

SECTION 1: Identification

1.1. Identification

Product form	: Substance
Substance name	: Monoethanolamine
CAS	: 141-43-5
Synonyms	: 2-aminoethanol; ethanol, 2 amino; ethanolamine; MEA; olamine.

1.2. Recommended use and restrictions on use

Substance usage	: Manufacture of substance, formulation and repackaging of substances and mixtures including use as a grinding aid for cement manufacture, use in agrochemicals, use as an intermediate, use in construction chemicals (e.g. cement and concrete), gas treatment, water treatment, metal working fluids/rolling oils, electroplating, use as additive in PU systems, processing aid for paper, textile and leather, use in detergents and cleaners, use in personal care products, use in biocidal products (non active component e.g. wood protection), use in coatings including printing inks, use in oilfield chemicals-onshore use, use in adhesives and sealants, use in laboratories, use in lubricants.
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1.3. Supplier

INEOS Oxide	INEOS Derivatives Lavera SAS
21255 A Louisiana Hwy 1 South	Avenue de la bienfaisance BP6
Block 5501	FR-13117 Lavera
Plaquemine, Louisiana 70764	T +33 4 42 35 80 00
USA	
T (866) 865-4765	
www.ineosoxide.com	

1.4. Emergency telephone number

Emergency number	: Chemtrec: + (800) 424-9300 1-703-572-3887 (Outside the US)
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SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS US classification

Flammable liquids Category 4	H227	Combustible liquid
Acute toxicity (oral) Category 4	H302	Harmful if swallowed
Acute toxicity (dermal) Category 4	H312	Harmful in contact with skin
Acute toxicity (inhalation:dust,mist) Category 4	H332	Harmful if inhaled
Skin corrosion/irritation Category 1	H314	Causes severe skin burns and eye damage
Serious eye damage/eye irritation Category 1	H318	Causes serious eye damage
Reproductive toxicity Category 2	H361	Suspected of damaging fertility or the unborn child (Inhalation, Dermal, oral)
Specific target organ toxicity – Single exposure, Category 3, Respiratory tract irritation	H335	May cause respiratory irritation
Hazardous to the aquatic environment – Chronic Hazard Category 3	H412	Harmful to aquatic life with long lasting effects
Full text of H statements : see section 16		

Monoethanolamine

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

2.2. GHS Label elements, including precautionary statements

GHS US labeling

Hazard pictograms (GHS US)



Signal word (GHS US)

: Danger

Hazard statements (GHS US)

: H227 - Combustible liquid
H302+H312+H332 - Harmful if swallowed, in contact with skin or if inhaled
H314 - Causes severe skin burns and eye damage
H318 - Causes serious eye damage
H335 - May cause respiratory irritation
H361 - Suspected of damaging fertility or the unborn child (Inhalation, Dermal, oral)
H412 - Harmful to aquatic life with long lasting effects

Precautionary statements (GHS US)

: P201 - Obtain special instructions before use.
P202 - Do not handle until all safety precautions have been read and understood.
P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P260 - Do not breathe mist, spray, vapors.
P261 - Avoid breathing dust/fume/gas/mist/vapours/spray.
P264 - Wash thoroughly after handling.
P270 - Do not eat, drink or smoke when using this product.
P271 - Use only outdoors or in a well-ventilated area.
P273 - Avoid release to the environment.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P301+P312 - If swallowed: Call a POISON CENTER, a doctor if you feel unwell.
P301+P330+P331 - If swallowed: rinse mouth. Do NOT induce vomiting.
P302+P352 - If on skin: Wash with plenty of water.
P303+P361+P353 - If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308+P313 - If exposed or concerned: Get medical advice/attention.
P310 - Immediately call a POISON CENTER, a doctor.
P312 - Call a POISON CENTER, a doctor if you feel unwell.
P321 - Specific treatment (see supplemental first aid instruction on this label).
P322 - 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 dry extinguishing powder, foam, carbon dioxide (CO2) to extinguish.
P403+P233 - Store in a well-ventilated place. Keep container tightly closed.
P403+P235 - Store in a well-ventilated place. Keep cool.
P405 - Store locked up.
P501 - Dispose of contents / container by a local waste disposal company according to regional regulations.

