Material Safety Data Sheet

RXSOL Silica Sol 30% (RXSOL-19-1993-250)

1. Product and Company Identifaction

Product Name	RXSOL-19-1993-250
Product Type	Silica Sol RX 30%

Company Details:

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2. Composition / informationon ingredients

Our hazard evaluation has identified the following chemical ingredient (s) as hazardous under OSHA's Hazard Communication Rule, 29 CFR 1910.1200. Consult Section XIV for the nature of the hazard (s).

INGREDIENTS (s)	CAS #	APPROX.%
Amorphous silica	7631-86-9	30-50
Water	7732-16-5	50-70

Ingredients are listed on the TSCA Inventory of Chemical Substances. Those not identified are nonhazardous.

3. Hazards Identification

EMERGENCY OVERVIEW:

CAUTION : May cause irritation with prolonged contact.

Do not get in eyes, on skin, on clothing. Do not take internally. Use with adequate ventilation. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. After contact with skin, wash immediately with plenty of water. Protect product from freezing.

Wear suitable protective clothing.

Not flammable or combustible.

PRIMATRY ROUTES OF EXPOSURE: Eye, Skin

EYE CONTACT: May cause irritation with prolonged contact.

SKIN CONTACT: May cause irritation with prolonged contact.

INGESTION: Not a likely route of exposure. No adverse effects expected.

INHALATION: Not a likely route of exposure. Aerosols or product mist may irritate the upper respiratory tract.

SYMPTOMS OF EXPOSURE: Acute: A review of available data does not identify any symptoms from exposure not previously mentioned.

Chronic: A review of available data does not identify any symptoms form exposure not previously mentioned.

AGGRAVATION OF EXISTING CONDITIONS: Prolong inhalation of dust containing amorphous silica can increase lung injury in individual with emphysema, asthma or other lung disorders.

HUMAN HEALTH HAZARDS – CHRONIC: Prolonged inhalation of dust containing amorphous silica can increase lung injury in individuals with emphysema, asthma or other lung disorders.

4. First Aid Measures

EYE CONTACT: Flush affected area with water. If symptoms develop, seek medical advice.

SKIN CONTACT: Flush affected area with water. If symptoms develop, seek medical advice.

INGESTION: Do not induce vomiting without medical advice. If conscious, washout mouth and give water to drink. Get medical attention.

INHALATION: Remove to fresh air, treat symptomatically. If symptoms develop, seek medical advice.

NOTE TO PHYSICIAN: Based on the individual reactions of the patient, the physician's judgment should be used to control symptoms and clinical
condition.

5. Fire-fighting Measures

FLASH POINT: Not flammable

EXTINGUISHING MEDIA: Not expected to burn. Use extinguishing media appropriate for surrounding fire.

FIRE AND EXPLOSION HAZARD: Not flammable or combustible.

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 areas of appropriate until clean-up operations are complete. Stop or reduce any leaks if it is safe to do so. Do not touch spilled material. Ventilate spill area if possible. Use personal protective equipment recommended in Section 8 (Exposure Controls / Person al Protection)

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. 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: Avoid eye and skin contact. Do not take internally. Use with adequate ventilation. Do not breathe vapors / gases / dust. Ensure all containers are labeled. Keep the containers closed when not in use.

STORAGE CONDITIONS: Protect product from freezing. Store the containers tightly closed.
Store in suitable labeled containers.

SUITABLE CONSTRUCTION MATERIAL: HDPE (high density polyethylene). Compatibility with Plastic Materials can vary; we therefore recommend that compatibility is tested prior to use.

8. Exposure controls and personal protection

OCCUPATIONAL EXPOSURE LIMITS: This product contains amorphous, colloidal or fumed silica. Should the product become dried or misted such that inhalation of the material is possible, standard hygiene practices should be utilized to ensure that exposure to respirable particles is within the regulated limits.

ACGIH / TLV Substances(s) Amorphous Silica TWA: 10 mg/m3

OSHA / PEL Substances(s) Amorphous Silica TWA: 6 mg/m3

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.

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: Particulate filter – HEPA, with a Particulate pre-filter. 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 gloves 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 , Neoprene, Nitrile, PVC. Gloves should be replaced immediately if signs of degradation are observed. Breakthrough time not determined as preparation, consult PPE manufacturers.

SKIN PROTECTION: Wear standard protective clothing.

EYE PROTECTION: Wear chemical splash goggles.
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.

HUMAN EXPOSURE CHARACTERIZATION: Based on our recommended product application and personal protective equipment, the potential human exposure is: LOW

9. Physical and chemical properties

Concentration	30%	
Na2o Content	% 0.31	
COLOR: Milky white	FORM: Liquid	ODOR: Odorless
SOLUBILITY IN WATER:	Completely	
SPECIFIC GRAVITY:	1.21-1.40 @ 68°C	ASTM D-1298
pH (NEAT) =	9.8-10.2	ASTM E-70
VISCOSITY:	25cps @ 77°F	ASTM D-2983
BOILING POINT:	100°C @ 760 mm Hg	ASTM D-86
FLASH POINT:	None	
Particle Size	12 nm	
Surface Area	Sq.m/gm 315	

10. Stability and reactivity

STABILITY: Stable under normal conditions.

