

1. Product and Company Identification

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Product Name : Corroision Inhibitor for METAL
Part Number : RXSOL-23-2901-025

Company Details:

RX MARINE INTERNATIONAL
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2. Composition / Information on ingredients

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Name of Substance	Cas Number
Phosphoric acid	7664-38-2
2-phosphonobutane-1,2,4-tricarboxylic acid	37971-36-1
zinc chloride	7646-85-7

3. Hazards Identification

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Signal Word	Danger
Hazard Statements	H335 May cause respiratory irritation. H302 Harmful if swallowed. H411 Toxic to aquatic life with long lasting effects. H314 Causes severe skin burns and eye damage.
Precautionary statements - prevention	P101 If medical advice is needed, have product container or label at hand. P102 Keep out of reach of children. P103 Read label before use. P260 Do not breathe dust/fume/gas/mist/vapours/spray. P271 Use only outdoors or in a well-ventilated area. P280 Wear protective gloves/protective clothing/eye protection/face protection. P270 Do not eat, drink or smoke when using this product. P273 Avoid release to the environment.
Precautionary statements - response	P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P310 Immediately call a POISON CENTER/doctor/physician/first aider. P363 Wash contaminated clothing before reuse. P391 Collect spillage. P301+P312 IF SWALLOWED: Call a POISON CENTER/doctor/physician/first aider/if you feel unwell. P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Storage: Store locked up. Dispose of contents/container in accordance with local regulations.

4. First Aid Measures

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Eye Contact

Immediately hold eyelids apart and flush the eye with plenty of water. Irrigate the eye by keeping eyelids apart and continuing to flush until all contaminated tears are removed. Continue flushing until advised to stop by the Poisons Centre or a doctor, or for at least 15 minutes.

Transport to hospital or doctor without delay. Resuscitation should be undertaken by skilled personnel.

Skin Contact

Immediately flush body and clothes with large amounts of water. Remove all contaminated clothing, including footwear. Flush and cleanse skin thoroughly with water until advised to stop by the Poisons Centre or a doctor.

Inhalation:

Lay patient down. Keep warm and rested. Prostheses such as contact lenses should be removed, where possible, prior to initiating first aid procedures. Apply artificial respiration if not breathing, preferably by mouth-to-mouth, using a resuscitator device, or pocket mask as trained. Perform CPR if necessary. Transport to hospital or doctor without delay. Inhalation of vapours or aerosols (mists, fumes, etc.) may cause respiratory irritation. Corrosive substances may cause lung damage (e.g. delayed up to 24 hours after exposure, affect breathing). Patients should be kept under medical supervision until symptoms have manifested. Before any such manifestation, the use of corticosteroids such as beclomethasone derivative may be considered.

Ingestion:

For advice, contact a Poisons Information Centre or a doctor. Medical attention should be needed. If swallowed do NOT induce vomiting. If vomiting occurs, spit into a container. Lie on your side (head-down position, if possible) to maintain an open airway. Rinse mouth carefully. Never give liquid to a person showing signs of unconsciousness. Give water to rinse out mouth, if possible, but only if the person can comfortably drink. Transport to hospital or doctor for further treatment. Treat symptomatically.

Notes to Physicians

5. Fire-fighting Measures

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Suitable extinguishing media

Water spray or fog.

Foam.

Dry chemical powder.

Protective Equipment

Use personal protective equipment.

Hazardous combustion products

Avoid contamination with oxidising agents i.e. nitrates, azides, chlorates, peroxides, etc. as ignition may result.

Advice for firefighters

Alert Fire Brigade and tell them location and nature of hazard.

Wear full body protective clothing with breathing apparatus.

Prevent, by any means available, spillage from entering drains or water courses.

Fire/Explosion Hazard

Combustible.

Slight fire hazard when exposed to heat or flame.

Acids may react with metals to produce hydrogen.

Products include: carbon dioxide (CO₂). Typical of burning organic material.

6. Accidental Release Measures

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Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation. Keep people away from spillage and contact with skin and eyes. Wear suitable protective clothing and equipment.

Environmental Precaution

Do not allow contact with soil, surface or groundwater. Notify authorities immediately.

Methods and materials for

Minor Spill : Drains for storage or use areas should be closed.

containment and cleaning up

of spills before discharge or disposal of material immediately. Avoid breathing vapours and contact with substance, by using protective equipment.

Mazor Spill : Clear area of personnel and move away from nature of hazard. Wear full body protective clothing.

7. Handling and Storage

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Advice on safe handling

Avoid all personal contact, including inhalation. Wear protective clothing when risk of exposure occurs. Use in a well-ventilated area.

Storage

Store in original containers. Keep containers securely sealed. Store in a cool, dry, well-ventilated area.

