



MATERIAL SAFETY DATA SHEET (MSDS)

MINDX-L

SECTION 1. IDENTIFICATION OF THE SUBSTANCE OR MIXTURE AND OF SUPPLIER

- a Product name : MINDX-L
- b Recommended uses of the chemical : Surfactant
- c Information on manufacturer/supplier/distributor
 - Supplier name : Dongnam Chemical Co., Ltd
 - Address : 99 Bupyeongbuk-Ro Bupyeong-Ku Incheon Korea
 - Contact Person : Overseas trading department
 - Emergency contact : 032-450 3772

SECTION 2. HAZARDS IDENTIFICATION

- a Hazard classification: Skin corrosion / Irritation : Category 2
Serious Eye Damage/Eye irritation: Category 2
Acute hazardous to the aquatic environment: Category 1

- b Label elements including precautionary statements

- Pictograms :



- Signal words : Warning

- Hazard statements : H315 Causes skin irritation
H319 Causes serious eye irritation
H400 Very toxic to aquatic life

- Precautionary statements

- ▶ Prevention
 - P264 Wash specific parts of the body to be washed thoroughly after handling
 - P273 Avoid release to the environment
 - P280 Wear protective gloves/protective clothing/eye protection/face protection
- ▶ Response
 - P302+P352 If on skin Wash with plenty of water and soap
 - P305+P351+P338 If in eyes : Rinse cautiously with water for several minutes Remove contact lenses, if present and easy to do Continue rinsing
 - P321 Specific treatment (see Reference to supplemental first aid instruction manufacturer/supplier may specify a decontaminating agent if



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appropriate on this label)

P332+P313 If skin irritation occurs Get medical advice/attention

P337+P313 If eye irritation persists Get medical advice/attention

P362+P364 Take off contaminated clothing and wash it before reuse

P391 Collect spillage

► Storage

Not applicable

► Disposal

P501 Dispose of contents/container to in accordance with

local /regional /national /international regulations (to be specified).

c. Other hazards which do not result in classification

Health No data

Fire No data

Reactivity No data

SECTION 3 COMPOSITION INFORMATION ON INGREDIENTS

a. Chemical name : LAURYL METHYLAMINE OXIDE / WATER

b. Other name : -

c. CAS number : ~~1643-205~~ / 7732-18-5

d. Content : ~~3%~~ / 70%

SECTION 4 FIRST-AID MEASURES

a. When in contact with eyes

Until no evidence of chemical remains immediately lifting eyelids occasionally splashed up and down with plenty of water or saline eye wash (At least 15-20 minutes)

Get medical advice/attention

b. When in contact with skin Take off contaminated clothing and shoes

Until no evidence of chemical remains not wash with soap or mild detergent and plenty of water (at least 15-20 minutes)

c. When inhaled

Move to fresh air immediately from the exposed area

If necessary, apply artificial respiration Rest and warmth will warm the people

Immediately take medical attention

d. When ingested

If vomiting will head lower than hips to help prevent aspiration



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- Public and it will take action if needed to treat a medical auxiliary
- e General advise: No data

SECTION 5 FIRE-FIGHTING MEASURES

- a Suitable (and unsuitable) extinguishing media
 - Suitable extinguishing media: Powder, CO₂, Foam, water spray
 - Unsuitable extinguishing media: No data
 - Large fire: Water spray mist or use a foam.
- b Specific hazards arising from the chemical
 - Heat decomposition material: May release some toxic and dangerous gas
 - Fire & explosion danger: For fire and explosion hazard none known
- c Special protective equipment and precautions for fire-fighters
 - If it can be done without risk. Move containers from fire area
 - Keep away the exposed material from high water pressure
 - Build an embarkment for further dispose
 - Use an extinguishing agent for the surrounding fire
 - Avoid inhale to exposed material or products of combustion. Stand with upwind and avoid lowland

SECTION 6 ACCIDENTAL RELEASE MEASURES

- a Measures required for personal protection and protective equipment
 - Avoid heat, flames, sparks or other ignition sources and contacts. Eliminate all sources of ignition
 - If this situation does not need to take any fire protection
- b Measures required for environment protection
 - Air release: Otherwise no action is required
 - Soil spill: Collect the spilled material by using the appropriate tools
 - Water spill: Collect the spilled material by using the appropriate tools
- c Clean-up and removal method
 - Small spill, remove the spilled material in an appropriate container.
 - Large spill and then sprinkle the water off the risk of fire, will move the spilled material in an appropriate container



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SECTION 7. HANDLING AND STORAGE

a Precautions for safe handling :

When not in use and store them in a cool, dry place. Keep container tightly closed completely by

b Conditions for safe storage :

When saving the materials will comply with the provisions of environmental laws and regulations

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

a Exposure limits

○ Permissible Exposure Limits (PELs) : NA

○ Threshold Limit Values (TLVs) : NA

b Appropriate engineering controls :

