Material Safety Data Sheet

Scale Corrosion Inhibitor Open - closed cooling systems (RXSOL-40-4022-210)

1. Product and Company Identifaction

Product Name	RXSOL-40-4022-210
Product Type	Scale and Corrosion Inhibitor (Cooling Water Treatment)

Company Details:

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

Stock Point : Mumbai, Kandla, Chennai, Kolkata, Visakhapatnam, Fujairah, Muscat

Phone	+91 22 27815541 / 42
Fax	+91 22 2781 1318 :::AOH :0091 9821214367
Email	mail@rxmarine.com

2. Composition / informationon ingredients

Hazardous Components	CAS-No	EINECS-No.	Concentration	Symbol(s)	R-phrase(s)
Poly(maleic acid)	26099-09-2		>=5 - 10%	Xi	R36
2-Acrylamido-2-methylpropanesulfonic acid-acrylic acid copolymer	40623-75-4		>=5 - 10%	Xi	R36/38
[[(2-Hydroxyethyl)imino]bis(methylene)]bisphosphonic acid	5995-42-6	227-833-4	>=5 - 10%	C	R34
Sodium 4(or 5)-methyl-1H-benzotriazolide	64665-57-2	265-004-9	>=1 - 2,5%	Xn C	R22 R34
Sulphuric acid	7664-93-9	231-639-5	>=1 - 2,5%	C	R35
hydrochloric acid...%	7647-01-0	231-595-7	>=1 - 2,5%	C Xi	R34 R37

3. Hazards Identification

Hazard Summary	Irritant
Risks	Irritating to eyes and skin

4. First Aid Measures

General Information : Consult a physician. Show this safety data sheet to the doctor in attendance.

Eyes : Hold eyelids apart and flush eyes with plenty of water for at least 15 minutes. Get medical attention.
Remove contact lenses.

Skin : Take off contaminated clothing and shoes immediately. Wash off immediately with plenty of water. Wash contaminated clothing before re-use. If skin irritation persists, call a physician.

Ingestion : Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Consult a physician if necessary.

Inhalation : Move to fresh air. If symptoms persist, call a physician. In case of shortness of breath, give oxygen.

5. Fire-fighting Measures

Suitable extinguishing media : ABC powder, Carbon dioxide (CO2), Dry chemical, Water mist

Unsuitable extinguishing media : DO NOT USE: Halons

Hazardous combustion products : carbon dioxide and carbon monoxide, nitrogen oxides (NOx), hydrogen cyanide in reducing atmospheres, sulfur oxides, toxic fumes, Hydrocarbons, acid vapors, Hydrogen, Hydrogen chloride gas

Thermal decomposition : no data available

Precautions for fire-fighting : Do not allow run-off from fire fighting to enter drains or water courses. Keep containers and surroundings cool with water spray. Prevent fire extinguishing water from contaminating surface water or the ground water system. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

Personal protective equipment : In the event of fire, wear self-contained breathing apparatus. Use personal protective equipment.

6. Accidental Release Measures

Personal precautions
Persons not wearing protective equipment should be excluded from area of spill until clean-up has been completed.

Environmental precautions
Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Large spills should be collected mechanically (remove by pumping) for disposal. Keep in suitable, closed containers for disposal.

Other information
Comply with all applicable federal, state, and local regulations.

7. Handling and Storage

Handling

Do not breathe vapours or spray mist. Avoid contact with skin and eyes. For personal protection see section 8. Provide sufficient air exchange and/or exhaust in work rooms. Avoid exceeding of the given occupational exposure limits (see section 8). Smoking, eating and drinking should be prohibited in the application area. Normal measures for preventive fire protection.

Storage

Store in original container. Keep containers tightly closed in a dry, cool and well-ventilated place. Stable under recommended storage conditions. Protect from frost.

