

Safety Data Sheet

Classified According to OSHA Hazard Communication Standard (HCS)

SECTION 1: Identification

1.1. Product Identifier

Trade Name or Designation: Barium Chloride/Pot Permanganate 4% / 2% w/v

Product Number: R0849400

Other Identifying Product Numbers: R0849400-500C

1.2. Recommended Use and Restrictions on Use

General Laboratory Reagent

1.3. Details of the Supplier of the Safety Data Sheet

Company: Ricca Chemical Company

Address: 448 West Fork Drive

Arlington, TX 76012 USA

Telephone: 888-467-4222

1.4. Emergency Telephone Number (24 hours)

CHEMTREC (USA) 800-424-9300

CHEMTREC (International) 1+ 703-527-3887

SECTION 2: Hazard(s) Identification

2.1. Classification of the Substance or Mixture

For the full text of the Hazard and Precautionary Statements listed below, see Section 16.

Hazard Class	Category	Hazard Statements	Precautionary Statements:
Skin Corrosion / Irritation	Category 1	H314	P260, P264, P280, P301+P330+P331, P303+P361+P353, P363, P304+P340, P310, P321, P305+P351+P338, P405, P501
Eye Damage / Irritation	Category 2	H319	P264, P280, P305+P351+P338, P337+P313
Hazardous to the Aquatic Environment (Acute)	Category 3	H402	P273, P501
Hazardous to the Aquatic Environment (Chronic)	Category 2	H411	P273, P391, P501

Safety Data Sheet

2.2. GHS Label Elements

Pictograms:



Signal Word: **Danger**

Hazard Statements:

Hazard Number	Hazard Statement
H314	Causes severe skin burns and eye damage.
H319	Causes serious eye irritation.
H402	Harmful to aquatic life.
H411	Toxic to aquatic life with long lasting effects.

Precautionary Statements:

Precautionary Number	Precautionary Statement
P260	Do not breathe fumes, mist, vapors, or spray.
P264	Wash arms, hands and face thoroughly after handling.
P273	Avoid release to the environment.
P280	Wear protective gloves and eye protection.
P301+P330+P331	IF SWALLOWED: rinse mouth. Do NOT induce vomiting.
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310	Immediately call a POISON CENTER or physician.
P321	Specific treatment (Wash areas of contact with water).
P337+P313	If eye irritation persists: Get medical attention.
P363	Wash contaminated clothing before reuse.
P391	Collect spillage.
P405	Store locked up.
P501	Dispose of contents in accordance with local, state, federal and international regulations.

2.4. Hazards not Otherwise Classified or Covered by GHS

Data not available.

Safety Data Sheet

SECTION 3: Composition / Information on Ingredients

3.1. Components of Substance or Mixture

Chemical Name	Formula	Molecular Weight	CAS Number	Weight%
Water	H ₂ O	18.01 g/mol	7732-18-5	94.23
Barium Chloride Dihydrate	BaCl ₂ ·2H ₂ O	244.26 g/mol	10326-27-9	3.85
Potassium Permanganate	KMnO ₄	158.03 g/mol	7722-64-7	1.92

SECTION 4: First-Aid Measures

4.1. General First Aid Information

Eye Contact: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. May cause irritation, redness, pain, and tearing.

Inhalation: IF INHALED: Remove person to fresh air and keep comfortable for breathing.

Skin Contact: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. May cause irritation, redness, and pain.

Ingestion: IF SWALLOWED: rinse mouth. Do NOT induce vomiting. Administer with milk, chewable calcium carbonate tablets or milk of magnesia. Vomiting may occur spontaneously but do not induce. Call a physician if necessary.

4.2. Most Important Symptoms and Effects, Acute and Delayed

Causes severe skin burns and eye damage. Causes serious eye irritation. EYE CONTACT: May cause irritation, redness, pain, and tearing. SKIN CONTACT: May cause irritation, redness, and pain. CHRONIC EFFECTS / CARCINOGENICITY: Prolonged or repeated exposure may cause dermatitis.

