1. Product and Company Identifaction

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Product Name	Corrosion Inhibitor 1304
Part Number	RXSOL-81-8195-210

Company Details:
RX MARINE INTERNATIONAL
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2. Composition / Information on ingredients

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Component	CAS-No	Weight %	R Phrases
Tall Oil, DETA Imidazoline Acetates	68140-11-4	5 -10	R41,R38,R43
Benzyl-(C12-C16 Linear Alkyl)-Dimethyl-Ammonium Chloride	68424-85-1	3 - 5	R22, R34,R50
Thioglycolic Acid	68-11-1	1- 5	R23/24/25,R35

3. Hazards Identification

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Signal Word	:	Irritant , Harmful
Hazard Statements	:	Causes severe skin burns and eye damage.May cause an allergic skin reaction.Harmful if inhaled.Toxic to aquatic life with long lasting effects.
Label Elements	:	Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.Avoid release to the environment.Wear protective gloves/ protective clothing/ eye protection/ face protection.
Environmental hazards	:	Environmental effects Dangerous for the environment Very toxic to aquatic organisms; may cause long term adverse effects in the aquatic environment.

4. First Aid Measures

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Inhalation	:	Remove to fresh air, treat symptomatically. Get immediate medical attention.
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 before reuse.Get medical attention immediately.
Eye Contact	:	Immediate medical attention is required. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.

Ingestion	:	Seek medical advice immediately, showing the label and/or SDS. If conscious, washout mouth and give water to drink. If unconsious, do not give anything by mouth, place in the recovery position, check breathing and pulse. If necessary give artifical respiration. Do not induce vomiting without medical advice.
If Swallowed	:	Rinse mouth with water.Do NOT induce vomiting.Never give anything by mouth to an unconscious person.
Important symptoms	:	See Section 11 for more detailed information on health effects and symptoms.

5. Fire-fighting Measures

Suitable 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 Hazard	:	Fire Hazard Keep away from heat and sources of ignition. Flash back possible over considerable distance.Decomposition products may include the following materials: Carbon oxides nitrogen oxides (NOx) Sulphur oxides Oxides of phosphorus
Special Fire Fighting Procedure	:	In case of fire, wear a full face positive-pressure self contained breathing apparatus and protective suit.

6. Accidental Release Measures

Personal precautions, protective equipment and emergency procedures

Personal Precautions	:	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 for Containment and Clean 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). Flush away traces with water. For large spills, dike spilled material or otherwise contain

7. Handling and Storage

Handling	Prevent contact with skin, eyes and clothing. Use with adequate ventilation. Do not breathe vapors/gases/dust. Keep the containers closed when not in use. Ensure all containers are labeled. Have emergency

	equipment (for fires, spills, leaks, etc.) readily available. Use only in a closed system. Use personal protective equipment recommended in Section 8 (Exposure Controls/Personal Protection). 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.
Storage	Requirements for storage areas and containers Keep away from heat and sources of ignition. Keep away from oxidizing agents. Keep out of reach of children. Keep container tightly closed. Store in suitable labeled containers. Avoid direct sunlight. At temperatures greater than 30°C a component of this product may degrade leading to the production of hydrogen sulfide (H2S).
Suitable Construction Material	HDPE (high density polyethylene), Stainless Steel 304, Nitrile, PTFE, Surface-modified HDPE (high density polyethylene), CPVC (rigid), Polypropylene, PVC, Polyvinylidene difluoride, Plexiglass, Plasite 4300
Unsuitable Construction Material	Neoprene, Carbon Steel C1018, Perfluoroelastomer, Fluoroelastomer, Stainless Steel 316L, Brass, Mild steel, Nylon, EPDM, Nitrile, Plasite 7122.

8. Exposure controls and personal protection

OCCUPATIONAL EXPOSURE LIMITS

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Update	Basis
Thioglycolic	68-11-1	TWA	1 ppm	2005-04-06	UKCOSSTD
Acid			3.8 mg/m3		

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	Analysis	Absorbant
Thioglycolic Acid	US OSHA: CIM	High pressure liquid chromatography	Impinger containing De-ionised water

DNEL

Tall Oil, DETA Imidazoline Acetates		End Use: Workers Exposure routes: Skin contact Potential health effects: Long-term systemic effects Value: 0.21 mg/cm2
		End Use: Workers Exposure routes: Inhalation Potential health effects: Long-term systemic effects Value: 1.47 mg/m3
		End Use: Consumers Exposure routes: Ingestion Potential health effects: Long-term systemic effects Value: 0.125 ppm
Thioglycolic Acid		End Use: Workers Exposure routes: Inhalation Potential health effects: short-term - systemic Value: 4.5 mg/m3

		End Use: Workers Exposure routes: Inhalation Potential health effects: short-term - local Value: 4.5 mg/m3
		End Use: Workers Exposure routes: Dermal Potential health effects: long term - systemic
		End Use: Workers Exposure routes: Inhalation Potential health effects: long term - systemic Value: 1.13 mg/m3

PNEC

Tall Oil, DETA Imidazoline Acetates		Fresh water Value: 0.00686 mg/l
		Marine water Value: 0.02 mg/l
		Water Value: 0.0018 mg/l
		Fresh water sediment Value: 0.136 mg/kg
		Marine sediment Value: 5.474 mg/kgSoil Value: 0.0232 mg/kg
		Soil Value: 0.0232 mg/kgWater Value: 5.57 mg/kg
		Water Value: 5.57 mg/kg
Thioglycolic Acid		Fresh water Value: 0.027 mg/l
		Marine water Value: 0.0027 mg/l
		Intermittent release Value: 0.27 mg/l
		STP Value: 0.5 mg/l
		Sediment Value: 0.009 mg/kg
		Soil Value: 0.0053 mg/kg

Exposure controls

Engineering Measures	:	General ventilation is recommended. 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	:	Eye/Face Protection: Wear a face shield with chemical splash goggles. Skin 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 Nitrile Gloves should be replaced immediately if signs

		of degradation are observed. Breakthrough time not determined as preparation, consult PPE manufacturers. When handling this product, the use of a chemical resistant suit and rubber boots is recommended.
Hygiene Measures	:	Handle in accordance with good industrial hygiene and safety practice. Use only with adequate ventilation. Avoid contact with skin, eyes and clothing. Remove contaminated clothing and protective equipment before entering eating areas. Wash hands before breaks and immediately after handling the product.
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-B-E-K-PIn 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.

Gloves Suit

9. Physical and chemical properties

Physical State	:	Liquid
Appearance	:	Clear Liquid
Odor	:	Pungent
Odor Threshold	:	No information available.
PH	:	4 100 %
Melting / Freezing Point	:	1.51 °C, ASTM D-97
Boiling Point/Range	:	No data available
Flash Point	:	83 °C
Evaporation Rate	:	No information available.
Lower Explosion Limit	:	No data available.
Vapor Pressure	:	No data available.
Vapor Density		No data available.
Relative Density	:	0.97 to 1.0 (15.6 °C)
Solubility in Water	:	Complete
Pour point	:	No data available
Partition coefficient n octanol/water	:	Not available.
Viscosity	:	No data available
Explosive Properties	:	Not applicable
Oxidizing Properties	:	Not applicable

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)
Hazardous reactions	:	No dangerous reaction known under conditions of normal use
Conditions to avoid	:	Heat, flames and sparks.
Hazardous decomposition products		Hazardous decomposition products Decomposition products may include the following materials:Carbon oxides,nitrogen oxides (NOx),Sulphur oxides,Oxides of phosphorus
Materials to avoid	:	Contact with strong acids (e.g. sulfuric, phosphoric, nitric, hydrochloric, chromic, sulfonic) may generate heat, splattering or boiling and toxic vapors. Contact with strong oxidizers (e.g. chlorine, peroxides, chromates, nitric acid, perchlorate, concentrated oxygen, permanganate) may generate heat, fires, explosions and/or toxic vapors. Avoid contact with SO2 or acidic bisulfite products, which may react to form visible airborne amine salt particles. Certain amines in contact with nitrous acid, organic or inorganic nitrites or atmospheres with high nitrous oxide concentrations may produce N-nitrosamines, many of which are cancer-causing agents to laboratory animals.

11. Toxicological information

Acute toxicity		Product LD50 Dermal rat > 2,000 mg/kg Essentially non-hazardous.
Acute inhalation toxicity		Acute toxicity estimate : 11.36 mg/l Exposure time: 4 h
Acute dermal toxicity		Acute toxicity estimate : > 2,000 mg/kg
Skin corrosion/irritation		There is no data available for this product.
Serious eye damage/eye irritation		There is no data available for this product.
Respiratory or skin sensitization		There is no data available for this product.
Carcinogenicity		There is no data available for this product.
Reproductive effects		No toxicity to reproduction
Aspiration toxicity		No aspiration toxicity classification
Acute oral toxicity		Tall Oil, DETA Imidazoline Acetates LD50 rat: > 2,500 mg/kg Benzyl-(C12-C16 Linear Alkyl)-Dimethyl-Ammonium Chloride LD50 rat: 344 mg/kg Thioglycolic Acid LD50 rat: 73 mg/kg
Acute inhalation toxicity		Benzyl-(C12-C16 Linear Alkyl)-Dimethyl-Ammonium Chloride LC50 rat: > 0.054 mg/l Exposure time: 4 h Thioglycolic Acid

		LC50 rat: 1.38 mg/l Exposure time: 4 h Test substance: Aerosol
Acute dermal toxicity		Benzyl-(C12-C16 Linear Alkyl)-Dimethyl-Ammonium Chloride LD50 rabbit: 3,340 mg/kg Thioglycolic Acid LD50 rabbit: 848 mg/kg
Potential Health Effects		Eyes-Causes serious eye damage. Skin-Causes severe skin burns. May cause allergic skin reaction. Ingestion-Causes digestive tract burns. Inhalation-Harmful if inhaled. May cause nose, throat, and lung irritation. Chronic Exposure-Health injuries are not known or expected under normal use.
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

