

MATERIAL SAFETY DATA SHEET

Chem International, Inc.

1. Chemical Product and Company Identification

Product Name Oleyl Diamine
Chemical Name..... N-Oleyl-1,3-diaminopropane
Product Description..... Oleyl Diamine
Cas #..... 7173-62-8

Chem International, Inc.
P.O. Box 5501
Greenville, SC 29606

Emergency Telephone Numbers
Transportation:
CHEMTREC 1-800-424-9300
(703-527-3387 Outside United States)
Information:
Chem International, Inc. – 864-458-7868

2. Composition/Information on Ingredients

<u>Substance Name</u>	<u>CAS#</u>	<u>Percentage by Weight</u>
N-Oleyl-1,3-diaminopropane	7173-62-8	98 min
Oleylamine	112-90-3	2 max

3. Hazards Identification

Physical State: Liquid

Color: White

Odor: Ammoniacal

Emergency Overview:

CAUTION! MAY CAUSE EYE AND SKIN IRRITATION.

Avoid contact with eyes, skin and clothing. Wash thoroughly after handling.

Possible Carcinogenic Effects:

N-Oleyl-1,3-diaminopropane: IARC, NTP, OSHA, ACGIH: Not listed.

Amines, Oleyl alkyl: IARC, NTP, OSHA, ACGIH: Not listed.

Routes of Entry:

Absorbed through skin. Dermal contact. Eye contact.

4. First Aid Measures

Eye Contact:

Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 30 minutes. Cold water may be used. Get medical attention.

Skin Contact:

In case of contact, immediately flush skin with plenty of water. Remove contaminated clothing and shoes. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention.

Ingestion:

Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention if symptoms appear.

Inhalation:

If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Medical Conditions Aggravated by Overexposure:

Repeated or prolonged exposure is not known to aggravate medical condition.

5. Fire Fighting Measures

Flammability of the Product: May be combustible at high temperature

Flash Point: <149°C

Test Method: Pensky-Martens Closed Cup

Products of Combustion: These products are carbon oxides (CO, CO₂), nitrogen oxides (NO, NO₂)

Fire Fighting Media & Instructions:

SMALL FIRE: Use DRY chemical powder.

LARGE FIRE: Use water spray, fog or foam. Do not use water jet.

Protective Clothing (Fire): Be sure to use an approved/certified respirator or equivalent.

Special Remarks on Fire Hazards: N-Oleyl-1,3-diaminopropane: Treat as an oil fire.

6. Accidental Release Measures

Small Spill and Leak:

Use appropriate tools to put the spilled solid in a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and dispose of according to local and regional authority requirements.

Large Spill and Leak:

Use a shovel to put the material into a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and allow to evacuate through the sanitary system.

7. Handling and Storage

Handling:

Avoid contact with eyes, skin and clothing. Wash thoroughly after handling.

Storage:

Keep container tightly closed. Keep container in a cool, well-ventilated area.

8. Exposure Controls/Personal Protection

Engineering Controls:

Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

Personal Protective Equipment:

Eyes – Splash goggles

Body – Lab coat

Respiratory – Respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate.

Hands – Gloves

Feet – Not applicable

Personal Protection in case of a Large Spill:

Splash goggles, full suit, respirator, boots, gloves. A self-contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient. Consult a specialist BEFORE handling this product.

9. Physical and Chemical Properties

Physical State	Liquid
Color.....	Yellow
Odor	Ammoniacal
Solubility	Insoluble in cold water
pH.....	Basic
Vapor pressure (mmhg)	<0.04kpa(<0.1mmHg)(at20°C)
Density	0.841 g/cm ³
Boiling point (°F/°C)	~300°C
Evaporation rate	Weighted average: 0.9 compared to Butyl acetate
Molecular Weight	Not applicable
Molecular formula.....	Not applicable
Melting point.....	12°C
Pour point.....	18°C
Dispersion properties	Not available
Physical Chemical comments	Viscosity = 19cp @ 25°C; 17cp @ 30°C; 14cp @ 35°C

10. Stability and Reactivity

Stability and Reactivity	This product is stable.
Incompatibility with Various Substances.....	Reactive with OXIDIZING AGENTS, acids
Hazardous polymerization	Will not occur.

