

Safety Data Sheet

Monoethanolamine 85%

Version 1.3

Revision Date: 11/11/2023

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Monoethanolamine 85%

Recommended use of the chemical and restrictions on use

Recommended use : Industrial Chemical

Manufacturer or supplier's details

Company : Univar Solutions USA
Address : 3075 Highland Pkwy Suite 200
 Downers Grove, IL 60515
 United States of America (USA)

Emergency telephone number:

Transport North America: CHEMTREC (1-800-424-9300)

CHEMTREC INTERNATIONAL Tel # 703-527-3887

Additional Information: : Responsible Party: Product Compliance Department
 E-mail: SDSNA@univarsolutions.com
 SDS Requests: 1-855-429-2661
 Website: www.univarsolutions.com

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification

Acute toxicity (Oral) : Category 4
 Acute toxicity (Inhalation) : Category 4
 Acute toxicity (Dermal) : Category 4
 Skin corrosion : Category 1A
 Serious eye damage : Category 1
 Carcinogenicity : Category 2
 Specific target organ toxicity : Category 3 (Respiratory system)
 - single exposure

GHS label elements

Hazard pictograms



Signal word : Danger

Hazard statements : H302 + H312 + H332 Harmful if swallowed, in contact with skin or if inhaled.
 H314 Causes severe skin burns and eye damage.
 H335 May cause respiratory irritation.
 H351 Suspected of causing cancer.

Precautionary statements : **Prevention:**

Safety Data Sheet

Monoethanolamine 85%

Version 1.3

Revision Date: 11/11/2023

P201 Obtain special instructions before use.
P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
P264 Wash skin thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P271 Use only outdoors or in a well-ventilated area.
P281 Use personal protective equipment as required.
Response:
P301 + P312 + P330 IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell. Rinse mouth.
P303 + P361 + P353 IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.
P304 + P340 + P310 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or doctor/ physician.
P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/ doctor.
P308 + P313 IF exposed or concerned: Get medical advice/ attention.
Storage:
P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
P405 Store locked up.
Disposal:
P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Hazardous components

CAS-No.	Chemical name	Weight percent
141-43-5	Monoethanolamine	70 - 90
111-42-2	Diethanolamine	0.1 - 1

Any Concentration shown as a range is due to batch variation.

SECTION 4. FIRST AID MEASURES

General advice : Move out of dangerous area.
Consult a physician.
If inhaled : If symptoms persist, call a physician.
In case of skin contact : Immediate medical treatment is necessary as untreated wounds from corrosion of the skin heal slowly and with difficulty.
If on skin, rinse well with water.
If on clothes, remove clothes.

Safety Data Sheet

Monoethanolamine 85%

Version 1.3

Revision Date: 11/11/2023

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|------------------------|---|---|
| In case of eye contact | : | Small amounts splashed into eyes can cause irreversible tissue damage and blindness.
Continue rinsing eyes during transport to hospital.
Remove contact lenses.
Protect unharmed eye.
Keep eye wide open while rinsing. |
| If swallowed | : | Keep respiratory tract clear.
Do NOT induce vomiting.
Take victim immediately to hospital. |

SECTION 5. FIREFIGHTING MEASURES

- | | | |
|---|---|---|
| Suitable extinguishing media | : | Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide. |
| Unsuitable extinguishing media | : | High volume water jet |
| Specific hazards during fire-fighting | : | Do not allow run-off from fire fighting to enter drains or water courses. |
| Hazardous combustion products | : | Carbon oxides
Nitrogen oxides (NOx) |
| Specific extinguishing methods | : | Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. |
| Further information | : | Collect contaminated fire extinguishing water separately. This must not be discharged into drains. |
| Special protective equipment for firefighters | : | Wear self-contained breathing apparatus for firefighting if necessary. |

SECTION 6. ACCIDENTAL RELEASE MEASURES

- | | | |
|---|---|---|
| Personal precautions, protective equipment and emergency procedures | : | Use personal protective equipment. |
| Environmental precautions | : | Prevent product from entering drains.
Prevent further leakage or spillage if safe to do so.
If the product contaminates rivers and lakes or drains inform respective authorities. |
| Methods and materials for containment and cleaning up | : | Neutralise with acid.
Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).
Keep in suitable, closed containers for disposal. |

SECTION 7. HANDLING AND STORAGE

- | | | |
|---|---|---|
| Advice on protection against fire and explosion | : | Normal measures for preventive fire protection. |
| Advice on safe handling | : | Avoid formation of aerosol.
Do not breathe vapours/dust. |

Safety Data Sheet

Monoethanolamine 85%

Version 1.3

Revision Date: 11/11/2023

Avoid exposure - obtain special instructions before use.
 Avoid contact with skin and eyes.
 For personal protection see section 8.
 Smoking, eating and drinking should be prohibited in the application area.
 Provide sufficient air exchange and/or exhaust in work rooms.
 To avoid spills during handling keep bottle on a metal tray.
 Dispose of rinse water in accordance with local and national regulations.