4.3. Medical Attention or Special Treatment Needed

Immediately call a POISON CENTER or physician. Specific treatment (Wash areas of contact with water). Irrigate immediately with large quantity of water for at least 15 minutes. Call a physician if irritation develops. Flush with plenty of water for at least 15 minutes. Call a physician if irritation develops. Administer with milk, chewable calcium carbonate tablets or milk of magnesia. Vomiting may occur spontaneously. Do not induce. Call a physician if necessary.

SECTION 5: Fire-Fighting Measures

5.1. Extinguishing Media

Use any means suitable for extinguishing surrounding fire.

5.2. Specific Hazards Arising from the Substance or Mixture

Not considered to be a fire or explosion hazard.



Safety Data Sheet

5.3. Special Protective Equipment for Firefighters

Use protective clothing and breathing equipment appropriate for the surrounding fire.

SECTION 6: Accidental Release Measures

6.1. Personal Precautions, Protective Equipment and Emergency Procedures

Wear protective gloves and eye protection.

6.2. Cleanup and Containment Methods and Materials

Absorb with suitable material and treat as normal refuse. Small amounts of the liquid may be flushed to the drain with excess water. Always dispose of in accordance with local regulations.

SECTION 7: Handling and Storage

7.1. Precautions for Safe Handling and Storage Conditions

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

Safety Data Sheet

SECTION 8: Exposure Controls / Personal Protection

8.1 Control Parameters

Chemical Name	Limit Type	Country	Exposure Limit	Information Source
Barium Chloride Dihydrate (10326-27-9) TLV-TWA		USA	"0.5 mg/m ³ TWA (as Ba)" As Barium soluble compounds [RR-00049-7]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Barium Chloride Dihydrate (10326-27-9) TWA		USA	"0.5 mg/m ³ TWA (regulated under CAS 7440-39-3, as Ba)" As Barium, soluble compounds [RR-00049-7]	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)
Barium Chloride Dihydrate (10326-27-9) TLV-TWA		USA	"0.5 mg/m ³ TWA (as Ba)" As Barium soluble compounds [RR-00049-7]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Barium Chloride Dihydrate (10326-27-9) TWA		USA	"0.5 mg/m ³ TWA (regulated under CAS 7440-39-3, as Ba)" As Barium, soluble compounds [RR-00049-7]	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)
Barium Chloride Dihydrate (10326-27-9) TLV-TWA		USA	0.5 mg/m ³ TWA (as Ba)	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Barium Chloride Dihydrate (10326-27-9) TWA		USA	0.5 mg/m ³ TWA (regulated under CAS 7440-39-3, as Ba)	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)
Potassium Permanganate (7722-64-7) TLV-TWA		USA	"0.02 mg/m ³ TWA (respirable particulate matter, as Mn); 0.1 mg/m ³ TWA (inhalable particulate matter, as Mn)" As Manganese inorganic compounds [RR-03861-9]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Potassium Permanganate (7722-64-7) PEL-Ceiling		USA	"5 mg/m ³ Ceiling (as Mn)" As Manganese compounds [RR-00602-0]	U.S. - OSHA - Final PELs - Ceiling Limits

Safety Data Sheet

Potassium Permanganate (7722-64-7) TLV-TWA	USA	"0.02 mg/m ³ TWA (respirable particulate matter, as Mn); 0.1 mg/m ³ TWA (inhalable particulate matter, as Mn)" As Manganese inorganic compounds [RR-03861-9]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Potassium Permanganate (7722-64-7) PEL-Ceiling	USA	"5 mg/m ³ Ceiling (as Mn)" As Manganese compounds [RR-00602-0]	U.S. - OSHA - Final PELs - Ceiling Limits
Potassium Permanganate (7722-64-7) PEL-Ceiling	USA	5 mg/m ³ Ceiling (as Mn)	U.S. - OSHA - Final PELs - Ceiling Limits
Potassium Permanganate (7722-64-7) PEL-Ceiling	USA	"5 mg/m ³ Ceiling (as Mn)" As Manganese compounds [RR-00602-0]	U.S. - OSHA - Final PELs - Ceiling Limits
Potassium Permanganate (7722-64-7) TLV-TWA	USA	0.02 mg/m ³ TWA (respirable particulate matter, as Mn); 0.1 mg/m ³ TWA (inhalable particulate matter, as Mn)	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Potassium Permanganate (7722-64-7) PEL-Ceiling	USA	"5 mg/m ³ Ceiling (as Mn)" As Manganese compounds [RR-00602-0]	U.S. - OSHA - Final PELs - Ceiling Limits

