

DIETHYLAMINE (DEA)

Specifications

CAS NO.

CAS NO.	109-89-7
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NATURE

NATURE	It is a colourless liquid with strong smell of Ammonia.
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PHYSICAL PROPERTIES

Empirical Formula	C ₄ H ₁₁ N
Structural formula	(C ₂ H ₅) ₂ NH
Molecular Wt.	73.14
Sp. Gravity at 20 °C	0.703-0.707
Refractive Index	1.3864
Boiling Point	55.5 °C
Freezing Point	-50 °C
Colour (APHA) Max	15
Solubility in Water	Soluble
Flash Point	< -17.8 °C
Autoignition Temperature	312 °C
Flammability Limits	L E L: 1.8 Vol % H E L: 10.1 Vol %

Vapour Pressures

Pressures in mm of Hg	Temperature in °C
40	-10.5
100	7.0
300	31.0
760	55.5

SPECIFICATIONS

Purity min. (wt. %) by GC	99.5
Water Content (max.) % by wt.	0.20
Impurities (max.) % by wt.	0.40

MSDS

FIRE PROPERTIES

- Extremely flammable liquid.
- Spontaneous when exposed to flames and moderate when exposed to heat.
- Ignition may take place when mixed with oxidants.

EFFECTS

- They irritate skin, eyes, respiratory system and mucous membranes.
- Concentration more than 1 % in vol. in affects, directly the skin even if the respiratory System is protected
- Aquatic toxicity.

PERSONAL SAFETY AND FIRST AID

- In case of Ingection of liquid and inhalation of DEA vapours.Carry victim to fresh air, administer oxygen is available.
- If the liquid is swallowed by mouth rinse eyes, nose cavity and mouth, ensuring that washing are not swallowed by the patient.
- Do not allow the victim to walk and keep him warm.
- In the event of contact with eyes, flush the eyes thoroughly with water.
- Call a doctor or take the victim to the hospital immediately.

Applications

PHARMACEUTICALS: As a raw material for Anaesthetics like Xylocaine, Procaine and Novacaine. As a raw material for Antimalarials such as Amidoquin. Novaldiamine, as an intermediate for Chloroquin Phosphate and in the manufacture of Riboflavin

(Vitamin B2)

As an intermediate in manufacturing of Ampicillin, Amoxycillin, Diclofenac ethyl salt.

To manufacture intermediate like Diethyl Amino Ethanol and disinfectant like Sodium Diethyldithio Carbamate (SDEDC).

AGRO CHEMICALS: As a raw material for Herbicides like Atrazine, Simazine and Cyanazine.

RUBBER CHEMICALS: As a raw material for manufacture of primary accelerators like Zinc Diethyl Dithio Carbamate (ZDDC)

AGRO CHEMICALS: As raw material for Pesticides like Thiobencarb and Pesticide intermediates like Diethyl Aceto Acetamide used in the manufacture of Phosphamidon and Napropropamide.

DYESTUFF: As a raw material in the manufacture of intermediates like p-Diethylamine Benzaldehyde.

OIL FIELD CHEMICALS: As Corrosion Inhibitors for Sour Well Gases.

PLASTIC INDUSTRY: As Urethane Chain stopper and a Plasticizer for Cellulose Acetate and in intermediates for stabilization of Plastic Monomers.

CONSUMER PRODUCTS: As a raw material in the manufacture of Insect Repellents like N,N-Diethylm-Toluamide (DEET) and DEPA.

STORAGE: Can be handled in safe manner in containers. Can be stored for a long period in closed containers. Avoid contact with copper and its alloys.

HEALTH & SAFETY: Diethylamine is irritating to skin, eyes and mucous membrane. In case of contact, affected area should be washed with plenty of water. A dilute solution of Acetic Acid (2%) should be used to neutralize the Amine. Continuous inhalation offumes and ingestion should be avoided. In event of inhalation or ingestion, victim should be moved to fresh air and oxygen should be administered. Vapours of Acetic acid (2%) or vinegar diluted 1:5 with water should be inhaled. To dilute the chemical in stomach, patient should consume copious quantity of milk and water. A medical practitioner should be consulted at once.

Packaging: 140 kg. netwt. in UN Approved Mild Steel Drums.

IMDG Class: Class 3

Packing group as per IMO: II

UN Code No.: 1154

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