

Product Name: Calcium Bromide Solution 50 Percent

Part No / SKU: RXSOL-34-3407-340

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Document Type: Material Safety Data Sheet (MSDS)

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name	Calcium Bromide Solution
Part Number	RXSOL-34-3407-250

Company Details:

RX MARINE INTERNATIONAL
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2. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Name	CAS	EC numbe	Weight	Formula
Calcium bromide	7789-41-5	--	= 100 %	Br ₂ Ca

3. HAZARDS IDENTIFICATION

Signal Word	Danger
Hazard Statements	H318 Causes serious eye damage.
Precautionary statements	P280 Wear protective gloves/ eye protection/ face protection. P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Classification of the substance or mixture	Not a hazardous substance or mixture according to Regulation (EC) No 1272/2008.
Supplemental Hazard Statements	None.
Other hazards	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.

4. FIRST AID MEASURES

General advice	Consult a physician. Show this material safety data sheet to the doctor in attendance.
If inhaled	If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.
Eye Contact	Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.
Swallowed	Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.
Skin Contact	Wash off with soap and plenty of water. Consult a physician.
Inhalation	Remove patient to fresh air, keep warm and at rest and get medical assistance in necessary.
Ingestion	Rinse mouth with water. Do not induce vomiting. Never give anything by mouth to an unconscious person. Call a doctor or Poison Control Center immediately.
Most important symptoms and effects, both acute and delaye	The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11
Indication of any immediate medical attention and special treatment needed	No data available

5. FIRE FIGHTING MEASURES

Flammability	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Flash Point	Dry powder Dry sand
Suitable extinguishing media	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Unsuitable extinguishing media	For this substance/mixture no limitations of extinguishing agents are given.
Special hazards arising from the substance or mixture	Nature of decomposition products not known.
Further information	Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.
Hazardous combustion products	Fire may cause the evolution of Sulphur oxides, nitrogen oxides.
Advice for firefighters	Wear self-contained breathing apparatus for firefighting if necessary.
Protective Equipment	Use personal protective equipment.
Specific Hazards Arising from the Chemical	Oxides of phosphorus Sodium oxides Not combustible. Fire may cause evolution of: Oxides of phosphorus Ambient fire may liberate hazardous vapours.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	Use personal protective equipment. Avoid dust formation. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust. For personal protection see section 8.
Spillage	Oxidizing material. Stop leak if without risk. Avoid contact with a combustible material (wood, paper, oil, clothing...). Keep substance damp using water spray. Do not touch spilled material. Prevent entry into sewers, basements or confined areas dike if needed. Eliminate all ignition sources. Call for assistance on disposal.
Enviromental Precaution	Do not let product enter drains.
Methods and materials for containment and cleaning	Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

7. HANDLING AND STORAGE

Advice on safe handling	Avoid formation of dust and aerosols.
Advice on protection against fire and explosion	Provide appropriate exhaust ventilation at places where dust is formed.
Incompatible materials	Keep away from alkalis, strong oxidizing agents and metals. Provide containment walls of adequate capacity to hold any accidental spills.
Hygiene measures	Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday. For precautions see section 2.2.
Precautions for safe handling	For precautions see section 2.2.
Storage conditions	Store in cool place. Keep container tightly closed in a dry and well-ventilated place..
Storage class	Storage class (TRGS 510): 13: Non Combustible Solids
Specific end use(s)	Apart from the uses mentioned in section 1.2 no other specific uses are stipulated
Handling	Keep away from heat. Keep away from sources of ignition. Keep away from combustible material.. Empty containers pose a fire risk, evaporate the residue under a fume hood. Ground all equipment containing material. Do not ingest. Do not breathe dust. Wear suitable protective clothing. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately and show the container or the label. Avoid contact with skin and eyes. Keep away from incompatibles such as reducing agents, combustible materials, organic materials, metals
Advice on general occupational hygiene	Advice on safe handling Observe label precautions. Change contaminated clothing. Wash hands after working with substance.
Requirements for storage	Keep in cool and store under shade.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure controls	Appropriate engineering controls Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.
Control parameters	Ingredients with workplace control parameters Contains no substances with occupational exposure limit values.
Engineering Control	Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.
Eye/face protection	Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).
Body Protection	Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.
Skin protection	Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands. The selected protective gloves have to satisfy the specifications of Regulation (EU) 2016/425 and the standard EN 374 derived from it.
Respiratory protection	Where risk assessment shows air-purifying respirators are appropriate use a fullface particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).
Other Protection Measure	Handle in accordance with good industrial hygiene and safety practice.
Control of environmental exposure	Do not let product enter drains.



Gloves



Suit

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state	Beads
Colour	White
Odour	Odorless
Odor Threshold	Not Applicable
pH	No data available
Melting Point	760 °C
Boiling Point	ca.1.815 °C
Flash Point	No data available
Evaporation Rate	Not Applicable
Flammability (solid, gas)	No data available
Explosive limits	No Data Available
Upper/lower flammability or explosive limits	No data available
Autoignition temperature	No data available
Decomposition temperature	No data available
Vapour pressure	No data available
Density	3,353 g/mL at 25 °C - lit.
Relative Density	No data available
Freezing point	No data available
Specific Gravity	No data available
Partition coefficient	No data available
Explosive properties	No data available
Solubility	1.420 g/l at 30 °C
Ignition temperature	No information available.
Particle characteristics	No data available

10. STABILITY AND REACTIVITY

Reactivity	No data available
Stability	Stable under recommended storage conditions.
Possibility of hazardous reactions	No data available
Conditions to avoid	No data available
Incompatible materials	Metals
Hazardous decomposition products	In the event of fire: see section 5

