No data

12. Environmental impact

A. Ecotoxicity

Pisces

MOLYBDENUM DISULFIDE No data

1-decene, homopolymer, hydrogenated No data

LIGHT MINERAL OIL LC50 > 10000 mg/l 96 hr

High molecular weight branched (C=18~50), cyclic and linear distillates (Fischer-Tropsch) LC50 > 100 mg/l 96 hr *Cyprinus carpio*

Shellfish

MOLYBDENUM DISULFIDE No data

1-decene, homopolymer, hydrogenated No data

LIGHT MINERAL OIL No data

High molecular weight branched (C=18~50), cyclic and linear distillates (Fischer-Tropsch) EC50 > 100 mg/l 48 mg/l *Daphnia magna*

Birds

MOLYBDENUM DISULFIDE No data

1-decene, homopolymer, hydrogenated No data

LIGHT MINERAL OIL No data

High molecular weight branched (C=18~50), cyclic and linear distillates (Fischer-Tropsch) EC50 > 100 mg/l 72 hr etc (water solubility <0.2 mg/L at 19.5°C at pH 7.5)

B. Persistence and degradability

Persistence

MOLYBDENUM DISULFIDE No data

1-decene, homopolymer, hydrogenated No data

LIGHT MINERAL OIL log Kow 5.18 (>6)

High molecular weight branched (C=18~50), cyclic and linear distillates (Fischer-Tropsch) log Kow 6.5 (40°C)

Degradability

MOLYBDENUM DISULFIDE No data

1-decene, homopolymer, hydrogenated No data

LIGHT MINERAL OIL No data

High molecular weight branched (C=18~50), cyclic and linear distillates (Fischer-Tropsch) No data

C. Bioaccumulation

Thickening

MOLYBDENUM DISULFIDE No data

1-decene, homopolymer, hydrogenated No data

LIGHT MINERAL OIL No data

High molecular weight branched (C=18~50), cyclic and linear distillates (Fischer-Tropsch) No data

Biodegradable

MOLYBDENUM DISULFIDE No data

1-decene, homopolymer, hydrogenated No data

LIGHT MINERAL OIL 0 (%) 28 day (OECD TG 301)

High molecular weight branched (C=18~50), cyclic and linear distillates (Fischer-Tropsch) No data

D. Mobility in soil

MOLYBDENUM DISULFIDE No data

1-decene, homopolymer, hydrogenated No data

LIGHT MINERAL OIL No data

High molecular weight branched (C=18~50), cyclic and linear distillates (Fischer-Tropsch) No data

E. Other adverse effects

MOLYBDENUM DISULFIDE	No data
1-decene, homopolymer, hydrogenated	No data
LIGHT MINERAL OIL	No data
High molecular weight branched (C=18~50), cyclic and linear distillates (Fischer-Tropsch)	No data

13. Disposal Precautions

A. Disposal	Dispose of the contents and container according to the regulations if specified in the Waste Management Act.
B. Disposal Precautions	Dispose of the contents container (according to the contents of the relevant laws and regulations).

14. INFORMATION REQUIRED FOR TRANSPORTATION

A. UN No.	3082
B. Proper shipping name	Environmentally hazardous substances, liquids, items without separate registration name
C. Hazard class in transport	Class 9
D. Packing class	3
E. Marine pollutants	Environmentally hazardous substances, liquids, items without separate registration name
F. Special safety measures that the user needs to know or needs to know about transportation or means of transportation	
Emergency measures in case of fire	F-A
Emergency measures in case of spill	S-D

