

GPS Safety Summary

Substance Name:

Ethyldimethylamine

1. General Statement

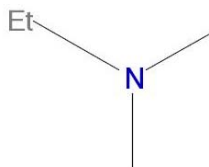
Ethyldimethylamine is a colourless liquid completely soluble in water. It is a foundry amine commonly called DMEA. It is a highly flammable liquid and a corrosive product.

The product is mainly used as catalyst, as intermediate, and in the application of casting resins.

DMEA is manufactured, used and formulated within industrial settings. Exposure to the general population is not expected.

2. Chemical Identity

Name:	ethyldimethylamine
Brand names:	DMEA
Chemical name (IUPAC):	N,N-dimethylethanamine
CAS number(s):	598-56-1
ES number:	209-940-8
Molecular formula:	C ₄ H ₁₁ N
Structure:	



3. Use and applications

Mains applications:

- Industrial application of casting resins
- Use as intermediate
- Use as catalyst

4. Physical / Chemical properties

Ethyldimethylamine is highly flammable liquid organic substance having the following characteristics and physical–chemical properties:

Property	Value
Physical state	Liquid at 20°C and 101.3 kPa
Colour	Clear - colourless
Odour	strong, ammoniacal
Density	0.66 at 20°C
Melting / boiling point	-140°C / 36.5°C
Flammability	Highly flammable liquid and vapour
Explosive / Oxidising properties	Not relevant based on its structure
Self-ignition temperature	195°C at 1013 hPa
Vapour pressure	65.5 kPa at 25°C
Mol weight	73.1
Water solubility	completely soluble Exothermic reaction
Flash point	-25°C at 1013 hPa
Octanol-water partition coefficient (LogKow)	0.6 at 20°C

5. Health Effects

Effect Assessment	Result
Acute Toxicity Oral / inhalation / dermal	Harmful by oral route, toxic by inhalation and of low toxicity by dermal route.
Irritation / corrosion Skin / eye/ respiratory tract	Corrosive for the skin and the eyes and irritating for the respiratory tract.
Sensitisation	Not a skin sensitizer.
Toxicity after repeated exposure Oral / inhalation / dermal	Oral and inhalation studies performed with analogue substances, did not suggest a significant systemic toxicity following repeated exposure.
Genotoxicity / Mutagenicity	No evidence of genetic toxicity.
Carcinogenicity	Not anticipated to cause cancer under conditions of normal use.
Toxicity for reproduction	Studies with analogue substances, did not suggest toxic effects on the fertility and the development.

6. Environmental Effects

The potential of ethyldimethylamine for bioaccumulation is low. This product will not persist in the environment. It is harmful to aquatic organisms. Do not release in the environment.

Effect Assessment	Result
Aquatic Toxicity	Harmful to aquatic organisms

Fate and behaviour	Result
Biodegradation	Ready biodegradable
Bioaccumulation potential	Not expected to bioaccumulate
PBT / vPvB conclusion	Not considered to be PBT* or vPvB**

*: Persistent, Bioaccumulative and Toxic (PBT)

** : very Persistent and very Bioaccumulative (vPvB)

7. Exposure

7.1 Human health

Ethyldimethylamine is manufactured, used and formulated within industrial settings.

The primary routes of industrial exposure of ethyldimethylamine (DMEA) are skin contact and inhalation, ingestion is not anticipated route of exposure. Workers may be exposed during cleaning, maintenance, transfer, sampling and analysis.

Based on the risk assessment, the exposure can be kept at a safe level (strictly below occupational exposure limits, when applied) when activities are carried out under conditions recommended in the Extended Safety Data Sheet (see Chap. 8 and Exposure Scenarios).

Procedures, controls, suitable collective and personal risk management measures, good industrial hygiene practices and risk and communication through appropriate training of workers should be implemented.

In case of exposure to the undiluted substance, workers should follow the first aid measures recommended in Safety Data Sheet.

7.2 Environment

The assessment of the environmental exposure is made for all the uses and resulted life cycle stage of the substance from the manufacture to the waste stage.

All industrial aqueous releases that may contain the substance must be treated to avoid any exposure to the environment.

Disposal, treatment or recycling of industrial waste must comply with applicable regulations to preserve the environment.

DMEA is manufactured and used in continuous or batch processes within industrial settings. Based on the risk assessment, environmental exposure can be kept at a safe level when activities are carried out under conditions recommended in the extended Safety Data Sheet (see Chap. 6, and Exposure Scenarios).

Procedures, controls and risk management measures should be implemented on industrial manufacturing and application sites, effluents that may contain the substance must be treated to avoid any exposure to the environment.

8. Risk Management recommendations

Human health measures	
Organizational	Collect the latest available Safety Data Sheet. Implement good basic standards of occupational hygiene. Ensure operatives are well informed of the hazards and trained to minimise exposures. Handle and store according to the indications of the Safety Data Sheet.

Engineering controls	Provide appropriate local exhaust ventilation at points of emission. Ensure that eye- and handwash stations and safety showers are close to workstation locations.	
Protection	Eye/Face protection:	Safety glasses with side-shields
	Skin protection:	Protective suit
	Hand protection:	Polyvinylchloride – neoprene rubber, tested to EN374:1
	Respiratory protection:	Respirator if ventilation insufficient
Environment protective measures		
Do not release into the environment. Do not let product enter drains. Use waste water treatment systems. Do not spread sludge to soil.		

9. Regulatory Information / Classification and Labelling




9.1 Regulatory Information

This substance has been registered under:

- EU Regulation EC 1907/2006 (REACH)

9.2 Classification and labelling

Under GHS substances are classified according to their physical, health, and environmental hazards. The hazards are communicated via specific labels and the eSDS. GHS attempts to standardize hazard communication so that the intended audience (workers, consumers, transport workers, and emergency responders) can better understand the hazards of the chemicals in use. Substances registered for REACH are classified according CLP (EC) 1272/2008, implementation of the GHS in the European Union.

Classification	
According to REGULATION (EC) no 1272/2008:	
<ul style="list-style-type: none"> – Flammable liquids: Category 2 – Acute toxicity – Oral: Category 4 – Acute toxicity – Inhalation: Category 3 – Skin corrosion: Category 1B – Serious eye damage: Category 1 – Specific target organ toxicity - single exposure (inhalation): Category 3 	
Signal word	
Danger	
Pictogram	
– GHS02: flame	
– GHS05: corrosion	
– GHS06: skull and crossbones	

Hazard statement
<ul style="list-style-type: none"> – H225: Highly flammable liquid and vapour. – H331: Toxic if inhaled. – H302: Harmful if swallowed. – H314: Causes severe skin burns and eye damage. – H335: May cause respiratory irritation.
Additional classification according to Globally Harmonized System (GHS)
<ul style="list-style-type: none"> – Acute aquatic toxicity, Category 3, H402: Harmful to aquatic life.

10. Contact Information within Company

For further information on this substance or product safety summary in general, please contact:

- Arkema-HG-REACH-USES@arkema.com
- ICCA portal where the GPS Safety Summary is posted:
<http://www.icca-chem.org/en/Home/ICCA-initiatives/global-product-strategy/>

11. Date of Issues / Revision

- Date of issue: 2014/01/31
- Date of revision:

12. Disclaimer

The information contained in this paper is intended as advice only and whilst the information is provided in utmost good faith and has been based on the best information currently available, is to be relied upon at the user's own risk.

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