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SAFETY DATA SHEET

MONOETHANOLAMINE

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

1.1 Product identifier:	
CAS Number:	141-43-5
EC number:	205-483-3
1.2 SYNONYMS:	• MEA • Ethanolamine • 2-Aminoethanol • Hydroxyethylamine • Ethanolamine, 2-amino- • Monoethanolamine, 2-aminoethanol

SECTION 2: Hazards identification:

2.1 Classification of the substance or mixture:	Classification according to Regulation (EC) No 1272/2008 The substance is classified according to the CLP regulation.
2.2 Label elements:	Labelling according to Regulation (EC) No 1272/2008 Acute toxicity, Oral (Category 4) Acute toxicity, dermal (Category 4) Acute toxicity, inhalation. (Category 4) Skin corrosion, (Category 1B) Serious eye damage, (Category 1) Specific target organ toxicity, single exposure, (Category 3) Long-term (chronic) aquatic hazard, (Category 3)
Hazard Pictograms:	
Signal Word:	Danger

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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. **H412:** Harmful to aquatic life with long lasting effects.
Precautionary Statements:	**P261:** Avoid breathing mist or vapours. **P273:** Avoid release to the environment. **P280:** Wear protective gloves/ protective clothing/ eye protection/ face protection/ hearing protection. **P301 + P330 + P331:** IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. **P303 + P361 + P353:** IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. **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.
2.3 Other hazards:	
Inhalation:	can cause irritation of the respiratory system, leading to symptoms such as coughing, shortness of breath, and potentially severe respiratory distress.
Ingestion:	can cause nausea, vomiting, abdominal pain, and in severe cases, damage to the gastrointestinal tract and central nervous system.

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Skin Contact:	can cause irritation, redness, and in severe cases, chemical burns or dermatitis.
Eye contact:	can cause severe irritation, redness, pain, and potential damage to the cornea, leading to impaired vision if not treated promptly.
Chronic Exposure:	may lead to skin sensitization, respiratory issues, liver or kidney damage, and potential neurological effects due to prolonged irritation or toxicity.
Aggravation of pre-existing conditions:	may aggravate pre-existing conditions such as such as asthma, respiratory disorders, or skin conditions like eczema.

SECTION 3: Composition/information on ingredients

3.1 Chemical characterisation:	Substances
CAS No:	Description: 141-43-5 MONOETHANOLAMINE
Identification number(s):	EC number: 205-483-3

SECTION 4: First aid measures

4.1 Description of first aid measures	
General information:	
After inhalation:	If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.
After skin contact:	Remove contaminated clothing. Wash with soap and water. Consult a physician.

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After eye contact:	Immediately flush eyes with plenty of water for at least 15 minutes. consult a physician.
After swallowing:	Rinse mouth with water. Immediately after ingestion. Never give anything by mouth to an unconscious person. Do not induce vomiting. Consult a physician.
4.2 Most important symptoms and effects, both acute and delayed:	The most important symptoms and effects include acute irritation of the eyes, skin, and respiratory system, with delayed effects potentially including chronic skin conditions, respiratory issues, or liver and kidney damage with prolonged exposure.
4.3 Indication of any immediate medical attention and special treatment needed:	Treat symptomatically.

SECTION 5: Firefighting measures

5.1 Extinguishing media:	Carbon dioxide. Water spray. Alcohol-resistant foam.
5.2 Special hazards arising from the substance or mixture:	May release ammonia when heated
5.3 Advice for firefighters:	Wear fully protective suit, safety glasses and respiratory device. Cool tanks/drums with water spray/remove them into safety.
5.4 further information:	no data available

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures:	Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation.

	Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Avoid dust accumulation. Seek medical attention.
6.2 Environmental precautions:	Do not enter this chemical into drains.
6.3 Methods and material for containment and cleaning up:	Take up spill into absorbent material, e.g.: sand, earth, vermiculite, powdered limestone. Scoop absorbed substance into closing containers. Spill must not return in its original container. Clean contaminated surfaces with an excess of water. Wash clothing and equipment after handling.

SECTION 7: Handling and storage

7.1 Precautions for safe handling:	For use in are with adequate ventilation. Empty containers pose a fire risk, evaporate the residue under a fume hood. Ground all equipment containing material Do not use in confined spaces. Electrostatic discharge protection. Minimize dust generation and accumulation. Avoid ingestion and inhalation.
7.2 Conditions for safe storage, including any incompatibilities:	Store in original containers. Keep containers securely sealed Store in a cool, dry, well-ventilated area. Store away from incompatible materials and foodstuff containers. Protect containers against physical damage and check regularly for leaks. Store in a dry and dark area.

