Material Safety Data Sheet

Corrosion Inhibitor 587 (RXSOL-81-3840-220)

1. Product and Company Identifaction

Porduct Name	Cortron RN-587N
Part Number	RXSOL-81-3840-220

Company Details:....

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

Branch : Kandla, Mumbai , Chennai, Vizag, Kolkata, UAE , OMAN , CANADA and KENYA

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2. Composition / informationon ingredients

Pure substance/mixture	Mixture

Chemical Name	CAS-No	Concentration: (%)
Alkylpyridine	68391-11-7	10 - 30
Ethylene Glycol	107-21-1	5 - 10
Methanol	67-56-1	5 - 10
Oxydiethylenebis(Coco Alkyl-Dimethyl-Ammonium Chloride)	68607-28-3	5 - 10
Ethoxylated Mono-Tallow Alkyl-Amine	61791-26-2	5 - 10
2-Mercaptoethanol	60-24-2	5 - 10
Morpholine Bottoms	68909-77-3	1 - 5
Amines, polyethylenepoly-, ethoxylated, phosphonomethylated, compds. with alkylpyridine derivs.	68920-95-6	1 - 5
Isopropanol	67-63-0	1 - 5
Diethylammonium thioglycolate	Proprietary	1 - 5

3. Hazards Identification

GHS Classification

Flammable liquids	Category 3
Acute toxicity (Oral)	Category 4
Acute toxicity (Inhalation)	Category 4
Acute toxicity (Dermal)	Category 4
Skin corrosion	Category 1C
Serious eye damage	Category 1
Skin sensitization	Category 1
Carcinogenicity	Category 1B
Specific target organ toxicity - single exposure	Category 2 (Eyes)

Specific target organ toxicity - repeated exposure	Category 2 (Kidney).
Specific target organ toxicity - repeated exposure (Oral)	Category 2

GHS Label element

Hazard Statements	Flammable liquid and vapour. Harmful if swallowed, in contact with skin or if inhaled Causes severe skin burns and eye damage. May cause an allergic skin reaction. Causes serious eye damage. May cause cancer. May cause damage to organs (Eyes). May cause damage to organs through prolonged or repeated exposure if swallowed. May cause damage to organs (Kidney) through prolonged or repeated exposure.
Precautionary Statements	**Prevention:** Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Ground/bond container and receiving equipment. Use explosion-proof electrical/ ventilating/ lighting/ equipment. Do not breathe dust/fume/gas/mist/vapours/spray. Wear protective gloves/ protective clothing/ eye protection/ face protection. **Response:** IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell. Rinse mouth. IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. Immediately call a POISON CENTER or doctor/ physician. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/doctor. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Other hazards	None known.

4. First Aid Measures

In case of eye contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention immediately.
In case of skin contact	Wash off immediately with plenty of water for at least 15 minutes. Use a mild soap if available. Wash clothing before reuse. Thoroughly clean shoes beforereuse. Get medical attention immediately.
If swallowed	Rinse mouth with water. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Get medical attention immediately.
If inhaled	Remove to fresh air. Treat symptomatically. Get medical attention.
Protection of first-aiders	In event of emergency assess the danger before taking action. Do not put yourself at risk of injury. If in doubt, contact emergency responders. Use personal protective equipment as required.
Notes to physician	Treat symptomatically.
Most important symptoms and effects, both acute and delayed	See Section 11 for more detailed information on health effects and symptoms.

5. Fire-fighting Measures

Suitable extinguishing media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Unsuitable extinguishing media	None known.
Specific hazards during firefighting	Fire Hazard Keep away from heat and sources of ignition. Flash back possible over considerable distance. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.
Hazardous combustion products	Carbon oxides nitrogen oxides (NOx) Sulphur oxides Oxides of phosphorus

Special protective equipment for firefighters	Use personal protective equipment.
Specific extinguishing methods	Use water spray to cool unopened containers. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. In the event of fire and/or explosion do not breathe fumes.

