

This safety data sheet was created pursuant to the requirements of:
UK REACH Regulations (SI 2019/758 as amended)

Supersedes date 27-Jul-2021

Revision date 19-May-2022

Revision Number 4.02

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

1.1. Product identifier

Product Code(s)	490
Safety data sheet number	490
Product Name	2-AMINOETHANOL
Index No	603-030-00-8
EC Number	205-483-3
CAS No	141-43-5
Synonyms	MONOETHANOLAMINE, MONOETHANOLAMINE 99% (MEA), MELA, MONOETHANOLAMINE BSF, MONOETHANOLAMINE DW, MONOETHANOLAMINE PURE, MONOETHANOLAMINE 99%
Pure substance/mixture	Substance
Contains 2-AMINOETHANOL	
Molecular weight	61.08

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

Recommended use	Industrial application Personal care Adhesives Sealant Chemicals used in the synthesis and / or formulation of industrial products Additive for Agrochemicals Intermediate Construction materials Water Treatment Metalworking fluid. Electrical and electronic applications Additive Textiles Paper production Detergent PRINTING INK Coatings Oilfield applications Laboratory reagent Lubricant
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1.3. Details of the supplier of the safety data sheet

Supplier

Univar Solutions UK Ltd
 Aquarius House
 6 Mid Point Business Park
 Bradford
 GBR

For further information, please contact

E-mail address SDS.EMEA@univarsolutions.com

Non-Emergency Telephone Number +44 1274 267300 / +44 1274 267306

1.4. Emergency telephone number

Emergency Telephone SGS - +32 (0)3 575 55 55 (24h)

SECTION 2: Hazards identification**2.1. Classification of the substance or mixture**

Acute toxicity - Oral	Category 4 - (H302)
Acute toxicity - Dermal	Category 4 - (H312)
Acute toxicity - Inhalation (Vapours)	Category 4 - (H332)
Skin corrosion/irritation	Category 1 Sub-category B - (H314)
Serious eye damage/eye irritation	Category 1 - (H318)
Specific target organ toxicity — single exposure	Category 3 - (H335)
Chronic aquatic toxicity	Category 3 - (H412)

2.2. Label elements

Contains 2-AMINOETHANOL

**Signal word**

Danger

Hazard statements

H302 - Harmful if swallowed
 H312 - Harmful in contact with skin
 H314 - Causes severe skin burns and eye damage
 H332 - Harmful if inhaled
 H335 - May cause respiratory irritation
 H412 - Harmful to aquatic life with long lasting effects

Precautionary statements

P260 - Do not breathe dust/fume/gas/mist/vapours/spray
 P280 - Wear protective gloves/protective clothing and eye/face protection
 P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower]
 P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to

do. Continue rinsing
 P310 - Immediately call a POISON CENTER or doctor

2.3. Other hazards

Harmful to aquatic life.

SECTION 3: Composition/information on ingredients

3.1 Substances

Chemical name	Weight-%	EC No (EU Index No)	UK REACH registration number	Classification according to GB CLP (SI 2020/1567 as amended)	Specific concentration limit (SCL)	M-Factor	M-Factor (long-term)
2-AMINOETHANOL 141-43-5	90 - 100%	205-483-3 (603-030-00-8)	-	Acute Tox. 4 (H302) Acute Tox. 4 (H312) Acute Tox. 4 (H332) Skin Corr. 1B (H314) Aquatic Chronic 3 (H412) STOT SE 3 (H335)	STOT SE 3 :: C>=5%	-	-

Full text of H- and EUH-phrases: see section 16

This product does not contain candidate substances of very high concern at a concentration $\geq 0.1\%$ (UK REACH Article 59)

SECTION 4: First aid measures

4.1. Description of first aid measures

General advice	Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.
Inhalation	Remove to fresh air. If breathing has stopped, give artificial respiration. Get medical attention immediately. If breathing is difficult, (trained personnel should) give oxygen. Delayed pulmonary edema may occur. Get immediate medical attention.
Eye contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Do not rub affected area. Remove contact lenses, if present and easy to do. Continue rinsing. Get immediate medical attention.
Skin contact	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Get immediate medical attention.
Ingestion	Do NOT induce vomiting. Rinse mouth. Never give anything by mouth to an unconscious person. Get immediate medical attention.
Self-protection of the first aider	Wear personal protective clothing (see section 8). Avoid contact with skin, eyes or clothing.