11. Toxicological Information

<u>Name</u>	<u>Test</u>	<u>Result</u>	<u>Route</u>	<u>Species</u>
N-Oleyl-1,3-diaminopropane	LD50	253mg/kg	Oral	Rat
Amines, oleyl alkyl	LD50	1950mg/kg	Oral	Rat

Special Remarks on Toxicity to Animals: N-Oleyl-1,3-diaminopropane: Sub-chronic, NOEL (rat) = 670 ppm
Amines, oleyl alkyl: INHALATION > 0.033 mg/L 1 hour/s, Rat; highest concentration tested

Chronic Effects on Humans: MUTAGENIC EFFECTS: Non-mutagenic for bacteria and/or yeast. [Amines, oleyl alkyl].

Special Remarks on Chronic Effects on Humans: Oleylamine: Chromosomal (DNA) abnormalities will not occur in CHO mammalian cell assay, the In Vivo Cytogenetics Assay in mice, the CHO/HGPRT mammalian cell assay and the Mouse Lymphoma Assay.

Acute Effects Skin: Corrosive to the skin.

Acute Effects Eyes: Corrosive to the eye.

12. Ecological Information

<u>Name</u>	<u>Species</u>	<u>Period</u>	<u>Result</u>
N-Oleyl-1,3-diaminopropane	Fish (LC50)	96 hours	0.01mg/l
	Daphnia (EC50)	72 hours	0.11mg/l
	Algae (LC50)	72 hours	0.011mg/l
Amines, Oleyl alkyl	Fish (LC50)	96 hours	0.11mg/l

Biodegradability and Ecotoxicity Remarks:

N-Oleyl-1,3-diaminopropane: 24% @ 28 days CBT; 55% 112 days CBT
Amines, Oleyl alkyl: 44% @ 28 days; CBT 72% @ 42 days CBT

Products of Degradation:

These products are carbon oxides (CO, CO²) and water, nitrogen oxides (NO, NO²).

13. Disposal Considerations

Waste information: Waste must be disposed of in accordance with federal, state and local environmental control regulations.

14. Transport Information

Regulatory Information	UN number	Proper Shipping Name	Class	Packing Group
DOT classification	UN 2735	Amines, liquid, corrosive, n.o.s. (Fatty Diamine)	8	III
TDG classification	UN 2735	Amines, liquid, corrosive, n.o.s. (Fatty Diamine)	8	III
IMDG class	UN 2735	Amines, liquid, corrosive, n.o.s. (Fatty Diamine)	8	III
Iata-dgr class	UN 2735	Amines, liquid, corrosive, n.o.s. (Fatty Diamine)	8	III

15. Regulatory Information

HCS Classification: Corrosive material

U.S. Federal Regulations: TSCA: All intentionally present components are listed on the TSCA inventory.

DSL: All intentionally present components are listed on the DSL.

CERCLA: Hazardous substances: No products were found.

SARA 302/304/311/312 extremely hazardous substances: No products were found.

SARA 302/304 emergency planning and notification: No products were found.

SARA 302/304/311/312 hazardous chemicals: No products were found.

SARA 311/312 MSDS distribution – chemical inventory – hazard identification: No products were found.

SARA 313 Form R Reporting Requirements: No products were found.

SARA 313 Supplier Notification: No products were found.

State Regulations: No products were found.

California prop. 65: No products were found.

WHMIS (Canada): Class D-1B: Material causing immediate and serious toxic effects (TOXIC).

Class D-2B: Material causing other toxic effects (TOXIC).

CEPA DSL: N-Tallow-1,3-diaminopropane; oleylamine

European Union:

<u>Component</u>	<u>EC Number</u>	<u>EC Status</u>	<u>EC Annex</u>
N-Oleyl-1,3-diaminopropane	230-528-9	Not available	Not available
Amines, oleyl alkyl	204-015-5	Not available	Not available

Other International Lists: Australia (NICNAS): 1,3-Propanediamine, N-Oleyl-1,3-diaminopropane

China: N-Oleyl-1,3-diaminopropane; oleylamine

Japan (MITI): oleylamine; N-Oleyl-1,3-diaminopropane

Korea (TCCL): N-Oleyl-1,3-diaminopropane; oleylamine

16. Other Information

MSDS Revision Status:

MSDS Date: June 8, 2010
Last Revision Date.....: January 30, 2012
Reason for Revision.....: Date Revision Only