

1. Product and Company Identification

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Product Name Acetic Acid
Part Number RXSOL-15-1267-230

Company Details:

RX MARINE INTERNATIONAL
105, A wing , BSEL , TECH PARK.
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2. Composition / Information on ingredients

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Chemical Name	Cas No	EC No	Weight	Formula
Acetic acid (glacial) 100% for analysis EMPARTA® ACS	64-19-7	200-580-7	60,05 g/mol	C ₂ H ₄ O ₂

3. Hazards Identification

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Signal Word	Danger
Hazard Statements	H226 Flammable liquid and vapor. H314 Causes severe skin burns and eye damage
Precautionary statements	P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P233 Keep container tightly closed. P240 Ground and bond container and receiving equipment. P280 Wear protective gloves/ protective clothing/ eye protection/ face protection. 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
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. 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.

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. Call in physician

Eye Contact	After eye contact rinse out with plenty of water. Immediately call in ophthalmologist. Remove contact lenses.
Swallowed	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 effect both acute and delayed	The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11
immediat medical attention and special treatment nedded	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 Combustible. Fire may cause evolution of: Acetic acid vapours Vapors are heavier than air and may spread along floors. Forms explosive mixtures with air at elevated temperatures. Development of hazardous combustion gases or vapours possible in the event of fire
Further information	Remove container from danger zone and cool with water. 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: 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. 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 and neutralising material (e.g. Chemizorb® H?, Merck Art. No. 101595). 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	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	Avoid formation of dust and aerosols.
Storage conditions	Keep container tightly closed in a dry and well-ventilated place. Keep away from heat and sources of ignition. Recommended storage temperature see product label.
Storage class	Storage class (TRGS 510) 3 Flammable 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 government standards such as NIOSH (US) or EN 166(EU). Safety glasses
Body Protection	Flame retardant antistatic 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 Millipore- 1.01830 Page 6 of 13 The life science business of Merck operates as MilliporeSigma in the US and Canada 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: Latex gloves Minimum layer thickness: 0,6 mm Break through time: 30 min Material tested: Lapren® (KCL 706 / Aldrich Z677558, Size M)
Respiratory protection	Recommended Filter type filter E-(P2) The entrepreneur 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	Stinging
Odor Threshold	No data available
pH	2,5 at 50 g/l at 20 °C
Melting Point	16,64 °C
Boiling Point	117,9 °C at 1.013,25 hPa
Flash Point	39 °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 19,9 %(V) Lower explosion limit 4 %(V)
Autoignition temperature	463 °C
Decomposition temperature	No data available
Vapour pressure	No data available

Viscosity	kinematic 1,17 mm ² /s at 20 °C dynamic 1,05 mPa.s at 25 °C
Density	1,04 g/cm ³ at 25 °C
Relative Density	No data available
Specific Gravity	No data available
Partition coefficient	20,79 hPa at 25 °C
Explosive properties	No data available
Solubility	602,9 g/l at 25 °C at 1.013 hPa - completely soluble
Ignition temperature	No data available
Particle characteristics	No data available

10. Stability and reactivity

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Reactivity	Vapor/air-mixtures are explosive at intense warming.
Chemical stability	The product is chemically stable under standard ambient conditions (room temperature) .
Possibility of hazardous reactions	Risk of explosion with: peroxi compounds perchloric acid fuming sulfuric acid phosphorus halides hydrogen peroxide chromium(VI) oxide potassium permanganate Peroxides Strong oxidizing agents Risk of ignition or formation of inflammable gases or vapours with: Iron Zinc magnesium Mild steel Possible formation of: Hydrogen Violent reactions possible with: strong alkalis Aldehydes alkali hydroxides nonmetallic halides ethanalamine Acetaldehyde Millipore- 1.01830 Page 8 of 13 The life science business of Merck operates as MilliporeSigma in the US and Canada Alcohols halogen-halogen compounds chlorosulfonic acid chromosulfuric acid Potassium hydroxide Nitric acid
Conditions to avoid	Heating.
Incompatible materials	Various metals
Hazardous product decomposition	In the event of fire see section 5

11. Toxicological information

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Acute toxicity	LD50 Oral - Rat - 3.310 mg/kg (RTECS) LC50 Inhalation - Mouse - 4 h - 2.819 mg/l - vapor (RTECS)
Skin corrosion/irritation	Skin - Rabbit Result Causes burns. - 4 h (OECD Test Guideline 404) (IUCLID)
Serious eye damage/irritation	Eyes - Rabbit causes burns. - 4 h (OECD Test Guideline 405) z (IUCLID) Causes serious eye damage.
Respiratory or skin sensitization	Local lymph node assay (LLNA) - negative (OECD Test Guideline 429)
Carcinogenicity	This product is or contains a component that is not classifiable as to its carcinogenicity based on its IARC, ACGIH, NTP, or EPA classification.
Germ cell mutagenicity	Ames test Test system Salmonella typhimurium Metabolic activation with and without metabolic activation Method OECD Test Guideline 471 Result negative 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 negative
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. Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin., spasm, inflammation and edema of the larynx, spasm, inflammation and edema of the bronchi, pneumonitis, pulmonary edema, burning sensation, Cough, wheezing, laryngitis, Shortness of breath, Headache, Nausea, Vomiting, Ingestion or inhalation

of concentrated acetic acid causes damage to tissues of the respiratory and digestive tracts. Symptoms include: hematemesis, bloody diarrhea, edema and/or perforation of the esophagus and pylorus, pancreatitis, hematuria, anuria, uremia, albuminuria, hemolysis, convulsions, bronchitis, pulmonary edema, pneumonia, cardiovascular collapse, shock, and death. Direct contact or exposure to high concentrations of vapor with skin or eyes can cause: erythema, blisters, tissue destruction with slow healing, skin blackening, hyperkeratosis, fissures, corneal erosion, opacification, iritis, conjunctivitis, and possible blindness. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

12. Ecological information

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Persistence and degradability	Biodegradability Result: 99 % - Readily biodegradable. (OECD Test Guideline 301D) (HSDB) Result: 95 % - Readily eliminated from water (OECD Test Guideline 302B) Biochemical Oxygen Demand (BOD) 880 mg/g (Lit.) Ratio BOD/ThBOD 76 % (IUCLID)
Toxicity to fish	Semi-static test LC50 - Oncorhynchus mykiss (rainbow trout) - > 1.000 mg/l - 96 h (OECD Test Guideline 203)
Toxicity to daphnia and other aquatic invertebrates	Static test EC50 - Daphnia magna (Water flea) - > 1.000 mg/l - 48 h (OECD Test Guideline 202) Millipore- 1.01830 Page 10 of 13 The life science business of Merck operates as MilliporeSigma in the US and Canada invertebrates
Toxicity	No data available
Toxicity to bacteria	EC5 - Pseudomonas putida - 2.850 mg/l - 16 h neutral (maximum permissible toxic concentration) (Lit.)microtox test EC50 - Photobacterium phosphoreum - 11 mg/l - 15 min (IUCLID)
Toxicity to algae	Static test EC50 - Skeletonema costatum - > 1.000 mg/l - 72 h (ISO 10253)
Products Biodegradation	No data available
Mobility in soil	No data available
Results of PBT av PvB 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. Caustic even in diluted form. 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:2789 IMDG: 2789 IATA:2789
UN proper shipping name	ADR/RID: ACETIC ACID, GLACIAL IMDG: ACETIC ACID, GLACIAL IATA: Acetic acid, glacial
Transport hazard classes	ADR/RID:8 (3) IMDG:8 (3) IATA:8 (3)

Packaging group	ADR/RID:II IMDG:II IATA:II
Environmental hazards	AR/RID:No IMDG Marine pollutant:No IATA: No
Special precautions for user	Tunnel restriction code (D/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	Take note of Dir 94/33/EC on the protection of young people at work.
Chemical Safety Assessment	A Chemical Safety Assessment has been carried out for this substance.

16. Other information

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Other Information	<p>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 we 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.</p>
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