15. Legal and regulatory status

A. Regulation under the Occupational Safety and Health Act	
Mixture	No data
Regulations on individual substances	No data
B. Regulations under the Chemical Substance Management Act	
Mixture	No data
Regulations on individual substances	No data
C. Regulations under the Dangerous Goods Safety Management Act	
Molybdenum disulfide Molybdenum (disulfide Molyben) (MOLYBDENUM Disulfide)	No data
1-Desen, Homo polymer, hydrogenated	No data
Light Mineral Oil	Fourth oil of the 4th class fluid liquid
High molecular weight branched (C=18~50), cyclic and linear distillates (Fischer-Tropsch)	Class 4 3rd petroleum (water soluble) 4000L
D. Regulations under the Waste Management Act	
Molybdenum disulfide Molybdenum (disulfide Molyben) (MOLYBDENUM Disulfide)	Designated waste
1-Desen, Homo polymer, hydrogenated	No data
Light Mineral Oil	Designated waste
High molecular weight branched (C=18~50), cyclic and linear distillates (Fischer-Tropsch)	No data
E. Regulations by other domestic and foreign laws	
Domestic regulation	
Other domestic regulations	

Molybdenum disulfide Molybdenum (disulfide Molyben) (MOLYBDENUM Disumpide)	Not applicable
1-Desen, Homo polymer, hydrogenated	Not applicable
Light Mineral Oil	Not applicable
High molecular weight branched (C=18~50), cyclic and linear distillates (Fischer-Tropsch)	Not applicable
Overseas regulation	
US management information (OSHA Regulations)	
Molybdenum disulfide Molybdenum (disulfide Molyben) (MOLYBDENUM Disumpide)	Not applicable
1-Desen, Homo polymer, hydrogenated	Not applicable
Light Mineral Oil	Not applicable
High molecular weight branched (C=18~50), cyclic and linear distillates (Fischer-Tropsch)	Not applicable
US management information (CERCLA Regulations)	
Molybdenum disulfide Molybdenum (disulfide Molyben) (MOLYBDENUM Disumpide)	Not applicable
1-Desen, Homo polymer, hydrogenated	Not applicable
Light Mineral Oil	Not applicable
High molecular weight branched (C=18~50), cyclic and linear distillates (Fischer-Tropsch)	Not applicable
US management information (EPCRA 302 Regulations)	
Molybdenum disulfide Molybdenum (disulfide Molyben) (MOLYBDENUM Disumpide)	Not applicable
1-Desen, Homo polymer, hydrogenated	Not applicable
Light Mineral Oil	Not applicable
High molecular weight branched (C=18~50), cyclic and linear distillates (Fischer-Tropsch)	Not applicable
US management information (EPCRA 304 Regulations)	
Molybdenum disulfide Molybdenum (disulfide Molyben) (MOLYBDENUM Disumpide)	Not applicable
1-Desen, Homo polymer, hydrogenated	Not applicable
Light Mineral Oil	Not applicable
High molecular weight branched (C=18~50), cyclic and linear distillates (Fischer-Tropsch)	Not applicable
US management information (EPCRA 313 Regulations)	
Molybdenum disulfide Molybdenum (disulfide Molyben) (MOLYBDENUM Disumpide)	Not applicable
1-Desen, Homo polymer, hydrogenated	Not applicable
Light Mineral Oil	Not applicable
High molecular weight branched (C=18~50), cyclic and linear distillates (Fischer-Tropsch)	Not applicable
US management information (Rotterdam Convention)	
Molybdenum disulfide Molybdenum (disulfide Molyben) (MOLYBDENUM Disumpide)	Not applicable
1-Desen, Homo polymer, hydrogenated	Not applicable
Light Mineral Oil	Not applicable
High molecular weight branched (C=18~50), cyclic and linear distillates (Fischer-Tropsch)	Not applicable
US management information (Stockholm Convention Substance)	
Molybdenum disulfide Molybdenum (disulfide Molyben) (MOLYBDENUM Disumpide)	Not applicable
1-Desen, Homo polymer, hydrogenated	Not applicable
Light Mineral Oil	Not applicable
High molecular weight branched (C=18~50), cyclic and linear distillates (Fischer-Tropsch)	Not applicable
US management information (Montreal Protocol Substance)	
Molybdenum disulfide Molybdenum (disulfide Molyben) (MOLYBDENUM Disumpide)	Not applicable
1-Desen, Homo polymer, hydrogenated	Not applicable
Light Mineral Oil	Not applicable
High molecular weight branched (C=18~50), cyclic and linear distillates (Fischer-Tropsch)	Not applicable
EU classification information (confirmed classification result)	
Molybdenum disulfide Molybdenum (disulfide Molyben) (MOLYBDENUM Disumpide)	Not applicable