6. Accidental Release Measures

Personal precautions, protective equipment and emergency procedures	Ensure adequate ventilation. Remove all sources of ignition. Keep people away from and upwind of spill/leak. Avoid inhalation, ingestion and contact with skin and eyes. When workers are facing concentrations above the exposure limit they must use appropriate certified respirators. Ensure clean-up is conducted by trained personnel only. Refer to protective measures listed in sections 7 and 8.
Environmental precautions	Do not allow contact with soil, surface or ground water.
Methods and materials for containment and cleaning up	Eliminate all ignition sources if safe to do so. Stop leak if safe to do so. Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13). For large spills, dike spilled material or otherwise contain material to ensure runoff does not reach a waterway. Flush away traces with water.

7. Handling and Storage

Advice on safe handling	Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapours). Do not ingest. Keep away from fire, sparks and heated surfaces. Do not breathe dust/fume/gas/mist/vapours/spray. Do not get in eyes, on skin, or on clothing. Wash hands thoroughly after handling. Use only with adequate ventilation.
Conditions for safe storage	Keep away from heat and sources of ignition. Keep in a cool, well-ventilated place. Keep away from oxidizing agents. Keep out of reach of children. Keep container tightly closed. Store in suitable labelled containers. Avoid direct sunlight. At temperatures greater than 30°C a component of this product may degrade leading to the production of hydrogen sulfide (H_2S).
Suitable material	Keep in properly labelled containers
Unsuitable material	not determined

8. Exposure controls and personal protection

Components with workplace control parameters

Components	CAS-No	Form of exposure	Permissible concentration	Basis
Ethylene Glycol	107-21-1	TWA (Vapour.)	25 ppm	ACGIH
		STEL (Vapour.)	50 ppm	ACGIH
		STEL (Inhalable fraction, Aerosol only)	10 mg/m3	ACGIH
Methanol	67-56-1	TWA	200 ppm	ACGIH
		STEL	250 ppm	ACGIH
		TWA	200 ppm 260 mg/m3	NIOSH REL
		STEL	250 ppm 325 mg/m3	NIOSH REL
		TWA	200 ppm 260 mg/m3	OSHA Z1
2-Mercaptoethanol	60-24-2	TWA	0.2 ppm	AIHA WEEL
Isopropanol	67-63-0	TWA	200 ppm	ACGIH
		STEL	400 ppm	ACGIH
		TWA	400 ppm 980 mg/m3	NIOSH REL
		STEL	500 ppm 1,225 mg/m3	NIOSH REL
		TWA	400 ppm 980 mg/m3	OSHA Z1

Engineering measures	Effective exhaust ventilation system. Maintain air concentrations below occupational exposure standards.

Personal protective equipment

Eye protection	Safety goggles Face-shield
Hand protection	Wear the following personal protective equipment: butyl-rubber 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. Combined inorganic gas/vapour and organic vapour type
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

The Personal Protective Equipment (PPE) recommendations provided above have been made in good faith based on typical expected conditions of use. PPE selection should always be completed in conjunction with a proper risk assessment and in accordance with a PPE management program.

9. Physical and chemical properties

Appearance	liquid
Colour	opaque dark brown
Odour	: amine-like
Flash point	41.0 °C, Method: ASTM D 93, PMCC
pH	7.57, (20.0 °C), (undiluted)
Odour Threshold	no data available
Melting point/freezing point	Melting point/freezing point: -40.0 °C
Initial boiling point and boiling range	82.50 °C
Evaporation rate	no data available
Flammability (solid, gas)	Not applicable.
Upper explosion limit	no data available
Lower explosion limit	no data available
Vapour pressure	50 hPa, (20.0 °C),
Relative vapour density	no data available
Relative density	1.036, (20.0 °C),
Density	no data available
Water solubility	completely soluble
Solubility in other solvents	no data available
Partition coefficient: noctanol/water	no data available
Auto-ignition temperature	no data available
Thermal decomposition	no data available
Viscosity, dynamic	no data available
Viscosity, kinematic	101.9 mm2/s (40.0 °C)
Molecular weight	no data available
VOC	no data available

