

## 1. Product and Company Identification

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Product Name Mono Ethanol Amine USP Grade  
Part Number RXSOL-19-1582-220

### Company Details:

RX MARINE INTERNATIONAL  
105, A wing , BSEL , TECH PARK.  
VASHI ,NEW BOMBAY 400703 INDIA

Branch : Kandla, Mumbai , Chennai, Vizag, Kolkata, UAE , OMAN , CANADA and KENYA

Phone +91 22 20871200 - 1400  
Fax +91 22 27612100 ::AOH :0091 9821214367  
Email [mail@rxmarine.com](mailto:mail@rxmarine.com)  
Website [www.rxmarine.com](http://www.rxmarine.com)

## 2. Composition / Information on ingredients

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Product name	Cas No	EC No	Weight	Formula
Monoethanolamine	141-43-5	205-483-3	61,08 g/mol	C <sub>2</sub> H <sub>7</sub> NO

## 3. Hazards Identification

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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. H412 Harmful to aquatic life with long lasting effects.
Precautionary statements	P273 Avoid release to the environment. P280 Wear protective gloves/ protective clothing/ eye protection/ face protection. P301 + P312 IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell. P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. P304 + P340 + P310 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/ doctor. P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Classification of the substance or mixture	No data available
Supplemental Hazard Statements	No data available
Other hazards	This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher. The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher

## 4. First Aid Measures

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General advice First aiders need to protect themselves. Show this material safety data sheet to the doctor in attendance.

If inhaled	After inhalation fresh air. Immediately call in physician. If breathing stops: immediately apply artificial respiration, if necessary also oxygen.
Eye Contact	After eye contact rinse out with plenty of water. Immediately call in ophthalmologist. Remove contact lenses.
Swallowed	After swallowing make victim drink water (two glasses at most), avoid vomiting (risk of perforation). Call a physician immediately. Do not attempt to neutralise.
Skin Contact	In case of skin contact Take off immediately all contaminated clothing. Rinse skin with water/ shower. Call a physician immediately.
Inhalation	No data available
Ingestion	No data available
Most important symptoms and effects, both acute and delaye	The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11
Indication of any immediate medical attention and special treatment needed	No data available

## 5. Fire-fighting Measures

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Flammability	No data available
Suitable extinguishing media	Water Foam Carbon dioxide (CO2) Dry powder
Unsuitable extinguishing media	For this substance/mixture no limitations of extinguishing agents are given.
Special hazards arising from the substance or mixture	Carbon oxides Nitrogen oxides (NOx) Combustible. Vapors are heavier than air and may spread along floors. Forms explosive mixtures with air on intense heating. Development of hazardous combustion gases or vapours possible in the event of fire
Further information	Remove container from danger zone and cool with water. Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system
Hazardous combustion products	No data available
Advice for firefighters	Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing
Protective Equipment	No data available
Specific Hazards Arising from the Chemical	No data available

## 6. Accidental Release Measures

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Personal precautions, protective equipment and emergency procedures	Advice for non-emergency personnel: Do not breathe vapors, aerosols. Avoid substance contact. Ensure adequate ventilation. Keep away from heat and sources of ignition. Evacuate the danger area, observe emergency procedures, consult an expert. For personal protection see section 8.
Spillage	No data available
Personal Protection	No data available
Enviromental Precaution	Do not let product enter drains. Risk of explosion.
Methods and materials for containment and cleaning	Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up with liquid-absorbent and neutralising material (e.g. Chemizorb® OH?, Merck Art. No. 101596). Dispose of properly. Clean up affected area.
Reference to other sections	For disposal see section 13.

## 7. Handling and Storage

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Advice on protection against fire and explosion	Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharge.
Incompatible materials	No data available
Hygiene measures	Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance. For precautions see section 2.2.
Advice on safe handling	Work under hood. Do not inhale substance/mixture. Avoid generation of vapours/aerosols
Conditions for safe storage including any incompatibilities	No data available
Storage conditions	Tightly closed
Storage class	Storage class (TRGS 510): 8A: Combustible, corrosive hazardous materials
Specific end use(s)	Apart from the uses mentioned in section 1.2 no other specific uses are stipulated
Advice on general occupational hygiene	No data available