1-Desen, Homo polymer, hydrogenated	Not applicable
Light Mineral Oil	Not applicable
High molecular weight branched (C=18~50), cyclic and linear distillates (Fischer-Tropsch)	Not applicable
EU classification information (dangerous phrase)	
Molybdenum disulfide Molybdenum (disulfide Molyben) (MOLYBDENUM Disulfide)	Not applicable
1-Desen, Homo polymer, hydrogenated	Not applicable
Light Mineral Oil	Not applicable
High molecular weight branched (C=18~50), cyclic and linear distillates (Fischer-Tropsch)	Not applicable
EU classification information (safety stationery)	
Molybdenum disulfide Molybdenum (disulfide Molyben) (MOLYBDENUM Disulfide)	Not applicable
1-Desen, Homo polymer, hydrogenated	Not applicable
Light Mineral Oil	Not applicable
High molecular weight branched (C=18~50), cyclic and linear distillates (Fischer-Tropsch)	Not applicable

16. Other reference

A. Source

Molybdenum disulfide Molybdenum (disulfide Molyben) (MOLYBDENUM Disulfide)

HSDB (Statue)

Hsdb (color)

HSDB

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

Chemnet (Ka. Steam pressure)

Chemicalbook

HSDB (Mum. Molecular weight)

Chemredplus (oral)

Chemidplus (transdermal)

HSDB (specific target long toxicity (one exposure))

1-Desen, Homo polymer, hydrogenated

Light Mineral Oil

High molecular weight branched (C=18~50), cyclic and linear distillates (Fischer-Tropsch)

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

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

The Chemical Database, The Department of Chemistry at the University of Akron(<http://ull.chemistry.uakron.edu/erd>)(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>)(flash point)

The Chemical Database, The Department of Chemistry at the University of Akron(<http://ull.chemistry.uakron.edu/erd>)(Vapor Density)

The Chemical Database, The Department of Chemistry at the University of Akron(<http://ull.chemistry.uakron.edu/erd>)(Specific gravity)

Quantitative Structure Activity Relation (QSAR)

International Programme on Chemical Safety(IPCS INCHEM)(<http://www.inchem.org/>)(Spontaneous ignition temperature)

International Uniform Chemical Information Database(IUCLID)(<http://ecb.jrc.it/esis>)(oral)

International Uniform Chemical Information Database(IUCLID)(<http://ecb.jrc.it/esis>)(Skin corrosion or irritation)

International Uniform Chemical Information Database(IUCLID)(<http://ecb.jrc.it/esis>)(Severe eye damage or irritation)

International Uniform Chemical Information Database(IUCLID)(<http://ecb.jrc.it/esis>) (Skin Sensitivity)

International Uniform Chemical Information Database(IUCLID)(<http://ecb.jrc.it/esis>)(Germ cell mutagenicity)

International Uniform Chemical Information Database(IUCLID)(<http://ecb.jrc.it/esis>)(Reproductive toxicity)

Corporate Solution from Thomson Micromedex (<http://csi.micromedex.com>)

International Uniform Chemical Information Database(IUCLID)(<http://ecb.jrc.it/esis>)(Specific target organ toxicity (repeated exposure))

International Programme on Chemical Safety(IPCS INCHEM)(<http://www.inchem.org/>)(Aspiration hazard)

IUCLID(fish)

B. Initial date 2008. 2.03

C. Number of amendments and the final amendment date

Number of revisions 5 times

Final revision date 2024.03.12

D. etc

The MSDS prepared by the Korea Occupational Safety and Health Corporation was edited and partially modified by referring to the MSDS provided by the Korea Occupational Safety and Health Corporation.

Section and revision resume

Revision number	Revision	revision date
1	Some amendments to the address of the address	2014.04.07
2	2. Hazardous risks> Hazardous risk classification Chronic aquatic environmental harmful substances revision	2017.06.07
3	Revision of content labeling	2021.08.25
4	specific gravity revision	2023.04.01
5	Approval number and some components revised	2024.03.12