MSDS

For RICCA, SpectroPure, Red Bird, and Solutions Plus Brands Emergency Contact (24 hr) -- CHEMTREC®

> Domestic: 800-424-9300 International: 703-527-3887

BARIUM CHLORIDE, 5 - 50% (w/v), 0.4 - 4 Normal Aqueous Solutions

Material Safety Data Sheet

Section 1: Chemical Product and Company Identification

Catalog Number:

846, 847, 850, 850W, 852, 854, 855, 856, 860, 865, 867, 868, 882.5, 883, B-100, B-102, B-105, B010200, B011000, B011020, B011050, BX-926, BX-927, BX-929, BX-934, BX-945, R0870000, R0882800, SB010200, SB011000, SB011020, SB011050

Product Identity:

BARIUM CHLORIDE, 5 - 50% (w/v), 0.4 - 4 Normal Aqueous Solutions

Manufacturer's Name: RICCA CHEMICAL COMPANY LLC	Emergency Contact(24 hr) CHEMTREC® Domestic: 800-424-9300 International: 703-527-3887
CAGE Code: 0V553	
Address: 448 West Fork Dr Arlington, TX 76012	Telephone Number For Information: 817-461-5601
Date Prepared: 3/19/99	Revision: 11 Last Revised: 06/15/2007 Date Printed: 06/15/2007 4:19:30 pm

Section 2. Composition/Information on Ingredients

Component	CAS Registry #	Concentration	ACGIH TLV	OSHA PEL
Barium Chloride Dihydrate	10326-27-9	5 - 50	Not Available	Not Available
			0.5 mg/m3	0.5 mg/m3
Water, Deionized	7732-18-5	Balance	Not Available	Not Available
			Not Available	Not Available

Section 3: Hazard Identification

Emergency Overview: Danger! May be fatal if swallowed. May cause irritation to the skin, eyes and respiratory system. Affects heart, respiratory system and central nervous system. Water and stomach acids solubilize barium salts and can cause poisoning. Wash areas of contact with plenty of water. If ingested, dilute with water, induce vomiting then call a physician.

Target Organs: eyes, skin, heart, central nervous system, respiratory system.

Eye Contact: May cause irritation, redness, pain, and tearing.

Inhalation: Raw material may cause irritation, however not likely to be hazardous by inhalation in solution.

Skin Contact: May cause irritation, redness, and pain.

Ingestion: Toxic! May cause severe gastroenteritis, including abdominal pain, vomiting and diarrhea. Severe cases may produce collapse and death on respiratory failure.

Chronic Effects/Carcinogenicity: None

IARC - No. NTP - No. OSHA - No.

Reproductive Information: Reproductive effects cited in 'Registry of Toxic Effects of Chemical Substances' for Barium Chloride Dihydrate.



MSDS

For RICCA, SpectroPure, Red Bird, and Solutions Plus Brands

Emergency Contact (24 hr) -- CHEMTREC® Domestic: 800-424-9300

International: 703-527-3887

BARIUM CHLORIDE, 5 - 50% (w/v), 0.4 - 4 Normal Aqueous Solutions

Teratology (Birth Defect) Information: Mutation data cited in 'Registry of Toxic Effects of Chemical Substances' for Barium Chloride Dihydrate.

Section 4: First Aid Measures - In all cases, seek qualified evaluation.

Eye Contact: Irrigate immediately with large quantity of water for at least 15 minutes. Call a physician if irritation develops.

Inhalation: Remove to fresh air. Give artificial respiration if necessary. If breathing is difficult, give oxygen.

Skin Contact: Wash areas of contact with soap and water for at least 15 minutes. Call a physician if irritation develops.

Ingestion: Dilute immediately with water or milk. Induce vomiting. Call a physician.

Section 5: Fire Fighting Measures

Method Used: Not Available. Flash Point: Not Available.

UFL: Not Available. LFL: Not Available.

Extinguishing Media: Use any means suitable for extinguishing surrounding fire. Fire & Explosion Hazards: Not considered to be a fire or explosion hazard.

Fire Fighting Instructions: Use normal procedures/instructions.

Fire Fighting Equipment: Use protective clothing and NIOSH-approved breathing equipment appropriate for the surrounding fire.

Section 6: Accidental Release Measures

Do not flush to sewer. Absorb with suitable material. Containerize for disposal with a hazardous waste disposal facility. Dispose of in accordance with local regulations.

Section 7. Handling and Storage

As with all chemicals, wash hands thoroughly after handling. Avoid contact with eyes and skin. Protect from freezing and physical damage.

Safety Storage Code: Health

Section 8: Exposure Control/Personal Protection

Engineering Controls: No specific controls are needed. Normal room ventilation is adequate.

Respiratory Protection: Normal room ventilation is adequate.

Skin Protection: Chemical resistant gloves. Eye Protection: Safety glasses or goggles.

Section 9: Physical and Chemical Properties

Appearance: Clear, colorless liquid

pH: approximately 5 - 7 Odor: Odorless Boiling Point(°C): Approximately 101

Solubility in Water: Infinite Melting Point(°C): Approximately 0 Specific Gravity: Approximately 1.03 - 1.3 Vapor Pressure: Not Applicable.

Section 10: Stability and Reactivity

Chemical Stability: Stable under normal conditions of use and storage. Incompatibility: Boron Trifluoride, Furan-2-peroxycarboxylic acid.