## 8. Exposure controls and personal protection

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Exposure controls	Personal protective equipment
Engineering Control	No data available
Eye/face protection	Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Tightly fitting safety goggles
Body Protection	Protective clothing.
Skin protection	This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN 16523-1 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: <a href="http://www.kcl.de">www.kcl.de</a> ). Full contact Material: Latex gloves Minimum layer thickness: 0,6 mm Break through time: 480 min Material tested: Lapren® (KCL 706 / Aldrich Z677558, Size M) This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN 16523-1 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: <a href="http://www.kcl.de">www.kcl.de</a> ). Splash contact Material: Nitrile rubber Minimum layer thickness: 0,11 mm Break through time: 10 min Material tested: KCL 741 Dermatril® L
Respiratory protection	Recommended Filter type: Filter A (acc. to DIN 3181) for vapours of organic compounds The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.
Other Protection Measure	No data available

## 9. Physical and chemical properties

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Physical state	Liquid, clear
Colour	Colorless
Odour	Amine-like
Odor Threshold	No data available
pH	12,1 at 100 g/l at 20 °C
Melting Point	4 °C at 1.010 hPa.
Boiling Point	167 °C at 1.010 hPa
Flash Point	91 °C at ca.1.013 hPa - Pensky-Martens closed cup - ISO 2719
Evaporation Rate	No data available

Flammability (solid, gas)	No data available
Explosive limits	No data Available
Upper/lower flammability or explosive limits	Upper explosion limit 17 %(V) Lower explosion limit 2,5 %(V)
Autoignition temperature	424 °C at 1.013 hPa - ASTM E-659
Decomposition temperature	No data available
Vapour pressure	0,5 hPa at 20 °C - (calculated)
Viscosity	Kinematic 23,5 mm <sup>2</sup> /s at 20 °C 9,8 mm <sup>2</sup> /s at 40 °C dynamic 23,86 mPa.s at 20 °C
Density	1,015 g/cm <sup>3</sup> at 20 °C - DIN 51757
Relative Density	No data available
Specific Gravity	No data available
Partition coefficient	log Pow: -2,3 at 25 °C - Bioaccumulation is not expected
Explosive properties	No data available
Solubility	1.000 g/l at 20 °C - completely miscible
Ignition temperature	No data available
Particle characteristics	No data available

## 10. Stability and reactivity

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Reactivity	Forms explosive mixtures with air on intense heating. A range from approx. 15 Kelvin below the flash point is to be rated as critical.
Chemical stability	The product is chemically stable under standard ambient conditions (room temperature)
Possibility of hazardous reactions	Exothermic reaction with: Acrolein Nitriles chlorosulfonic acid Hydrogen chloride gas acetic acid Acetic anhydride fuming sulfuric acid Nitric acid sulfuric acid mineral acids vinyl acetate Oxidizing agents Risk of ignition or formation of inflammable gases or vapours with: sulfur iron(III) compounds Caution! In contact with nitrites, nitrates, nitrous acid possible liberation of nitrosamines!
Conditions to avoid	Moisture. Strong heating.
Incompatible materials	No data available
Hazardous decomposition products	In the event of fire: see section 5

## 11. Toxicological information

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Acute toxicity	LD50 Oral - Rat - male and female - 1.089 mg/kg (OECD Test Guideline 401) Acute toxicity estimate Oral - 1.089 mg/kg (ATE value derived from LD50/LC50 value) Acute toxicity estimate Inhalation - 11,1 mg/l - vapor (Expert judgment) Remarks: Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2) LD50 Dermal - Rabbit - 1.015 mg/kg Remarks: (RTECS) Acute toxicity estimate Dermal - 1.015 mg/kg (ATE value derived from LD50/LC50 value)
Skin corrosion/irritation	Skin - Rabbit Result: Corrosive - 4 h (OECD Test Guideline 404) Remarks: Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2)
Serious eye damage/irritation	Eyes - Rabbit Result: Corrosive (OECD Test Guideline 405) Remarks: Causes serious eye damage.
Respiratory or skin sensitization	Maximization Test - Guinea pig Result: negative Remarks: (ECHA)
Carcinogenicity	No data available
Germ cell mutagenicity	Test Type: Ames test Test system: Escherichia coli/Salmonella typhimurium Metabolic activation: with and without metabolic activation Method: OECD Test Guideline 471 Result: negative Test Type: Chromosome aberration test in vitro Test system: rat hepatocytes Metabolic activation: without metabolic activation Method: OECD Test Guideline 473 Result: negative Test Type: In vitro mammalian cell gene mutation test Test system: mouse lymphoma cells Metabolic activation:

with and without metabolic activation Method: OECD Test Guideline 476  
Result: negative Test Type: In vitro mammalian cell gene mutation test  
Test system: Chinese hamster fibroblasts Metabolic activation: without  
metabolic activation Result: negative Remarks: (ECHA) Test Type: In  
vivo micronucleus test Species: Mouse Cell type: Bone marrow  
Application Route: Oral Method: OECD Test Guideline 474 Result:  
negative

