Multichem Specialities Pvt. Ltd.
1215, Dalamal Tower,
Nariman Point, Mumbai 400021, India
T: +91 2243432121
E: multichem@multichemindia.com
www.multichemindia.com

ESTD.1976 MULTI CHEM YOUR CHEMICAL PARTNER

SAFETY DATA SHEET

DIETHYLAMINE

SECTION 1: Identification of the substance/mixture and of the company/undertaking Trade name:

1.1 Product identifier:	
CAS Number:	109-89-7
EC number:	203-716-3
1.2 SYNONYMS:	• N-ethylethanamine • N,N-diethylamine • DEA

SECTION 2: Hazards identification:

2.1 Classification of the substance or mixture:	Classification according to Regulation (EC) No 1272/2008 The substance is classified according to the CLP regulation.
2.2 Label elements:	Labelling according to Regulation (EC) No 1272/2008 Flammable liquids, (Category 2) Acute toxicity, oral (Category 3) Acute toxicity, inhalation (Category 4) Acute toxicity, dermal (Category 3) Skin corrosion, (Category 1A) Serious eye damage, (Category 1) Specific target organ toxicity - single exposure, (Category 3), Respiratory system
Hazard Pictograms:	
Signal Word:	Danger
Hazard statements:	**H225:** Highly flammable liquid and vapor. **H301 + H311:** Toxic if swallowed or in contact with skin. **H314:** Causes severe skin burns and eye damage.

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	H332: Harmful if inhaled. **H335:** May cause respiratory irritation.
Precautionary Statements:	**P210:** Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. **P233:** Keep container tightly closed. **P280:** Wear protective gloves/ protective clothing/ eye protection/ face protection. **P303 + P361 + P353:** IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. **P304 + P340 + P310:** IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/ doctor. **P305 + P351 + P338:** IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. **P405:** Store locked up. **P501:** Dispose of contents/ container to an approved waste disposal plant.
2.3 Other hazards:	
Inhalation:	can cause respiratory tract irritation, coughing, dizziness, and in high concentrations, central nervous system depression.
Ingestion:	can cause burning of the mouth and throat, abdominal pain, nausea, vomiting, and may lead to systemic toxicity.
Skin Contact:	can cause irritation, redness, and burns, and may be absorbed through the skin leading to systemic effects.

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Eye contact:	can cause severe irritation, pain, redness, and potential eye damage or vision impairment.
Chronic Exposure:	may lead to prolonged skin and respiratory irritation, and repeated contact could cause dermatitis or sensitization; long-term effects on organs are not well studied but possible with sustained high exposure.
Aggravation of pre-existing conditions:	may aggravate pre-existing conditions such as skin disorders, respiratory diseases (e.g., asthma or bronchitis), and eye conditions due to its irritating and sensitizing effects.

SECTION 3: Composition/information on ingredients

3.1 Chemical characterisation:	Substance-s
CAS No:	Description: 109-89-7 DIETHYLAMINE
Identification number(s):	EC number: 203-716-3

SECTION 4: First aid measures

4-.1 Description of first aid measures	
General information:	
After inhalation:	If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.
After skin contact:	Remove contaminated clothing immediately .Wash with plenty of water. Consult a physician.

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After eye contact:	Immediately flush eyes with plenty of water for at least 15 minutes. consult a physician.
After swallowing:	Rinse mouth with water. Immediately after ingestion. If conscious, make victim drink two glasses at most immediately. Never give anything by mouth to an unconscious person. Do not induce vomiting. Consult a physician.
4.2 Most important symptoms and effects, both acute and delayed:	Acute exposure to diethyl phthalate can cause respiratory irritation, headache, dizziness, nausea, and mild skin or eye irritation; delayed effects may include liver and kidney damage and potential endocrine system disruption from prolonged or repeated exposure.
4.3 Indication of any immediate medical attention and special treatment needed:	Treat symptomatically.

SECTION 5: Firefighting measures

5.1 Extinguishing media:	Water, Carbon dioxide. Alcohol-resistant foam.
5.2 Special hazards arising from the substance or mixture:	Carbon oxides.
5.3 Advice for firefighters:	Wear fully protective suit, safety glasses and respiratory device. Cool tanks/drums with water spray/remove them into safety.
5.4 further information:	no data available

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SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures:	Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Avoid dust accumulation. Seek medical attention.
6.2 Environmental precautions:	Do not enter this chemical into drains.
6.3 Methods and material for containment and cleaning up:	Take up spill into absorbent material, e.g.: sand, earth, vermiculite, powdered limestone. Scoop absorbed substance into closing containers. Spill must not return in its original container. Clean contaminated surfaces with an excess of water. Wash clothing and equipment after handling.

SECTION 7: Handling and storage

7.1 Precautions for safe handling:	For use in are with adequate ventilation. Empty containers pose a fire risk, evaporate the residue under a fume hood. Ground all equipment containing material Do not use in confined spaces. Electrostatic discharge protection. Minimize dust generation and accumulation. Avoid ingestion and inhalation.
7.2 Conditions for safe storage, including any incompatibilities:	Store in original containers. Keep containers securely sealed Store in a cool, dry, well-ventilated area. Store away from incompatible materials and foodstuff containers.