2.3. Other hazards which do not result in classification

No additional information available

2.4. Unknown acute toxicity (GHS US)

No additional information available

Monoethanolamine

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

SECTION 3: Composition/Information on ingredients

3.1. Substances

Name : Monoethanolamine

Name	Product identifier	%	GHS US classification
2-aminoethanol, ethanolamine	CAS-No.: 141-43-5	≥ 99.5	Acute Tox. 4 (Oral), H302 Acute Tox. 4 (Dermal), H312 Acute Tox. 4 (Inhalation), H332 Skin Corr. 1B, H314 STOT SE 3, H335
2,2'-iminodiethanol	CAS-No.: 111-42-2	≤ 0.5	Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Eye Dam. 1, H318 Repr. 2, H361 STOT RE 2, H373

Full text of hazard classes and H-statements : see section 16

3.2. Mixtures

Not applicable

SECTION 4: First-aid measures

4.1. Description of first aid measures

First-aid measures general

: Observe (own) safety. If possible, approach victim and check vital functions. Treat symptoms starting with most life-threatening injuries and disorders. Keep victim under observation, possibility of delayed symptoms. Never give alcohol to drink.

First-aid measures after inhalation

: Remove victim into fresh air. Immediately consult a doctor/medical service.

First-aid measures after skin contact

: If possible, wipe up/dry remove chemical. Then rinse/shower immediately for 30 minutes with (lukewarm) water. Cut clothing; never remove burnt clothing from the wound. Do not give any pain medication. Consult a doctor/medical service.

First-aid measures after eye contact

: Rinse immediately with plenty of water for 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Consult a doctor/medical service.

First-aid measures after ingestion

: Rinse mouth with water. Immediately consult a doctor/medical service. Do not wait for symptoms to occur to consult Poison Center.

4.2. Most important symptoms and effects (acute and delayed)

Symptoms/effects after inhalation

: Irritation of the respiratory tract. Irritation of the nasal mucous membranes. EXPOSURE TO HIGH CONCENTRATIONS: Headache. Nausea. Vomiting. Coughing. Dry/sore throat. Respiratory difficulties. FOLLOWING SYMPTOMS MAY APPEAR LATER: Risk of lung oedema. Corrosion of the upper respiratory tract. Risk of pneumonia.

Symptoms/effects after skin contact

: Caustic burns/corrosion of the skin. Blisters.

Symptoms/effects after eye contact

: Corrosion of the eye tissue.

Symptoms/effects after ingestion

: AFTER INGESTION OF HIGH QUANTITIES: Nausea. Vomiting. Disturbances of consciousness. Feeling of weakness. Abdominal pain. Burns to the gastric/intestinal mucosa. Cramps/uncontrolled muscular contractions. Possible esophageal perforation. Shock. Low arterial pressure.

4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

Monoethanolamine

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

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

5.2. Specific hazards arising from the chemical

Fire hazard : On burning: release of toxic and corrosive gases/vapours (ammonia, nitrous vapours, carbon monoxide - carbon dioxide). Oxidizes slowly on exposure to air. This reaction is accelerated on exposure to temperature rise and (some) metals.
Hazardous decomposition products in case of fire : Reacts on exposure to temperature rise with (some) metals: release of highly flammable gases/vapours (hydrogen).

5.3. Special protective equipment and precautions for fire-fighters

Protection during firefighting : Gloves. Face shield. Corrosion-proof suit. Large spills/in enclosed spaces: self-contained breathing apparatus. Large spills/in enclosed spaces: gas-tight suit. Heat/fire exposure: self-contained breathing apparatus.
Instructions : Dilute toxic gases with water spray. Take account of toxic/corrosive precipitation water. Take account of toxic fire-fighting water. Use water moderately and if possible collect or contain it. Heat exposure: dilute toxic gas/vapour with water spray.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : No naked flames. Large spills/in confined spaces: consider evacuation. Exposure to fire/heat: keep upwind. Exposure to fire/heat: consider evacuation. Exposure to fire/heat: seal off low-lying areas. Exposure to fire/heat: have neighbourhood close doors and windows.