10. Stability and reactivity

Reactivity	No dangerous reaction known under conditions of normal use.
Chemical stability	At temperatures greater than 30°C a component of this product may degrade leading to the production of hydrogen sulfide (H2S).
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use
Conditions to avoid	Heat, flames and sparks.
Incompatible materials	Strong oxidizing agents
Hazardous decomposition products	In case of fire, hazardous decomposition products may be produced such as: Carbon oxides nitrogen oxides (NOx) Sulphur oxides Oxides of phosphorus Hydrogen sulfide (H2S)

11. Toxicological information

Information on likely routes of exposure	Inhalation, Eye contact, Skin contact

Potential Health Effects

Eyes	Causes serious eye damage.
Skin	Harmful in contact with skin. Causes severe skin burns. May cause allergic skin reaction.
Ingestion	May cause blindness if swallowed. Harmful if swallowed. Causes digestive tract burns.
Inhalation	Harmful if inhaled. May cause nose, throat, and lung irritation.
Chronic Exposure	May cause cancer. May cause damage to organs. May cause damage to organs through prolonged or repeated exposure.

Experience with human exposure

Eye contact	Redness, Pain, Corrosion.
Skin contact	Redness, Pain, Irritation, Corrosion, Allergic reactions
Ingestion	Corrosion, Abdominal pain
Inhalation	Respiratory irritation, Cough

Toxicity

Product

Acute oral toxicity	Acute toxicity estimate: 542.32 mg/kg.
Acute inhalation toxicity	Acute toxicity estimate: 18.14 mg/l Exposure time: 4 h Test atmosphere: vapour
Acute dermal toxicity	Acute toxicity estimate: 1,411 mg/kg
Skin corrosion/irritation	No specific data.
Serious eye damage/eye irritation	no data available
Respiratory or skin sensitization	no data available
Carcinogenicity	no data available
Reproductive effects	no data available
Germ cell mutagenicity	no data available
Teratogenicity	no data available
STOT - single exposure	no data available
STOT - repeated exposure :	no data available
Aspiration toxicity	no data available

12. Ecological information

Ecotoxicity

Environmental Effects	Toxic to aquatic life with long lasting effects

Components Toxicity to fish	Alkylpyridine LC50 Oncorhynchus mykiss (rainbow trout): 2.96 mg/l Exposure time: 96 h Ethylene Glycol LC50: 72,860 mg/l Exposure time: 96 h Methanol LC50: 15,400 mg/l Exposure time: 96 h Ethoxylated Mono-Tallow Alkyl-Amine LC50 Fish: 1.1 mg/l Exposure time: 96 h 2-Mercaptoethanol LC50 Leuciscus idus (Golden orfe): 37 mg/l Exposure time: 96 h Isopropanol LC50 Pimephales promelas (fathead minnow): 9,640 mg/l Exposure time: 96 h
Components Toxicity to daphnia and other aquatic invertebrates	Alkylpyridine EC50 Daphnia magna (Water flea): 68.6 mg/l Exposure time: 48 h Ethylene Glycol EC50 : > 100 mg/l Exposure time: 48 h Methanol EC50 : > 10,000 mg/l Exposure time: 48 h Ethoxylated Mono-Tallow Alkyl-Amine LC50 Aquatic Invertebrate: 2.6 mg/l Exposure time: 48 h 2-Mercaptoethanol EC50 Daphnia magna (Water flea): 0.4 mg/l Exposure time: 48 h Isopropanol LC50 Daphnia magna (Water flea): > 10,000 mg/l
Components Toxicity to algae	Alkylpyridine EC50 Scenedesmus capricornutum (fresh water algae): 61.2 mg/l Exposure time: 72 h Ethylene Glycol EC50 : 6,500 mg/l Exposure time: 96 h Methanol EC50 : 22,000 mg/l Exposure time: 72 h2-Mercaptoethanol EC50 Desmodesmus subspicatus (green algae): 19 mg/l Exposure time: 72 h NOEC Desmodesmus subspicatus (green algae): 1.7 mg/l Exposure time: 72 h
Components Toxicity to bacteria	Ethylene Glycol > 1,995 mg/l Methanol > 1,000 mg/l Isopropanol 1,050 mg/l
Components Toxicity to fish (Chronic toxicity)	Ethylene Glycol NOEC: 15,380 mg/l Exposure time: 7 d Methanol NOEC: 7,900 mg/l Exposure time: 8.3 d
Components Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	Alkylpyridine NOEC: 22.2 mg/l Exposure time: 21 d Species: Daphnia magna (Water flea) Ethylene Glycol NOEC: 8,590 mg/l Exposure time: 7 d 2-Mercaptoethanol NOEC: 0.063 mg/l Exposure time: 21 d Species: Daphnia magna (Water flea)
Persistence and degradability	No data available