8. Exposure controls and personal protection

Exposure Guidelines

Sulphuric acid (CAS 7664-93-9) : MAC (NL) time weighted average 1 mg/m3

hydrochloric acid...% (CAS 7647-01-0)

MAC (NL)	time weighted average	5 ppm
MAC (NL)	time weighted average	8 mg/m3
MAC (NL)	Short term exposure limit	10 ppm
MAC (NL)	Short term exposure limit	15 mg/m3
EU ELV	time weighted average	5 ppm
EU ELV	time weighted average	8 mg/m3
EU ELV	Short term exposure limit	10 ppm
EU ELV	Short term exposure limit	15 mg/m3
NL OEL	Short term exposure limit	15 mg/m3
NL OEL	time weighted average	8 mg/m3
NL OEL	Short term exposure limit	15 mg/m3

General advice

These recommendations provide general guidance for handling this product. Personal protective equipment should be selected for individual applications and should consider factors which affect exposure potential, such as handling practices, chemical concentrations and ventilation. It is ultimately the responsibility of the employer to follow regulatory guidelines established by local authorities. Keep away from food, drink and animal feedingstuffs. When using do not eat, drink or smoke. Ensure that eyewash stations and safety showers are close to the workstation location.

Exposure controls

Provide sufficient mechanical (general and/or local exhaust) ventilation to maintain exposure below level of overexposure (from known, suspected or apparent adverse effects).

Eye protection

Safety glasses with side-shields

Skin and body protection

Wear as appropriate:Safety shoes . Wear resistant gloves such as:butyl-rubber

Respiratory protection

When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

9. Physical and chemical properties

Physical state	liquid
Form	Aqueous solution
Colour	yellow
Odour	none
Boiling point/boiling range	> 100,00 °C
Melting point/range	(ca.)0 °C
Sublimation point	no data available
pH	2,5
Flash point	no data available
Ignition temperature	no data available
Evaporation rate	no data available
Lower explosion limit / Upper explosion limit	no data available
Dust explosion class	no data available
Dust explosion constant	no data available
Burning number	no data available
Particle size	no data available
Vapour pressure	24,00 hPa Calculated Vapor Pressure
Vapour density	no data available
Density	(ca.)1,18 g/cm3 @ 68 °F / 20 °C
Bulk density	no data available
Solubility	Water completely miscible
Partition coefficient: n-octanol/water	no data available
log Pow	no data available
Autoignition temperature	no data available
Viscosity, dynamic	no data available
Viscosity kinematic	no data available
Hydrolysis	no data available
Physico-chemical removability	no data available

10. Stability and reactivity

Stability : Stable under recommended storage conditions.

Conditions to avoid : excessive heat, Exposure to sunlight.

Incompatible products : Organic materials, Powdered metals, Strong oxidizing agents, strong alkalis, steel, strong reducing agents

Hazardous decomposition products ; carbon dioxide and carbon monoxide, Hydrocarbons, corrosive vapors, toxic fumes, hydrogen cyanide in reducing atmospheres, nitrogen oxides (NOx), Sulphur oxides

Hazardous reactions : Hazardous polymerisation does not occur

11. Toxicological information

Exposure routes
Skin contact, Eye Contact, Ingestion, Inhalation

Eye contact
Causes eye irritation.

Skin contact
Causes skin irritation.

Ingestion
May cause burns to mouth, throat and stomach.Not known to be harmful if swallowed.

Inhalation
May cause respiratory tract irritation.Not known to be harmful if inhaled.

Aggravated Medical Condition
Preexisting disorders of the following organs (or organ systems) may be aggravated by
exposure to this material: Skin, Upper respiratory tract, lung (for example, asthma-like conditions)

Symptoms
Signs and symptoms of exposure to this material through breathing, swallowing, and/or passage of the material through the skin may include: stomach or intestinal upset (nausea, vomiting, diarrhea), irritation (nose, throat, airways), Nose bleeding, Cough, choking, chest pain, Difficulty in breathing, lung edema (fluid buildup in the lung tissue)

Target Organs
Overexposure to this material (or its components) has been suggested as a cause of the following effects in humans: damage to tooth enamel, effects on lung function, respiratory tract damage (nose, throat, and airways)