6.1.1. For non-emergency personnel

Emergency procedures : See section 8.2

6.1.2. For emergency responders

Protective equipment : Gloves. Face shield. Corrosion-proof suit. Large spills/in enclosed spaces: self-contained breathing apparatus. Large spills/in enclosed spaces: gas-tight suit.

6.2. Environmental precautions

Contain released product, collect/pump into suitable containers. Plug the leak, cut off the supply. Dam up the liquid spill. Prevent soil and water pollution. Prevent spreading in sewers.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Take up liquid spill into a non combustible material e.g.: dry sand/earth/vermiculite. Scoop absorbed substance into closing containers. Carefully collect the spill/leftovers. Damaged/cooled tanks must be emptied. Clean contaminated surfaces with an excess of water. Take collected spill to manufacturer/competent authority. Wash clothing and equipment after handling.
Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 13.

Monoethanolamine

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling	: At temperature > flashpoint: use spark-/explosionproof appliances. Use earthed equipment. Keep away from naked flames/heat. In finely divided state: use spark-/explosionproof appliances. Finely divided: keep away from ignition sources/sparks. Gas/vapour heavier than air at 20°C. Observe strict hygiene. Remove contaminated clothing immediately. Keep container tightly closed. Do not discharge the waste into the drain.
Hygiene measures	: Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions	: Storage temperature: 20 °C. Meet the legal requirements. Store in a dry area. Store in a dark area. Keep container in a well-ventilated place. Provide for a tub to collect spills. May be stored under nitrogen. Keep locked up. Unauthorized persons are not admitted. Max. storage time: 12 month(s).
Incompatible products	: Oxidizing agent. Strong acids. Strong bases. Water/moisture.
Incompatible materials	: Heat sources.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

2,2'-iminodiethanol (111-42-2)	
USA - ACGIH - Occupational Exposure Limits	
Local name	Diethanolamine
ACGIH OEL TWA	1 mg/m³ (IFV - Inhalable fraction and vapor)
Remark (ACGIH)	TLV® Basis: Liver & kidney dam. Notations: Skin; A3 (Confirmed Animal Carcinogen with Unknown Relevance to Humans)
Regulatory reference	ACGIH 2023
2-aminoethanol, ethanolamine (141-43-5)	
USA - ACGIH - Occupational Exposure Limits	
Local name	Ethanolamine
ACGIH OEL TWA [ppm]	3 ppm
ACGIH OEL STEL [ppm]	6 ppm
Remark (ACGIH)	TLV® Basis: Eye & skin irr
Regulatory reference	ACGIH 2023
USA - OSHA - Occupational Exposure Limits	
Local name	Ethanolamine
OSHA PEL TWA [1]	6 mg/m³
OSHA PEL TWA [2]	3 ppm
Regulatory reference (US-OSHA)	OSHA Annotated Table Z-1

8.2. Appropriate engineering controls

Appropriate engineering controls	: Provide local exhaust or general room ventilation. Ensure good ventilation of the work station.
Environmental exposure controls	: Avoid release to the environment.

Monoethanolamine

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

8.3. Individual protection measures/Personal protective equipment

Personal protective equipment:

Use respiratory protection. Wear protective gloves. Face shield. Corrosion proof clothing.

Hand protection:
Wear protective gloves (Butyl, neoprene, nitrile rubber, viton).
Eye protection:
Face shield
Skin and body protection:
Corrosion proof clothing.
Respiratory protection:
Full face mask with filter type A at conc. in air > exposure limit.

Personal protective equipment symbol(s):



SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Appearance	: Viscous liquid.
Color	: Colorless
Odor	: Unpleasant, Ammonia, Smell of fish
Odor threshold	: 2.6 – 5 ppm 6.5 – 12.5 mg/m ³
pH	: 12.1 @10% (20°C)
Melting point	: 4 °C; 39.2°F (1013 hPa, ASTM E737-76)
Freezing point	: No data available
Boiling point	: 167 °C; 332.6°F (1013 hPa, ASTM E737-76)
Critical temperature	: 341 °C; 645.8°F
Critical pressure	: 44590 hPa
Flash point	: 91 °C; 195.8°F (Closed cup, 1013 hPa, ISO 2719)
Relative evaporation rate (butyl acetate=1)	: < 1
Flammability (solid, gas)	: Not flammable.
Vapor pressure	: 0.5 hPa (20°C)
Vapor pressure at 50°C	: 4.1 hPa
Relative vapor density at 20°C	: 2.1
Particle size	: Not applicable (liquid)
Relative density	: 1.02 (20°C, DIN 51757)
Relative density of saturated gas/air mixture	: 1
Density	: 1016 kg/m ³ (20°C, DIN 51757)
Solubility	: soluble in water. Water: > 100 g/100ml (20°C)
Partition coefficient n-octanol/water (Log Pow)	: -2.3 (Experimental value, OECD 107) 25°C
Auto-ignition temperature	: 424 °C; 765.2°F (1013 hPa)
Decomposition temperature	: No data available in the literature
Viscosity, kinematic	: 23.5 mm ² /s (ISO 3104) 20°C 9.8 mm ² /s (ISO 3104) 40°C

Monoethanolamine

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Viscosity, dynamic : 23.86 mPa·s (ISO 3104) 20°C
Explosion limits : No data available
Explosive properties : No data available.
Oxidizing properties : No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

Temperature above flashpoint: higher fire/explosion hazard. Basic reaction.

10.2. Chemical stability

Unstable on exposure to air. Absorbs the atmospheric CO₂. Hygroscopic. Unstable on exposure to light.

10.3. Possibility of hazardous reactions

Decomposes on exposure to light. Absorbs the atmospheric CO₂. Violent to explosive reaction with many compounds e.g.: with (some) acids, with (strong) oxidizers, with (some) halogens compounds and with (strong) reducers. Contact with nitrosating agents under acidic conditions such as nitrous acid, nitrite or nitrogen oxides, can form nitrosamines some of which are potent carcinogens.

10.4. Conditions to avoid

At temperature > flashpoint: use spark-/explosionproof appliances. Use earthed equipment. Keep away from naked flames/heat. In finely divided state: use spark-/explosionproof appliances. Finely divided: keep away from ignition sources/sparks.

10.5. Incompatible materials

Oxidizing agent. Strong acids. Strong bases. Water/moisture.

10.6. Hazardous decomposition products

Reacts on exposure to temperature rise with (some) metals: release of highly flammable gases/vapours (hydrogen). On burning: release of toxic and corrosive gases/vapours (ammonia, nitrous vapours, carbon monoxide - carbon dioxide).

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) : Harmful if inhaled.

Monoethanolamine	
LD50 oral rat	1089 mg/kg body weight (Equivalent to OECD 401)
LD50 dermal rat	2504 – 2881 mg/kg body weight (Equivalent to OECD 402) 24h
LC50 Inhalation - Rat	> 1.3 mg/l 6 h

Skin corrosion/irritation : Causes severe skin burns.
pH: 12.1 @10% (20°C)

Monoethanolamine						
Route of exposure	Result	Method	Exposure time	Time point	Species	Value determination
Eye	Serious eye damage	Equivalent to OECD 405		24; 48; 72 hours	Rabbit	Experimental value
Eye	Serious eye damage			1; 24; 72 hours	Rabbit	Experimental value

Monoethanolamine

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Monoethanolamine						
Skin	Corrosive	Equivalent to OECD 404	4h		Rabbit	Experimental value
Inhalation	Irritating; STOT SE cat.3					Annex VI

Serious eye damage/irritation : Causes serious eye damage.
pH: 12.1 @10% (20°C)

Respiratory or skin sensitization : Not classified

Monoethanolamine						
Route of exposure	Result	Method	Exposure time	Observation time point	Species	Value determination
Skin	Not sensitizing	Guinea pig maximisation test			Guinea pig	Experimental value
Inhalation (aerosol)					Guinea pig (male)	Experimental value

Germ cell mutagenicity : Not classified

Monoethanolamine				
Result	Method	Test substrate	Effect	Value determination
Negative with metabolic activation, negative without metabolic activation	Equivalent to OECD 471	Bacteria (S. typhimurium and E. coli)		Experimental value
Negative with metabolic activation, negative without metabolic activation	OECD 476	Mouse (lymphoma L5178Y cells)		Experimental value
Negative without metabolic activation	Other	Chinese hamster lung fibroblasts (V79)		Experimental value
Negative without metabolic activation	Equivalent to OECD 473	Rat liver cells		Experimental value

Carcinogenicity : Not classified

Reproductive toxicity : Suspected of damaging fertility or the unborn child (Inhalation, Dermal, oral).

