Material Safety Data Sheet

BALLAST TANK INHIBITOR (RXSOL-23-2901-025)

1. Product and Company Identifaction

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

Company Details:
RX MARINE INTERNATIONAL
105, A wing , BSEL , TECH PARK.
VASHI ,NEW BOMBAY 400703 INDIA

Branch : Kandla, Mumbai, Chennai, Vizag, Kolkata, UAE, & Oman

Phone	+91 22 20871200 - 1500
Fax	+91 22 27612100 :::AOH :0091 9821214367
Email	123@rxmarine.com
Website	www.rxmarine.com

2. Composition / informationon ingredients

Name of Substance	Cas Number	EINECS
Phosphoric acid	7664-38-2	231-633
2-phosphonobutane-1,2,4-tricarboxylic acid	37971-36-1	2653-73
zinc chloride	7646-85-7	231-592

3. Hazards Identification

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+P338IF 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. **Disposal:** P501 Dispose of contents/container in accordance with local regulations.

4. First Aid Measures

Eye Contact	Immediately hold eyelids apart and flush the eye continuously with running water.Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids. Continue flushing until advised to stop by the Poisons Information Centre or a doctor, or for at least 15 minutes. Transport to hospital or doctor without delay. Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.
Skin Contact	Immediately flush body and clothes with large amounts of water, using safety shower if available.Quickly remove all contaminated clothing, including footwear. ash skin and hair with running water. Continue flushing with water until advised to stop by the Poisons Information Cntre.Transport to hospital, or doctor.
Inhalation:	Lay patient down. Keep warm and rested.Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures. Apply artificial respiration if not breathing, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary. Transport to hospital, or doctor, without delay. Inhalation of vapours or aerosols (mists, fumes) may cause lung oedema. Corrosive substances may cause lung damage (e.g. lung oedema, fluid in the lungs). As this reaction may be delayed up to 24 hours after exposure, affected individuals need complete rest (preferably in semi-recumbent posture) and must be kept under medical observation even if no symptoms are (yet) manifested. Before any such manifestation, the administration of a spray containing a dexamethasone derivative or beclomethasone derivative may be considered.
Ingestion:	For advice, contact a Poisons Information Centre or a doctor at once. Urgent hospital treatment is likely to be needed. If swallowed do NOT induce vomiting. If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration. Observe the patient carefully. Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious. Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink. Transport to hospital or doctor without delay.
Notes to Physicians	Treat symptomatically.

5. Fire-fighting Measures

Suitable extinguishing media	Water spray or fog. Foam. Dry chemical powder.
Protective Equipment	Use personal protective equipment.
Hazardous combustionproducts	Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine 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 course.
Fire/Explosion Hazard	Combustible. Slight fire hazard when exposed to heat or flame. Acids may react with metals to produce hydrogen, a highly flammable and explosive gas. Combustion products include: amp;43cw carbon dioxide (CO2)phosphorus oxides (POx) other pyrolysis products typical of burning organic material.

6. Accidental Release Measures

Personal precautions, protective equipment and emergency procedures	Ensure adequate ventilation. Keep people away from and upwind of spill/leak. Avoid inhalation, ingestion and contact with skin and eyes. Wear suitable personal protective equipment.Respiratory protective equipment.
Enviromental Precaution	Do not allow contact with soil, surface or ground water.If the products get into drains, inform the relevant authorities immediately.
Methods and materials for containment and cleaning up	**Minor Spill :** Drains for storage or use areas should have retention basins for pH adjustments and dilution of spills before discharge or disposal of material. Check regularly for spills and leaks. Clean up all spills immediately. Avoid breathing vapours and contact with skin and eyes. Control personal contact with the substance, by using protective equipment. **Mazor Spill :** Clear area of personnel and move upwind. Alert Fire Brigade and tell them location and nature of hazard. Wear full body protective clothing with breathing apparatus.

7. Handling and Storage

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. DO NOT use aluminium or galvanised containers Check regularly for spills and leaks Lined metal can, lined metal pail/ can. Plastic pail. Polyliner drum.
Storage incompatibility	Reacts with mild steel, galvanised steel / zinc producing hydrogen gas which may form an explosive mixture with air. Avoid strong bases. Segregate from alkalies, oxidising agents and chemicals readily decomposed by acids, i.e. cyanides, sulfides, carbonates.
Advice on general occupational hygiene	Wash hands after use. Do not to eat, drink and smoke in work areas. Remove contaminated clothing and protective equipment before entering eating areas.

