

Product Name	RO Membrane Clean LO
Part Number	RXSOL-32-3304-02

Company Details:

RX MARINE INTERNATIONAL
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Chemical Name	Cas No #	Weight %	safety Phrases	OSHA / WHMIS
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Inorganic Phosphorous Compound

Proprietary

25-35

R 22-36-38;
S 2-13-24-25 Corrosive

Chelate

Proprietary

25-35

Eye Irritant, Category 2A H319
P305 + P351 + P338 Irritant

Organic acid

Proprietary	10-20	Eye Irritant, Category 2 H319
P305 + P351 + P338	Corrosive	

Signal Word	WARNING!	General Warnings
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P101 If medical advice is needed, have product container or label at hand.
P102 Keep out of reach of children.
P103 Read label before use
P403 Store in a well-ventilated place.
P233 Keep container tightly closed

Hazard Statements

H319 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
H312 Harmful in contact with skin
H332 Causes severe skin burns and eye damage
H314 Hazard statements

Precautionary statements

P280 Wear protective gloves/protective clothing/eye protection/face protection.
P305 IF IN EYES: rinse extensively with large amounts of water
P351 Rinse cautiously with water for several minutes.
P338 Remove contact lenses, if present and easy to do. Continue rinsing.
P310 IF INGESTED or INHALED Immediately call a POISON CENTER or doctor/physician. Unclassified Hazards None
Ingredients with unknown acute toxicity None

Skin exposure

If this product contaminates the skin, immediately begin decontamination with running water. Remove exposed or contaminated clothing, taking care not to contaminate eyes. Victim should seek immediate medical attention if any adverse exposure symptoms develop.

Eye exposure

If this product enters the eyes, open victim's eyes while under gently running water. Use sufficient force to open eyelids. Have victim "roll" eyes. Minimum flushing is for 15 minutes. Victim must seek medical attention.

Inhalation

If mist of this product are inhaled, remove victim to fresh air. If necessary, use artificial respiration to support vital functions. Remove or cover gross contamination to avoid exposure to rescuers.

Ingestion

If this product is swallowed, CALL PHYSICIAN OR POISON CONTROL CENTER FOR MOST CURRENT INFORMATION. DO NOT INDUCE VOMITING. Have victim rinse mouth with water, if conscious. Never induce vomiting or give a diluent (e.g., water) to someone who is unconscious, having convulsions, or unable to swallow. If contaminated individual is convulsing, maintain an open airway and obtain immediate medical attention.

Most Important Symptoms/Effects	Immediate: Inhalation exposure may cause coughing or sneezing. Symptoms of skin and eye contact may include redness and irritation. Ingestion may cause stomach pains, cramps, and gastritis. Delayed: Prolonged or repeated skin overexposure to this product may cause dermatitis (dry, red skin). Symptoms may include tingling, redness, and visible injury.
Indication Of Immediate Medical. Attention And Special Treatment Needed, If Necessary:	TARGET ORGANS: Acute: Skin, eyes, respiratory system.
Chronic: Skin, eyes, respiratory system.	NOTE Victims of chemical exposure must be taken for medical attention if any adverse effects occur. Rescuers should be taken for medical attention if necessary. Take a copy of label and MSDS to physician or health professional with victim.

Flammable properties

Non-flammable aqueous solution

Autoignition Temperature oC

Not applicable.

Flammable Limits (in air by volume, %):

Upper: Not applicable.

Lower: Not applicable.

Suitable And Unsuitable Extinguishing Media

This material will not contribute to the intensity of a fire. Use extinguishing material suitable to the surrounding fire.

Water spray	YES	Carbon dioxide	YES
Foam	YES	Dry chemical	YES
Halon	YES	Other	YES

Explosion Sensitivity to Mechanical Impact: Not applicable.

Explosion Sensitivity to Static Discharge: Not applicable.

