Material Safety Data Sheet

TRI ETHANOL AMINE (RXSOL-19-1461-210)

1. Product and Company Identifaction

Product Name	RXSOL-19-1461-210
Product Type	TRI ETHANOL AMINE

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

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2. Composition / informationon ingredients

Chemical Name	CAS Number	EC Number	Weight
Tri Ethanol Amine	102-71-6 2,2',2	203-049-8	100%

3. Hazards Identification

Classification of the substance or mixture	Not a hazardous substance or mixture according to Regulation (EC) No 1272/2008.
Label elements	Not a hazardous substance or mixture according to Regulation (EC) No 1272/2008.
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.

4. First Aid Measures

General information	No special measures required.
After inhalation	Supply fresh air; consult doctor in case of complaints.
After skin contact	Generally the product does not irritate the skin.
After eye contact	Rinse opened eye for several minutes under running water.
After swallowing	If symptoms persist consult doctor.

5. Fire-fighting Measures

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. Fire may cause evolution of: Nitrogen oxides 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.
Advice for firefighters	In the event of fire, wear self-contained breathing apparatus.
Further information	Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

6. Accidental Release Measures

Personal precautions, protective equipment and emergency procedur	Advice for non-emergency personnel: Do not breathe vapors, aerosols. Evacuate the danger area, observe emergency procedures, consult an expert. For personal protection see section 8.
Environmental precautions	Do not let product enter drains.
Methods and materials for containment and cleaning up	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. Soda Ash, KOH) Dispose of properly. Clean up affected area. Reference to other sections For disposal see section 13.

7. Handling and Storage

Precautions for safe handling	Do not get in eyes, on skin, or on clothing.
Storage	Store in original container. Keep container tightly closed. Store in a dry place. Store in a well-ventilated place.
Hygiene measures	Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work

8. Exposure controls and personal protection

Control parameters	Components with workplace control parameters
Appropriate Engineering controls	Use as general industrial hygiene practice.

Personal protective equipment	Eye/face protection Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Skin protection 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 ontaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands. Body Protection impervious clothing, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace. Respiratory protection Respiratory protection not required. For nuisance exposures use type OV/AG (US) or type ABEK (EU EN 14387) respirator cartridges. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). Control of environmental exposure Do not let product enter drains.

9. Physical and chemical properties

General Information

Form	Fluid
Colour	Clear to light Yellow
Odour	Ammonia-like
Odor Threshold	No Data Available
pH	pH 10,5 - 11,5 at 149 g/l at 25 °C
Melting/Freezing Point	20.5°C
Boiling point/Boiling range	335.4 °C at 1.013 hPa - (ECHA)
Flash point	180°C
Ignition temperature	305°C
Danger of explosion	Product does not present an explosion hazard.
Vapour pressure at 20°C	No data available
Vapour Density	05,15 - (Air = 1.0)
Density at 20°C	1.124 g/cm³
Relative Density	No data available
Evaporation rate	No data available
Flammability (solid, gas)	No data available
Upper explosion limit	7,2 %(V)
Lower explosion limit	1,3 %(V)
Water solubility at 20 °C	Completely soluble

10. Stability and reactivity

Reactivity	No additional information available
Chemical stability	The product is chemically stable under standard ambient conditions (room temperature) .

Possibility of hazardous reactions	Caution! In contact with nitrites, nitrates, nitrous acid possible liberation of nitrosamines! Exothermic reaction with: anhydrides,halogenating agents,Nitriles,Oxidizing agents,acids A risk of explosion and/or of toxic gas formation exists with the following substances: Acid chlorides
Conditions to avoid	Strong heating.
Incompatible materials	Nonferrous metals, Light metals
Hazardous decomposition products	In the event of fire: see section 5

11. Toxicological information

Acute toxicity	Acute toxicity LD50 Oral - Rat - male and female - 6.400 mg/kg (OECD Test Guideline 401) Inhalation: No data available LD50 Dermal - Rabbit - > 2.000 mg/kg (OECD Test Guideline 402)
Irritation/Corrosion	Skin - Rabbit Result: No skin irritation - 4 h (OECD Test Guideline 404)
Serious eye damage/eye irritation	Eyes - Rabbit Result: No eye irritation (OECD Test Guideline 405)
Sensitization	Maximization Test - Guinea pig Result: negative (OECD Test Guideline 406)
Mutagenicity	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: sister chromatid exchange assay Test system: Chinese hamster ovary cells Metabolic activation: with and without metabolic activation Result: negative Remarks: (ECHA) Test Type: Mutagenicity (mammal cell test): chromosome aberration. Test system: Chinese hamster ovary cells Metabolic activation: with and without metabolic activation Method: OECD Test Guideline 473 Result: negative Test Type: Ames test Test system: S. typhimurium Metabolic activation: with and without metabolic activation Method: OECD Test Guideline 471 Result: negative
Carcinogenicity	No Data Available
Reproductive toxicity	No applicable toxicity data
Teratogenicity	No applicable toxicity data

12. Ecological information

Toxicity to Fish	flow-through test LC50 - Pimephales promelas (fathead minnow) - 11.800 mg/l - 96 h Remarks: (ECHA)
Toxicity to daphnia and other aquatic	static test EC50 - Ceriodaphnia dubia (water flea) - 609,88 mg/l - 48h Remarks: (ECHA)
Toxicity to Alge	static test ErC50 - Desmodesmus subspicatus (green algae) - 216 mg/l - 72 h (DIN 38412) Remarks: (ECHA)
Toxicity to bacteria	static test IC50 - activated sludge - > 1.000 mg/l - 3 h (OECD Test Guideline 209)
Persistence and degradability	Biodegradability aerobic - Exposure time 5 d Result: ca.100 % - rapidly biodegradable Remarks: (ECHA) Theoretical oxygen demand 2.040 mg/g Remarks: (IUCLID)
Other adverse effects	Harmful to aquatic life.
Bioaccumulative potential	Bioaccumulation : Cyprinus carpio (Carp) - 6 Weeks at 25 °C - 0,25 mg/l(Triethanolamine) Bioconcentration factor (BCF): 3,9 (OECD Test Guideline 305) Cyprinus carpio (Carp) - 6 Weeks at 25 °C - 2,5 mg/l(Triethanolamine) Bioconcentration factor (BCF): 0,4 (OECD Test Guideline 305)
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.
Mobility in soil	No data available

13. Disposal considerations

Remarks	Please consider the relevant national or regional provisions. Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities.
Waste Disposal	Dispose as normaly as per local regultion

14. Transport information

Transport hazard class(es)

	DOT	TDG Classification	IMDG	IATA
UN Number	Not dangerous goods	Not dangerous goods	Not dangerous goods	Not dangerous goods
Proper shipping name	Not regulated for transport	Not regulated for transport	Not regulated for transport	2Not regulated for transport
Transport hazard class(es)	Not regulated for transport	Not regulated for transport	Not regulated for transport	Not regulated for transport
Packing Group	Not regulated for transport	Not regulated for transport	Not regulated for transport	Not regulated for transport
Environmental hazards	NO	NO	NO	NO

Marine pollutant No

15. Regulatory information

Safety, health and environmental regulations/legislation specific for the substance or mixture	This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006. REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, preparations and articles (Annex XVII)
Chemical safety assessment	For this product a chemical safety assessment was not carried out

16. Other information

Other Information	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 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.