Material Safety Data Sheet

TRI CHLORO ETHANE 1,1,2 (RXSOL-19-1455-210)

1. Product and Company Identifaction

Product Name	TRI CHLORO ETHANE 1,1,2
Part Number	RXSOL-19-1455-210

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

Phone	+91 22 65113333 / 5555 / 9999
Fax	+91 22 2781 1318 :::AOH :0091 9821214367
Email	123@rxmarine.com
Website	www.rxmarine.com

2. Composition / informationon ingredients

Name of Substance	Cas Number	EC Num
1,1,2-Trichloroethane	79-00-5	201-166

3. Hazards Identification

Signal Word	Warning
Hazard Statements	H411 Toxic to aquatic life with long lasting effects. H420 Harms public health and the environment by destroying ozone in the upper atmosphere.
Precautionary statements - prevention	P201 - Obtain special instructions before use. P262 - Do not get in eyes, on skin, or on clothing. 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.
Precautionary statements - response	P302 + P350 - IF ON SKIN: Gently wash with plenty of soap and water. P309 + P311 - IF exposed or if you feel unwell: Call a POISON CENTER or doctor/ physician.

4. First Aid Measures

Skin Contact	Wash off immediately with plenty of water for at least 15 minutes. Immediate medical attention is required.
Eye Contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.Immediate medical attention is required.
Inhalation:	Remove from exposure, lie down. Move to fresh air. If breathing is difficult, give oxygen. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Immediate medical attention is required.
Ingestion:	Do not induce vomiting. Call a physician or Poison Control Center immediately
Most important symptoms/effects	No information available
Notes to Physician	Treat symptomatically

5. Fire-fighting Measures

Flammability of the Product	May be combustible at high temperature.
Suitable extinguishing media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Unsuitable extinguishing media	No information available
Flash Point	No information available
AutoignitionTemperature	459 °C / 858.2 °F
Explosion Limits Uper	15.5%
Explosion Limits Lower	6%
Sensitivity to Mechanical Impact	No information available
Sensitivity to Static Discharge	No information available
Specific Hazards Arising from the Chemical	Vapors may form explosive mixtures with air. Non-combustible. Thermal decomposition can lead to release of irritating gases and vapors. Keep product and empty container away from heat and sources of ignition
Hazardous Combustion Products	Hydrogen chloride gas Carbon monoxide (CO) Carbon dioxide (CO2) Chlorine Phosgene
Protective Equipment and Precautions for Firefighters	As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.
Further Information	Prevent fire extinguishing water from contaminating surface water or the ground water system. Suppress (knock down) gases/vapours/mists with a water spray jet.

6. Accidental Release Measures

Spillage	Absorb with an inert material and put the spilled material in an appropriate waste disposal. Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.
Personal Protection	Advice for non-emergency personnel: Do not breathe vapours, aerosols. Evacuate the danger area, observe emergency procedures, consult an expert. Advice for emergency responders: Protective equipment see section 8.
Enviromental Precaution	Do not empty into drains.
Methods and materials for containment and cleaning	Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Keep in suitable, closed containers for disposal. Provide adequate ventilation. Avoid dust formation. Use spark-proof tools and explosion-proof equipment.

7. Handling and Storage

Handling	Wear personal protective equipment. Ensure adequate ventilation. Avoid contact with skin and eyes. Do not breathe dust. Do not breathe vapors or spray mist. Do not ingest. Use only in area provided with appropriate exhaust ventilation.
Storage	Keep container dry. Keep in a cool place. Ground all equipment containing material. Keep container tightly closed. Keep in a cool, well-ventilated place. Combustible materials should be stored away from extreme heat and away from strong oxidizing agents.

Hygiene measures	Change contaminated clothing. Preventive skin protection recommended. Wash hands after working with substance.

8. Exposure controls and personal protection

Engineering Control	Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value. Ensure that eyewash stations and safety showers are proximal to the work-station location.
Personal Protection	**Eye/face Protection** Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166. **Skin and body protection** Wear appropriate protective gloves and clothing to prevent skin exposure. **Respiratory Protection** Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.
Hygiene Measures	Handle in accordance with good industrial hygiene and safety practice.
Exposure Limits	TWA: 10 (ppm) from OSHA (PEL) SKIN TWA: 55 (mg/m3) from ACGIH SKIN Consult local authorities for acceptable exposure limits



Gloves



Suit

9. Physical and chemical properties

Form	Liquid
Colour	Clear
Odour	Sweet
Odor Threshold	No Information Available
pH	No Information Available
Melting Point	-37 °C / -34.6 °F
Boiling Point	110 - 115 °C / 230 - 239 °F @ 760 mmHg
Flash Point	No Information available
Evaporation Rate	No information available
Flammability (solid, gas)	No information available
Explosive limits	Upper 15.5% Lower 6.00 %
Vapour pressure	20 @ 25 mbar °C
Vapour Density	4.63 (Air = 1.0)
Secific Gravity	1.430
Solubility	4 g/L @ 20 °C
Partition coefficient	No data available
Autoignition Temperature	459 °C / 858.2 °F
Decomposition Temperature	No information available
Viscosity	1.69 cP at 25 °C
Molecular Formula	C2 H3 Cl3
Molecular Weight	133.4

10. Stability and reactivity

Recativity Hazard	None known, based on information available
Stability	table under normal conditions. Conditions to Avoid Excess heat. Incompatible products.
Possibility of hazardous reactions	Risk of explosion with:, Violent reactions possible with Alkali metals, Alkaline earth metals, Aluminium, Powdered metals, sodium amide
Conditions to avoid	Excess heat. Incompatible products
Incompatible materials	Bases, Strong oxidizing agents, Strong bases, Metals.
Hazardous Decomposition Products	Products Hydrogen chloride gas, Carbon monoxide (CO), Carbon dioxide (CO2), Chlorine, Phosgene
Hazardous Polymerization	Hazardous polymerization does not occur. Hazardous Reactions None under normal processing.

11. Toxicological information

Acute toxicity	LD50 Rat: 43,000 mg/kg (IUCLID) LC50 Rat: 299.33 mg/l; 4 h (RTECS)
Acute dermal toxicity	No information Available
Skin corrosion	Repeated or prolonged exposure may cause skin irritation and dermatitis, due to degreasing properties of the product.
Toxic Effects on Humans	Hazardous in case of skin contact (irritant).
Special Remarks on Chronic Effects on Humans	Not Available
Further information After absorption:	The following applies to aliphatic halogenated hydrocarbons in general: systemic effect:narcosis, cardiovascular disorders. Toxic effect on liver, kidneys. Further hazardous properties cannot be excluded but unlikely when the product is handled appropriately. Handle in accordance with good industrial hygiene and safety practice.

12. Ecological information

Toxicity to Fish	LC50 Danio rerio (zebra fish): 7 - 14 mg/l; 96 h DIN 38412 (IUCLID)
COD and BOD 5	Not Available
Products of Biodegradation:	Aerobic, Tested according to: ready biodegradability/MITI, , 5 % after 28 d Result: Not readily biodegradable.
Mobility in soil	No Information Available
Results of PBT and vPvB assessment	PBT/vPvB assessment not available as chemical safety assessment not required/not conducted.
Other adverse effects	Henry constant 39700 Pa*m³/mol Distribution preferentially in air.

13. Disposal considerations

Waste treatment Method	Waste material must be disposed of in accordance with the national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself

14. Transport information

DOT

UN Number	UN2810
Proper shipping name	1,1,2-TRICHLOROETHANE
Hazard Class	6.1
Packing group	III

TDG

UN Number	UN2810
Proper shipping name	1,1,2-TRICHLOROETHANE
Hazard Class	6.1
Packing group	III

IATA

UN Number	UN2810
Proper shipping name	1,1,2-TRICHLOROETHANE
Hazard Class	6.1
Packing group	III

IMDG/IMO

UN Number	UN2810
Proper shipping name	1,1,2-TRICHLOROETHANE
Hazard Class	6.1
Packing group	III

15. Regulatory information

Federal and State Regulations	California prop. 65: This product contains the following ingredients for which the State of California has found to cause cancer, birth defects or other reproductive harm, which would require a warning under the statute: 1,1,2-Trichloroethane California prop. 65 (no significant risk level): 1,1,2-Trichloroethane: 0.01 mg/day (inhalation) California prop. 65: This product contains the following ingredients for which the State of California has found to cause cancer which would require a warning under the statute: 1,1,2-Trichloroethane Rhode Island RTK hazardous substances: 1,1,2-Trichloroethane Pennsylvania RTK: 1,1,2-Trichloroethane Florida: 1,1,2-Trichloroethane Minnesota: 1,1,2-Trichloroethane Michigan critical material: 1,1,2-Trichloroethane Massachusetts RTK: 1,1,2-Trichloroethane New Jersey: 1,1,2-Trichloroethane TSCA 8(b) inventory: 1,1,2-Trichloroethane TSCA 8(a) PAIR: 1,1,2-Trichloroethane SARA 313 toxic chemical notification and release reporting: 1,1,2-Trichloroethane CERCLA: Hazardous substances.: 1,1,2-Trichloroethane: 100 lbs. (45.36 kg)
Other Regulation	OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200).
WHMIS (Canada)	CLASS D-1B: Material causing immediate and serious toxic effects (TOXIC).
DSCL (EEC)	R22- Harmful if swallowed. R38- Irritating to skin. R41- Risk of serious damage to eyes.

HMIS

Health Hazard	: 2
Fire Hazard	: 1
Reactivity	: 0
Personal Protection	: j

Fire :

Health Hazard	: 2
Fire Hazard	: 1
Reactivity	: 0
Specific Hazard	: ....

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.

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