Hazardous Decomposition Products: Oxides of the contained metal and halogen, possibly also free, or ionic halogen.

Hazardous Polymerization: Will not occur.

Section 11. Toxicological Information

LD50, Oral, Rat: (Barium Chloride, anhydrous) 118 mg/kg, details of toxic effects not reported other than lethal dose value. Investigated as a mutagen and reproductive effector.



For RICCA, SpectroPure, Red Bird, and Solutions Plus Brands Emergency Contact (24 hr) -- CHEMTREC®

Domestic: 800-424-9300

International: 703-527-3887

BARIUM CHLORIDE, 5 - 50% (w/v), 0.4 - 4 Normal Aqueous Solutions

Section 12. Ecological Information

Ecotoxicological Information: No information found.

Chemical Fate Information: This material is expected to significantly bioaccumulate.

Section 13. Disposal Considerations

Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved RCRA waste disposal facility. Do not flush to sewer. Always dispose of in accordance with local, state and federal regulations.

Section 14. Transport Information

Part Numbers: 846-16, 847-16, 850-1, 850-16, 850-2.5, 850-32, 850-5, 852-16, 852-32, 854-16, 854-32, 855-1, 855-16, 855-32, 855-5, 856-5, 860-1, 860-16, 860-32, 865-32, 867-32, 868-5, 882.5-32, 882.5-5, 883-1, B-100 10-LT, B-100 20-LT, B-100 4-LT, B-100 500ML, B-100 LT, B-102 500ML, B-105 10-LT, B-105 20-LT, B-105 4-LT, B-105 500ML, B-105 LT, BX-926 4-LT, BX-926 500ML, BX-926 LT, BX-927 500ML, BX-929 4-LT, BX-934 500ML, BX-934 LT, BX-945 20-LT, BX-945 4-LT, BX-945 500ML, BX-945 LT, R0882800-500A, SB010200-1A, SB010200-500A, SB011000-1A, SB011000-500A

D.O.T. Shipping Name: Toxic Liquid, Inorganic, n.o.s., (Barium Chloride)

D.O.T. Hazard Class: 6.1 U.N. / N.A. Number: UN3287

Packing Group: III D.O.T. Label: III



Section 15. Regulatory Information (Not meant to be all inclusive - selected regulation represented)

OSHA Status: These items meet the OSHA Hazard Communication Standard (29 CFR 1910.1200) definition of a hazardous material. TSCA Status: All components of this solution are listed on the TSCA Inventory or are mixtures (hydrates) of items listed on the TSCA Inventory. Sara Title III:

Section 302 Extremely Hazardous Substances: Not Applicable.

Section 311/312 Hazardous Catagories: Acute: Yes Chronic, Fire, Pressure, Reactivity: No

Section 313 Toxic Chemicals: Not Applicable.

California: None Reported. Pennsylvania: None Reported. RCRA Status: Not Applicable.

CERCLA Reportable Quantity: None Reported.

WHMIS: D-1B Poisonous and Infectious Material. Materials causing immediate and serious toxic effects - Toxic Material.





MSDS

For RICCA, SpectroPure, Red Bird, and Solutions Plus Brands Emergency Contact (24 hr) -- CHEMTREC®

Domestic: 800-424-9300 International: 703-527-3887

BARIUM CHLORIDE, 5 - 50% (w/v), 0.4 - 4 Normal Aqueous Solutions

Section 16. Other Information

NFPA Ratings:

Health: 2 Flammability: 0 Reactivity: 0 Special Notice Key:None

HMIS Ratings:

Health: 2 Flammability: 0 Reactivity: 0 Protective Equipment:B (Protective Eyewear, Gloves)

Rev 1, 12-10-99: (Section 1) Revised emergency telephone number to CHEMTREC® 800-424-9300.

Rev 2, 5-4-2000: Reformatted from WordPerfect® to Microsoft Word®; (Section 1) added catalog number 883, added Normality to title; (Section 3) corrected

 $\label{eq:osha} \text{OSHA to No, corrected NTP to not classifiable; (Section 7) added storage code.}$

Rev 3, 2-6-2001: (Section 1) added catalog numbers 867 and 868. Rev 4, 10-09-2001: Reformatted to electronic data format.

Rev 5, 01-15-2002: (Section 1) added catalog numbers 856, 865, and 882.5.

Rev 6, 11-13-2002: (Section 1) added Solutions Plus catalog numbers B010200, B011000, B011020, B011050.

Rev 7, 10-14-2005: (Section 1) added Red Bird catalog numbers B-102 and B-105.

Rev 8, 03-20-2006: (Section 1) added Red Bird catalog numbers BX-929 and BX-934.

Rev 9, 07-27-2006: (Section 1) added Red Bird catalog number BX-927.

Rev 10, 12-13-2006: (Section 1) added catalog number R0870000.

Rev 11, 06-15-2007: (Section 1) added catalog number R0882800.

When handled properly by qualified personnel, the product described herein does not present a significant health or safety hazard. Alteration of its characteristics by concentration, evaporation, addition of other substances, or other means may present hazards not specifically addressed herein and which must be evaluated by the user. The information furnished herein is believed to be accurate and represents the best data currently available to us. No warranty, expressed or implied, is made and RICCA CHEMICAL COMPANY assumes no legal responsibility or liability whatsoever resulting from its use.