Conditions for safe storage : 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.
 Observe label precautions.
 Electrical installations / working materials must comply with the technological safety standards.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

CAS-No.	Components	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
141-43-5	Monoethanolamine	TWA	3 ppm	ACGIH
		STEL	6 ppm	ACGIH
		TWA	3 ppm 8 mg/m3	NIOSH REL
		ST	6 ppm 15 mg/m3	NIOSH REL
		TWA	3 ppm 6 mg/m3	OSHA Z-1
		STEL	6 ppm 15 mg/m3	OSHA P0
		TWA	3 ppm 8 mg/m3	OSHA P0
111-42-2	Diethanolamine	TWA (Inhalable fraction and vapor)	1 mg/m3	ACGIH
		TWA	3 ppm 15 mg/m3	NIOSH REL
		TWA	3 ppm 15 mg/m3	OSHA P0
		PEL	0.46 ppm 2 mg/m3	CAL PEL

Personal protective equipment

Respiratory protection : No personal respiratory protective equipment normally required.
 In the case of vapour formation use a respirator with an approved filter.

Hand protection

Remarks : The suitability for a specific workplace should be discussed

Safety Data Sheet

Monoethanolamine 85%

Version 1.3

Revision Date: 11/11/2023

Eye protection	:	with the producers of the protective gloves. Eye wash bottle with pure water Tightly fitting safety goggles Wear face-shield and protective suit for abnormal processing problems.
Skin and body protection	:	Impervious clothing Choose body protection according to the amount and concentration of the dangerous substance at the work place.
Hygiene measures	:	When using do not eat or drink. When using do not smoke. Wash hands before breaks and at the end of workday.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	liquid
Colour	:	colourless
Odour	:	ammoniacal
Odour Threshold	:	No data available
pH	:	12 @ 20 °C (68 °F)
Freezing Point (Freezing Point)	:	-14 °C (7 °F)
Boiling Point (Boiling point/boiling range)	:	131 °C (268 °F) (1013 hPa)
Flash point	:	116 °C (241 °F) Calculated Flash Point
Evaporation rate	:	No data available
Flammability (solid, gas)	:	No data available
Upper explosion limit	:	17 %(V)
Lower explosion limit	:	5 %(V)
Vapour pressure	:	5.6 mmHg @ 20 °C (68 °F)
Relative vapour density	:	1.6 @ 20 °C (68 °F) (Air = 1.0)
Relative density	:	1.025 - 1.029 @ 20 °C (68 °F) Reference substance: (water = 1)
Density	:	No data available
Solubility(ies)	:	No data available
Water solubility	:	soluble
Solubility in other solvents	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Auto-ignition temperature	:	No data available
Thermal decomposition	:	No data available
Viscosity	:	No data available
Viscosity, dynamic	:	15 mPa.s @ 30 °C (86 °F)

Safety Data Sheet

Monoethanolamine 85%

Version 1.3

Revision Date: 11/11/2023

Viscosity, kinematic : < 20 mm²/s @ 20 °C (68 °F)

SECTION 10. STABILITY AND REACTIVITY

Reactivity	: No dangerous reaction known under conditions of normal use.
Chemical stability	: Stable under normal conditions.
Possibility of hazardous reactions	: Hazardous polymerisation does not occur. No hazards to be specially mentioned.
Conditions to avoid	: Exposure to moisture Heat, flames and sparks.
Incompatible materials	: brass Copper Iron Oxidizing agents Strong acids halogenated hydrocarbons galvanized metals
Hazardous decomposition products	: Carbon oxides Nitrogen oxides (NO _x)

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity

Product:

Acute oral toxicity : Acute toxicity estimate: 1,782 mg/kg

Acute inhalation toxicity : Acute toxicity estimate: 12.94 mg/l
Exposure time: 4 h
Test atmosphere: vapour

Acute dermal toxicity : Acute toxicity estimate: 1,206 mg/kg

Components:

141-43-5:

Acute oral toxicity : LD50 (Rat, male and female): 1,515 mg/kg
Assessment: The component/mixture is moderately toxic after single ingestion.

Acute inhalation toxicity : LC50 (Rat): 0.136 mg/l Calculated
Exposure time: 7 h
Assessment: The component/mixture is moderately toxic after short term inhalation.

Acute dermal toxicity : LD50 (Rabbit): 1,025 mg/kg
Assessment: The component/mixture is moderately toxic after

Safety Data Sheet

Monoethanolamine 85%

Version 1.3

Revision Date: 11/11/2023

single contact with skin.

