

### SECTION 1: Identification of the substance/mixture and of the supplier/undertaking

#### 1.1. GHS product identifier

Product form : Substance  
Trade name : MONOETHANOLAMINE (MEA)

#### 1.2. Other means of identification

No additional information available

#### 1.3. Recommended use of the chemical and restrictions on use

Recommended use : Industrial:

#### 1.4. Supplier's details

##### Distributor

Rolfes Chemicals (Pty) Ltd.  
Cnr Brammer and Strachan Street,  
P.O. Box P.O. Box 14075, Wadeville  
1422 Germiston – South Africa Gauteng  
T 011 873 0157

#### 1.5. Emergency phone number

Emergency number : 086 111 4753

### SECTION 2: Hazard identification

#### 2.1. GHS classification of the substance/mixture and any national or regional information

##### Classification according to the United Nations GHS

Flammable liquids, Category 4	H227
Acute toxicity (oral), Category 1	H300
Acute toxicity (dermal), Category 4	H312
Skin corrosion/irritation, Category 1	H314
Serious eye damage/eye irritation, Category 1	H318
Hazardous to the aquatic environment – Acute Hazard, Category 2	H401
Hazardous to the aquatic environment – Chronic Hazard, Category 4	H413

Full text of H-statements: see section 16

Adverse physicochemical, human health and environmental effects : Combustible liquid, Fatal if swallowed, Harmful in contact with skin, Causes severe skin burns and eye damage, Causes serious eye damage, Toxic to aquatic life, May cause long lasting harmful effects to aquatic life.

#### 2.2. GHS label elements, including precautionary statements

##### Labelling according to the United Nations GHS

Hazard pictograms (GHS ZA) :



Signal word (GHS-ZA) : Danger  
Hazard statements (GHS ZA) : H227 - Combustible liquid  
H300 - Fatal if swallowed  
H312 - Harmful in contact with skin  
H314 - Causes severe skin burns and eye damage  
H401 - Toxic to aquatic life  
H413 - May cause long lasting harmful effects to aquatic life

# MONOETHANOLAMINE (MEA)

## Safety Data Sheet

According to Regulations for Hazardous Chemical Agents, 2021 and United Nations GHS revision 9

Precautionary statements (GHS ZA)	: P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P260 - Do not breathe dusts or mists. P264 - Wash hands, forearms and face thoroughly after handling. P270 - Do not eat, drink or smoke when using this product. P273 - Avoid release to the environment. P280 - Wear protective gloves, protective clothing, eye protection, face protection. P301+P316 - IF SWALLOWED: Get emergency medical help immediately. P301+P330+P331 - IF SWALLOWED: rinse mouth. Do NOT induce vomiting. P302+P352 - IF ON SKIN: Wash with plenty of soap and water IF INHALED: Remove person to fresh air and keep comfortable for breathing. P305+P354+P338 - IF IN EYES: Immediately rinse with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P316 - Get emergency medical help immediately. P317 - Get medical help. P321 - Specific treatment (see supplemental first aid instruction on this label). P330 - Rinse mouth. P362+P364 - Take off contaminated clothing and wash it before reuse. P363 - Wash contaminated clothing before reuse. P370+P378 - In case of fire: Use alcohol resistant foam, D-powder, dry extinguishing powder, foam to extinguish. P403 - Store in a well-ventilated place. P405 - Store locked up. P501 - Dispose of contents and container to an approved waste disposal plant.
P-statements for label (GHS-ZA)	: P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.; P260 - Do not breathe dusts or mists.; P264 - Wash hands, forearms and face thoroughly after handling.; P270 - Do not eat, drink or smoke when using this product.; P273 - Avoid release to the environment.; P280 - Wear protective gloves, protective clothing, eye protection, face protection.; P301+P316 - IF SWALLOWED: Get emergency medical help immediately.; P301+P330+P331 - IF SWALLOWED: rinse mouth. Do NOT induce vomiting.; P302+P352 - IF ON SKIN: Wash with plenty of soap and water; IF INHALED: Remove person to fresh air and keep comfortable for breathing.; P305+P354+P338 - IF IN EYES: Immediately rinse with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.; P316 - Get emergency medical help immediately.; P317 - Get medical help.; P321 - Specific treatment (see supplemental first aid instruction on this label).; P330 - Rinse mouth.; P362+P364 - Take off contaminated clothing and wash it before reuse.; P363 - Wash contaminated clothing before reuse.; P370+P378 - In case of fire: Use alcohol resistant foam, D-powder, dry extinguishing powder, foam to extinguish.; P403 - Store in a well-ventilated place.; P405 - Store locked up.; P501 - Dispose of contents and container to an approved waste disposal plant.

