1. Product and Company Identifaction

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Porduct Name	Perchloric Acid 70%
Part Number	RXSOL-19-6098-025

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 / Information on ingredients

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Product name	Cas No	EC No	Weight	Formula
Perchloric acid 70% for analysis	7601-90-3	231-512-4	>= 70 - < 90 %	$HClO_4$

3. Hazards Identification

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Signal Word	Danger
Hazard Statements	H271 May cause fire or explosion; strong oxidizer. H290 May be corrosive to metals. H302 Harmful if swallowed. H314 Causes severe skin burns and eye damage. H373 May cause damage to organs (Thyroid) through prolonged or repeated exposure.
Precautionary statements	P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. 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. P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P314 Get medical advice/ attention if you feel unwell
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	First aiders need to protect themselves. Show this material safety data sheet to the doctor in attendance.
If inhaled	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. 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.
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	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	Not combustible. Fire may cause evolution of: Hydrogen chloride gas Has a fire-promoting effect due to release of oxygen. 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

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Personal precautions, protective equipment and emergency procedures	Advice for non-emergency personnel: Avoid inhalation of dusts. 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 dry. Dispose of properly. Clean up affected area. Avoid generation of dusts.
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	No metal or light-weight-metal containers. No metal containers. Tightly closed. Separately or together with other oxidising substances only and away from sources of ignition and heat.Because of their oxidation potential these products can raise the burning rate of combustible substances substantially or ignite combustible substances on contact with them. Recommended storage temperature see product label.
Storage class	Storage class (TRGS 510) 5.1A Strongly oxidizing 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). 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 butyl-rubber Minimum layer thickness 0,7 mm Break through time 480 min Material tested:Butoject® (KCL 898) 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: Viton® Minimum layer thickness 0,7 mm Break through time: 120 min Material tested Vitoject® (KCL 890 / Aldrich Z677698, Size M)
Respiratory protection	Recommended Filter type Filter type B 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

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Physical state	Liquid
Colour	Colorless
Odour	Odorless
Odor Threshold	No data available
pH	at 20 °C strongly acid
Melting Point	-18 °C
Boiling Point	198,7 °C at 1.013 hPa
Flash Point	9,7 °C - closed cup - Regulation (EC) No. 440/2008, Annex, A.9
Evaporation Rate	No data available
Flammability (solid, gas)	No data available
Explosive limits	No data Available
Upper/lower flammability or explosive limits	No data available
Autoignition temperature	No data available
Decomposition temperature	No data available

Vapour pressure	No data available
Viscosity	No data available
Density	1,68 g/cm3 at 20 °C
Relative Density	No data available
Specific Gravity	No data available
Partition coefficient	No data available
Explosive properties	No data available
Solubility	at 20 °C soluble
Ignition temperature	No data available
Particle characteristics	No data available

10. Stability and reactivity

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Reactivity	Explosive
Chemical stability	The product is chemically stable under standard ambient conditions (room temperature)
Possibilityof hazardous reactions	Risk of explosion with: semimetals Antimony oxide Metals Hydrogen Impurities organic combustible substances acetic acid Halogenated hydrocarbon Hydrogen halides Fluorine Ether sulfoxides metallic oxides Alcohols acetonitrile Lead oxides Hydrogen chloride gas chromium(VI) oxide dimethyl sulfoxide Iron ferric oxide Acetic anhydride ethanol glycerol Methanol dichloromethane phenol phosphine Oxides of phosphorus pyridine Reducing agents sulfuric acid Sulfur trioxide Halogenated compoundsiron/iron-containing compounds Mild steel carbon Nitric acid with Organic Substances Acetylene with Formaldehyde acetic acid with Acetic anhydride sulfuric acid with Organic Substances Exothermic reaction with: Ketones phosphides Bases Risk of ignition or formation of inflammable gases or vapours with: hydrogen iodide anilines with Formaldehyde
Conditions to avoid	No data available
Incompatible materials	Rubber, Light metals, Metals, fatsMetals
Hazardous decomposition products	In the event of fire: see section 5

11. Toxicological information

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Acute toxicity	Acute toxicity estimate Oral - 1.572 mg/kg (Calculation method) Symptoms: If ingested, severe burns of the mouth and throat, as well as a danger of perforation of the esophagus and the stomach. Symptoms: mucosal irritations, Cough, Shortness of breath, Possible damages:, damage of respiratory tract
Skin corrosion/irritation	Mixture causes severe burns.
Serious eye damage/irritation	Mixture causes serious eye damage. Risk of blindness!
Respiratory or skin sensitization	Sensitisation test - Guinea pig Result negative (OECD Test Guideline 406)
Carcinogenicity	No data available
Germ cell mutagenicity	Test Type Ames test Test system: Salmonella typhimurium
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. Other dangerous properties can not be excluded. Handle in accordance with good industrial hygiene and safety practice.

12. Ecological information

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Persistence and degradability	No data available
Toxicity to fish	Flow-through test EC50 - Lepomis macrochirus (Bluegill sunfish)- 1.470 mg/l - 96 h (US-EPA) Remarks: (in analogy to similar products) The value is given in analogy to the following substances: Sodium perchlorate monohydrat
Toxicity to daphnia and other aquatic invertebrates	Static test EC50 - Daphnia magna (Water flea) - > 100 mg/l - 48 h (OECD Test Guideline 202)
Toxicity	No data available
Toxicity to bacteria	Static test EC50 - activated sludge - > 1.000 mg/l - 3 h (ISO 8192) Remarks: (in analogy to similar products) The value is given in analogy to the following substances: Sodium perchlorate
Toxicity to algae	Static test ErC50 - Pseudokirchneriella subcapitata (green algae) - > 435,7 mg/l - 72 h (OECD Test Guideline 201) Remarks: (in analogy to similar products) The value is given in analogy to the following substances: Sodium perchlorate
Products Biodegradation	No data available
Mobility in soil	Will not adsorb on soil.
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	No data available
Contaminated packaging	No data available
Waste treatment Method	No data available

14. Transport information

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UN number	ADR/RID:1873	IMDG:1873	IATA:1873
UN proper shipping name	ADR/RID:PERCHLORIC ACID	IMDG:PERCHLORIC ACID	IATA:PERCHLORIC ACID
Transport hazard class(es)	ADR/RID:5.1 (8)	IMDG:5.1 (8)	IATA:5.1 (8)
Packaging group	ADR/RID:l	IMDG:l	IATA:l
Environmental hazards	ADR/RID:No	IMDG:No	IATA:No
Special precautions for user	Tunnel restriction code (B/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 was not carried out for this substance.

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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