Storage incompatibility

DO NOT use aluminium or galvanised containers. Check regularly for spills and leaks. Lined metal can, lined metal pail/ can. Plastic pail. Reacts with mild steel, galvanised steel / zinc product mixture with air. Avoid strong bases. Segregate from alkalies, oxidising agents and chemicals, sulfides, carbonates.

Advice on general occupational hygiene

Wash hands after use. Do not to eat, drink and smoke while using protective equipment before entering eating areas.

8. Exposure controls and personal protection

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Engineering Control

Engineering controls are used to remove a hazard or reduce exposure. Well-designed engineering controls can be highly effective and are independent of worker interactions to provide protection. Examples of engineering controls are: Process controls which are designed to be done to reduce the risk.

Personal Protection

Eye & Face protection : Safety glasses with unpeaked lenses. Eye protection is desirable, as in laboratories; spectacles or goggles are needed such as when handling bulk-quantities, where the container may be under pressure. Chemical goggles, whenever used, must be worn with the eyes; goggles must be properly fitted. Full face respirators for supplementary but never for primary protection.

Exposure Limits:

Hand protection : Wear the following personal protective equipment should be discarded and replaced if there is any sign of breakthrough. **Skin protection :** Personal protective equipment such as safety goggles and protective clothing. **Respiratory protection :** If the exposure above the exposure limit they must use appropriate respiratory protection.

Source	Ingredients
European Union (EU) First List of Indicative Occupational Exposure Limit Values (IOELVs) (English)	Phosphoric acid
EU Consolidated List of Indicative Occupational Exposure Limit Values (IOELVs)	Phosphoric acid
Norway regulations on action values and limit	Phosphoric acid

values for physical and chemical factors in the work environment and infection risk groups for biological factors (Norwegian)	
Norway regulations on action values and limit values for physical and chemical factors in the work environment and infection risk groups for biological factors (Norwegian)	zinc chloride

Hygiene measures

Handle in accordance with good industrial hygiene clothing before re-use. Wash face, hands and any suitable facilities for quick drenching or flushing hazard.



Gloves Suit

9. Physical and chemical properties

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Appearance	Colourless to yellow, miscible with water
Physical state	Liquid
Odour	Not Available
Odour threshold	Not Available
Boiling point and boiling range	100°C
Flash Point	No Data Available
Freezing Point	No Data Available
pH	1-2
Evaporation rate	No data available
Flammability (solid, gas)	No data available
Upper explosion limit	No data available
Lower explosion limit	No data available
Explosive properties	No data available
Vapor pressure	No data available
Relative vapor density	No data available
Relative density	1.32 - 1.38
Water solubility	Soluble
Solubility in other solvents	No data available
Partition coefficient: octanol	No data available
Autoignition temperature	No data available
Thermal decomposition	No data available
Viscosity, kinematic	No data available
Explosive properties	No data available
Oxidizing properties	No data available
Molecular weight	No data available
VOC	No data available

10. Stability and reactivity

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Reactivity	None
Stability	Stable under normal conditions.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Incompatible materials	See Section 7
Hazardous Decomposition	carbon dioxide (CO ₂) phosphorus oxides (PO _x) other pyrolysis products typical of burning organic material.
Condition to Avoid	Strong Alkaline material and Oxidizing Material
Polymerization	Will not occur.

11. Toxicological information

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Route of Exposure	Inhalation, Eye contact, Skin contact
Eyes	Direct eye contact with acid corrosives may produce pain, tears, sensitivity to light and burns. Mild burns of the eye recover rapidly and completely.
Skin	Skin contact with acidic corrosives may result in pain and burns; these may be deep with distinct edges and may heal with formation of scar tissue. Skin contact is not thought to produce harmful health effects (as classified under EC Directives using animal models). However, it has been identified following exposure of animals by at least one other route and the material may still cause damage following entry through wounds, lesions or abrasions. Open cuts, abraded or irritated skin should not be used. Entry into the blood-stream, through, for example, cuts, abrasions or lesions, may produce systemic injury with serious effects. Examine the skin prior to the use of the material and ensure that any external damage is suitably protected.
Ingestion	Accidental ingestion of the material may be harmful; animal experiments indicate that ingestion of less than 150 grams may produce serious damage to the health of the individual. Ingestion of acidic corrosives may produce burns around the mouth and throat and oesophagus. Immediate pain and difficulties in swallowing and speaking may also be evident.
Inhalation	The material can cause respiratory irritation in some persons. The body's response to such irritation can cause further damage. Corrosive acids can cause irritation of the respiratory tract, with coughing, choking and mucous membrane damage. Symptoms include dizziness, headache, nausea and weakness.
Chronic Exposure	Repeated or prolonged exposure to acids may result in the erosion of teeth, swelling and/or ulceration of mouth lining, narrowing of the airways to lung, with cough, and inflammation of lung tissue often occurs. Long-term exposure to respiratory irritants can lead to disease of the airways involving difficult breathing and related systemic problems. Substance accumulation, in the human body, may occur and may cause some concern following repeated or long-term occupational exposure.
Acute oral toxicity	No data available
Acute inhalation toxicity	No data available
Acute dermal toxicity	No data available
Classification	The classification was made by the conventional (calculation) method of Dangerous Preparations Directive(1999/45/EC)

