Material Safety Data Sheet

Perchloroethylene (RXSOL-19-3760-025)

1. Product and Company Identifaction

Porduct Name	Perchloroethylene
Part Number	RXSOL-19-3760-025

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
Website	www.rxmraine.com

2. Composition / informationon ingredients

Chemical Name	Cas No	EC No	Weight	Formula
Tetrachloroethylene EMPLURA®	127-18-4	204-825-9	165,83 g/mol	$C_2H_2Cl_4$

3. Hazards Identification

Signal Word	Warning
Hazard Statements	H315 Causes skin irritation. H317 May cause an allergic skin reaction. H319 Causes serious eye irritation. H336 May cause drowsiness or dizziness. H351 Suspected of causing cancer. H411 Toxic to aquatic life with long lasting effects.
Precautionary statements	P202 Do not handle until all safety precautions have been read and understood. P273 Avoid release to the environment. P280 Wear protective gloves/ protective clothing/ eye protection/ face protection. P302 + P352 IF ON SKIN: Wash with plenty of water. 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.
Classification of the substance or mixture	Not a hazardous substance or mixture according to Regulation (EC) No 1272/2008.
Supplemental Hazard Statements	None
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 advice	Show this material safety data sheet to the doctor in attendance
If inhaled	After inhalation fresh air. Immediately call in physician.
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

Flammability	No data available
Suitable extinguishing media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Unsuitable extinguishing media	For this substance/mixture no limitations of extinguishing agents are given.
Special hazards arising from the substance or mixture	Carbon oxides Hydrogen chloride gas Not combustible. Fire may cause evolution of: Hydrogen chloride gas, Phosgene Ambient fire may liberate hazardous vapours
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	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

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.
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

Advice on protection against fire and explosion	No data available
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	Protected from light.Tightly closed. Keep in a well-ventilated place. Keep locked up or in an area accessible only to qualified or authorized persons. Recommended storage temperature see product label
Storage class	Storage class (TRGS 510) 6.1D Non-combustible, acute toxic Cat.3 / toxic hazardous materials or hazardous materials causing chronic effects
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

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). Safety glasses
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 EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de). Full contact Material: Viton® Minimum layer thickness: 0,7 mm Break through time: 480 min Material tested:Vitoject® (KCL 890 / Aldrich Z677698, 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 Millipore-1.00964 Page 6 of 12 The life science business of Merck operates as MilliporeSigma in the US and Canada 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: 0,4 mm Break through time: 240 min Material tested:Camatril® (KCL 730 / Aldrich Z677442, Size M)
Respiratory protection	Recommended Filter type: Filter A (acc. to DIN 3181) for vapours of organic compounds The entrepeneur 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

Physical state	Liquid
Colour	Colorless
Odour	No data available
Odor Threshold	No data available
pH	12,1 at 100 g/l at 20 °C
Melting Point	-22,0 °C
Boiling Point	120,0 - 122,0 °C
Flash Point	No data available
Evaporation Rate	Not 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	25,3 hPa at 25,0 °C 17,3 hPa at 20,0 °C
Viscosity	Dynamic 0,844 mPa.s at 25 °C
Density	1,62 g/cm3
Relative Density	No data available
Specific Gravity	No data available
Partition coefficient	Log Pow 2,53 at 23 °C - Bioaccumulation is not expected.
Explosive properties	No data available
Solubility	0,15 g/l at 25 °C
Ignition temperature	No information available.
Particle characteristics	No data available

10. Stability and reactivity

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

Possibilityof hazardous reactions	Risk of explosion with Alkali metals Aluminum sodium amide Barium nitrogen dioxide Oxygen with alkali hydroxides Exothermic reaction with: strong alkalis Alkaline earth metals strong alkalis Light metals Powdered metals Oxidizing agents Strong acids Strong bases nitrous gases Risk of ignition or formation of inflammable gases or vapours with: zinc oxide with Aluminum
Conditions to avoid	No data available
Incompatible materials	various plastics
Hazardous decomposition products	In the event of fire see section 5

11. Toxicological information

Acute toxicity	LD50 Oral - Rat - male and female - 3.420 mg/kg (OECD Test Guideline 401) (ECHA)
Skin corrosion/irritation	Skin - Rabbit Skin irritation - 4 h (OECD Test Guideline 404) (ECHA)
Serious eye damage/irritation	Skin - Rabbit Skin irritation - 4 h (OECD Test Guideline 404) (ECHA)
Respiratory or skin sensitization	Local lymph node assay (LLNA) - Mouse May cause sensitization by skin contact. (OECD Test Guideline 429) (ECHA)
Carcinogenicity	No data available
Germ cell mutagenicity	Test Type Chromosome aberration test in vitro Test system Chinese hamster ovary cells Metabolic activation with and without metabolic activation Method OECD Test Guideline 473 Result: negative (ECHA) Test Type: Ames test Test system Salmonella typhimurium Metabolic activation without metabolic activation Method OECD Test Guideline 471 Result negative (ECHA) Test Type Micronucleus test Species Mouse Application Route: Intraperitoneal Method OECD Test Guideline 474 Result negative (ECHA)
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 - Mouse - female - Oral - LOAEL (Lowest observed adverse effect level) - 390 mg/kg narcosis, Liver injury may occur., Kidney injury may occur.

12. Ecological information

Persistence and degradability	Biodegradability aerobic - Exposure time 28 d 11 % - Not readily biodegradable. (OECD Test Guideline 301C)
Toxicity to fish	Flow-through test LC50 - Oncorhynchus mykiss (rainbow trout) - 5 mg/l - 96 h (ECHA)
Toxicity to daphnia and other aquatic invertebrates	EC50 - Daphnia magna (Water flea) - 7,50 mg/l - 48 h
Toxicity	No data available
Toxicity to bacteria	No data available
Toxicity to algae	ErC50 - Chlamydomonas reinhardtii (green algae) - 3,64 mg/l - 72 h (ECHA)
Bioaccumulation potential	Bioaccumulation Lepomis macrochirus (Bluegill) - 21 d - 0,00343 mg/l(Tetrachlorethylene) Bioconcentration factor (BCF) 49
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

Product	See www.retrologistik.com for processes regarding the return of chemicals and containers, or contact us there if you have further questions.

14. Transport information

UN number	ADR/RID:1897	IMDG:1897	IATA:1897
UN proper shipping name	ADR/RID:TETRACHLOROETHYLENE IATA:TETRACHLOROETHYLENE	IMDG:TETRACHLOROETHYLENE	
Transport hazard class(es)	ADR/RID:6.1	IMDG:6.1	IATA:6.1
Packaging group	ADR/RID: III	IMDG: III	IATA: III
Environmental hazards	ADR/RID: Yes	IMDG Marine pollutant: Yes	IATA: No
Special precautions for user	Tunnel restriction code (E)		
Further information	No data available		

15. Regulatory information

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	For this product a chemical safety assessment has been 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 weassume 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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