No data available

Inhalation - May cause respiratory irritation. - Respiratory Tract

The substance/mixture does not contain components considered to have  
endocrine disrupting properties according to REACH Article 57(f) or  
Commission Delegated regulation (EU) 2017/2100 or Commission  
Regulation (EU) 2018/605 at levels of 0.1% or higher. Repeated dose  
toxicity - Rat - male and female - Oral - > 75 Days - NOAEL (No  
observed adverse effect level) - 300 mg/kg Remarks: (ECHA) To the best  
of our knowledge, the chemical, physical, and toxicological properties  
have not been thoroughly investigated To the best of our knowledge, the  
chemical, physical, and toxicological properties have not been thoroughly  
investigated. Liver - Irregularities - Based on Human Evidence

Reproductive toxicity

Specific target organ toxicity - single exposure

Additional Information

## 12. Ecological information

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Persistence and degradability

Biodegradability aerobic - Exposure time 21 d Result: 90 % - Readily  
biodegradable. (OECD Test Guideline 301A) Biochemical Oxygen  
Demand (BOD) 800 mg/g Remarks: (IUCLID) Theoretical oxygen  
demand 1.310 mg/g Remarks: (IUCLID)

Toxicity to fish

Semi-static test LC50 - Cyprinus carpio (Carp) - 349 mg/l - 96 h  
(Directive 67/548/EEC, Annex V, C.1.)

Toxicity to daphnia and other aquatic invertebrates

Static test EC50 - Daphnia magna (Water flea) - 27,04 mg/l - 48 h  
(OECD Test Guideline 202)

Toxicity

No data available

Toxicity to bacteria

Static test EC10 - activated sludge - > 1.000 mg/l - 30 min (OECD Test  
Guideline 209)

Toxicity to algae

Static test ErC50 - Pseudokirchneriella subcapitata (green algae) - 2,8  
mg/l - 72 h (OECD Test Guideline 201) static test NOEC -  
Pseudokirchneriella subcapitata (green algae) - 1 mg/l - 72 h (OECD Test  
Guideline 201)

Bioaccumulation potential

No data available

Mobility in soil

No data available

Results of PBT and vPvB assessment

This substance/mixture contains no components considered to be either  
persistent, bioaccumulative and toxic (PBT), or very persistent and very  
bioaccumulative (vPvB) at levels of 0.1% or higher.

Endocrine disrupting properties

The substance/mixture does not contain components considered to have  
endocrine disrupting properties according to REACH Article 57(f) or  
Commission Delegated regulation (EU) 2017/2100 or Commission  
Regulation (EU) 2018/605 at levels of 0.1% or higher.

Other adverse effects

No data available

## 13. Disposal considerations

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Product

See [www.retrologistik.com](http://www.retrologistik.com) for processes regarding the return of  
chemicals and containers, or contact us there if you have further  
questions.

Contaminated packaging

No data available

Waste treatment Method

No data available

## 14. Transport information

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UN number	ADR/RID:2491	IMDG:2491	IATA:2491
UN proper shipping name	ADR/RID:ETHANOLAMINE	IMDG:ETHANOLAMINE	IATA:ETHANOLAMINE
Transport hazard class(es)	ADR/RID:8	IMDG:8	IATA:8
Packaging group	ADR/RID:III	IMDG:III	IATA:III
Environmental hazards	ADR/RID:No	IMDG:No	IATA:No
Special precautions for user	Tunnel restriction code (E)		
Further information	No data available		

## 15. Regulatory information

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Safety, health and environmental regulations/legislation specific for the substance or mixture	This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006.
Other regulations	Observe work restrictions regarding maternity protection in accordance to Dir 92/85/EEC or stricter national regulations where applicable. Take note of Dir 94/33/EC on the protection of young people at work.
Chemical Safety Assessment	A Chemical Safety Assessment has been carried out for this substance.

## 16. Other information

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Other Information	<p>The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall we be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if Rx Marine International has been advised of the possibility of such damages.</p> <p><b>DISCLAIMER OF LIABILITY</b> :The information in this SDS was obtained from sources which we believe are reliable. However, the information is provided without any warranty, express or implied, regarding its correctness. The conditions or methods of handling, storage, use or disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product. This MSDS was prepared and is to be used only for this product. If the product is used as a component in another product, this MSDS information may not be applicable.</p>
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