Specific Hazards Arising From Chemical	When involved in a fire, this material may decompose and produce irritating fumes and toxic gases (e.g., carbon monoxide, carbon dioxide, phosphorous oxides, and nitrogen oxides).	Special Protective Equipment And
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Precautions For Fire-Fighters	Incipient fire responders should wear eye protection. Structural firefighters must wear Self-Contained Breathing Apparatus and full protective equipment. Move containers from fire area if it can be done without risk to personnel. If possible, prevent runoff water from entering storm drains, bodies of water, or other environmentally sensitive areas.
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Personal Precautions

Uncontrolled releases should be responded to by trained personnel using preplanned procedures. Proper protective equipment should be used. In case of a spill, clear the affected area and protect people.

Protective equipment

For small releases (Emergency procedures	Monitoring must indicate that exposure levels are below those provided in Section 8 (Exposure Controls-Personal Protection) and that oxygen levels are above 19.5% before anyone is permitted in the area without Self-Contained Breathing Apparatus.
Methods and Materials for Containment and	Cleaning Up	Vacuum or soak- up solids liquid for recovery/disposal. Neutralize residue with sodium bicarbonate or other neutralizing agent for dilute acids. Decontaminate the area thoroughly. Test area with litmus paper to ensure neutralization. Place all spill residues in a suitable plastic container. Dispose of in accordance with applicable Federal, State, or local procedures, or appropriate local standards (see Section 13, Disposal Considerations).

Handling

All employees who handle this material should be trained to handle it safely. Open containers carefully on a stable surface. Empty containers may contain residual liquid; therefore, empty containers should be handled with care. As with all chemicals, avoid getting this product ON YOU or IN YOU. Wash thoroughly after handling this product. Do not eat or drink while handling this material. Avoid generating dust of this product. Remove contaminated clothing immediately.

During equipment maintenance follow practices indicated in Section 6 (Accidental Release Measures) to decontaminate equipment or clean-up small spills. Make certain that application equipment is locked and tagged-out safely if necessary. Collect all rinsates and dispose of according to applicable U.S. Federal, State, or local procedures or appropriate local standards.

Storage

Store containers in a cool, dry location, away from direct sunlight, sources of intense heat, or where freezing is possible. Store away from incompatible materials. Material should be stored in secondary containers, or in a diked area, as appropriate. Storage and use areas should be covered with impervious materials. Keep container tightly closed when not in use. If appropriate, post warning signs in storage and use areas. Inspect all incoming containers before storage, to ensure containers are properly labeled and not damaged.

Incompatibilities Strong bases, oxidizers, and water reactive materials.

Engineering Control

Use with adequate ventilation to ensure exposure levels are maintained below the limits provided in this Section or as low as reasonably achievable. Ensure eyewash/safety shower stations are available near areas where this product is used.

Control Parameters

CHEMICAL NAME		CAS #						
% w/w								
EXPOSURE LIMITS IN AIR		OTHER						
ACGIH-TLV		OSHA-PEL		TWA				
mg/m3	STEL							
mg/m3	TWA							
mg/m3	STEL							
mg/m3	IDLH							
mg/m3	mg/m3	Inorganic phosphorous						
compound	Proprietary	25-35	1	3	1	3	1000	NIOSH REL:
TWA = 1								
STEL= 3								

Chelate

Proprietary	25-35	NE	NE	NE	NE	NE	NE
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Organic acid

Proprietary	10-20	NE	NE	NE	NE	NE	NE
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Water and other components which are present in less than 1 percent concentration (0.1% concentration for potential carcinogens, reproductive toxins, respiratory tract sensitizers and mutagens). Balance None of the other components contribute significant additional hazards at the concentration present in this product. All pertinent hazard information has been provided in this document, per the requirements of the Federal Occupational Safety and Health Administration Standard (29 CFR 1910.1200), U.S. State equivalent Standards and Canadian Workplace Hazardous Materials Identification System Standards (CPR 4).

Personal Protective Equipment

Respiratory protection:

None needed under normal conditions of use. Use NIOSH approved respirators if ventilation is inadequate to control mists or vapor. If respiratory protection is needed, use only protection authorized in the U.S. Federal OSHA Standard (29 CFR 1910.134), applicable U.S. State regulations, or the applicable local standards. Oxygen levels below 19.5% are considered IDLH by OSHA. In such atmospheres, use of a full-face piece pressure/demand SCBA or a full-face piece, supplied air respirator with auxiliary self-contained air supply is required under OSHA's Respiratory Protection Standard (1910.134-1998).