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

Symptoms	Burning sensation.
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Inhalation	Harmful if inhaled. May cause respiratory irritation.
Eyes	Causes severe burns. Burning sensation.
Dermal	Harmful in contact with skin. Causes severe burns.
Ingestion	Harmful if swallowed

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

Note to doctors	Treat symptomatically.
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SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable Extinguishing Media	Dry chemical, CO2, alcohol-resistant foam or water spray.
Large Fire	CAUTION: Use of water spray when fighting fire may be inefficient.
Unsuitable extinguishing media	Do not scatter spilled material with high pressure water streams.

5.2. Special hazards arising from the substance or mixture

Specific hazards arising from the chemical	The product causes burns of eyes, skin and mucous membranes. Thermal decomposition can lead to release of irritating gases and vapours.
Hazardous combustion products	Ammonia. Carbon oxides. Nitrogen oxides (NOx).

5.3. Advice for firefighters

Special protective equipment and precautions for fire-fighters	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.
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SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions	Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Use personal protective equipment as required.
Other information	Refer to protective measures listed in Sections 7 and 8.
For emergency responders	Use personal protection recommended in Section 8.

6.2. Environmental precautions

Environmental precautions	Prevent further leakage or spillage if safe to do so. Should not be released into the environment. Do not allow to enter into soil/subsoil. Prevent product from entering drains.
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6.3. Methods and material for containment and cleaning up

Methods for containment	Prevent further leakage or spillage if safe to do so.
Methods for cleaning up	Take up mechanically, placing in appropriate containers for disposal.
Prevention of secondary hazards	Clean contaminated objects and areas thoroughly observing environmental regulations.

6.4. Reference to other sections

Reference to other sections See section 8 for more information. See section 13 for more information.

SECTION 7: Handling and storage**7.1. Precautions for safe handling**

Advice on safe handling Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. In case of insufficient ventilation, wear suitable respiratory equipment. Take off contaminated clothing and wash it before reuse. Avoid breathing vapours or mists.

General hygiene considerations Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Contaminated work clothing should not be allowed out of the workplace. Wash hands before breaks and immediately after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Storage Conditions Keep container tightly closed in a dry and well-ventilated place. Protect from moisture. Avoid contact with: Strong oxidising agents. Strong acids.

Packaging materials Suitable container/equipment material: Glass. stainless steel. Carbon Steel. High density polyethylene (HDPE). Unsuitable container/equipment material. Aluminium. Iron. copper. Zinc.

7.3. Specific end use(s)

Specific use(s)
See section 1 for more information.

Risk Management Methods (RMM) The information required is contained in this Safety Data Sheet.

SECTION 8: Exposure controls/personal protection**8.1. Control parameters****Exposure Limits**

Chemical name	United Kingdom
2-AMINOETHANOL 141-43-5	TWA: 1 ppm TWA: 2.5 mg/m ³ STEL: 3 ppm STEL: 7.6 mg/m ³ Sk*

Biological occupational exposure limits This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies.

Derived No Effect Level (DNEL) - Workers

Chemical name	Oral	Dermal	Inhalation
2-AMINOETHANOL 141-43-5		3 mg/kg [4] [6]	1 mg/m ³ [4] [6] 0.51 mg/m ³ [4] [5]

[4] Systemic health effects.
 [5] Local health effects.
 [6] Long term.

Derived No Effect Level (DNEL) - General Public

Chemical name	Oral	Dermal	Inhalation
2-AMINOETHANOL 141-43-5	1.5 mg/kg [4] [6]	1.5 mg/kg [4] [6]	0.18 mg/m ³ [4] [6] 0.28 mg/m ³ [4] [5]

[4] Systemic health effects.
 [5] Local health effects.
 [6] Long term.