12. Ecological information

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Toxicity

Ingredient	Endpoint	Test Duration (hr)	Species	Value
phosphoric acid.. %	LC50	96	Fish	75.1mg/L
phosphoric acid ..%,	EC50	48	Crustacea	>376mg/L
phosphoric acid ..%,	EC50	72	Algae or other aquatic plants	77.9mg/L
phosphoric acid ..%,	EC50	24	Crustacea	>376mg/L
phosphoric acid ..%,	NOEC	72	Algae or other aquatic plants	1071mg/L
2-phosphonobutane-	EC50	96	Algae or other aquatic	4.0015mg/L

1,2,4-tricarboxylic acid			plants	
zinc chloride	LC50	96	FISH	0.03mg/L
zinc chloride	EC50	48	Crustacea	0.045mg/L
zinc chloride	EC50	24	Algae or other aquatic plants	0.0004mg/L
zinc chloride	NOEC	216	Algae or other aquatic plants	>0.0001mg/L

Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. Do NOT allow product contact with surface waters or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning or disposing of equipment wash-waters. Wastes resulting from use of the product must be disposed of on site or at approved sites.

Ecotoxicity	The tolerance of water organisms towards pH margin and variation is diverse. Recommended pH values for test species guidelines are between 6.0 and almost 9. Acute testing with fish showed 96h-LC50 at about pH 3.5 Prevent, by any means, spillage from entering drains or water courses.
Toxicity to daphnia and others	No data available
Toxicity to algae	No data available
Biodegradability	Medium
Persistence and degradability	No data available
Bioaccumulative potential	phosphoric acid ... %, orthophosphoric acid ...% LOW (LogKOW = -0.7699) 2-phosphonobutane- 1,2,4-tricarboxylic acid LOW (LogKOW = -1.359) zinc chloride HIGH (BCF = 16000)
Mobility in soil	phosphoric acid ... %, orthophosphoric acid ...HIGH (KOC = 1) 2-phosphonobutane-1,2,4-tricarboxylic acid LOW (KOC = 846) zinc chloride LOW (KOC = 23.74)

13. Disposal considerations

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Remarks	Please consider the relevant national or regional regulations that can be handled separately by the local or national authorities.
Waste Disposal	The product should not be allowed to enter drains, sewers or water courses. Recycling is preferred to disposal or incineration. If recycling is not possible, dispose of wastes in an approved waste disposal site in accordance with local regulations. Dispose of wastes in an approved waste disposal site.

14. Transport information

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Hazard Pictograms:

UN Number	UN3264
Proper shipping name	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.
Transport hazard class(es)	
ADR/RID	8
Subsidiary risk IMDG	8
Subsidiary risk IATA	8
Packing group	
Packing group	III
Environmental hazards	
Environmental hazards	No
Marine pollutant	No
ADR/RID	
Hazard ID	80
Tunnel Category	(E)

IMDG	
EmS Code	F-A S-B
IATA	
Packing Instruction (Cargo)	856
Maximum quantity	60 L
Packing Instruction (Passenger)	852
Maximum quantity	5 L

15. Regulatory information

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Regulations

This safety data sheet is in compliance with applicable - : 98/24/EC, 92/85/EC, 94/33/EC, 2015/830, Regulation (EC) No 1272/2008 and

Chemical safety assessment

For further information please look at the Chemical Safety Assessment in your Supply Chain if available.

National Inventory	Status
Australia - AICS	Y
Canada - DSL	Y
Canada - NDSL	N (zinc chloride; 2-phosphoric acid ... %)
China - IECSC	Y
Europe - EINEC /ELINCS / NLP	Y
Japan - ENCS	Y
Korea - KECI	Y
New Zealand - NZIoC	Y
Philippines - PICCS	Y
USA - TSCA	Y

Further information

FOR INDUSTRIAL USE.
Water Hazard Class.: WGK 1.
PR Number - 1821143. Product Declaration Number

16. Other information

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Other Information

The information above is believed to be accurate and available to us. However, we make no warranty, expressed or implied, with respect to such information, and we advise you to make their own investigations to determine the suitability for their purposes. In no event shall we be liable for any claim, damages, profits or any special, indirect, incidental, consequential or punitive damages, if **Rx Marine International** has been advised of the

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