	Protect containers against physical damage and check regularly for leaks. Store in a dry and dark area.
Requirements to be met by storerooms and receptacles:	Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.
7.3 Specific end uses:	no data available

SECTION 8: Exposure controls/personal protection

8.1 Control parameters	
Additional information about design of technical facilities:	A system of local and general exhaust is recommended.
8.2 Exposure controls	
Appropriate engineering controls	Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.
Personal protective equipment:	Dust respirator, protective masks, wearing anti chemical gloves, rubber gloves, etc.
General protective and hygienic measures:	Eyes, body and hand protection, maintain indoor air unobstructed. Wear protective equipment.
	Respiratory protection: Required.
Protection of hands:	Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws. Wash and dry hands.
	Eye protection: Required

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Protection of Body:	Complete suit protecting against chemicals, Flame retardant antistatic protective clothing.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties General Information	
Appearance: Form:	Liquid
Colour:	Colorless
Odour:	Strong, ammonia-like, fishy
pH-value:	11
Melting point/Melting range:	-50°C
Boiling point/Boiling range:	55°C
Flammability (solid, gaseous):	Highly flammable liquid
Ignition temperature:	312°C
Decomposition temperature:	Not determined
Self-igniting:	None
Flash point:	-28°C
Danger of explosion:	Yes
Explosion limits: Lower:	1.7%
Explosion limits: Upper:	10.1%
Vapour pressure:	400 hPa at 20 °C
Density at 20 °C:	0.707 g/cm³
Relative density:	0.71
Vapour density:	2.5
Evaporation rate:	Not determined
Solubility in / Miscibility with- ·water at 20 °C:	Miscible
Partition coefficient:(n-octanol/water)	0.47
Viscosity:	0.3 mPa·s at 25 °C

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SECTION 10: Stability and reactivity

10.1 Reactivity	Diethylamine is reactive; it is a strong base and readily undergoes exothermic reactions with acids and oxidizing agents.
10.2 Chemical stability	This chemical is stable under storage conditions.
10.3 Possibility of hazardous reactions	May react violently with strong oxidizing agents (e.g., nitric acid, hydrogen peroxide) Reacts with acids to form salts and heat Forms flammable or explosive vapour-air mixtures Can polymerize or decompose under extreme conditions
10.4 Conditions to avoid	Excessive heat, open flames, spark, Prolonged exposure to air and sunlight
10.5 Incompatible materials	Strong oxidizing agents, strong acids and bases, halogens and acid chlorides.
10.6 Hazardous decomposition products	nitrogen oxides (NO_x) and carbon monoxide (CO), Ammonia.

SECTION 11: Toxicological information

11.1 Information on toxicological effects	
Acute Toxicity:	**LD50** (Oral, Rat): 100 mg/kg **LD50** (Dermal, Rabbit): 582 mg/kg **LC50** (Inhalation Rat): 17.11 mg/l (4 hr)
Skin corrosion/Irritation:	Causes skin corrosion
Serious eye damage/irritation:	Causes serious eye damage
Respiratory damage/irritation:	No data available
Ingestion:	No data available
Germ cell mutagenicity:	No data available
Carcinogenicity:	No data available
Reproductive toxicity:	No data available

Specific target organ toxicity - single exposure:	may cause respiratory damage
Specific target organ toxicity - repeated exposure:	No data available
Aspiration hazard:	No data available
Signs and Symptoms of Exposure:	Refer section 2.3
11.2 Additional toxicological information	
Biodegradability:	Readily biodegradable

SECTION 12: Ecological information

12.1 Toxicity **Aquatic toxicity:**	LC50(fish): 27 mg/l (96 hr) EC50(daphnia): 4.6 mg/l (48 hr) ErC50(algae): 54 mg/l (72 hr)
12.2 Persistence and degradability:	Readily Biodegradable
12.3 Bioaccumulative potential:	low bioaccumulative
12.4 Mobility in soil:	High mobility
12.5 Other adverse effects:	No data available

SECTION 13: Disposal considerations

13.1 Waste treatment methods	
Uncleaned packaging **Recommendation:**	dispose of in accordance with local hazardous waste regulations
Recommended cleansing agents:	Water, mild detergent solution, sodium bicarbonate solution, sand

SECTION 14: Transport information

14.1 UN-Number · ADR, ADN, IMDG, IATA:	1154
14.2 UN proper shipping name · ADR, ADN, IMDG, IATA:	DIETHYLAMINE
14.3 Transport hazard class(es) · ADR, ADN, IMDG, IATA :	3(8)

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14.4 Packing group · ADR, IMDG, IATA:	2
14.5 Environmental hazards:	None
14.6 Special precautions for user:	Handle responsibly.

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture Directive 2012/18/EU	Directive 2012/18/EU, under that this substance is classified in listed substances as flammable substances.
Named dangerous substances:	This substance is not listed in the annex 1 to the directive.
15.2 Chemical safety assessment:	Chemical assessment has not been carried out.

SECTION 16: Other information

The data included was derived from international authoritative database and provided by the enterprise. Other information was based on the present state of our knowledge. We try to ensure the correctness of all information. However, due to the diversity of information sources and limitations of our knowledge, this document is only for reference. Users should make their independent judgment suitability of this information for their particular purposes. We do not assume responsibility for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product.