8.2. Exposure Controls

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

Respiratory Protection: Normal room ventilation is adequate.

Skin Protection: Wear protective gloves and eye protection. Chemical resistant gloves.

Eye Protection: Wear protective gloves and eye protection. Safety glasses or goggles.

8.3. Personal Protective Equipment

Wear protective gloves and eye protection. Normal room ventilation is adequate. Chemical resistant gloves. Safety glasses or goggles.



Safety Data Sheet

SECTION 9: Physical and Chemical Properties

9.1. Basic Physical and Chemical Properties

Appearance: Purple liquid

Physical State: Liquid

Odor: Data not available.

Odor Threshold: Data not available.

pH: Data not available.

Melting/Freezing Point: Approximately 0°C

Initial Boiling Point/Range: Approximately 100°C -

Flash Point: Data not available.

Evaporation Rate: Data not available.

Flammability: Data not available.

Flammability/Explosive Limits: Data not available.

Vapor Pressure: Data not available.

Vapor Density: Data not available.

Relative Density: 1.04

Solubility: Miscible

Partition Coefficient: Data not available.

Auto-Ignition Temperature: Data not available.

Decomposition Temperature: Data not available.

Viscosity: Data not available.

Explosive Properties: Data not available.

Oxidizing Properties: Data not available.

SECTION 10: Stability and Reactivity

10.1. Reactivity and Chemical Stability

Stable under normal conditions of use and storage.

10.2. Possibility of Hazardous Reactions

Data not available.

10.3. Conditions to Avoid and Incompatible Materials

Reducing agents, flammables, reactive organic materials, metals, Sulfuric Acid, Boron Trifluoride, Furan-2-peroxycarboxylic acid.

10.4. Hazardous Decomposition Products

Will not occur.

Safety Data Sheet

SECTION 11: Toxicological Information

11.1. Information on Toxicological Effects

Acute Toxicity - Oral Exposure:

Not applicable.

Acute Toxicity - Dermal Exposure:

Not applicable.

Acute Toxicity - Inhalation Exposure:

Not applicable.

Acute Toxicity - Other Information:

LD50, Oral, Rat: 1090 mg/kg (Potassium Permanganate), details of toxic effects not reported other than lethal dose value. 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.

Skin Corrosion and Irritation:

Causes severe skin burns and eye damage. Do not breathe fumes, mist, vapors, or spray. Wash arms, hands and face thoroughly after handling. Wear protective gloves and eye protection. IF SWALLOWED: rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. Wash contaminated clothing before reuse. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or physician. Specific treatment (Wash areas of contact with water). IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Store locked up. Dispose of contents in accordance with local, state, federal and international regulations.

Serious Eye Damage and Irritation:

Causes serious eye irritation. Wash arms, hands and face thoroughly after handling. Wear protective gloves and eye protection. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention.

Respiratory Sensitization:

Not applicable.

Skin Sensitization:

Not applicable.

Germ Cell Mutagenicity:

Not applicable.

Carcinogenicity:

Not applicable.

Reproductive Toxicity:

Not applicable.

Specific Target Organ Toxicity from Single Exposure:

Not applicable.

Specific Target Organ Toxicity from Repeated Exposure:

Not applicable.



Safety Data Sheet

Aspiration Hazard:

Not applicable.

Additional Toxicology Information:

Data not available.