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Requirements to be met by storerooms and receptacles:	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.
7.3 Specific end uses:	no data available

SECTION 8: Exposure controls/personal protection

8.1 Control parameters	
Additional information about design of technical facilities:	A system of local and general exhaust is recommended.
8.2 Exposure controls	
Appropriate engineering controls	Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.
Personal protective equipment:	Dust respirator, protective masks, wearing anti chemical gloves, rubber gloves, etc.
General protective and hygienic measures:	Eyes, body and hand protection, maintain indoor air unobstructed. Wear protective equipment.
	Respiratory protection: Required.
Protection of hands:	Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws. Wash and dry hands.
	Eye protection: Required
Protection of Body:	Complete suit protecting against chemicals, Flame retardant antistatic protective clothing.

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SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties General Information	
Appearance: Form:	Liquid
Colour:	Colourless
Odour:	Ammonia like.
pH-value:	12.1
Melting point/Melting range:	-12°C
Boiling point/Boiling range:	170°C
Flammability (solid, gaseous):	Flammable liquid
Ignition temperature:	390°C
Decomposition temperature:	Not determined
Self-igniting:	None
Flash point:	85°C
Danger of explosion:	None
Explosion limits: Lower:	1.5%
Explosion limits: Upper:	7.5%
Vapour pressure:	0.5 mm Hg (20 °C)
Density at 20 °C:	1.01 g/cm^3
Relative density:	1.01
Vapour density:	2.3
Evaporation rate:	Not determined
Solubility in / Miscibility with-·water at 20 °C:	Readily soluble
Partition coefficient:(n-octanol/water)	-1.31
Viscosity:	17.6 mPa·s (20 °C)

SECTION 10: Stability and reactivity

10.1 Reactivity	No reaction under normal conditions.
10.2 Chemical stability	This chemical is stable under storage conditions.
10.3 Possibility of hazardous reactions	Can react with strong acids to release nitrogen oxide.
10.4 Conditions to avoid	Excessive heat, moisture.

10.5 Incompatible materials	Strong oxidizing agents, strong acids.
10.6 Hazardous decomposition products	Ammonia, nitrogen oxides.

SECTION 11: Toxicological information

11.1 Information on toxicological effects	
Acute Toxicity:	**LD50** (Oral, Rat): 1089 mg/kg **LD50** (Dermal, Rabbit): 2000 mg/kg **LC50** (Inhalation Rat): 20 mg/l (4hr)
Skin corrosion/Irritation:	Causes burns
Serious eye damage/irritation:	No data available
Respiratory damage/irritation:	No data available
Ingestion:	No data available
Germ cell mutagenicity:	No data available
Carcinogenicity:	No data available
Reproductive toxicity:	No data available
Specific target organ toxicity - single exposure:	May cause respiratory irritation
Specific target organ toxicity - repeated exposure:	No data available
Aspiration hazard:	No data available
Signs and Symptoms of Exposure:	Refer section 2.3
11.2 Additional toxicological information	
Biodegradability:	Readily Biodegradable

SECTION 12: Ecological information

12.1 Toxicity **Aquatic toxicity:**	LC50(fish): 349 mg/l (96 hr) EC50(daphnia): 27.04 mg/l (48 hr) ErC50(algae): 2.8 mg/l (72 hr)
12.2 Persistence and degradability:	Readily Biodegradable
12.3 Bioaccumulative potential:	low bioaccumulative
12.4 Mobility in soil:	High mobility

12.5 Other adverse effects:	No data available

SECTION 13: Disposal considerations

13.1 Waste treatment methods	
Uncleaned packaging Recommendation:	dispose of in accordance with local hazardous waste regulations
Recommended cleansing agents:	Water, Mild Detergents, Diluted Acid Solutions, Absorbents.

SECTION 14: Transport information

14.1 UN-Number · ADR, ADN, IMDG, IATA:	2491
14.2 UN proper shipping name · ADR, ADN, IMDG, IATA:	ETHANOLAMINE
14.3 Transport hazard class(es) · ADR, ADN, IMDG, IATA :	8
14.4 Packing group · ADR, IMDG, IATA:	3
14.5 Environmental hazards:	None
14.6 Special precautions for user:	Handle responsibly.

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture Directive 2012/18/EU	Directive 2012/18/EU, under that this substance is not classified in listed substance
Named dangerous substances:	This substance is not listed in the annex 1 to the directive.
15.2 Chemical safety assessment:	Chemical assessment has been carried out under REACH regulation.

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SECTION 16: Other information

The data included was derived from international authoritative database and provided by the enterprise. Other information was based on the present state of our knowledge. We try to ensure the correctness of all information. However, due to the diversity of information sources and the limitations of our knowledge, this document is only for user's reference. Users should make their independent judgment of suitability of this information for their particular purposes. We do not assume responsibility for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product.