HAZARDOUS POLYMERIZATION: Hazardous polymerization will not occur.

CONDITIONS TO AVOID: Freezing temperatures.

MATERIALS TO AVOID: None known.

HAZARDOUS DECOMPOSITION PRODUCTS: Under fire conditions: None known.

11. Toxicological information

The following results are for the product:

ACUTE ORAL TOXICITY: Rat, LD50 > 15,000 mg/kg, Non-Hazardous

PRIMARY SKIN IRRITATION: Draize Score 0.4 / 8.0, Minimally irritating

PRIMARY EYE IRRITAITON: Draize Score 3.3 / 110, Practically non-irritating

SENSITIZATION: This product is not expected to be a sensitizer.

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).

HUMAN HAZARD CHARACTERIZTION: Based on our hazard characterization, the potential human
hazard is: LOW

12. Ecological information

ECOTOXICLOGICAL EFFECTS:
The following results are for the product.

ACUTE FISH RESULTS:

Species	Exposure	LC50	Test Descriptor
Bluegill Sunfish	96 hrs	>1,000 mg/l	Product
Rainbow Trout	96 hrs	>1,000 mg/l	Product

MOBILITY:

The environmental fate was estimated using a level III fugacity model embedded in the EPI (estimation program interface) Suite TM, proved 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 designed 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.

BIOACCUMULATION POTENTIAL: This preparation or material is not expected to bioaccumulate.

ENVIRONEMNTAL HAZARD AND EXPOSURE CHARACTERIZATION: Based on our hazard characterization, the potential environmental hazard is : LOW

Based on our recommended product application and the product's characteristics, the potential environmental exposure is: LOW

If released into the environment, see CERCLA / SUPERFUND in Section 15.

13. Disposal considerations

If this product becomes a waste, it is not a hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA) 40 CFR 261, since it does not have the characteristics of Subpart C, nor is it listed under Subpart D. As a non-hazardous waste, it is not subject to federal regulation. Consult state or local regulation for any additional handling, treatment or disposal requirements. For disposal, contact a properly licensed waste treatment, storage, disposal or recycling facility.

14. Transport information

SHIPPING INFORMATION

LAND TRANSPORT: Not Regulated.

AIR TRANSPORT (ICAO / IATA): Not Regulated.

MARINE TRANSPORT (IMDG / IMO): Not Regulated.

15. Regulatory information

The following regulations apply to this product.

FEDERAL REGULATIONS:

OSHA'S HAZARD COMMUNICATION RULE, 29 CFR 1910.1200:
Based on our hazard evaluation, the following ingredient in this product is hazardous and the reason is shown below.

Amorphous silica = TWA 10 mg/m3 (total dust) ACGIH/TLV

Amorphous silica = TWA 6 mg/m3 OSHA/PEL

CERCLA/SUPERFUND, 40 CFR 117, 302:
Notification of spills of this product is not required.

SARA/SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT OF 1986
(TITLE III) - SECTIONS 302, 311, 312 AND 313:

SECTION 302 - EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 355):
This product does not contain ingredients listed in Appendix A and B as an Extremely Hazardous Substance.

SECTIONS 311 and 312 - MATERIAL SAFETY DATA SHEET REQUIREMENTS (40 CFR 370):
Our hazard evaluation has found this product to be hazardous. The product should be reported under the following EPA hazard categories:

XX Immediate (acute) health hazard

XX Delayed (chronic) health hazard

-- Fire hazard

-- Sudden release of pressure hazard

-- Reactive hazard

Under SARA 311 and 312, the EPA has established threshold quantities for the reporting of hazardous chemicals. The current thresholds are: 500 pounds or the threshold planning quantity (TPQ), whichever is lower, for extremely hazardous substances and 10,000 pounds for all other hazardous chemicals.

SECTION 313 - LIST OF TOXIC CHEMICALS (40 CFR 372): This product does not contain ingredients on the List of Toxic Chemicals.

TOXIC SUBSTANCES CONTROL ACT (TSCA): The chemical ingredients in this product are on the 8(b) Inventory List (40 CFR 710).

RESOURCE CONSERVATION AND RECOVERY ACT (RCRA), 40 CRF 261 SUBPART C & D: Consult Section XI for RCRA classification.

FEDERAL WATER POLLUTION CONTROL ACT, CLEAN WATER ACT, 40 CFR 401.15 (formally Sec. 307), 40 CFR 116 (formerly Sec. 311): None of the ingredients are specifically listed.

CLEAN AIR ACT, Sec. 111 (40 CFR 60), Sec. 112 (40 CFR 61, 1990 Amendments), Sec. 611 (40 CFR 82, CLASS I and II Ozone depleting substances): This product does not contain ingredients covered by the Clean Air Act.

16. Other information

Additional Information
NA = NOT APPLICABLE
NE = NOT ESTABLISHED

Rx Marine International provides the information contained herein in good faith but makes no representation as to its comprehensiveness or accuracy. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product. Individuals receiving the information must exercise their independent judgment in determining its appropriateness for a particular purpose.