Acute oral toxicity
Poly(maleic acid) (26099-09-2) : LD 50 Rat: 12.500 mg/kg
2-Acrylamido-2-methylpropanesulfonic acid-acrylic
acid copolymer (40623-75-4): no data available
[[(2- : no data availableHy

droxyethyl)imino]bis(methylene)]bisphosphonic acid (5995-42-6) Sodium 4(or 5)-methyl-1H-benzotriazolide (64665-0 57-2) : LD 50 Female Rat: 735 mg/kg. Sulphuric acid (7664-93-9) : LD 50 Rat: 2.140 mg/kg
hydrochloric acid...% (7647-01-0) : LD 50 Rabbit: 900 mg/kg

Acute inhalation toxicity Poly(maleic acid) (26099-09-2) : no data available 2-Acrylamido-2-methylpropanesulfonic acid-acrylic acid copolymer (40623-75-4) : no data available [[(2- Hydroxyethyl)imino]bis(methylene)]bisphosphonic acid (5995-42-6) : no data available Sodium 4(or 5)-methyl-1H-benzotriazolide (64665- 57-2) : no data available
Sulphuric acid (7664-93-9) : no data available hydrochloric acid...% (7647-01-0) : LC 50
Rat: 3.124 mg/l, 1 h Acute dermal toxicity Poly(maleic acid) (26099-09-2) : no data available

2-Acrylamido-2-methylpropanesulfonic acid-acrylic acid copolymer (40623-75-4) : no data available [[(2-
ydroxyethyl)imino]bis(methylene)]bisphosphonic cid (5995-42-6) no data available odium 4(or 5)-methyl-1H-benzotriazolide (64665- 7-2) LD 50

Rabbit:
> 2.000 mg/kg
Sulphuric acid (7664-93-9) : no data available
hydrochloric acid...% (7647-01-0) : no data available

12. Ecological information

Elimination information (per sistence and degradability) iodegradability Poly(maleic acid) (26099-09-2) : no data available

2-Acrylamido-2-methylpropanesulfonic acid-acrylic : no data available
acid copolymer (40623-75-4) [(2- ydroxyethyl)imino]bis(methylene)]bisphosphonic
acid (5995-42-6) no data available
Sodium 4(or 5)-methyl-1H-benzotriazolide (64665- 7-2): 70 % Exposure time: 28 d
Sulphuric acid (7664-93-9) : no data available
hydrochloric acid...% (7647-01-0) : no data available
Physico-chemical removability
Poly(maleic acid) (26099-09-2) : no data available

2-Acrylamido-2-methylpropanesulfonic acid-acrylic
acid copolymer (40623-75-4): no data available
[[(2-Hydroxyethyl)imino]bis(methylene)]bisphosphonic
acid (5995-42-6): no data available

Sodium 4(or 5)-methyl-1H-benzotriazolide (64665-57-2): no data available
Sulphuric acid (7664-93-9) : no data available
hydrochloric acid...% (7647-01-0) : no data available
Bioaccumulation : The bioaccumulation potential cannot be determined. cotoxicity effects oxicity to fish
Poly(maleic acid) (26099-09-2) : 96 h LC50 Rainbow trout,donaldson trout
(Oncorhynchus mykiss): 100,000 mg/l

2-Acrylamido-2-methylpropanesulfonic acid-acrylic acidcopolymer (40623-75-4): no data available
[[(2-Hydroxyethyl)imino]bis(methylene)]bisphosphonicacid (5995-42-6): no data available

Sodium 4(or 5)-methyl-1H-benzotriazolide (64665-57-2)
: 96 h LC 50 Lepomis macrochirus (Bluegill sunfish): >
173,000 mg/l
96 h LC 50 Danio rerio (zebra fish): 122,000 mg/l
Sulphuric acid (7664-93-9) : 96 h LC 50 Western mosquitofish (Gambusia affinis):
42,000 mg/l Method: Static Mortality

hydrochloric acid...% (7647-01-0) : no data available
Toxicity to daphnia and other aquatic inver tebrates.
Poly(maleic acid) (26099-09-2) : 48 h LC 50 Daphnia magna (Water flea): 580,000 mg/l
2-Acrylamido-2-methylpropanesulfonic acid-acrylic
acid copolymer (40623-75-4)
: no data available
[[(2-Hydroxyethyl)imino]bis(methylene)]bisphosphonicacid (5995-42-6): no data available
Sodium 4(or 5)-methyl-1H-benzotriazolide (64665-57-2): 48 h EC 50 Water flea (Daphnia magna): 280,000 mg/l