12. Ecological information

Environmental effects	:	Very toxic to aquatic life.Toxic to aquatic life with long lasting effects.
Toxicity to fish	:	96 hrs LC50 Fish : 0.85 mg/l Test substance: Hazardous component
Toxicity to daphnia and other aquatic invertebrates	:	48 hrs LC50 Ceriodaphnia dubia : 3.4 mg/l Test substance: Product 48 hrs NOEC Ceriodaphnia dubia : 2.5 mg/l Test substance: Product
Toxicity to algae	:	72 hrs LC50 Algae : Test substance: Hazardous component
Toxicity to fish		Tall Oil, DETA Imidazoline Acetates 96 h LC50: > 0.23 mg/l Thioglycolic Acid 96 h LC50 Rainbow Trout : > 100 mg/l Method: OECD 203
Toxicity to daphnia and other aquatic invertebrates		Tall Oil, DETA Imidazoline Acetates 48 h EC50: 0.72 mg/l Benzyl-(C12-C16 Linear Alkyl)-Dimethyl-Ammonium Chloride 48 h EC50: 0.0059 mg/l
Toxicity to algae		Tall Oil, DETA Imidazoline Acetates 72 h EC50: 0.17 mg/l Thioglycolic Acid 72 h EC50 Green Algae (Pseudokirchneriella subcapitata, previously Selenastrum capricornutum) : 27 mg/l Method: OECD 201
Toxicity to bacteria		Tall Oil, DETA Imidazoline Acetates 175 mg/l Method: OECD Test Guideline 209 Thioglycolic Acid 3 h EC50 Sewage Microorganisms : 530 mg/l Method: OECD 209
Biodegradability		The product is readily biodegradable
Biodegradation Assessment		The organic portion of this preparation is expected to be readily biodegradable.
Biodegradability		Tall Oil, DETA Imidazoline Acetates Result: Not biodegradable

		Benzyl-(C12-C16 Linear Alkyl)-Dimethyl-Ammonium Chloride Result: rapidly biodegradable Thioglycolic Acid 67 %, Result: Readily biodegradable., Exposure time: 28 d, OECD 301 D (Closed Bottle) Thioglycolic Acid 21 %, Result: Not biodegradable, Exposure time: 28 d, OECD 301 A (DOC Die-Away)
Bioaccumulative potential		
Bioaccumulation		The product will not bioaccumulate.
Components Bioaccumulation		Thioglycolic Acid Bioaccumulation is unlikely
Mobility in soil Product		This substance is water soluble and is expected to remain primarily in water..
Results of PBT and vPvB assessment Product Assessment		This mixture contains no substance considered to be persistent, bioaccumulating nor toxic (PBT)., This mixture contains no substance considered to be very persistent nor very bioaccumulating (vPvB). This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

13. Disposal considerations

Waste treatment methods Product	:	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.
Contaminated packaging		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.
European Waste Catalogue		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.

14. Transport information

Land Transport :

Proper Shipping Name	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Benzyl-(C12-C16 Linear Alkyl)-Dimethyl-Ammonium Chloride)
UN Number	:	UN 3082
Transport hazard class(es)	:	9
Packing group:	:	III
Environmental hazards:		Yes

Special precautions for user:		Not applicable.

Air Transport (ICAO/ IATA)

Proper Shipping Name	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
UN Number	:	UN 3082
Transport hazard class(es)	:	9
Transport hazard class(es)	:	II
Packing groupIII	:	Not applicable

Marine Transport (IMDG/IMO)

Proper Shipping Name	:	Flammable liquids, toxic, n.o.s.(Methanol)
UN Number	:	UN1992
Transport hazard class(es)	:	3
Transport hazard class(es)	:	II
Special precautions for user	:	Not applicable

15. Regulatory information

Safety, health and environmental regulations/legislation specific for the substance or mixture:

INTERNATIONAL CHEMICAL CONTROL LAWS

EUROPE
Safety Data Sheet according to Regulation (EC) No 1907/2006.

Rx Marine International is committed to and fully supports the Registration, Evaluation, Authorization and restriction of CHemicals (REACH) regulation.

CANADA
The substances in this preparation are listed on the Domestic Substances List (DSL), are exempt, or have been reported in accordance with the New Substances Notification Regulations.

UNITED STATES

The substances in this preparation are included on or exempted from the TSCA 8(b) Inventory (40 CFR 710)

Chemical Safety Assessment:
A Chemical Safety Assessment has been carried out for the substance(s) that makes/make up this material or for the material itself.

16. Other information

Full text of R-Phrases

R22 :Harmful if swallowed.
R23/24/25 :Toxic by inhalation, in contact with skin and if swallowed.
R34 :Causes burns.
R35 :Causes severe burns.
R38 :Irritating to skin.
R41 :Risk of serious damage to eyes.
R43 :May cause sensitization by skin contact.

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