



SAFETY DATA SHEET DIETHYLAMINE

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

1.1. Product identifier

Product name	DIETHYLAMINE
Product number	849
Synonyms; trade names	DIETHAMINE, ETHANAMINE, N-ETHYL ETHYLANAMINE
REACH registration number	01-2119475610-41
CAS number	109-89-7
EU index number	612-003-00-X
EC number	203-716-3

1.2. Relevant identified uses of the substance or mixture and uses advised against

Identified uses	Chemical Intermediate
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1.3. Details of the supplier of the safety data sheet

Supplier	Univar Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 sds@univar.com +44 1274 267306
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1.4. Emergency telephone number

Emergency telephone	SGS - +32 (0)3 575 55 55 (24h)
Sds No.	849

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (EC/1272/2008)

Physical hazards	Flam. Liq. 2 - H225
Health hazards	Acute Tox. 4 - H302 Acute Tox. 3 - H311 Acute Tox. 4 - H332 Skin Corr. 1A - H314 Eye Dam. 1 - H318 STOT SE 3 - H335
Environmental hazards	Not Classified

Classification (67/548/EEC or 1999/45/EC) F;R11 C;R35 Xn;R20/21/22

2.2. Label elements

EC number	203-716-3
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DIETHYLAMINE

Pictogram



Signal word

Danger

Hazard statements

H225 Highly flammable liquid and vapour.
 H314 Causes severe skin burns and eye damage.
 H335 May cause respiratory irritation.
 H302+H332 Harmful if swallowed or if inhaled.
 H311 Toxic in contact with skin.

Precautionary statements

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
 P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
 P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower.
 P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
 P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 P312 Call a POISON CENTER/ doctor if you feel unwell.

2.3. Other hazards

None known.

SECTION 3: Composition/information on ingredients

3.1. Substances

Product name	DIETHYLAMINE
REACH registration number	01-2119475610-41
EU index number	612-003-00-X
CAS number	109-89-7
EC number	203-716-3

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation	Move affected person to fresh air at once. Get medical attention.
Ingestion	Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Rinse mouth thoroughly with water. Give plenty of water to drink. Get medical attention.
Skin contact	Remove contaminated clothing immediately and wash skin with soap and water. Get medical attention immediately.
Eye contact	Rinse immediately with plenty of water. Remove any contact lenses and open eyelids wide apart. Continue to rinse for at least 15 minutes. Get medical attention immediately. Continue to rinse.

4.2. Most important symptoms and effects, both acute and delayed

General information	Effects may be delayed. Keep affected person under observation.
Inhalation	Irritation of nose, throat and airway.

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Ingestion May cause chemical burns in mouth and throat.

Skin contact May cause serious chemical burns to the skin.

Eye contact Severe irritation, burning and tearing.

4.3. Indication of any immediate medical attention and special treatment needed

Notes for the doctor No specific recommendations.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media Extinguish with alcohol-resistant foam, carbon dioxide, dry powder or water fog.

Unsuitable extinguishing media Do not use water jet as an extinguisher, as this will spread the fire.

5.2. Special hazards arising from the substance or mixture

Specific hazards Oxides of the following substances: Carbon. Nitrogen. Ammonia or amines. May form explosive mixture with air at very high concentration. Vapours are heavier than air and may spread near ground and travel a considerable distance to a source of ignition and flash back.

5.3. Advice for firefighters

Protective actions during firefighting Cool containers exposed to heat with water spray and remove them from the fire area if it can be done without risk. Contain and collect extinguishing water.

Special protective equipment for firefighters Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions Follow precautions for safe handling described in this safety data sheet. Avoid inhalation of spray mist and contact with skin and eyes. Take precautionary measures against static discharges. Provide adequate ventilation.

6.2. Environmental precautions

Environmental precautions Spillages or uncontrolled discharges into watercourses must be reported immediately to the Environmental Agency or other appropriate regulatory body.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up Absorb spillage with inert, damp, non-combustible material. Flush contaminated area with plenty of water. Collect and place in suitable waste disposal containers and seal securely. For waste disposal, see Section 13.

6.4. Reference to other sections

Reference to other sections Wear protective clothing as described in Section 8 of this safety data sheet. For waste disposal, see section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Usage precautions Avoid inhalation of vapours/spray and contact with skin and eyes. Static electricity and formation of sparks must be prevented. Mechanical ventilation or local exhaust ventilation may be required. Provide adequate ventilation. Eye wash facilities and emergency shower must be available when handling this product.