111-42-2:

Acute oral toxicity : LD50 (Rat, male and female): 1,600 mg/kg

Skin corrosion/irritation

Product:

Remarks: Extremely corrosive and destructive to tissue.

Components:

141-43-5:

Species: Rabbit

Result: Causes burns.

111-42-2:

Species: Rabbit

Result: Irritating to skin.

Serious eye damage/eye irritation

Product:

Remarks: May cause irreversible eye damage.

Components:

111-42-2:

Species: Rabbit

Result: Risk of serious damage to eyes.

Germ cell mutagenicity

Components:

111-42-2:

Germ cell mutagenicity - Assessment : Tests on bacterial or mammalian cell cultures did not show mutagenic effects.

Carcinogenicity

Components:

111-42-2:

Carcinogenicity - Assessment : Not classifiable as a human carcinogen.

IARC

Group 2B: Possibly carcinogenic to humans

111-42-2

Diethanolamine

OSHA

No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

NTP

No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen

Safety Data Sheet
Monoethanolamine 85%

Version 1.3

Revision Date: 11/11/2023

by NTP.

Reproductive toxicity**Components:****111-42-2:**

Reproductive toxicity - Assessment

Some evidence of adverse effects on sexual function and fertility, and/or on development, based on animal experiments.

Teratogenicity - Assessment : Embryotoxicity classification not possible from current data.

STOT - single exposure**Components:****141-43-5:**

Target Organs: Respiratory system

Assessment: The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with respiratory tract irritation.

STOT - repeated exposure**Components:****111-42-2:**

Target Organs: Kidney, Blood, Liver

Assessment: The substance or mixture is classified as specific target organ toxicant, repeated exposure, category 2.

Further information**Product:**

Remarks: No data available

SECTION 12. ECOLOGICAL INFORMATION**Ecotoxicity****Components:****111-42-2:**Toxicity to daphnia and other aquatic invertebrates : EC50 (Ceriodaphnia dubia): 30.1 mg/l
Exposure time: 48 h
Test Type: static testToxicity to algae : EC50 (Pseudokirchneriella subcapitata (algae)): 86.96 mg/l
End point: Growth rate
Exposure time: 96 h
Test Type: static test

Toxicity to fish (Chronic tox-) : NOEC: Calculated > 1 mg/l

Safety Data Sheet
Monoethanolamine 85%

Version 1.3

Revision Date: 11/11/2023

icity)

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): 0.78 mg/l
Exposure time: 21 d

Acute aquatic toxicity- Assessment : Harmful to aquatic life.

Chronic aquatic toxicity- Assessment : Harmful to aquatic life with long lasting effects.

Persistence and degradability

No data available

Bioaccumulative potential

No data available

Mobility in soil

No data available

Other adverse effects**Product:**

Ozone-Depletion Potential : Regulation: 40 CFR Protection of Environment; Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class I Substances
Remarks: This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

Additional ecological information : An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.
Harmful to aquatic life with long lasting effects.

SECTION 13. DISPOSAL CONSIDERATIONS**Disposal methods**

Waste from residues : Dispose of in accordance with all applicable local, state and federal regulations.
For assistance with your waste management needs - including disposal, recycling and waste stream reduction, contact Univar Solutions ChemCare: 1-800-637-7922

Contaminated packaging : Empty remaining contents.
Dispose of as unused product.
Do not re-use empty containers.

SECTION 14. TRANSPORT INFORMATION**DOT (Department of Transportation):**

UN2491, Ethanolamine solutions, 8, III

Safety Data Sheet

Monoethanolamine 85%

Version 1.3

Revision Date: 11/11/2023

IATA (International Air Transport Association):

UN2491, ETHANOLAMINE SOLUTION, 8, III

IMDG (International Maritime Dangerous Goods):

UN2491, ETHANOLAMINE SOLUTION, 8, III, Flash Point:116 °C(241 °F)

SECTION 15. REGULATORY INFORMATION

WHMIS Classification : D2A: Very Toxic Material Causing Other Toxic Effects
D2B: Toxic Material Causing Other Toxic Effects
E: Corrosive Material

EPCRA - Emergency Planning and Community Right-to-Know Act

CERCLA Reportable Quantity

Components	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
Diethanolamine	111-42-2	100	*

*: Calculated RQ exceeds reasonably attainable upper limit.

SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

SARA 311/312 Hazards : Acute toxicity (any route of exposure)
Skin corrosion or irritation
Serious eye damage or eye irritation
Carcinogenicity
Specific target organ toxicity (single or repeated exposure)

SARA 302 : No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

Clean Air Act

The following chemical(s) are listed as HAP under the U.S. Clean Air Act, Section 112 (40 CFR 61):

111-42-2 Diethanolamine

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 111 SOCM I Intermediate or Final VOC's (40 CFR 60.489).

Clean Water Act

This product does not contain any Hazardous Substances listed under the U.S. CleanWater Act, Section 311, Table 116.4A.

