Material Safety Data Sheet

Corrosion Inhibitor - Laser systems (RXSOL-40-4024-025)

1. Product and Company Identifaction

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

Company Details:

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

Phone	+91 22 65113333 / 5555 / 9999 / 27611360
Fax	+91 22 2781 1318 :::AOH :0091 9821214367
Email	mail@rxmarine.com

2. Composition / informationon ingredients

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

HAZARD CLASSIFICATION	**This product is classified as dangerous in accordance with the Preparations Directive 1999/45/EC. Irritating to eyes and skin. May cause sensitization by skin contact. Harmful: danger of serious damage to health by prolonged exposure if swallowed.**
HUMAN HEALTH HAZARDS - ACUTE	
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 individuals.
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

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 to drink. 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 condition.

5. Fire-fighting Measures

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 ignitable. Use 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

Personal precautions	Restrict access to area as appropriate until clean-up operations are complete. Use personal protectiv equipment recommended in Section 8 (Exposure Controls/Personal Protection). Stop or reduce any leaks if it is safe to do so. Ventilate spill area if possible. Ensure clean-up is conducted by trained personnel only. Do not touch spilled material. Have emergency equipment (for fires, spills, leaks, etc.) readily 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. Wash affected area. 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 contaminate 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 waste hauler for disposal of contaminated recovered material. Dispose of material in compliance with regulations indicated in Section 13 (Disposal Considerations).**

ENVIRONMENTAL PRECAUTIONS	Do not contaminate surface water.

7. Handling and Storage

Handling	**Do not get in eyes, on skin, on clothing. Do not take internally. Use with adequate ventilation. Do not breathe vapors/gases/dust. Keep the containers closed when not in use. Have emergency equipment (for fires, spills. leaks, etc.) readily 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 that 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

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 Hydroxide (Inhalable dust)
BELGIUM	Potassium Hydroxide
	Sodium Tetraborate
DENMARK	Potassium Hydroxide
	Sodium Tetraborate
FINLAND	Potassium Hydroxide
FRANCE	Potassium Hydroxide
	Sodium Tetraborate
IRELAND	Potassium Hydroxide
	Sodium Tetraborate
ITALY	Potassium Hydroxide
	Sodium Tetraborate (Inhalable fraction.)
NETHERLANDS	Potassium Hydroxide
	Sodium Tetraborate
NORWAY	Potassium Hydroxide
	Sodium Tetraborate
SPAIN	Potassium Hydroxide
	Sodium Tetraborate
SWEDEN	Potassium Hydroxide (Inhalable dust)
SWITZERLAND	Potassium Hydroxide (Inhalable dust)
	Sodium Tetraborate (Inhalable dust)
UNITED KINGDOM	Potassium Hydroxide

	Sodium Tetraborate
POLAND	Potassium Hydroxide
HUNGARY	Potassium Hydroxide
CZECH REPUBLIC	Potassium Hydroxide
CROATIA	Potassium Hydroxide
	Sodium Tetraborate
ROMANIA	Potassium Hydroxide as NaOH
SLOVAKIA	Potassium Hydroxide (Aerosol.)

* 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 bserved. 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

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

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, splattering or boiling and toxic vapors.
HAZARDOUS DECOMPOSITION PRODUCTS	Under fire conditions: Oxides of carbon, Oxides of nitrogen

11. Toxicological information

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

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
5%	30 - 50%	50 - 70%

The portion in water is expected to be soluble or dispersible.

PERSISTENCY AND DEGRADATION:-
The organic portion of this preparation is expected to be inherently biodegradable.

BIOACCUMULATION POTENTIAL
Component substances have a low potential to bioconcentrate.

13. Disposal considerations

If this preparation becomes a waste, the final user must define and assign the appropriate European Waste Catalogue code. Use only authorized contractors. Ensure compliance with EC, national and local regulations

Dispose of wastes in an approved incinerator or waste treatment/disposal site, in accordance with all applicable regulations. Do not dispose of wastes in local sewer or with normal garbage. This product will generate an ash if burned. It can be burned directly in appropriate equipment. Any chemical waste is a potential environmental pollutant and is NOT suitable for disposal via ground, municipal sewers, drains, natural streams or rivers.