Mobility	no data available
Bioaccumulative potential	No data available
Other information	No data available .

13. Disposal considerations

The information presented only applies to the material as supplied. The classification or waste code may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated at the time of disposal to determine the proper waste identification and disposal methods in compliance with applicable regulations.

Disposal methods	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.
Disposal considerations	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.

14. Transport information

The shipper/consignor/sender is responsible to ensure that the packaging, labeling, and markings are in compliance with the selected mode of transport.

Land transport (DOT)	FLAMMABLE LIQUID, CORROSIVE, N.O.S Ethylene Glycol, Oxydiethylenebis(Coco Alkyl-Dimethyl-Ammonium Chloride)
Proper shipping name	UN 2924
Technical name(s)	3, 8
UN/ID No.	III
Transport hazard class(es)	
Packing group	
Air transport (IATA)	FLAMMABLE LIQUID, CORROSIVE, N.O.S. Ethylene Glycol, Oxydiethylenebis(Coco Alkyl-Dimethyl-Ammonium Chloride)
Proper shipping name	UN 2924
Technical name(s)	3, 8
UN/ID No.	III
Transport hazard class(es)	
Packing group	
Sea transport (IMDG/IMO)	
Proper shipping name	FLAMMABLE LIQUID, CORROSIVE, N.O.S. Ethylene Glycol, Oxydiethylenebis(Coco Alkyl-Dimethyl-Ammonium Chloride)
Technical name(s)	UN 2924
UN/ID No.	3, 8
Transport hazard class(es)	III
Packing group	
*Marine pollutant	Oxydiethylenebis(Coco Alkyl-Dimethyl-Ammonium Chloride), Ethoxylated MonoTallow Alkyl-Amine

15. Regulatory information

EPCRA - Emergency Planning and Community Right-to-Know Act

CERCLA Reportable Quantity

Components	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
Ethylene Glycol	107-21-1	5000	50759

SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

SARA 311/312 Hazards	FLAMMABLE LIQUID, CORROSIVE, N.O.S. Flammable (gases, aerosols, liquids, or solids) Respiratory or skin sensitisation Acute toxicity (any route of exposure) Skin corrosion or irritation Serious eye damage or eye irritation Carcinogenicity Specific target organ toxicity (single or repeated exposure)
SARA 302	No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.
SARA 313	The following components are subject to reporting levels established by SARA Title III, Section 313: Ethylene Glycol 107-21-1 9.8505 % Methanol 67-56-1 7.9102 %

California Prop. 65

WARNING: Reproductive Harm - www.P65Warnings.ca.gov

Ethylene Glycol 107-21-1

Methanol 67-56-1

INTERNATIONAL CHEMICAL CONTROL LAWS :

United States TSCA Inventory

On the inventory, or in compliance with the inventory

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 weassume 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.