7.2. Conditions for safe storage, including any incompatibilities

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Storage precautions Keep away from heat, sparks and open flame. Store in tightly-closed, original container in a dry, cool and well-ventilated place. Protect from light.

Storage class Flammable liquid storage. Corrosive storage.

7.3. Specific end use(s)

Specific end use(s) No information available.

SECTION 8: Exposure Controls/personal protection

8.1. Control parameters

Occupational exposure limits

Long-term exposure limit (8-hour TWA): WEL 5 ppm 15 mg/m³

Short-term exposure limit (15-minute): WEL 10 ppm 30 mg/m³

WEL = Workplace Exposure Limit

DNEL Workers - Inhalation; Long term local effects: 15 mg/m³
Workers - Inhalation; Short term local effects: 30 mg/m³

PNEC

- Fresh water; 0.04 mg/l
- Marine water; 0.004 mg/l
- Intermittent release; 0.046 mg/l
- Sediment (Freshwater); 0.48 mg/kg
- Sediment (Marinewater); 0.048 mg/kg
- Soil; 0.0723 mg/kg
- STP; 100 mg/l

8.2. Exposure controls

Protective equipment



Appropriate engineering controls

Provide adequate ventilation. Avoid inhalation of vapours. Observe any occupational exposure limits for the product or ingredients.

Eye/face protection

The following protection should be worn: Chemical splash goggles.

Hand protection

It is recommended that gloves are made of the following material: Neoprene. The most suitable glove should be chosen in consultation with the glove supplier/manufacturer, who can provide information about the breakthrough time of the glove material.

Other skin and body protection

Wear rubber apron. Wear rubber footwear.

Hygiene measures

Provide eyewash station and safety shower. Wash hands at the end of each work shift and before eating, smoking and using the toilet. Remove contaminated clothing and wash the skin thoroughly with soap and water after work. When using do not eat, drink or smoke.

Respiratory protection

If ventilation is inadequate, suitable respiratory protection must be worn.

SECTION 9: Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Appearance Liquid.

Colour Colourless.

Odour Ammonia.

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pH	pH (concentrated solution): >12.5
Initial boiling point and range	55.56°C @
Flash point	-39 - -26°C
Vapour pressure	195 mm Hg @ °C
Vapour density	2.50
Relative density	0.71 - 0.72 @ 20°C
Solubility(ies)	Soluble in water.
Auto-ignition temperature	312°C

9.2. Other information

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity	Vapours may form explosive mixtures with air.
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10.2. Chemical stability

Stability	Stable at normal ambient temperatures and when used as recommended.
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10.3. Possibility of hazardous reactions

Possibility of hazardous reactions	Will not polymerise.
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10.4. Conditions to avoid

Conditions to avoid	Avoid excessive heat for prolonged periods of time. Avoid heat, flames and other sources of ignition.
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10.5. Incompatible materials

Materials to avoid	Strong acids. Strong oxidising agents. Hydrocarbons - halogenated.
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10.6. Hazardous decomposition products

Hazardous decomposition products	Oxides of the following substances: Carbon. Nitrogen. Ammonia or amines.
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SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity - oral

Acute toxicity oral (LD ₅₀ mg/kg)	540.0
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Species	Rat
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ATE oral (mg/kg)	540.0
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Acute toxicity - dermal

Acute toxicity dermal (LD ₅₀ mg/kg)	582.0
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Species	Rabbit
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ATE dermal (mg/kg)	582.0
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Acute toxicity - inhalation

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Acute toxicity inhalation (LC₅₀ vapours mg/l) 17.3

Species Rat

ATE inhalation (vapours mg/l) 17.3

Skin corrosion/irritation

Skin corrosion/irritation Highly corrosive.

Serious eye damage/irritation

Serious eye damage/irritation Risk of serious damage to eyes.

Respiratory sensitisation

Respiratory sensitisation Not sensitising.

Skin sensitisation

Skin sensitisation Not sensitising.

Germ cell mutagenicity

Genotoxicity - in vitro Data lacking.

Genotoxicity - in vivo Data lacking.