Empty drums should be taken for recycling, recovery, or disposal through a suitably qualified or licensed contractor.

EUROPE WASTE CODE:-
16 03 03* - OFF SPECIFICATION BATCHES AND UNUSED PRODUCTS - Inorganic wastes containing dangerous substances. If this product is used in any further processes, the final user must redefine and assign the most appropriate European Waste Catalogue Code.

NATIONAL REGULATIONS AUSTRIA:-
Waste Code :52404

14. Transport information

The information in this section is for reference only and should not take the place of a shipping paper (bill of lading) specific to an order. Please note that the proper Shipping Name / Hazard Class may vary by packaging. properties, and mode of transportation. Typical Proper Shipping Names for this product are as follows

LAND TRANSPORT

Proper Shipping Name	CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S
Technical Name(s)	Potassium Hydroxide
UN/ID No	UN 3266
Hazard Class - Primary	**8**
Packaging Group	**III**
ADR/RID H.I.n	80
CLASSIFICATION CODE	C5
AIR TRANSPORT (ICAO/IATA)	
Proper Shipping Name	CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S.
Technical Name(s)	Potassium Hydroxide
UN/ID No	UN 3266
Hazard Class - Primary	8
Packing Group	III
IATA Cargo Packing Instructions	820
IATA Cargo Aircraft Limit	60 L (Max net quantity per package)
IATA Passenger Packing Instructions	Y818 / 818

IATA Passenger Aircraft Limit	1 L / 5 L
MARINE TRANSPORT (IMDG/IMO	
Proper Shipping Name	CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S
Technical Name(s)	Potassium Hydroxide
UN/ID No	UN 3266
Hazard Class - Primary	8
Packing Group	III
OTHER APPLICABLE INFORMATION	
CEFIC TREMCARD REFERENCE	80GC5-II+III
EMERGENCY ACTION CODE	2X

15. Regulatory information

CLASSIFICATION AND LABELLING
GOVERNING DIRECTIVE(S): Dangerous Substances Directive 67/548/EEC and Dangerous Preparations Directive 1999/45/EC

HAZARD SYMBOLS
HARMFUL\

Contains:..Hydroxyphosphonoacetic acid, tripotassium salt

RISK PHRASES
R36/38 - Irritating to eyes and skin.
R43 - May cause sensitization by skin contact.
R48/22 - Harmful: danger of serious damage to health by prolonged exposure if swallowed.

SAFETY PHRASES
S24/25 - Avoid contact with skin and eyes.
S26 - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S28 - After contact with skin, wash immediately with plenty of water.
S36/37/39 - Wear suitable protective clothing, gloves and eye/face protection.

NATIONAL REGULATIONS GERMANY
WGK 1 (Annex 4)

NATIONAL REGULATIONS HOLLAND
ABM RESULT

ABM RESULT Substance(s) % (w/w)
B 11

INTERNATIONAL CHEMICAL CONTROL LAWS
EUROPE

The substances in this preparation have been reviewed for compliance with the EINECS or ELINCS inventories.

16. Other information

LIST OF RELEVANT R-PHRASES AND NOTAS IN SECTION

R22 - Harmful if swallowed.
R35 - Causes severe burns.
R43 - May cause sensitization by skin contact.
R48/22 - Harmful: danger of serious damage to health by prolonged exposure if swallowed.

OEL - OCCUPATIONAL EXPOSURE LIMITS

REVISED INFORMATION: section(s):-

This product material safety data sheet provides health and safety information. The product is to be used in applications consistent with our product literature. Individuals handling this product should be informed of the recommended safety precautions and should have access to this information. For any other uses, exposures should be evaluated so that appropriate handling practices and training programs can be established to insurr safe workplace operations. Please consult your local sales representative for any further information.