

MATERIAL SAFETY DATA SHEET

Diethylamine

MSDS Name:	Diethylamine
Synonyms:	

Company Identification: (INDIA)	Veritas House, 70 Mint Road, Fort, Mumbai - 400 001. INDIA
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Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name:	%	EINECS#
109-89-7	Diethylamine	99%	203-716-3

Hazard Symbols:	F C
	
Risk Phrases:	11 20/21/22 35

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Highly flammable. Harmful by inhalation, in contact with skin and if swallowed. Causes severe burns.

Potential Health Effects

Eye:	Causes severe eye burns. Causes eye burns.
Skin:	Harmful if absorbed through the skin. Causes skin burns.
Ingestion:	Harmful if swallowed. Causes gastrointestinal tract burns.
Inhalation:	Harmful if inhaled. Causes chemical burns to the respiratory tract.
Chronic:	

Section 4 - First Aid Measures

Eyes:	Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid immediately.
Skin:	Get medical aid immediately. Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.
Ingestion:	Do not induce vomiting. Get medical aid immediately. Wash mouth out with water.
Inhalation:	Get medical aid immediately. Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.
Notes to Physician:	Treat symptomatically and supportively.

Section 5 - Fire Fighting Measures

General Information:	As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Vapors can travel to a source of ignition and flash back. Will burn if involved in a fire. Flammable liquid and vapor.
Extinguishing Media:	Use foam, dry chemical, or carbon dioxide.

Section 6 - Accidental Release Measures

General Information:	Use proper personal protective equipment as indicated in Section 8.
Spills/Leaks:	Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container. Remove all sources of ignition. Use a spark-proof tool.

Section 7 - Handling and Storage

Handling:	Use spark-proof tools and explosion proof equipment. Do not breathe dust, vapor, mist, or gas. Do not get in eyes, on skin, or on clothing. Use only in a chemical fume hood.
Storage:	Keep away from sources of ignition. Store in a cool, dry place. Store in a tightly closed container. Flammables-area. Corrosives area.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls:	
	Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate general or local explosion-proof ventilation to keep airborne levels to acceptable levels.
Exposure Limits	
	CAS# 109-89-7:
	United Kingdom, WEL - TWA: 10 ppm TWA; 30 mg/m ³ TWA United Kingdom, WEL - STEL: 25 ppm STEL; 76 mg/m ³ STEL
	United States OSHA: 25 ppm TWA; 75 mg/m ³ TWA
	Belgium - TWA: 5 ppm VLE; 15 mg/m ³ VLE Belgium - STEL: 15 ppm VLE; 46 mg/m ³ VLE
	France - VLE: 10 ppm VLE; 30 mg/m ³ VLE
	Germany: 5 ppm TWA; 15 mg/m ³ TWA Germany: skin notation
	Japan: 10 ppm OEL; 30 mg/m ³ OEL
	Malaysia: 5 ppm TWA; 15 mg/m ³ TWA
	Netherlands: 5 ppm MAC; 15 mg/m ³ MAC
	Spain: 10 ppm VLA-ED; 30 mg/m ³ VLA-ED Spain: 25 ppm VLA-EC; 75 mg/m ³ VLA-EC

Personal Protective Equipment

Eyes:	Wear chemical splash goggles.
Skin:	Wear appropriate protective gloves to prevent skin exposure.
Clothing:	Wear appropriate protective clothing to prevent skin exposure.
Respirators:	Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Section 9 - Physical and Chemical Properties

Physical State:	Clear liquid
Color:	colorless
Odor:	ammonia-like
pH:	Not available
Vapor Pressure:	250mbar @20 deg C
Viscosity:	0.34 mPa.s @25 deg C
Boiling Point:	55 deg C @760mmHg (131.00°F)
Freezing/Melting Point:	-50 deg C (-58.00°F)
Autoignition Temperature:	312 deg C (593.60 deg F)
Flash Point:	-23 deg C (-9.40 deg F)
Explosion Limits: Lower:	1.7 Vol %
Explosion Limits: Upper:	10.1 Vol %
Decomposition Temperature:	Not available
Solubility in water:	Soluble
Specific Gravity/Density:	0.705 g/cc
Molecular Formula:	C4H11N
Molecular Weight:	73.13

Section 10 - Stability and Reactivity

Chemical Stability:	Not available
Conditions to Avoid:	Incompatible materials, ignition sources.
Incompatibilities with Other Materials	Strong oxidizing agents, strong oxidizing agents, acids.
Hazardous Decomposition Products	Nitrogen oxides, carbon monoxide, carbon dioxide.
Hazardous Polymerization	Has not been reported.

Section 11 - Toxicological Information

RTECS#:	CAS# 109-89-7: HZ8750000
LD50/LC50:	RTECS: CAS# 109-89-7: Inhalation, rat: LC50 = 4000 ppm/4H; Oral, mouse: LD50 = 500 mg/kg; Oral, rat: LD50 = 540 mg/kg; Skin, rabbit: LD50 = 820 microL/kg;
Carcinogenicity:	Diethylamine - Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.
Other:	See actual entry in RTECS for complete information. Mutagenicity: Ames-test: negative.

Section 12 - Ecological Information

Ecotoxicity:	Fish: Rainbow trout: LC50: 25-182 mg/L; 96h; Daphnia: Daphnia: EC50: 56 mg/L; 48h; Algae: EC50: 56 mg/L; 96h; Bacteria: EC50: 47 mg/L; 17h;
Other:	Readily biodegradable. Log Pow: 0.5

Section 13 - Disposal Considerations

Dispose of in a manner consistent with federal, state, and local regulations.

Section 14 - Transport Information

	IATA	IMO	RID/ADR
Shipping Name:	DIETHYLAMINE	DIETHYLAMINE	DIETHYLAMINE
Hazard Class:	3 (8)	3 (8)	3 (8)
UN Number:	1154	1154	1154
Packing Group:	II	II	II

USA RQ: CAS# 109-89-7: 100 lb final RQ; 45.4 kg final RQ

Section 15 - Regulatory Information

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols: F C

Risk Phrases:

- R 11 Highly flammable.
- R 20/21/22 Harmful by inhalation, in contact with skin and if swallowed.
- R 35 Causes severe burns.

Safety Phrases:

- S 3 Keep in a cool place.
- S 16 Keep away from sources of ignition - No smoking.
- S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
- S 29 Do not empty into drains.
- S 36/37/39 Wear suitable protective clothing, gloves and eye/face protection.
- S 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

WGK (Water Danger/Protection)

- CAS# 109-89-7: 1

Canada

- CAS# 109-89-7 is listed on Canada's DSL List

US Federal

- TSCA
- CAS# 109-89-7 is listed on the TSCA Inventory.

Section 16 - Other Information

MSDS Creation Date: September 12, 2007

Revision #0 Date

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