### 2.3. Other hazards which do not result in classification or are not covered by the GHS

No additional information available

## SECTION 3: Composition/information on ingredients

### 3.1. Substance

Name : MONOETHANOLAMINE (MEA)  
Product identifiers: See section 1.1

Name	Product identifier	%	Classification according to the United Nations GHS
2-aminoethanol	CAS-No.: 141-43-5	90 – 100	Flam. Liq. 4, H227 Acute Tox. 4 (Oral), H302 Skin Corr. 1, H314 Eye Dam. 1, H318 Aquatic Acute 2, H401 Aquatic Chronic 2, H411

Full text of H-statements: see section 16

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### 3.2. Mixture

Not applicable

## SECTION 4: First aid measures

### 4.1. Description of necessary first aid measures

First-aid measures general	: Call a physician immediately.
First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing.
First-aid measures after skin contact	: Rinse skin with water/shower. Take off immediately all contaminated clothing. Call a physician immediately.
First-aid measures after eye contact	: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician immediately.
First-aid measures after ingestion	: Rinse mouth. Call a physician immediately. Do not induce vomiting.

### 4.2. Most important symptoms/effect, acute and delayed

Symptoms/effects after inhalation	: Although no appropriate human or animal health effects data are known to exist, this material is expected to be an inhalation hazard.
Symptoms/effects after skin contact	: Burns.
Symptoms/effects after eye contact	: Serious damage to eyes.
Symptoms/effects after ingestion	: Burns.

### 4.3. Indication of immediate medical attention and special treatment needed, if necessary

Treat symptomatically.

## SECTION 5: Fire-fighting measures

### 5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media	: Water spray. Dry powder. Foam. Carbon dioxide.
Unsuitable extinguishing media	: Do not use a heavy water stream.

### 5.2. Specific hazards arising from the chemical

Fire hazard	: Combustible liquid.
Explosion hazard	: No direct explosion hazard.
Hazardous decomposition products in case of fire	: Toxic fumes may be released.

### 5.3. Special protective actions for fire-fighters

Firefighting instructions	: Fight fire from safe distance and protected location. Do not enter fire area without proper protective equipment, including respiratory protection.
Protection during firefighting	: Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

General measures	: Stop leak if safe to do so. Notify authorities if product enters sewers or public waters. Absorb spillage to prevent material damage.
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#### 6.1.1. For non-emergency personnel

Protective equipment	: Wear recommended personal protective equipment.
Emergency procedures	: No open flames, no sparks, and no smoking. Only qualified personnel equipped with suitable protective equipment may intervene. Do not breathe fume, vapours.

#### 6.1.2. For emergency responders

Protective equipment	: Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".
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Emergency procedures : Evacuate unnecessary personnel. Stop leak if safe to do so.

### 6.2. Environmental precautions

Avoid release to the environment.

### 6.3. Methods and materials for containment and cleaning up

For containment : Collect spillage. Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams. Stop leak without risks if possible.

Methods for cleaning up : Take up liquid spill into absorbent material. Notify authorities if product enters sewers or public waters.

Other information : Dispose of materials or solid residues at an authorized site.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Precautions for safe handling : Ensure good ventilation of the work station. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Wear personal protective equipment. Do not get in eyes, on skin, or on clothing. Do not breathe fume, vapours.

Hygiene measures : Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

Additional hazards when processed : Not expected to present a significant hazard under anticipated conditions of normal use.

### 7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Keep in a cool, well-ventilated place away from heat.

Storage conditions : Store in a well-ventilated place. Keep cool. Store locked up.

Packaging materials : Store always product in container of same material as original container.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

2-aminoethanol (141-43-5)	
South Africa - Occupational Exposure Limits (Restricted Limits)	
Local name	Ethanolamine [2-aminoethanol]
OEL eight hour TWA	12 ppm
RHCA - STEL/C	6 ppm
Regulatory reference	Government Notice No. R. 280, 2021
South Africa - Occupational Exposure Limits (Airborne Pollutants)	
Local name	Ethanolamine (2-Aminoethanol)
OEL TWA	8 mg/m <sup>3</sup>
	3 ppm
OEL STEL	15 mg/m <sup>3</sup>
	6 ppm
Regulatory reference	Government Notice No. R 904

### 8.2. Appropriate engineering controls

Appropriate engineering controls : Ensure good ventilation of the work station.

Environmental exposure controls : Avoid release to the environment.

### 8.3. Individual protection measures, such as personal protective equipment

Hand protection : Protective gloves

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Eye protection	: Safety glasses
Skin and body protection	: Wear suitable protective clothing
Respiratory protection	: In case of insufficient ventilation, wear suitable respiratory equipment
Personal protective equipment symbol(s)	



### 8.4. Exposure limit values for the other components

No additional information available

## SECTION 9: Physical and chemical properties

### 9.1. Basic physical and chemical properties

Physical state	: Liquid
Appearance	: Clear, colorless liquid.
Molecular mass	: 61.08 g/mol
Colour	: Colourless
Odour	: Amine-like
Odour threshold	: No data available
pH	: 12.1
pH solution	: No data available
Relative evaporation rate (butylacetate=1)	: No data available
Relative evaporation rate (ether=1)	: No data available
Melting point	: 4 °C
Freezing point	: No data available
Boiling point	: 167 °C
Flash point	: 92.5 °C
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability	: Combustible liquid
Vapour pressure	: 0.5 hPa
Vapour pressure at 50°C	: No data available
Relative vapour density at 20°C	: 2.1
Relative density	: 1.016
Relative density of saturated gas/air mixture	: No data available
Density	: 1.016 kg/m <sup>3</sup>
Relative gas density	: No data available
Solubility	: Miscible with water.
Partition coefficient n-octanol/water (Log Pow)	: 424
Partition coefficient n-octanol/water (Log Kow)	: No data available
Viscosity, kinematic	: 23.55 mm <sup>2</sup> /s
Viscosity, dynamic	: 23.18 mPa·s
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: No data available
Lower explosion limit	: 3.4 vol %
Upper explosion limit	: 27 vol %
Physical state	: Liquid
Appearance	: Clear, colorless liquid.

### 9.2. Data relevant with regard to physical hazard classes (supplemental)

No additional information available

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According to Regulations for Hazardous Chemical Agents, 2021 and United Nations GHS revision 9

### SECTION 10: Stability and Reactivity

#### 10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

#### 10.2. Chemical Stability

Stable under normal conditions.

#### 10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

#### 10.4. Conditions to avoid

Avoid contact with hot surfaces. Heat. No flames, no sparks. Eliminate all sources of ignition.

#### 10.5. Incompatible materials

No additional information available

#### 10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

### SECTION 11: Toxicological information

#### 11.1. Information on toxicological effects

Acute toxicity (oral) : HARMFUL IF SWALLOWED  
Acute toxicity (dermal) : Harmful in contact with skin.  
Acute toxicity (inhalation) :

MONOETHANOLAMINE (MEA)	
LD50 oral rat	1.089 mg/kg
LD50 dermal rat	2000 mg/kg
LC50 Inhalation - Rat	20 mg/l

2-aminoethanol (141-43-5)	
LD50 oral rat	1089 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 401 (Acute Oral Toxicity)

Skin corrosion/irritation : Causes severe burns  
pH: 12.1  
Serious eye damage/irritation : Causes serious eye damage.  
pH: 12.1  
Respiratory or skin sensitization : Not classified  
Germ cell mutagenicity : Not classified  
Carcinogenicity : Not classified  
Reproductive toxicity : Not classified

2-aminoethanol (141-43-5)	
NOAEL (animal/male, F0/P)	1000 mg/kg bodyweight Animal: rat, Animal sex: male, Guideline: OECD Guideline 416 (Two-Generation Reproduction Toxicity Study), Guideline: other., Guideline: EPA OPPTS 870.3800 (Reproduction and Fertility Effects)
NOAEL (animal/female, F0/P)	300 mg/kg bodyweight Animal: rat, Animal sex: female, Guideline: OECD Guideline 416 (Two-Generation Reproduction Toxicity Study), Guideline: other., Guideline: EPA OPPTS 870.3800 (Reproduction and Fertility Effects)

Reproductive toxicity : Not classified  
STOT-single exposure : May cause respiratory irritation.  
STOT-repeated exposure : Not classified

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2-aminoethanol (141-43-5)	
NOAEL (oral, rat, 90 days)	300 mg/kg bodyweight Animal: rat, Guideline: other., Guideline: other., Guideline: other:
NOAEC (inhalation, rat, dust/mist/fume, 90 days)	0.01 mg/l air Animal: rat, Guideline: OECD Guideline 412 (Subacute Inhalation Toxicity: 28-Day Study), Guideline: EU Method B.8 (Subacute Inhalation Toxicity: 28-Day Study)

Aspiration hazard : Not classified

MONOETHANOLAMINE (MEA)	
Viscosity, kinematic	23.55 mm <sup>2</sup> /s

## SECTION 12: Ecological information

### 12.1. Toxicity

Ecology - general : Toxic to aquatic life. May cause long lasting harmful effects to aquatic life.  
Hazardous to the aquatic environment, short-term (acute) : Toxic to aquatic life.  
Hazardous to the aquatic environment, long-term (chronic) : May cause long lasting harmful effects to aquatic life.

2-aminoethanol (141-43-5)	
LC50 - Fish [1]	349 mg/l Test organisms (species): Cyprinus carpio
EC50 - Crustacea [1]	27.04 mg/l Test organisms (species): Daphnia magna
EC50 72h - Algae [1]	2.8 mg/l Test organisms (species): Raphidocelis subcapitata (previous names: Pseudokirchneriella subcapitata, Selenastrum capricornutum)
EC50 72h - Algae [2]	2.1 mg/l Test organisms (species): Raphidocelis subcapitata (previous names: Pseudokirchneriella subcapitata, Selenastrum capricornutum)
NOEC (chronic)	0.85 mg/l Test organisms (species): Daphnia magna Duration: '21 d'
NOEC chronic fish	1.24 mg/l Test organisms (species): Oryzias latipes Duration: '41 d'

### 12.2. Persistence and degradability

MONOETHANOLAMINE (MEA)	
Persistence and degradability	Not rapidly degradable

2-aminoethanol (141-43-5)	
Persistence and degradability	

### 12.3. Bioaccumulative potential

MONOETHANOLAMINE (MEA)	
Partition coefficient n-octanol/water (Log Kow)	424
Bioaccumulative potential	No additional information available

### 12.4. Mobility in soil

MONOETHANOLAMINE (MEA)	
Mobility in soil	No additional information available

### 12.5. Other adverse effects

Ozone : Not classified  
Other adverse effects : No additional information available

# MONOETHANOLAMINE (MEA)

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According to Regulations for Hazardous Chemical Agents, 2021 and United Nations GHS revision 9




### SECTION 13: Disposal Considerations

#### 13.1. Disposal methods

Regional waste regulation	: Disposal must be done according to official regulations.
Waste treatment methods	: Dispose of contents/container in accordance with licensed collector's sorting instructions.
Sewage disposal recommendations	: Disposal must be done according to official regulations.
Product/Packaging disposal recommendations	: Disposal must be done according to official regulations.
Additional information	: Do not re-use empty containers.

### SECTION 14: Transport information

In accordance with SANS / IMDG / IATA

SANS	IMDG	IATA
<b>14.1. UN number</b>		
2491	2491	2491
<b>14.2. UN Proper Shipping Name</b>		
ETHANOLAMINE	ETHANOLAMINE	Ethanolamine
<b>14.3. Transport hazard class(es)</b>		
8	8	8
		
<b>14.4. Packing group, if applicable</b>		
III	III	III
<b>14.5. Environmental hazards</b>		
Dangerous for the environment : No	Dangerous for the environment : No Marine pollutant : No	Dangerous for the environment : No
No supplementary information available		

#### 14.6. Special precautions for user

##### SANS

Special provisions (SANS)	: 223
Limited quantities (SANS)	: 5 L
Limited quantities (SANS)	: 5 L
Packagings, large packagings and IBCs Packing instructions (SANS)	: P001, IBC03, LP01
Portable tank and bulk containers instructions (SANS)	: T4
Portable tank and bulk container special provisions (SANS)	: TP1

##### IMDG

Special provisions (IMDG)	: 223
Limited quantities (IMDG)	: 5 L
Excepted quantities (IMDG)	: E1
Packing instructions (IMDG)	: P001, LP01
IBC packing instructions (IMDG)	: IBC03
Tank instructions (IMDG)	: T4
Tank special provisions (IMDG)	: TP1
EmS-No. (Fire)	: F-A - FIRE SCHEDULE Alfa - GENERAL FIRE SCHEDULE
EmS-No. (Spillage)	: S-B - SPILLAGE SCHEDULE Bravo - CORROSIVE SUBSTANCES
Stowage category (IMDG)	: A

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Segregation (IMDG) : SGG18, SG35  
Properties and observations (IMDG) : Colourless. Miscible with water. Corrosive to copper, copper compounds, copper alloys and rubber. Reacts violently with acids. Liquid and vapour cause burns to skin, eyes and mucous membranes.

### IATA

PCA Excepted quantities (IATA) : E1  
PCA Limited quantities (IATA) : Y841  
PCA limited quantity max net quantity (IATA) : 1L  
PCA packing instructions (IATA) : 852  
PCA max net quantity (IATA) : 5L  
CAO packing instructions (IATA) : 856  
CAO max net quantity (IATA) : 60L  
Special provisions (IATA) : A3, A803  
ERG code (IATA) : 8L

### 14.7. Transport in bulk according to IMO instructions

Not applicable

## SECTION 15: Regulatory information

### 15.1. National regulations

#### 15.1.1. OCCUPATIONAL HEALTH AND SAFETY ACT, 1993

##### Prohibited Hazardous Chemical Agents

Not regulated

### 15.2. Safety, health, and environmental national regulations specific for the product

No additional information available

## SECTION 16: Other information

Issue date : 12/08/2021  
Revision date : 06/09/2024  
Supersedes : 06/09/2024

### Full text of H-statements:

H227	Combustible liquid
H300	Fatal if swallowed
H302	Harmful if swallowed
H312	Harmful in contact with skin
H314	Causes severe skin burns and eye damage
H318	Causes serious eye damage
H401	Toxic to aquatic life
H411	Toxic to aquatic life with long lasting effects
H413	May cause long lasting harmful effects to aquatic life

Safety Data Sheet (SDS), South Africa (HCA)

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.