Predicted No Effect Concentration (PNEC)

Chemical name	Freshwater	Freshwater (intermittent release)	Marine water	Marine water (intermittent release)	Air
2-AMINOETHANOL 141-43-5	0.07 mg/l	0.028 mg/l	0.007 mg/l		

Chemical name	Freshwater sediment	Marine sediment	Sewage treatment	Soil	Food chain
2-AMINOETHANOL 141-43-5	0.357 mg/kg	0.036 mg/kg	100 mg/l	1.29 mg/kg	

8.2. Exposure controls

Engineering controls No information available.

Personal protective equipment

Eye/face protection Wear safety glasses with side shields (or goggles). Use eye protection according to EN 166.

Hand protection Ensure that the breakthrough time of the glove material is not exceeded. Refer to glove supplier for information on breakthrough time for specific gloves. Butyl rubber. Neoprene gloves. Viton™. Polyvinyl chloride (PVC). Nitrile rubber. Gloves must conform to standard EN 374.

Skin and body protection Wear suitable protective clothing. Long sleeved clothing. Chemical resistant apron.

Respiratory protection No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

Type A.

General hygiene considerations Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Contaminated work clothing should not be allowed out of the workplace. Wash hands before breaks and immediately after handling the product.

SECTION 9: Physical and chemical properties**9.1. Information on basic physical and chemical properties**

Physical state	Liquid
Appearance	Viscous liquid
Colour	Colourless
Odour	Amine.
Odour threshold	2.6 - 5.0 ppm

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
Melting point / freezing point	4 °C	
Initial boiling point and boiling range	166.8 °C	
Flammability		No information available.
Flammability Limit in Air		No information available.
Upper flammability or explosive limits		
Lower flammability or explosive limits		
Flash point	92.5 °C	Closed cup.
Autoignition temperature	410 °C	
Decomposition temperature		No information available.
pH		No information available.
pH (as aqueous solution)	12.1	solution (10.0 %).
Kinematic viscosity	23.5 mm ² /s	20.0 °C.
Dynamic viscosity	23.18 mPa s	@ 20.0 °C.
Water solubility	Miscible with water	
Solubility(ies)		No information available.
Partition coefficient	log Kow: -2.3	OECD 107.
Vapour pressure	0.5 hPa	@ 20.0 °C.
Relative density	1.0155	20.0 °C.
Bulk density		No information available
Liquid Density	No information available	No information available
Relative vapour density	2.1	
Particle characteristics		No information available.
Particle Size	No information available	
Particle Size Distribution	No information available	
Explosive properties	No information available	
Oxidising properties	No information available	

9.2. Other information

Molecular weight	61.08
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SECTION 10: Stability and reactivity**10.1. Reactivity**

Reactivity	Stable under recommended storage conditions.
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10.2. Chemical stability

Stability	Stable under normal conditions.
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Explosion data

Sensitivity to mechanical impact	None.
Sensitivity to static discharge	None.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions Violent reaction with: Acids. Oxidising Agent.

10.4. Conditions to avoid

Conditions to avoid Exposure to air or moisture over prolonged periods.

10.5. Incompatible materials

Incompatible materials Strong acids. Strong oxidising agents. Water. Metals.

10.6. Hazardous decomposition products

Hazardous decomposition products Ammonia. Carbon oxides. Nitrogen oxides (NOx).

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Information on likely routes of exposure

Product Information

Inhalation	Harmful if inhaled. May cause respiratory irritation. Corrosive to the respiratory tract.
Eye contact	Causes severe burns. Corrosive to the eyes and may cause severe damage including blindness.
Skin contact	Harmful in contact with skin. Causes severe burns.
Ingestion	May cause lung damage if swallowed. Harmful if swallowed. Can burn mouth, throat, and stomach.

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms Redness. Burning. May cause blindness. Coughing and/ or wheezing.

Acute toxicity

Numerical measures of toxicity

Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
2-AMINOETHANOL	= 1089 mg/kg (Rat)	= 1025 mg/kg (Rabbit)	1 - 5 mg/l (Rat) 4h

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation Causes severe burns.