Carcinogenicity

Carcinogenicity Data lacking.

Reproductive toxicity

Reproductive toxicity - fertility Data lacking.

Reproductive toxicity - development Data lacking.

Specific target organ toxicity - single exposure

Target organs Mucous membranes

Specific target organ toxicity - repeated exposure

STOT - repeated exposure Data lacking.

Aspiration hazard

Aspiration hazard Not applicable.

Inhalation Harmful by inhalation.

Ingestion Harmful if swallowed. Causes burns.

Skin contact Harmful in contact with skin. Causes burns.

Eye contact May cause chemical eye burns.

SECTION 12: Ecological Information

Ecotoxicity The product components are not classified as environmentally hazardous. However, large or frequent spills may have hazardous effects on the environment.

12.1. Toxicity

Acute toxicity - fish LC₅₀, 96 hours: 23 - 182 mg/l, Fish

Acute toxicity - aquatic invertebrates EC₅₀, 48 hours: 4.6 mg/l, Daphnia magna

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Acute toxicity - aquatic plants IC₅₀, 72 hours: 20 mg/l, Algae

12.2. Persistence and degradability

Persistence and degradability The product is readily biodegradable.

12.3. Bioaccumulative potential

Bioaccumulative potential : 1.62,

12.4. Mobility in soil

Mobility The product is soluble in water.

12.5. Results of PBT and vPvB assessment

Results of PBT and vPvB assessment This product does not contain any substances classified as PBT or vPvB.

12.6. Other adverse effects

Other adverse effects Not available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

General information Do not puncture or incinerate, even when empty. Waste is classified as hazardous waste.

Disposal methods Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority.

SECTION 14: Transport information

General Wear protective clothing as described in Section 8 of this safety data sheet.

14.1. UN number

UN No. (ADR/RID) 1154

UN No. (IMDG) 1154

UN No. (ICAO) 1154

UN No. (ADN) 1154

14.2. UN proper shipping name

Proper shipping name (ADR/RID) DIETHYLAMINE

Proper shipping name (IMDG) DIETHYLAMINE

Proper shipping name (ICAO) DIETHYLAMINE

Proper shipping name (ADN) DIETHYLAMINE

14.3. Transport hazard class(es)

ADR/RID class 3

ADR/RID subsidiary risk 8

ADR/RID classification code FC

ADR/RID label 3

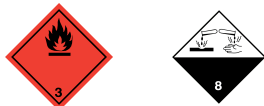
IMDG class 3

IMDG subsidiary risk 8

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ICAO class/division	3
ICAO subsidiary risk	8
ADN class	3
ADN subsidiary risk	8

Transport labels



14.4. Packing group

ADR/RID packing group	II
IMDG packing group	II
ADN packing group	II
ICAO packing group	II

14.5. Environmental hazards

Environmentally hazardous substance/marine pollutant

No.

14.6. Special precautions for user

EmS	F-E, S-C
ADR transport category	2
Emergency Action Code	•2WE
Hazard Identification Number (ADR/RID)	338
Tunnel restriction code	(D/E)

14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

National regulations	The Chemicals (Hazard Information and Packaging for Supply) Regulations 2009 (SI 2009 No. 716).
EU legislation	This product may impact SEVESO storage regulations. Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures (as amended). Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) (as amended).
Guidance	CHIP for everyone HSG228. Workplace Exposure Limits EH40. Safety Data Sheets for Substances and Preparations. Approved Classification and Labelling Guide (Sixth edition) L131. DSEAR

15.2. Chemical safety assessment

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A chemical safety assessment has been carried out.

SECTION 16: Other information

Revision comments	NOTE: Lines within the margin indicate significant changes from the previous revision.
Revision date	23/06/2016
Revision	04
Supersedes date	19/08/2015
SDS number	849
Version number	2.000
SDS status	Approved.
Signature	Lisa Bland
Risk phrases in full	R11 Highly flammable. R20/21/22 Harmful by inhalation, in contact with skin and if swallowed. R35 Causes severe burns. R37 Irritating to respiratory system.
Hazard statements in full	H225 Highly flammable liquid and vapour. H302 Harmful if swallowed. H311 Toxic in contact with skin. H314 Causes severe skin burns and eye damage. H318 Causes serious eye damage. H332 Harmful if inhaled. H335 May cause respiratory irritation.