Eye protection:

Use approved safety goggles or safety glasses, as described in OSHA 29 CFR 1910.133. Splash goggles with a faceshield may be needed if splash hazards exist.

Hand protection:

Wear chemical impervious gloves

Body protection:

If needed, use body protection appropriate for task (e.g., suit, rubber apron) to protect from splashes and sprays.

Appearance

This product is a clear, colorless to amber-colored liquid.

Odor

Light disinfectant odor

Odor Threshold

NE

pH (2% solution)

2.5-3.5

Freezing Point oC

Initial Boiling Point oC

> 100

Boiling Point Range oC		N/A	Flammability	Non-flammable	Evaporation Rate (water = 1)		Similar to water
Vapor Density (air = 1)		Vapor Pressure mm Hg @ 20°C		18 - 20	Solubility (in water)	Soluble	Relative
density (water = 1)	1.3-1.4	Viscosity	Similar to water	Oil-Water Partition Coefficient		N/A	Decomposition
Temperature	NE	How To Detect This Substance		Litmus paper will turn red in contact with product.			

Reactivity

Not considered reactive.

Chemical Stability

Stable

Possibility of hazardous reactions

Hazardous polymerization will not occur.

Conditions to avoid

Avoid mixing with incompatible materials. Incompatible Materials Strong bases, oxidizers, and water reactive materials
Hazardous Decomposition Products Products Thermal decomposition of this product may generate nitrogen oxides, carbon monoxide, phosphorous oxides, and carbon dioxide.

Toxicity data for hazardous ingredients	Oral LD50 mg/kg	Dermal LD50 mg/kg	Inhalation LD50 mg/kg	Inorganic
Phosphorous Compound	LD50 (oral, rat) = 1759 mg/kg	LD50 (dermal, rabbit) = 3149mg/kg	NA	Standard Draize Test
(Skin-Rabbit, adult) 595 mg/24 hours: Severe irritation effects				
Standard Draize Test (Eye effects-Rabbit, adult) 119 mg: Severe irritation effects				
TDLo (Oral-Man) 1286 mL/kg				
LDLo (Unreported-Man) 220 mg/k	Chelae	LD50 (Intraperitoneal-Rat) 1548 mg/kg:		
Behavioral: convulsions or effect on seizure threshold; Lungs,Thorax, or Respiration: cyanosis; Gastrointestinal: changes in structure or function of salivary glands				
NA	NA	Standard Draize Test (Skin-Rabbit, adult) 500 mg/24 hours: Moderate irritation effects		
Standard Draize Test (Eye -Rabbit, adult) 1900 mg				
Standard Draize Test (Eye-Rabbit, adult) 100 mg/24 hours: Moderate irritation effects			Organic Acid	LD50 (Oral-Rat) 3 g/kg
LD50 (Oral-Mouse) 5040 mg/kg				
LD50 (Intraperitoneal-Rat) 883 mg/kg				
LD50 (Intraperitoneal-Mouse) 903 mg/kg				
LD50 (Subcutaneous-Rat) 5500 mg/kg				
LD50 (Subcutaneous-Mouse) 2700 mg/kg				
LD50 (Intraperitoneal-Mouse) LD50: 903 mg/kg				
LD50 (Intravenous-Rabbit, adult) 330 mg/kg				
LD50 (Intravenous-Mouse) 42 mg/kg				
LDLo (Oral-Rabbit, adult) 7000 mg/kg				
LD50 (dermal, rabbit) > 2000				
NA	Standard Draize Test (Skin-Rabbit, adult) 500 mg/24 hours: Moderate irritation effects			
Standard Draize Test (Eye-Rabbit, adult) 750 mg/24 hours: Severe irritation effects				

Ecotoxicity	LC50, mg/L	EC50, mg/L	RO Membrane Clean LOW pH			Aquatic	Daphnia magna >
1000							
Fat Head Minnow > 1000	NE	Terrestrial	NE	NE	Persistence and Degradability	The components of this	
product decompose in soil and water.		Bioaccumulative Potential	This product is not expected to bioaccumulate			Mobolity in Soil	
When spilled onto soil, this product will infiltrate downward, the rate being greater							
with lower concentration because of reduced viscosity.			Other Adverse Ecological Effects		This product may be harmful to aquatic life if		
large volumes of it are released into an							
aquatic environment.							