11. TOXICOLOGICAL INFORMATION

Acute toxicity	LD50 Oral - Rat - male and female - 1.854 - 2.635 mg/kg Inhalation: No data available Dermal: No data available
Skin corrosion/irritation	Skin - Rabbit Result: Mild skin irritation (OECD Test Guideline 404)
Serious eye damage/eye irritation	Eyes - Rabbit Result: Risk of serious damage to eyes. (OECD Test Guideline 405)
Respiratory or skin sensitization	Maximization Test - Guinea pig Did not cause sensitization on laboratory animals.
Toxic Effects on Human	May cause damage to the following organs: upper respiratory tract. Other Toxic Effects on Humans: Hazardous in case of skin contact (irritant, sensitizer), of ingestion, of inhalation (lung irritant, lung sensitizer).
Carcinogenicity	No data available
Germ cell mutagenicity	Test Type: Ames test Test system: Salmonella typhimurium Result: negative
Reproductive toxicity	No data available
Specific target organ toxicity - single exposure	No data available
Special Remarks on other Toxic Effects on Humans	Acute Potential Health Effects: Skin: Causes skin irritation. May cause skin sensitization, an allergic reaction, which becomes evident upon re-exposure to this material. Eyes: Causes eye irritation. Ingestion: Causes gastrointestinal (digestive) tract irritation with nausea, vomiting, and diarrhea. May be harmful if swallowed. Inhalation: Causes respiratory tract irritation. May cause chemical pneumonitis and pulmonary edema, inflammation, edema of bronchi and larynx. Chronic Potential Health Effects: Repeated or prolonged skin exposure may cause allergic reactions in sensitive individuals. Repeated or prolonged exposure by inhalation may affect respiration and metabolism.
Additional Information	To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

12. ECOLOGICAL INFORMATION

Bioaccumulative potential	No data available
Persistence and degradability	No data available
Toxicity to fish	Semi-static test LC50 - <i>Oncorhynchus mykiss</i> (rainbow trout) - 0,154 mg/l - 96 h (OECD Test Guideline 203) Remarks: (referred to the cation)
Toxicity to daphnia and other aquatic invertebrates	Static test EC50 - <i>Daphnia magna</i> (Water flea) - > 100 mg/l - 48 h (OECD Test Guideline 202)
Toxicity to algae	Static test ErC50 - <i>Pseudokirchneriella subcapitata</i> (green algae) - 0,00296 mg/l - 72 h Remarks: (ECHA)
Toxicity to bacteria	Static test EC50 - activated sludge - 820 mg/l - 3 h (OECD Test Guideline 209) Remarks: The value is given in analogy to the following substances: disodium molybdate
Mobility in soil	No Information available
Results of PBT and vPvB assessment	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.
Endocrine disrupting properties	No data available
Other adverse effects	No data available

13. DISPOSAL CONSIDERATIONS

Disposal methods	The material can be disposed of by removal to a licensed chemical destruction plant or by controlled incineration with flue gas scrubbing. Do not contaminate water, foodstuffs, feed or seed by storage or disposal. Do not discharge to sewer systems.
Contaminated packaging	Dispose of as unused product.
Waste treatment Method	Offer surplus and non-recyclable solutions to a licensed disposal company. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

14. TRANSPORT INFORMATION

UN number	ADR/RID:	IMDG:	IATA:
UN proper shipping name	ADR/RID:	IMDG:	IATA:
Transport hazard class(es)	ADR/RID:	IMDG:	IATA:
Packaging group	ADR/RID:	IMDG: I	IATA:
Environmental hazards	ADR/RID: NO	IMDG: NO	IATA: NO
Further information	Not classified as dangerous in the meaning of transport regulations.		

15. REGULATORY INFORMATION

Inventory status	Components are on the following inventories: Polymaleic acid: - US TSCA, Canadian DSL, EU EINECS, Australian AICS, Korean, Philippine PICCS and Chinese Xi irritant R 36/38 Irritant to eyes & skin R 41 Risk of serious damage to eyes S24/25 Avoid contact with skin and eyes S26/28 In case of contact eyes & skin, rinse with plenty water and seek medical advice Section 312/313: Not listed. Not listed under California proposition 65.
Safety, health and environmental regulations/legislation specific for the substance or mixture	This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006. International Chemical Weapons Convention (CWC) Schedules of Toxic Chemicals and Precursors : REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, preparations and articles (Annex XVII) : Regulation (EC) No 649/2012 of the European Parliament and the Council concerning the export and import of dangerous chemicals : REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59). : This product contains a substance listed on Annex XIV of the REACH Regulation (EC) Nr. 1907/2006. Listed substance / Sunset Date : After the sunset date the use of this substance requires either an authorization or can only be used for exempted uses, e.g. use in scientific research and development which includes routine analytics or use as intermediate. Regulation (EC) No 1005/2009 on substances that deplete the ozone layer : Regulation (EC) No 850/2004 on persistent organic pollutants
Safety, health and environmental regulations specific for the product in question	European Inventory of Existing Commercial Chemical Substances (EINECS) -Listed. EC Inventory Listed. United States Toxic Substances Control Act (TSCA) Inventory- Listed. China Catalog of Hazardous chemicals 2015 Not-Listed. New Zealand Inventory of Chemicals (NZIoC) Listed. PICCS -Listed. Vietnam National Chemical Inventory -Listed. IECSC Listed. Korea Existing Chemicals List (KECL) -Listed.
National legislation	Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances. : ENVIRONMENTAL HAZARDS
Other regulations	Take note of Dir 94/33/EC on the protection of young people at work
Chemical Safety Assessment	For this product a chemical safety assessment was not carried out

16. OTHER INFORMATION AND DISCLAIMER

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 we assume 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 we 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.