Method	Species	Exposure route	Effective dose	Exposure time	Results
OECD Test No. 404: Acute Dermal Irritation/Corrosion	Rabbit	Dermal		4.0 hours	Corrosive

Serious eye damage/eye irritation Causes severe burns. Causes serious eye damage.

Method	Species	Exposure route	Effective dose	Exposure time	Results
OECD Test No. 405: Acute Eye Irritation/Corrosion	Rabbit	eye		72.0 hours	Causes serious eye damage

Respiratory or skin sensitisation No information available.

Method	Species	Exposure route	Results
Guinea pig maximisation test (GPMT)	Guinea pig	Dermal	Not a skin sensitiser

Germ cell mutagenicity No information available.

Product Information		
Method	Species	Results
OECD Test No. 471: Bacterial Reverse Mutation Test	Bacteria	Not mutagenic
OECD Test No. 476: In Vitro Mammalian Cell Gene Mutation Tests using the Hprt and xprt genes	Mouse	Not mutagenic

Carcinogenicity No information available.

Reproductive toxicity No information available.

STOT - single exposure May cause respiratory irritation.

STOT - repeated exposure No information available.

Method	Species	Exposure route	Effective dose	Exposure time	Results
OECD Test No. 412: Sub-acute Inhalation Toxicity: 28-Day Study	Rat	Oral	10.0 mg/m ³	20.0 days	Negative

Aspiration hazard No information available.

Other adverse effects No information available.

SECTION 12: Ecological information

12.1. Toxicity

Ecotoxicity Harmful to aquatic life with long lasting effects.

12.2. Persistence and degradability

Persistence and degradability Readily biodegradable.

Method	Exposure time	Value	Results
OECD Test No. 301A: Ready Biodegradability: DOC Die-Away Test (TG 301 A)	21 days	> 90% Biodegradation	Readily biodegradable

12.3. Bioaccumulative potential

Bioaccumulation Not likely to bioaccumulate.

Component Information

Chemical name	Partition coefficient
2-AMINOETHANOL	-1.91

12.4. Mobility in soil

Mobility in soil Soluble in water.

12.5. Results of PBT and vPvB assessment

PBT and vPvB assessment The product does not contain any substance(s) classified as PBT or vPvB.

Chemical name	PBT and vPvB assessment
2-AMINOETHANOL	The substance is not PBT / vPvB

12.6. Other adverse effects

No information available.

SECTION 13: Disposal considerations**13.1. Waste treatment methods**

Waste from residues/unused products Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

Contaminated packaging Do not reuse empty containers.

SECTION 14: Transport information**IATA**

14.1 UN number or ID number	UN2491
14.2 UN proper shipping name	ETHANOLAMINE
14.3 Transport hazard class(es)	8
14.4 Packing group	III
14.5 Environmental hazards	No
14.6 Special precautions for user	
Special Provisions	A3, A803
ERG Code	8L

IMDG

14.1 UN number or ID number	UN2491
14.2 UN proper shipping name	ETHANOLAMINE
14.3 Transport hazard class(es)	8
14.4 Packing group	III
14.5 Environmental hazards	No
14.6 Special precautions for user	
Special Provisions	223
EmS-No	F-A, S-B
14.7 Maritime transport in bulk according to IMO instruments	No information available

RID

14.1 UN number or ID number	UN2491
14.2 UN proper shipping name	ETHANOLAMINE
14.3 Transport hazard class(es)	8
14.4 Packing group	III

14.5 Environmental hazards	No
14.6 Special precautions for user	
Special Provisions	None
Classification code	C7

ADR

14.1 UN number or ID number	UN2491
14.2 UN proper shipping name	ETHANOLAMINE
14.3 Transport hazard class(es)	8
14.4 Packing group	III
14.5 Environmental hazards	No
14.6 Special precautions for user	
Special Provisions	None
Classification code	C7
Tunnel restriction code	(E)

SECTION 15: Regulatory information**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****National regulations****Authorisations and/or restrictions on use:**

This product does not contain substances subject to authorisation (UK REACH - Annex XIV).

This product does not contain substances subject to restriction (UK REACH - Annex XVII).