Sulphuric acid (7664-93-9) : no data available
hydrochloric acid...% (7647-01-0) : no data available
Toxicity to algae
Poly(maleic acid) (26099-09-2) : no data available
2-Acrylamido-2-methylpropanesulfonic acid-acrylic
acid copolymer (40623-75-4)
: no data available

[[(2-Hydroxyethyl)imino]bis(methylene)]bisphosphonicacid (5995-42-6) : no data available

Sodium 4(or 5)-methyl-1H-benzotriazolide (64665-57-2) : 72 h Growth inhibition EC 50 Pseudokirchneriella
subcapitata (green algae): 26,200 mg/l
Sulphuric acid (7664-93-9) : no data available
hydrochloric acid...% (7647-01-0) : no data available

Toxicity to bacter ia
Poly(maleic acid) (26099-09-2) : no data available
2-Acrylamido-2-methylpropanesulfonic acid-acrylic
acid copolymer (40623-75-4): no data available
[[(2-Hydroxyethyl)imino]bis(methylene)]bisphosphonicacid (5995-42-6)
: no data available
Sodium 4(or 5)-methyl-1H-benzotriazolide (64665- 57-2): no data available
Sulphuric acid (7664-93-9) : no data available
hydrochloric acid...% (7647-01-0) : no data available

13. Disposal considerations

Waste disposal methods

Dispose of in accordance with the European Directives on waste and hazardous waste. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of in accordance with local regulations.

Empty packaging

Empty remaining contents. Dispose of as unused product. Empty containers should be taken to an approved waste handling site for recycling or disposal. Do not re-use empty containers. Do not burn, or use a cutting torch on, the empty drum.

European Waste Catalogue

The Waste code should be assigned in discussion between the user and the waste disposal
company.

14. Transport information

REGULATION

ID NUMBER	PROPER SHIPPING NAME	*HAZARD CLASS	SUBSIDIARY HAZARDS	PACKING GROUP	MARINE POLLUTANT / LTD. QTY

ADR : Not dangerous goods
ADNR : Not dangerous goods
RID :' Not dangerous goods
INTERNATIONAL MARITIME DANGEROUS GOODS : Not dangerous goods
INTERNATIONAL AIR TRANSPORT ASSOCIATION - CARGO :Not dangerous goods
INTERNATIONAL AIR TRANSPORT ASSOCIATION - PASSENGER :Not dangerous goods
*ORM = ORM-D, CBL = COMBUSTIBLE LIQUID
Dangerous goods descriptions (if indicated above) may not reflect quantity, end-use or region-specific exceptions that can be applied. Consult shipping documents for descriptions that are specific to the shipment.

15. Regulatory information

R-phrase(s)
R36/38 Irritating to eyes and skin.

S-phrase(s)
S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S37/39 Wear suitable gloves and eye/face protection.
S51 Use only in well-ventilated areas.
S60 This material and its container must be disposed of as hazardous waste.

Notification status

US. Toxic Substances Control Act n (Negative listing)
Canada. Canadian Environmental Protection Act (CEPA).
Domestic Substances List (DSL). (Can. Gaz. Part II, Vol. 133) n (Negative listing)
Australia. Industrial Chemical (Notification and Assessment) Act n (Negative listing)
New Zealand. Inventory of Chemicals (NZIoC), as published by
ERMA New Zealand n (Negative listing)Japan. Kashin-Hou Law List n (Negative listing)
Korea. Toxic Chemical Control Law (TCCL) List n (Negative listing) Philippines.

16. Other information

Full text of R-phrases referred to under sections 2 and 3
R36/38 Irritating to eyes and skin.
R36 Irritating to eyes.
R34 Causes burns.
R22 Harmful if swallowed.
R35 Causes severe burns.
R37 Irritating to respiratory system.

The information accumulated herein is believed to be accurate but is not warranted to be whether originating with the company or not. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances.