

1. Product and Company Identification

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Product Name TRI ETHANOL AMINE
Part Number RXSOL-12-1461-230

Company Details:

RX MARINE INTERNATIONAL
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2. Composition / Information on ingredients

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Product name	Cas No	EC No	Weight	Formula
Triethanolamine	102-71-6	203-049-8	149,19 g/mol	C ₆ H ₁₅ NO ₃

3. Hazards Identification

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Signal Word	No data available
Hazard Statements	No data available
Precautionary statements	No data available
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.

4. First Aid Measures

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General advice	No data available
If inhaled	After inhalation fresh air.
Eye Contact	After eye contact rinse out with plenty of water. Immediately call in ophthalmologist. Remove contact lenses.
Swallowed	After swallowing immediately make victim drink water (two glasses at most). Consult a physician.
Skin Contact	In case of skin contact Take off immediately all contaminated clothing. Rinse skin with water/ shower
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. 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.
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.
Hazardous combustion products	No data available
Advice for firefighters	In the event of fire, wear self-contained breathing apparatus.
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. 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
Environmental 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 material (e.g. Chemisorb®). 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	No data available
Incompatible materials	No data available
Hygiene measures	No data available
Advice on safe handling	For precautions see section 2.2.
Conditions for safe storage including any incompatibilities	No data available
Storage conditions	Tightly closed. Recommended storage temperature see product label.
Storage class	Storage class (TRGS 510) 10 Combustible liquids
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

Body Protection	government standards such as NIOSH (US) or EN 166(EU). Safety glasses
Skin protection	Protective clothing. 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 EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de). 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 EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de). Splash contact Material: Nitrile rubber Minimum layer thickness: 0,11 mm Break through time: 60 min Material tested:KCL 741 Dermatril® L
Respiratory protection	Not required; except in case of aerosol formation.
Other Protection Measure	No data available

9. Physical and chemical properties

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Physical state	Liquid
Colour	Light yellow
Odour	Amine-like
Odor Threshold	No data available
pH	No data available
Melting Point	20,5 °C
Boiling Point	335,4 °C at 1.013 hPa - (ECHA)
Flash Point	179 °C - closed cup
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 7,2 %(V) Lower explosion limit 1,3 %(V)
Autoignition temperature	No data available
Decomposition temperature	No data available
Vapour pressure	No data available
Viscosity	No data available
Density	1,124 g/cm ³ at 20 °C
Relative Density	No data available
Specific Gravity	No data available
Partition coefficient	No data available
Explosive properties	No data available
Solubility	149 g/l at 20 °C - completely soluble
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)
Possibilityof hazardous reactions	Violent reactions possible with: 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

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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)

Skin corrosion/irritation

Skin - Rabbit No skin irritation - 4 h (OECD Test Guideline 404)

Serious eye damage/irritation

Eyes - Rabbit No eye irritation (OECD Test Guideline 405)

Respiratory or skin sensitization

Maximization Test - Guinea pig negative (OECD Test Guideline 406)

Carcinogenicity

No data available

Germ cell 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

Reproductive toxicity

No data available

Specific target organ toxicity - single exposure

No data available

Additional Information

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 - 91 Days - NOAEL (No observed adverse effect level) - 1.000 mg/kg Repeated dose toxicity - Rat - male - Dermal - 90 Days - NOAEL (No observed adverse effect level) - 125 mg/kg Kidney injury may occur., Dermatitis To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated. Liver - Irregularities - Based on Human Evidence

12. Ecological information

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Persistence and degradability

Biodegradability aerobic - Exposure time 5 d Result: ca.100 % - rapidly biodegradable (ECHA) Theoretical oxygen demand 2.040 mg/g (IUCLID)

Toxicity to fish

Flow-through test LC50 - Pimephales promelas (fathead minnow) - 11.800 mg/l - 96 h (ECHA)

Toxicity to daphnia and other aquatic invertebrates

Static test EC50 - Ceriodaphnia dubia (water flea) - 609,88 mg/l - 48 h (ECHA)

Toxicity

No data available

Toxicity to bacteria

Static test IC50 - activated sludge - > 1.000 mg/l - 3 h (OECD Test Guideline 209)

Toxicity to algae

Static test ErC50 - Desmodesmus subspicatus (green algae) - 216 mg/l - 72 h (DIN 38412) (ECHA)

Bioaccumulation 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)

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

Biological effects Harmful effect due to pH shift. Hazard for drinking water supplies. Discharge into the environment must be avoided.

13. Disposal considerations

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Product

See 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:

IMDG:

IATA:

UN proper shipping name

ADR/RID:Not dangerous goods

IMDG:Not dangerous goods

IATA:Not dangerous goods

Transport hazard class(es)

ADR/RID:

IMDG:

IATA:

Packaging group

ADR/RID:

IMDG:

IATA:

Environmental hazards

ADR/RID:No

IMDG:No

IATA:No

Special precautions for user

No data available

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

No data available

Chemical Safety Assessment

A Chemical Safety Assessment was not carried out for this substance.

16. Other information

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Other Information

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