Monoethanolamine	
NOAEL developmental toxicity (oral)	≥ 450 mg/kg body weight (OECD 414), 10 days (gestation, daily)
NOAEL developmental toxicity (dermal)	225 mg/kg body weight (Equivalent to OECD 414), 10 days (gestation, daily)
NOAEL developmental toxicity (dermal)	> 75 mg/kg body weight (Equivalent to OECD 414), 13 days (gestation, daily)
NOAEL maternal toxicity (oral)	120 mg/kg body weight (OECD 414), 10 days (gestation, daily)
NOAEL effects on fertility (oral)	1000 mg/kg body weight (OECD 416)
NOAEL effects on fertility (oral)	300 mg/kg body weight (OECD 416)

STOT-single exposure : May cause respiratory irritation.

Monoethanolamine	
NOAEC local effects (Inhalation)	10 mg/m ³ (OECD 412), 4 weeks (daily, 5 days/week)
NOEC (Inhalation)	150 mg/m ³ (OECD 412), 4 weeks (daily, 5 days/week)

STOT-repeated exposure : Not classified

Monoethanolamine

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Monoethanolamine	
NOAEL (oral,rat)	300 mg/kg body weight (OECD 416) > 75 days
Aspiration hazard	: Not classified
Viscosity, kinematic	: 23.5 mm²/s (ISO 3104) 20°C
Symptoms/effects after inhalation	: May cause respiratory irritation.
Symptoms/effects after skin contact	: Burns.
Symptoms/effects after eye contact	: Serious damage to eyes.
Symptoms/effects after ingestion	: Burns.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : Harmful to aquatic life with long lasting effects.

Monoethanolamine	
LC50 - Fish [1]	349 mg/l (EU Method C.1), 96h, Cyprinus carpio
EC50 - Crustacea [1]	27 mg/l (OECD 202), 48h, Daphnia magna
ErC50 algae	2.8 mg/l (OECD 201), 72h, Pseudokirchneriella subcapitata
NOEC (acute)	1 mg/l (OECD 210), 72h, Pseudokirchneriella subcapitata
NOEC (chronic)	1.2 mg/l (OECD 210), 41 days, Oryzias latipes
NOEC (chronic)	0.85 mg/L (OECD 202), 21 days, Daphnia magna
EC10 – Micro-organisms	> 1000 mg/L (OECD 209), 30 minutes, Activated sludge

12.2. Persistence and degradability

Monoethanolamine	
Biodegradation water	> 90 % (OECD 301A), 21 days, Experimental value
Phototransformation air (DT50 air)	5E5/cm³ (AOPWIN v1.92), 11h, Calculated value

Conclusion : Readily biodegradable in water. No significant hydrolysis.

12.3. Bioaccumulative potential

Monoethanolamine	
Partition coefficient n-octanol/water (Log Kow)	-2.3 (Experimental value, OECD 107) 25°C

Conclusion : Not bioaccumulative

12.4. Mobility in soil

Monoethanolamine	
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	2.3 – 2.7

Conclusion : Low potential for adsorption in soil.

12.5. Other adverse effects

Greenhouse gases

Not included in the list of fluorinated greenhouse gases (Regulation (EU) No 517/2014)

Ozone-depleting potential (ODP)

Not classified as dangerous for the ozone layer (Regulation (EC) No 1005/2009)

Monoethanolamine

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

SECTION 13: Disposal considerations

13.1. Disposal methods

Waste treatment methods

: Remove waste in accordance with local and/or national regulations. Hazardous waste shall not be mixed together with other waste. Different types of hazardous waste shall not be mixed together if this may entail a risk of pollution or create problems for the further management of the waste. Hazardous waste shall be managed responsibly. All entities that store, transport or handle hazardous waste shall take the necessary measures to prevent risks of pollution or damage to people or animals. Do not discharge into drains or the environment. Dispose of at authorized waste collection point.