Persistent Organic Pollutants

Not applicable

Export Notification requirements

Not applicable

Named dangerous substances per COMAH Regulations 2015 (as amended)

Not applicable

The Ozone-Depleting Substances Regulations 2015

Not applicable

The Biocidal Products Regulations 2001 (as amended)

Not applicable

The Water Environment (Water Framework Directive) (England and Wales) Regulations 2017 (as amended)

Not applicable

Poisons Act 1972 (Explosive Precursors) Regulations (as Amended)

Not applicable

International Inventories

TSCA	Contact supplier for inventory compliance status
DSL/NDL	Contact supplier for inventory compliance status
EINECS/ELINCS	Contact supplier for inventory compliance status
ENCS	Contact supplier for inventory compliance status
IECSC	Contact supplier for inventory compliance status
KECI	Contact supplier for inventory compliance status
PICCS	Contact supplier for inventory compliance status
AIIC	Contact supplier for inventory compliance status
NZIoC	Contact supplier for inventory compliance status

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AIIC - Australian Inventory of Industrial Chemicals
NZIoC - New Zealand Inventory of Chemicals

15.2. Chemical safety assessment**Chemical Safety Report**

A Chemical Safety Assessment has been carried out for this substance

SECTION 16: Other information**Key or legend to abbreviations and acronyms used in the safety data sheet****Full text of H-Statements referred to under section 3**

H302 - Harmful if swallowed
 H312 - Harmful in contact with skin
 H314 - Causes severe skin burns and eye damage
 H332 - Harmful if inhaled
 H335 - May cause respiratory irritation
 H412 - Harmful to aquatic life with long lasting effects

Legend

SVHC: Substances of Very High Concern for Authorisation:

Legend Section 8: Exposure controls/personal protection

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value	*	Skin designation
+	Sensitisers		

Revision Note ***Indicates updated data since last publication

Classification procedure

Classification according to Regulation (EC) No. 1272/2008 [CLP]	Method Used
Acute oral toxicity	Calculation method
Acute dermal toxicity	Calculation method
Acute inhalation toxicity - gas	Calculation method
Acute inhalation toxicity - vapour	Calculation method
Acute inhalation toxicity - dust/mist	Calculation method
Skin corrosion/irritation	Calculation method
Serious eye damage/eye irritation	Calculation method
Respiratory sensitisation	Calculation method
Skin sensitisation	Calculation method
Mutagenicity	Calculation method
Carcinogenicity	Calculation method
Reproductive toxicity	Calculation method
STOT - single exposure	Calculation method
STOT - repeated exposure	Calculation method
Acute aquatic toxicity	Calculation method
Chronic aquatic toxicity	Calculation method
Aspiration hazard	Calculation method
Ozone	Calculation method

Key literature references and sources for data used to compile the SDS

Agency for Toxic Substances and Disease Registry (ATSDR)
 U.S. Environmental Protection Agency ChemView Database

European Food Safety Authority (EFSA)
European Chemicals Agency (ECHA) Committee for Risk Assessment (ECHA_RAC)
European Chemicals Agency (ECHA) (ECHA_API)
Environmental Protection Agency
Acute Exposure Guideline Level(s) (AEGl(s))
U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act
U.S. Environmental Protection Agency High Production Volume Chemicals
Food Research Journal
Hazardous Substance Database
International Uniform Chemical Information Database (IUCLID)
National Institute of Technology and Evaluation (NITE)
Australian National Industrial Chemicals Notification and Assessment Scheme (NICNAS)
NIOSH (National Institute for Occupational Safety and Health)
National Library of Medicine's ChemID Plus (NLM CIP)
National Library of Medicine's PubMed database (NLM PUBMED)
U.S. National Toxicology Program (NTP)
New Zealand's Chemical Classification and Information Database (CCID)
Organisation for Economic Co-operation and Development Environment, Health, and Safety Publications
Organisation for Economic Co-operation and Development High Production Volume Chemicals Programme
Organisation for Economic Co-operation and Development Screening Information Data Set
World Health Organization

Prepared By Jitendra Panchal

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**This material safety data sheet complies with the requirements of UK REACH Regulations (SI 2019/758 as amended)
Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work**

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet