Material Safety Data Sheet

PYRIDINE (RXSOL-19-6605-002)

1. Product and Company Identifaction

Product Name	PYRIDINE
Part Number	RXSOL-19-6605-002

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

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Email	mail@rxmarine.com
Website	www.rxmraine.com

2. Composition / informationon ingredients

Substances

Formula	C_5H_5N
Molecular weight	79,10 g/mol
CAS-No.	110-86-1
EC-No.	203-809-9
Index-No.	613-002-00-7

Component	Classification	Concentration
Pyridine CAS-No. 110-86-1 EC-No. 203-809-9 Index-No. 613-002-00-7	Flam. Liq. 2; Acute Tox. 4; Skin Irrit. 2; Eye Irrit. 2; H225, H302, H332, H312, H315, H319	= 100 %

3. Hazards Identification

Classification of the substance or mixture

Flammable liquids, (Category 2)	H225: Highly flammable liquid and vapor.
Acute toxicity, (Category 4)	H302: Harmful if swallowed.
Acute toxicity, (Category 4)	H332: Harmful if inhaled.
Acute toxicity, (Category 4)	H312: Harmful in contact with skin.
Skin irritation, (Category 2)	H315: Causes skin irritation.
Eye irritation, (Category 2)	H319: Causes serious eye irritation.

Label elements

Signal Word	Danger
Hazard Statements	H225 Highly flammable liquid and vapor. H302 + H312 + H332 Harmful if swallowed, in contact with skin or if inhaled. H315 Causes skin irritation. H319 Causes serious eye irritation.

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. P304 + P340 + P312 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor if you feel unwell. P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Supplemental Hazard Statements	None
Reduced Labeling (= 125 ml)	
Signal Word	Danger
Hazard statement	None
Precautionary statement	None
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. Ecological 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. Toxicological 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. Lachrymator., Stench.

4. First Aid Measures

General Advice	Show this material safety data sheet to the doctor in attendance.
If inhaled	After inhalation: fresh air. If breathing stops: mouth-to-mouth breathing or artificial respiration. Oxygen if necessary. Immediately call in physician.
In case of skin contact	In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower. Consult a physician.
In case of eye contact	After eye contact: rinse out with plenty of water. Call in ophthalmologist. Remove contact lenses.
If swallowed	After swallowing: immediately make victim drink water (two glasses at most). Consult a physician.
Most important symptoms and effects, 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
Indication of any immediate medical attention and special treatment needed	No data available

5. Fire-fighting Measures

Suitable extinguishing media	Small (incipient) fires must be extinguished with alcohol resistant foam, dry chemical powder or carbon dioxide. Large amounts of water are ineffective. Cool containers with large amounts of water.
Special hazards arising from the substance or mixture	Carbon oxides Nitrogen oxides (NOx) Combustible. Pay attention to flashback. Vapors are heavier than air and may spread along floors. Development of hazardous combustion gases or vapours possible in the event of fire. Forms explosive mixtures with air at ambient temperatures.
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.
Further information	Remove container from danger zone and cool with water. Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

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.
Environmental precautions	Do not let product enter drains. Risk of explosion.
Methods and material for containment and cleaning up	Large spills should be collected mechanically (remove by pumping) for disposal. Ventilate the area.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. Chemizorb®). Dispose of properly. Clean up affected area.
Reference to other sections	For disposal see section 13.

7. Handling and Storage

Precautions for safe handling

Advice on safe handling	Work under hood. Do not inhale substance/mixture. Avoid generation of vapours/aerosols.
Advice on protection against fire and explosion	Keep away from open flames, hot surfaces and sources of ignition.Take precautionary measures against static discharge.
Hygiene measures	Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance. For precautions see section 2.2.
Conditions for safe storage, including any incompatibilities	
Storage conditions	Keep container tightly closed in a dry and well-ventilated place. Keep away from heat and sources of ignition. Handle and store under inert gas.
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

8. Exposure controls and personal protection

Control parameters
Ingredients with workplace control parameters
Derived No Effect Level (DNEL)

Application Area	Routes of exposure	Health effect	Value
Worker DNEL, longterm	inhalation	Systemic effects	2,5 mg/m3
Worker DNEL, acute	inhalation	Systemic effects	7,5 mg/m3
Worker DNEL, longterm	dermal	Systemic effects	
Worker DNEL, acute	dermal	Systemic effects	
Consumer DNEL, longterm	inhalation	Systemic effects	0,6 mg/m3
Consumer DNEL, longterm	dermal	Systemic effects	
Consumer DNEL, longterm	oral	Systemic effects	

Predicted No Effect Concentration (PNEC)

Compartment	Value
Fresh water	0,3 mg/l
Sea water	0,03 mg/l
Aquatic intermittent release	3 mg/l
Sediment	3,2 mg/kg
Sea sediment	0,32 mg/kg
Sewage treatment plant	2 mg/l
Soil	0,46 mg/kg

Exposure controls
Personal protective equipment

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

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 EN 16523-1 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de). Splash contact Material: butyl-rubber Minimum layer thickness: 0,7 mm Break through time: 240 min Material tested:Butoject® (KCL 898)
Body Protection	Flame retardant antistatic protective clothing.
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.
Control of environmental exposure	Do not let product enter drains. Risk of explosion.

9. Physical and chemical properties

Physical state	Liquid
Color	Colorless
Odor	Pungent
Melting point/freezing point	Melting point/range: -42 °C - lit.
Initial boiling point and boiling range	115 °C - lit.
Flammability (solid, gas)	No data available
Upper/lower flammability or explosive limits	Upper explosion limit: 12,4 %(V) Lower explosion limit: 1,8 %(V)
Flash point	20 °C - closed cup - ISO 1523
Autoignition temperature	900 °C at 1.013 hPa
Decomposition temperature	ca. 490 °C
pH	ca.8,81 at 20 °C
Viscosity	Viscosity, kinematic: No data available Viscosity, dynamic: ca.0,88 mPa.s at 25 °C
Water solubility	ca.1.000 g/l at 20 °C soluble
Partition coefficient: n-octanol/water	log Pow: ca.0,64 at 20 °C - (Lit.), Bioaccumulation is not expected.
Vapor pressure	ca.26,7 hPa at 25 °C
Density	0,978 g/cm3 at 25 °C - lit.
Relative density	No data available
Relative vapor density	No data available
Particle characteristics	No data available
Explosive properties	No data available
Oxidizing properties	None
Other safety information	
Solubility in other solvents	Diethyl ether at 20 °C - miscible Ethanol at 20 °C - miscible
Surface tension	36,56 mN/m at 25 °C
Dissociation constant	5,25 at 25 °C
Relative vapor density	2,73

10. Stability and reactivity

Reactivity	Vapors may form explosive mixture with air.
Chemical stability	The product is chemically stable under standard ambient conditions (room temperature)

Possibility of hazardous reactions	Risk of explosion with: perchloric acid nitrogen oxides halogen-halogen compounds Risk of ignition or formation of inflammable gases or vapours with: chlorosulfonic acid chromium(VI) oxide Acid anhydrides fuming sulfuric acid Oxidizing agents perchromates Nitric acid nitrogen dioxide Exothermic reaction with: Fluorine sulfuric acid silver perchlorate
Conditions to avoid	Warming
Incompatible materials	Rubber, Various plastics,Various metals
Hazardous decomposition products	In the event of fire: see section 5

11. Toxicological information

Acute toxicity	LD50 Oral - Rat - 1.500 mg/kg Remarks: (ECHA) Symptoms: Vomiting, Nausea Acute toxicity estimate Oral - 1.500 mg/kg (Calculation method) LC50 Inhalation - Rat - male - 4 h - 17,1 mg/l - vapor (US-EPA) Symptoms: mucosal irritations, Cough, Shortness of breath Acute toxicity estimate Inhalation - 17,1 mg/l - vapor (Calculation method) LD50 Dermal - Rabbit - > 1.000 - 2.000 mg/kg (OECD Test Guideline 402) Acute toxicity estimate Dermal - 1.000,1 mg/kg (Calculation method)
Skin corrosion/irritation	Skin - Rabbit Result: Mild skin irritation - 24 h (Draize Test)
Serious eye damage/eye irritation	Eyes - Rabbit Result: Irritating to eyes. - 24 h Remarks: (ECHA)
Respiratory or skin sensitization	Local lymph node assay (LLNA) - Mouse Result: negative (OECD Test Guideline 429)
Germ cell mutagenicity	Test Type: Ames test Test system: Salmonella typhimurium Metabolic activation: with and without metabolic activation Method: OECD Test Guideline 471 Result: negative Test Type: In vitro mammalian cell gene mutation test Test system: Chinese hamster lung cells Metabolic activation: with and without metabolic activation Method: OECD Test Guideline 476 Result: negative Test Type: Micronucleus test Species: Mouse Cell type: Bone marrow Application Route: Intraperitoneal injection Method: OECD Test Guideline 475 Result: negative
Carcinogenicity	No data available
Reproductive toxicity	No data available
Specific target organ toxicity - single exposure	No data available
Specific target organ toxicity - repeated exposure	No data available

Aspiration hazard	No data available
Additional Information	
Endocrine disrupting properties Product:	
Assessment	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 - 102 Weeks - NOAEL (No observed adverse effect level) - 7 mg/kg RTECS: UR8400000 burning sensation, Cough, wheezing, laryngitis, Shortness of breath, Headache, Nausea, Vomiting, Dizziness, tachycardia, nervousness, insomnia, Skin disorders, loss of appetite To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated. Systemic effects: After uptake: Headache In high doses: narcosis cardiovascular disorders Circulatory collapse Chronic uptake results in damage of: Liver Kidney Good warning effect due to low odour threshold. Other dangerous properties can not be excluded. Handle in accordance with good industrial hygiene and safety practice.

12. Ecological information

Toxicity	
Toxity to fish	Semi-static test EC50 - Danio rerio (zebra fish) - 560 - 1.000 mg/l - 96 h (OECD Test Guideline 203) Remarks: (in analogy to similar products)
Toxicity to daphnia and other aquatic invertebrates	EC50 - Daphnia magna (Water flea) - 320 mg/l - 48 h (OECD Test Guideline 202) Remarks: (in analogy to similar products)
Toxicity to algae	Static test EC50 - Pseudokirchneriella subcapitata - 320 mg/l - 72 h (OECD Test Guideline 201) Remarks: (in analogy to similar products)
Persistence and degradability	
Biodegradability	aerobic - Exposure time 28 d Result: 97 % - Readily biodegradable. (OECD Test Guideline 301B)
Bioaccumulative potential	No data available
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 Product	
Assessment	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

Waste Treatment Methods	No data available

14. Transport information

UN number	ADR/RID: 1282	IMDG: 1282	IATA: 1282	

UN proper shipping name	ADR/RID: PYRIDINE IMDG: PYRIDINE IATA: Pyridine
Transport hazard class(es)	ADR/RID: 3 IMDG: 3 IATA: 3 (8)
Packaging group	ADR/RID: II IMDG: II IATA: II
Environmental hazards	ADR/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

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.
National legislation Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.	P5c FLAMMABLE LIQUIDS
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 has been 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. DISCLAIMER OF LIABILITY :The information in this SDS was obtained from sources which we believe are reliable. However, the information is provided without any warranty, express or implied, regarding its correctness. The conditions or methods of handling, storage, use or disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product. This MSDS was prepared and is to be used only for this product. If the product is used as a component in another product, this MSDS information may not be applicable.