SECTION 14: Transport information

In accordance with DOT / TDG / IMDG / IATA

14.1. UN number

DOT NA No	: UN2491
UN-No. (TDG)	: UN2491
UN-No. (IMDG)	: 2491
UN-No. (IATA)	: 2491

14.2. UN proper shipping name

Proper Shipping Name (DOT)	: Ethanolamine
Proper Shipping Name (TDG)	: ETHANOLAMINE
Proper Shipping Name (IMDG)	: ETHANOLAMINE
Proper Shipping Name (IATA)	: Ethanolamine

14.3. Transport hazard class(es)

DOT

Transport hazard class(es) (DOT)	: 8
Hazard labels (DOT)	: 8



TDG

Transport hazard class(es) (TDG)	: 8
Hazard labels (TDG)	: 8



IMDG

Transport hazard class(es) (IMDG)	: 8
Hazard labels (IMDG)	: 8



IATA

Transport hazard class(es) (IATA)	: 8
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Monoethanolamine

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Hazard labels (IATA) : 8



14.4. Packing group

Packing group (DOT) : III
Packing group (TDG) : III
Packing group (IMDG) : III
Packing group (IATA) : III

14.5. Environmental hazards

Other information : No supplementary information available.

14.6. Special precautions for user

DOT

UN-No.(DOT) : UN2491
DOT Special Provisions (49 CFR 172.102) : IB3 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1 and 31HA2, 31HB2, 31HN2, 31HD2 and 31HH2). Additional Requirement: Only liquids with a vapor pressure less than or equal to 110 kPa at 50 C (1.1 bar at 122 F), or 130 kPa at 55 C (1.3 bar at 131 F) are authorized, except for UN2672 (also see Special Provision IP8 in Table 2 for UN2672).
T4 - 2.65 178.274(d)(2) Normal..... 178.275(d)(3)
TP1 - The maximum degree of filling must not exceed the degree of filling determined by the following: Degree of filling = $97 / 1 + a (tr - tf)$ Where: tr is the maximum mean bulk temperature during transport, and tf is the temperature in degrees celsius of the liquid during filling.
DOT Packaging Exceptions (49 CFR 173.xxx) : 154
DOT Packaging Non Bulk (49 CFR 173.xxx) : 203
DOT Packaging Bulk (49 CFR 173.xxx) : 241
DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) : 5 L
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) : 60 L
DOT Vessel Stowage Location : A - The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel.
DOT Vessel Stowage Other : 52 - Stow "separated from" acids

TDG

UN-No. (TDG) : UN2491
Explosive Limit and Limited Quantity Index : 5 L
Excepted quantities (TDG) : E1
Passenger Carrying Road Vehicle or Passenger Carrying Railway Vehicle Index : 5 L
Emergency Response Guide (ERG) Number : 153

IMDG

Special provision (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

Monoethanolamine

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

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 provision (IATA) : A3, A803
ERG code (IATA) : 8L

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

MARPOL 75/78 : Category Y

SECTION 15: Regulatory information

15.1. US Federal regulations

All components of this product are present and listed as Active on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory

Chemical(s) subject to the reporting requirements of Section 313 or Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986 and 40 CFR Part 372.


2,2'-iminodiethanol	CAS-No. 111-42-2	< 0.5%
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2,2'-iminodiethanol (111-42-2)

Listed on EPA Hazardous Air Pollutant (HAPS)

CERCLA RQ	100 lb
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15.2. US State regulations

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

SECTION 16: Other information

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Full text of H-phrases	
H227	Combustible liquid
H302	Harmful if swallowed
H312	Harmful in contact with skin
H314	Causes severe skin burns and eye damage
H315	Causes skin irritation
H318	Causes serious eye damage
H332	Harmful if inhaled

Monoethanolamine

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Full text of H-phrases	
H335	May cause respiratory irritation
H361	Suspected of damaging fertility or the unborn child
H373	May cause damage to organs through prolonged or repeated exposure
H412	Harmful to aquatic life with long lasting effects

Safety Data Sheet (SDS), USA - Toxyscan

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.