Preparing Wastes of this Product for Disposal

Waste disposal must be in accordance with appropriate U.S. Federal, State, and local regulations or with local regulations. This product, if unaltered by the handling, may be disposed of by treatment at a permitted facility or as advised by your local waste regulatory authority.

Disposal of Contaminated Packaging

Cleaned containers can be recycled or disposed of as non-contaminated waste, if authorized by your local authorities. Dispose of containers as required by local regulations.

U.S. EPA Waste Number

Not applicable as supplied.

THIS MATERIAL IS NOT HAZARDOUS AS DEFINED BY 49 CFR 172.101 BY THE U.S. DEPARTMENT OF TRANSPORTATION.

UN Number

Not regulated	UN Proper Shipping Name	Not regulated	Transport Hazard Class(es)	Not regulated	
Transport label(s) required	Not regulated	Packing Group	Not regulated	Marine Pollutant	Not regulated NA
Emergency Response Guide Number (2012)	Not regulated	Transport in Bulk (Annex II of MARPOL 73/78 and IBC Code)	Not regulated	International Air Transport	
Association	UN Number	Not regulated	UN Proper Shipping Name	Not regulated	Transport Hazard Class(es)
Not regulated	Transport label(s) required	Not regulated	Packing Group	Not regulated	Packaging Instructions
Not regulated	International Maritime Organization				

UN Number

Not regulated	UN Proper Shipping Name	Not regulated	Transport Hazard Class(es)	Not regulated	
Transport label(s) required	Not regulated	Packing Group	Not regulated	Marine Pollutant	Not regulated NA
Emergency Response Guide Number (2012)	Not regulated	Transport in Bulk (Annex II of MARPOL 73/78 and IBC Code)			
Not regulated					

PROGRAM	Inorganic Phosphorous Compound	Chelate	Organic Acid	US EPA PROGRAMS	Clean Air Act
Hazardous Air Pollutants	NO NO NO	RCRA F, K, P, U or D-lists	NO	NO NO NO	D-lists NO NO NO
NO NO NO	Epa Priority Pollutant	NO NO NO	SARA 302 RQ	NO NO NO	SARA
302 TPQ NO NO NO	SARA 313 LISTED	YES NO NO	SARA CHEMICAL CATEGORIES		
SARA 311/312 ACUTE	NO NO NO	CHRONIC	NO NO NO	SARA 311/312 FIRE	
NO NO NO	SARA 311/312 PRESSURE	NO NO NO	SARA 311/312 REACTIVITY	NO NO	
NO	EPA EXTREMELY HAZARDOUS SUBSTANCE	NO NO NO	CALIFORNIA SAFE DRINKING WATER ACT		
(Proposition 65)	This product does not contain any chemical listed on the California Safe Drinking Water Act list (Proposition 65)				

US OSHA PROGRAMS

PEL	NO NO NO	PSM	NO NO NO	CHEMICAL SECURITY PROGRAMS	DHS
CAFTS	NO NO NO	CHEMICAL WEAPONS CONVENTION	NO NO NO	US DRUG	
ENFORCEMENT ADMINISTRATION	WHMIS	NO NO NO	DSL	YES YES YES	NDSL NA
NA NA	REACH Pre-registered List	YES YES YES	TSCA	YES YES YES	European
Inventory of Existing Commercial Chemical					
Substances (EINECS)	YES YES YES	EU No-Longer Polymers List (NLP)	NA NA NA	EEC	
Classification Packaging, and Labeling					
of Dangerous Substances(Annex 1)	Corrosive	NO NO	Philippines	YES YES YES	Japan YES
YES	Australia	YES YES	Korea	YES YES	China YES YES
YES	New Zealand Inventory of Chemicals	YES YES YES			

Other Information

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