8. Exposure controls and personal protection

Engineering Control	Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection. The basic types of engineering controls are: Process controls which involve changing the way a job activity or process is done to reduce the risk.
Personal Protection	**Eye & Face protection :** Safety glasses with unperforated side shields may be used where continuous eye protection is desirable, as in laboratories; spectacles are not sufficient where complete eye protection is needed such as when handling bulk-quantities, where there is a danger of splashing, or if the material may be under pressure. Chemical goggles.whenever there is a danger of the material coming in contact with the eyes; goggles must be properly fitted. Full face shield (20 cm, 8 in minimum) may be required for supplementary but never for primary protection of eyes; these afford face protection. **Hand protection :** Wear the following personal protective equipment: Standard glove type. Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough. **Skin protection :** Personal protective equipment comprising: suitable protective gloves, safety goggles and protective clothing **Respiratory protection :**When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

Exposure Limits:

Source	Ingredients	Material Name	TWA	STEL	Peak
European Union (EU) First List of Indicative Occupational Exposure Limit Values (IOELVs) (English)	Phosphoric acid	Orthophosphoric acid	1 mg/m3	2 mg/m3	Not Available
EU Consolidated List of Indicative Occupational Exposure Limit Values (IOELVs)	Phosphoric acid	Orthophosphoric acid	1 mg/m3	2 mg/m3	Not Available
Norway regulations on action values and limit values for physical andchemical factors in the work environment and infection risk groups for biological factors (Norwegian)	Phosphoric acid	Orthophosphoric acid	1 mg/m3	2 mg/m3	Not Available
Norway regulations on action values and limit values for physical andchemical factors in the work environment and infection risk groups for biological factors (Norwegian)	zinc chloride	Sinkklorid	1 mg/m3	Not Available	Not Available

Hygiene measures: Handle in accordance with good industrial hygiene and safety practice. Remove and wash contaminated clothing before re-use. Wash face, hands and any exposed skin thoroughly after handling. Provide suitable facilities for quick drenching or flushing of the eyes and body in case of contact or splash hazard.



Gloves



Suit

9. Physical and chemical properties

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

Recativity	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 (CO2) phosphorus oxides (POx) other pyrolysis products typical of burning organic material.
Condition to Avoid	Strong Alkaline material and Oxidizing Material
Polymerization	Will not occur.

11. Toxicological information

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 epithelia generally 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 slowly with the formation of scar tissue. Skin contact is not thought to produce harmful health effects (as classified under EC Directives using animal models). Systemic harm, however, has been identified following exposure of animals by at least one other route and the material may still produce health damage following entry through wounds, lesions or abrasions. Open cuts, abraded or irritated skin should not be exposed to this material Entry into the blood-stream, through, for example, cuts, abrasions or lesions, may produce systemic injury with harmful 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 gram may be fatal or may produce serious damage to the health of the individual. Ingestion of acidic corrosives may produce burns around and in the mouth, the 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 lung damage. Corrosive acids can cause irritation of the respiratory tract, with coughing, choking and mucous membrane damage. There may be 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. Irritation of airways to lung, with cough, and inflammation of lung tissue often occurs. Long-term exposure to respiratory irritants may result in 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

Toxicity

Ingredient	Endpoint	Test Duration (hr)	Species	Value	Source
phosphoric acid.. %	LC50	96	Fish	75.1mg/L	2
phosphoric acid ..%,	EC50	48	Crustacea	>376mg/L	2
phosphoric acid ..%,	EC50	72	Algae or other aquatic plants	77.9mg/L	2
phosphoric acid ..%,	EC50	24	Crustacea	>376mg/L	2
phosphoric acid ..%,	NOEC	72	Algae or other aquatic plants	7.5mg/L	2
2-phosphonobutane-1,2,4-tricarboxylic acid	LC50	96	Fish	3.71293mg/L	3
2-phosphonobutane-1,2,4-tricarboxylic acid	EC50	48	Crustacea	>1071mg/L	2
2-phosphonobutane-1,2,4-tricarboxylic acid	EC50	96	Algae or other aquatic plants	4.0015mg/L	3
zinc chloride	LC50	96	FISH	0.03mg/L	4
zinc chloride	EC50	48	Crustacea	0.045mg/L	4
zinc chloride	EC50	24	Algae or other aquatic plants	0.0004mg/L	4
zinc chloride	NOEC	216	Algae or other aquatic plants	>0.0001mg/L	4

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

Ecotoxicity	The tolerance of water organisms towards pH margin and variation is diverse. Recommended pH values for test species listed in OECD guidelines are between 6.0 and almost 9. Acute testing with fish showed 96h-LC50 at about pH 3.5 Prevent, by any means available, 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

Remarks	Please consider the relevant national or regional provisions. Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities.
Waste Disposal	The product should not be allowed to enter drains, water courses or the soil. Where possible recycling is preferred to disposal or incineration. If recycling is not practicable, dispose of in compliance with local regulations. Dispose of wastes in an approved waste disposal facility

14. Transport information

Hazard Pictograms:

UN Number	UN3264
Proper shipping name	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (Zink Chloride, phosphoric acid mixture)
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

Regulations	This safety data sheet is in compliance with the following EU legislation and its adaptations - as far as applicable - : 98/24/EC, 92/85/EC, 94/33/EC, 91/689/EEC, 1999/13/EC, Commission Regulation (EU) 2015/830, Regulation (EC) No 1272/2008 and their amendments For further information please look at the Chemical Safety Assessment and Exposure Scenarios prepared by your Supply Chain if available.
Chemical safety assessment	National Inventory Status Australia - AICS Y Canada - DSL Y Canada - NDSL N (zinc chloride; 2-phosphonobutane-1,2,4-tricarboxylic acid; phosphoric acid ... %, orthophosphoric 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 - P-14188 (Norwegian).

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 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 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.