This product does not contain any Hazardous Chemicals listed under the U.S. CleanWater Act, Section 311, Table 117.3.

This product does not contain any toxic pollutants listed under the U.S. Clean Water Act Section 307

Safety Data Sheet

Monoethanolamine 85%

Version 1.3

Revision Date: 11/11/2023

Massachusetts Right To Know

141-43-5 Monoethanolamine

Pennsylvania Right To Know

141-43-5 Monoethanolamine
7732-18-5 Water
111-42-2 Diethanolamine

California Prop 65

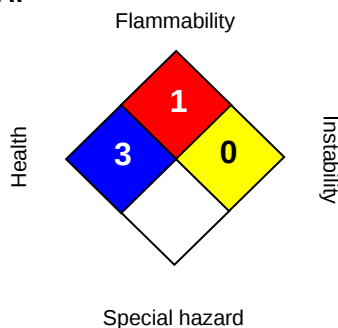
⚠ WARNING: This product can expose you to chemicals including Diethanolamine, which is/are known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

The components of this product are reported in the following inventories:

TSCA : On TSCA Inventory
DSL : All components of this product are on the Canadian DSL
AICS : On the inventory, or in compliance with the inventory
NZIoC : On the inventory, or in compliance with the inventory
ENCS : Not in compliance with the inventory
KECI : On the inventory, or in compliance with the inventory
PICCS : On the inventory, or in compliance with the inventory
IECSC : On the inventory, or in compliance with the inventory

SECTION 16. OTHER INFORMATION

NFPA:



HMIS III:

HEALTH	3*
FLAMMABILITY	1
PHYSICAL HAZARD	0

0 = not significant, 1 = Slight,
2 = Moderate, 3 = High
4 = Extreme, * = Chronic

The information accumulated is based on the data of which we are aware and is believed to be correct as of the date hereof. Since this information may be applied under conditions beyond our control and with which we may be unfamiliar and since data made become

Safety Data Sheet

Monoethanolamine 85%

Version 1.3

Revision Date: 11/11/2023

available subsequently to the date hereof, we do not assume any responsibility for the results of its use. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances. This SDS has been prepared by Univar Solutions Product Compliance Department (1-855-429-2661) SDSNA@univarsolutions.com.

Revision Date : 11/11/2023

Legacy SDS: : R0000950

Material number:

16206059, 16159842, 16143686, 16157823, 16160450, 16159021, 16159020, 16159098, 16142721, 16141307, 16140336, 16140755, 16111133, 16061569, 16056479, 16062163, 16035249, 16003428, 16001947, 631571, 626857, 88741, 71422, 55406, 89510, 122175

Key or legend to abbreviations and acronyms used in the safety data sheet			
ACGIH	American Conference of Government Industrial Hygienists	LD50	Lethal Dose 50%
AICS	Australia, Inventory of Chemical Substances	LOAEL	Lowest Observed Adverse Effect Level
DSL	Canada, Domestic Substances List	NFPA	National Fire Protection Agency
NDSL	Canada, Non-Domestic Substances List	NIOSH	National Institute for Occupational Safety & Health
CNS	Central Nervous System	NTP	National Toxicology Program
CAS	Chemical Abstract Service	NZIoC	New Zealand Inventory of Chemicals
EC50	Effective Concentration	NOAEL	No Observable Adverse Effect Level
EC50	Effective Concentration 50%	NOEC	No Observed Effect Concentration
EGEST	EOSCA Generic Exposure Scenario Tool	OSHA	Occupational Safety & Health Administration
EOSCA	European Oilfield Specialty Chemicals Association	PEL	Permissible Exposure Limit
EINECS	European Inventory of Existing Chemical Substances	PICCS	Philippines Inventory of Commercial Chemical Substances
MAK	Germany Maximum Concentration Values	PRNT	Presumed Not Toxic
GHS	Globally Harmonized System	RCRA	Resource Conservation Recovery Act
>=	Greater Than or Equal To	STEL	Short-term Exposure Limit
IC50	Inhibition Concentration 50%	SARA	Superfund Amendments and Reauthorization Act.
IARC	International Agency for Research on Cancer	TLV	Threshold Limit Value
IECSC	Inventory of Existing Chemical Substances in China	TWA	Time Weighted Average
ENCS	Japan, Inventory of Existing and New Chemical Substances	TSCA	Toxic Substance Control Act
KECI	Korea, Existing Chemical Inventory	UVCB	Unknown or Variable Composition, Complex Reaction Products, and Biological Materials
<=	Less Than or Equal To	WHMIS	Workplace Hazardous Materials Information System

Safety Data Sheet
Monoethanolamine 85%

Version 1.3

Revision Date: 11/11/2023

LC50	Lethal Concentration 50%		
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