○ Local exhaust or process enclosure equipment

c Personal protective equipment

○ Respiratory protection : If the high frequency of use or heavy exposure, respiratory protection may be c

Respiratory protection is ranked in order from minimum to maximum. Consider wearing properties before use

○ Eye protection : Wear safety glasses to protect from the rain or hazardous liquid products. Workshop nearby emergency washing facilities and decontamination equipment will be installed shower in

○ Hand protection : Wear chemical resistant gloves in order to avoid direct chemical contact

○ Body protection : Wear appropriate chemical resistant clothing in order to avoid direct chemical contact

○ Unknown Concentrations or Immediately Dangerous to Life or Health - Any supplied-air respirator (compound airline mask), air respirator with a full facepiece

○ Workshop Note : This will not store as food, tobacco, cosmetics archived material on this place

Consumption tax revenues will be just like when you smoke

If this material contacts the skin, immediately wash

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

a Appearance : Transparent liquid



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- b Color : Unique color
- c Color threshold : No data
- d pH : 7.0- 8.0 (5% aq. Sol'n)
- e Melting point/freezing point : No data
- f. Initial boiling point and boiling range : No data
- g Flash point : No data
- h Evaporation : No data
- i. Flammability (solid/gas) : No data
- j. Upper/lower flammable or explosive limits : No data
- k Vapor pressure : No data
- l. Solubility : No data
- m Vapor density : No data
- n Specific gravity : No data
- o Octanol/water partition coefficient : No data
- p Auto-ignition temperature : No data
- q Decomposition temperature : No data
- r. Viscosity : No data
- s Molecular weight : 229

SECTION 10. STABILITY AND REACTIVITY

- a Chemical stability : Material is stable under ordinary pressure and temperature, polymerization does not occur.
- b Possibility of hazardous reactions : Avoid spark generation and flames
Avoid contacting with a prohibited material.
- c Materials to avoid: Oxidants - Fire and Explosion Hazards
- d Hazardous material when decomposition : May release some toxic and dangerous gas by thermal degradation

SECTION 11. TOXICOLOGICAL INFORMATION

	LAURYL METHYLAMINE OXIDE	WATER
Information on the likely routes of exposure	It may cause burns	No data
Health Hazard Information		



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Acute toxicity		
Oral	LD50 2700 mg/kg	LD50 9000 mg/kg Rat
Dermal	No data	No data
Inhalation	No data	No data
Skin corrosion or irritation	Irritation (rabbit)	No data
Serious eye damage/eye irritation	Irritation (rabbit)	No data
Respiratory sensitization	No data	No data
Skin sensitization	No data	No data
Cardiotoxicity	No data	No data
Genotoxicity	No data	No data
Reproductive toxicity	No data	No data
Specific target organ toxicity (single exposure)	No data	No data
Specific target organ toxicity (repeated exposure)	No data	No data
Aspiration hazard	No data	No data

SECTION 12 ECOLOGICAL INFORMATION

	LAURYL METHYLAMINE OXIDE	WATER
Ecotoxicity		
Fish	No data	No data
Crustacea	No data	No data
Algae	ErC500081ng/L 24h	No data
Persistence and degradation		
Persistence	No data	Log Kow -1.33
Degradation	No data	No data
Bioaccumulation		
Accumulation	No data	No data
Biodegradation	63%	No data
Soil mobility	No data	No data
Other adverse effects	No data	No data



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SECTION 13 DISPOSAL CONSIDERATIONS

- a Disposal methods : Dispose the contents and container in accordance with Disposal Managing Law
- b Precautions for disposal : Consider the law and caution in accordance with Disposal Managing Law

SECTION 14 TRANSPORT INFORMATION

- a UN number (No.) : UN3077
- b UN proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, NOS
- c Transport hazard classes : 9
- d Packing group if applicable : III
- e Marine pollutant (yes/no) : yes
- f Information on any special precautions which a user needs to be aware of, or needs to comply with in connection with transport
 - Fire first aid : F-A
 - Leakage first aid : S-F

SECTION 15 REGULATORY INFORMATION

	LAURYL METHYLAMINE OXIDE	WATER
Australia(AICS)	Listed	Listed
China(IECS)	Listed	Listed
Canada(DSL)	Listed	Listed
Europe(EINECS)	Listed	Listed
Japan(ENCS)	Listed	Listed
Korea(ECL)	Listed	Listed
New Zealand(ERMA)	Listed	Listed
USA(TSCA)	Listed	Listed
Taiwan(TCS)	Listed	Listed

SECTION 16 OTHER INFORMATION

- a Sources of reference materials : Korea occupational safety & Health agency.



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- b The first date of preparation : Jan 27, 2015
- a Number of revision times and the latest revision date
 - Revision number : -
 - Update revision date : -
- b Others