

1. Product and Company Identification

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Product Name RXSOL-40-4024
Product Type Corrosion Inhibitor - Laser systems

Company Details:

RX MARINE INTERNATIONAL
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2. Composition / Information on ingredients

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This product is classified as dangerous in accordance with the Preparations Directive 1999/45/EC

Hazardous Substance(s)	EINECS / ELINCS NO	SYMBOL	R-PHRASES	% (w/w)
Potassium Hydroxide	215-181-3	C, Xn	R22, R35	1 - 5
Sodium Tetraborate	215-540-4		OEL	1 - 5
Hydroxyphosphonoacetic acid, tripotassium salt		Xn	R22, R43. R48/22	10 - 30

Refer to Section 16 for descriptions of relevant risk phrases and Notas

3. Hazards Identification

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HAZARD CLASSIFICATION	This product is classified as dangerous in accordance with the Preparations Directive 1999/45/EC. Irritating
HUMAN HEALTH HAZARDS - ACUTE	May cause sensitization by skin contact. Harmful: danger of serious damage to health by prolonged exposure if
INHALATION	Not a likely route of exposure. Aerosols or product mist may irritate the upper respiratory tract
SKIN CONTACT	Can cause moderate irritation. Prolonged or frequently repeated skin contact may cause allergic reactions in some indivi
EYE CONTACT	Irritating, and may injure eye tissue if not removed promptly
INGESTION	Not a likely route of exposure. There may be irritation to the gastro-intestinal tract.
HUMAN HEALTH HAZARDS - CHRONIC	No adverse effects expected other than those mentioned above

4. First Aid Measures

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INHALATION	Remove to fresh air, treat symptomatically. If symptoms develop, seek medical advice.
SKIN CONTACT	Immediately flush with plenty of water for at least 15 minutes. If symptoms develop, seek medical advice.
EYE CONTACT	Immediately flush eye with water for at least 15 minutes while holding eyelids open. Get medical attention
INGESTION	Get medical attention. Do not induce vomiting without medical advice. If conscious, washout mouth and give water if reflexive vomiting occurs, rinse mouth and repeat administration of water
NOTE TO PHYSICIAN	Based on the individual reactions of the patient, the physician's judgement should be used to control symptoms and clinical

5. Fire-fighting Measures

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FLASH POINT	None
EXTINGUISHING MEDIA	This product would not be expected to burn unless all the water is boiled away. The remaining organics may be treated with appropriate extinguishing media appropriate for surrounding fire.
FIRE AND EXPLOSION HAZARD	May evolve oxides of carbon (COx) under fire conditions. May evolve oxides of nitrogen (NOx) under fire conditions.
SPECIAL PROTECTIVE EQUIPMENT FOR FIRE FIGHTING	In case of fire, wear a full face positive-pressure self contained breathing apparatus and protective suit.

6. Accidental Release Measures

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Personal precautions	Restrict access to area as appropriate until clean-up operations are complete. Use personal protective equipment recommended for this material (Exposure Controls/Personal Protection). Stop or reduce any leaks if it is safe to do so. Ventilate spill area if possible. Clean-up should be conducted by trained personnel only. Do not touch spilled material. Have emergency equipment (for fires, spills, leaks) available. Notify appropriate government, occupational health and safety and environmental authorities.
METHODS FOR CLEANING UP: SMALL SPILLS:	Soak up spill with absorbent material. Place residues in a suitable, covered, properly labeled container. Waste Disposal: LARGE SPILLS: Contain liquid using absorbent material, by digging trenches or by diking. Reclaim into recovery or salvage drums or tank truck for proper disposal. Clean contaminated equipment or by diking. Reclaim into recovery or salvage drums or tank truck for proper disposal. Clean contaminated surfaces with water or aqueous cleaning agents. Contact an approved contractor for proper disposal of contaminated recovered material. Dispose of material in compliance with regulations indicating appropriate disposal (Disposal Considerations).
ENVIRONMENTAL PRECAUTIONS	Do not contaminate surface water.

7. Handling and Storage

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Handling	Do not get in eyes, on skin, on clothing. Do not take internally. Use with adequate ventilation. Avoid breathing vapors/gases/dust. Keep the containers closed when not in use. Have emergency equipment (for fires, spills, leaks) available. Ensure all containers are labeled. Do not mix with acids.
STORAGE CONDITIONS	Store in suitable labeled containers. Store the containers tightly closed. Store separately from acids.
SUITABLE CONSTRUCTION MATERIAL	HDPE (high density polyethylene), Stainless Steel 304, Compatibility with Plastic Materials can vary; we therefore recommend compatibility is tested prior to use.
SPECIFIC USE(S)	CLOSED LOOP TREATMENT For specific dosages and customized applications please contact your representative

8. Exposure controls and personal protection

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OCCUPATIONAL EXPOSURE LIMITS

Exposure guidelines have not been established for this product. Available exposure limits for the substance are shown below.

Country/Source	Substance(s)
AUSTRIA	Potassium Hydroxi
BELGIUM	Potassium Hydrox
	Sodium Tetraborat
DENMARK	Potassium Hydroxi
	Sodium Tetraborat
FINLAND	Potassium Hydroxi
FRANCE	Potassium Hydroxi
	Sodium Tetraborat
IRELAND	Potassium Hydroxi
	Sodium Tetraborat
ITALY	Potassium Hydroxi
	Sodium Tetraborat
NETHERLANDS	Potassium Hydroxi
	Sodium Tetraborat
NORWAY	Potassium Hydroxi
	Sodium Tetraborat
SPAIN	Potassium Hydroxi
	Sodium Tetraborat
SWEDEN	Potassium Hydroxi
SWITZERLAND	Potassium Hydroxi
	Sodium Tetraborat (Inhalable dust)
UNITED KINGDOM	Potassium Hydroxi
	Sodium Tetraborat
POLAND	Potassium Hydroxi
HUNGARY	Potassium Hydroxi
CZECH REPUBLIC	Potassium Hydroxi
CROATIA	Potassium Hydroxi
	Sodium Tetraborat
ROMANIA	Potassium Hydroxi
SLOVAKIA	Potassium Hydroxi

* A skin notation refers to the potential significant contribution to overall exposure by the cutaneous route, including mucous membranes and the eyes.

MONITORING MEASURES:-

A small volume of air is drawn through an absorbant or barrier to trap the substance(s) which can then be desorbed or removed and analyzed as referenced below

Substance(s)	Method
Potassium Hydroxide	US NIOSH: 7401
Sodium Tetraborate	US OSHA: 125

ENGINEERING MEASURES:-

The use of local exhaust ventilation is recommended to control emissions near the source. Laboratory samples should be handled in a fumehood. Provide mechanical ventilation of confined spaces.

PERSONAL PROTECTION GENERAL ADVICE:-

The use and choice of personal protection equipment is related to the hazard of the product, the workplace and the way the product is handled. In general, we recommend as a minimum precaution that safety glasses with side-shields and workclothes protecting arms, legs and body be used. In addition any person visiting an area where this product is handled should at least wear safety glasses with side-shields. The applicable European standard can be found in EN 166.

RESPIRATORY PROTECTION:-

Where concentrations in air may exceed the limits given in this section, the use of a half face filter mask or air supplied breathing apparatus is recommended. A suitable filter material depends on the amount and type of chemicals being handled. Consider the use of filter type: A-P. The applicable European standard can be found in EN 140, EN 137, EN 143 and EN 14387. In event of emergency or planned entry into unknown concentrations a positive pressure, full-facepiece SCBA should be used. If respiratory protection is required, institute a complete respiratory protection program including selection, fit testing, training, maintenance and inspection.

HAND PROTECTION:-

When handling this product, the use of chemical gauntlets is recommended. The choice of work glove depends on work conditions and what chemicals are handled, but we have positive experience under light handling conditions using gloves made from PVC. Gloves should be replaced immediately if signs of degradation are observed. Breakthrough time not determined as preparation, consult PPE manufacturers. The applicable European standard can be found in EN 374

SKIN PROTECTION:-

Wear impervious apron and boots. The applicable European standard can be found in EN ISO 20345.

EYE PROTECTION:-

Wear chemical splash goggles. The applicable European standard can be found in EN 166.

HYGIENE RECOMMENDATIONS:-

Use good work and personal hygiene practices to avoid exposure. Keep an eye wash fountain available. Keep a safety shower available. If clothing is contaminated, remove clothing and thoroughly wash the affected area. Launder contaminated clothing before reuse. Always wash thoroughly after handling chemicals. When handling this product never eat, drink or smoke.

9. Physical and chemical properties

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PHYSICAL STATE	Liquid
APPEARANCE	Amber
ODOR	Slight
FLASH POINT	None
SPECIFIC GRAVITY	1.18
SOLUBILITY IN WATER	Complete
pH	(100 %) > 13
VISCOSITY	6 cps (20 °C)
FREEZING POINT	-11 °C
BOILING POINT	100 °C
VAPOR PRESSURE	Same as water

Note: These physical properties are typical values for this product and are subject to change

10. Stability and reactivity

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Stability	Stable under normal conditions
HAZARDOUS POLYMERIZATION	Hazardous polymerization will not occur
CONDITIONS TO AVOID	Avoid extremes of temperature
MATERIALS TO AVOID	Acids, Contact with strong acids (e.g. sulfuric, phosphoric, nitric, hydrochloric, chromic, sulfonic) may generate heat, spilling, boiling and toxic vapors.
HAZARDOUS DECOMPOSITION PRODUCTS	Under fire conditions: Oxides of carbon, Oxides of nitrogen

11. Toxicological information

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No toxicity studies have been conducted on this product.

SENSITIZATION:-
Repeated or prolonged contact may cause skin sensitization.

CARCINOGENICITY:-
None of the substances in this product are listed as carcinogens by the International Agency for Research on Cancer (IARC), the National Toxicology Program (NTP) or the American Conference of Governmental Industrial Hygienists (ACGIH).
For additional information on the hazard of the preparation, please consult section 3 and 12

12. Ecological information

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ECOTOXICOLOGICAL EFFECTS:-
No toxicity studies have been conducted on this product

MOBILITY:-
The environmental fate was estimated using a level III fugacity model embedded in the EPI (estimation program interface) Suite TM , provided by the US EPA. The model assumes a steady state condition between the total input and output. The level III model does not require equilibrium between the defined media. The information provided is intended to give the user a general estimate of the environmental fate of this product under the defined conditions of the models. If released into the environment this material is expected to distribute to the air, water and soil/sediment in the approximate respective percentages.

Air	Water	Soil/Sediment
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