SECTION 12: Ecological Information

12.1. Ecotoxicity

Harmful to aquatic life. Avoid release to the environment. Dispose of contents in accordance with local, state, federal and international regulations. Toxic to aquatic life with long lasting effects. Avoid release to the environment. Collect spillage. Dispose of contents in accordance with local, state, federal and international regulations.

12.2. Persistence and Degradability

Data not available.

12.3. Bioaccumulative Potential

Data not available.

12.4. Mobility in Soil

Data not available.

12.5. Other Adverse Ecological Effects

Data not available.

SECTION 13: Disposal Considerations

13.1. Waste Treatment Methods

Data not available.

SECTION 14: Transportation Information

14.1. Transportation by Land-Department of Transportation (DOT, United States of America)

Not regulated according to DOT Regulations.

Safety Data Sheet

14.2. Transportation by Air - International Air Transport Association (IATA)

Not regulated according to IATA Dangerous Goods Regulations.

14.3 Transportation of Dangerous Goods (TDG, Canada)

Not regulated according to TDG Regulations.

SECTION 15: Regulatory Information

15.1. Occupational Safety and Health Administration (OSHA) Hazards

Not listed.

15.2. Superfund Amendments and Reauthorization Act (SARA) 302 Extremely Hazardous Substances

Not listed.

15.3. Superfund Amendments and Reauthorization Act (SARA) 311/312 Hazardous Chemicals

Potassium Permanganate (CAS # 7722-64-7): 100 lb final RQ; 45.4 kg final RQ

Safety Data Sheet

15.4. Superfund Amendments and Reauthorization Act (SARA) 313 Toxic Release Inventory (TRI)

Barium Chloride Dihydrate (CAS # 10326-27-9): "1.0 % de minimis concentration (includes any unique chemical substance that contains Barium as part of that chemical's infrastructure except for Barium sulfate CAS 7727-43-7, listed under Chemical Category N040)" As Barium compounds [RR-00555-0]

Barium Chloride Dihydrate (CAS # 10326-27-9): 1.0 % de minimis concentration (includes any unique chemical substance that contains Barium as part of that chemical's infrastructure except for Barium sulfate CAS 7727-43-7, listed under Chemical Category N040)

Potassium Permanganate (CAS # 7722-64-7): "1.0 % de minimis concentration (includes any unique chemical substance that contains Manganese as part of that chemical's infrastructure, listed under Chemical Category N450)" As Manganese compounds [RR-00602-0]

Potassium Permanganate (CAS # 7722-64-7): 1.0 % de minimis concentration (includes any unique chemical substance that contains Manganese as part of that chemical's infrastructure, listed under Chemical Category N450)

15.5. Massachusetts Right-to-Know Substance List

Potassium Permanganate (CAS # 7722-64-7): Present

15.6. Pennsylvania Right-to-Know Hazardous Substances

Barium Chloride Dihydrate (CAS # 10326-27-9): "Environmental hazard" As Barium compounds [RR-00555-0]

Barium Chloride Dihydrate (CAS # 10326-27-9): "Present" As Barium compounds [RR-00555-0]

Barium Chloride Dihydrate (CAS # 10326-27-9): Environmental hazard

Barium Chloride Dihydrate (CAS # 10326-27-9): Present

Potassium Permanganate (CAS # 7722-64-7): "Environmental hazard" As Manganese compounds [RR-00602-0]

Potassium Permanganate (CAS # 7722-64-7): "Present" As Manganese compounds [RR-00602-0]

Potassium Permanganate (CAS # 7722-64-7): Environmental hazard

Potassium Permanganate (CAS # 7722-64-7): Present

Water (CAS # 7732-18-5): "Present" As Ethyl alcohol and water [RR-00802-6]

Water (CAS # 7732-18-5): Present

15.7. New Jersey Worker and Community Right-to-Know Components

Barium Chloride Dihydrate (CAS # 10326-27-9): "SN 2146 500 lb TPQ (except Barium sulfate CAS number 7727-43-7, Category Code N040. Includes any unique chemical substance that contains the named metal as part of that chemical structure)" As Barium compounds [RR-00555-0]

Barium Chloride Dihydrate (CAS # 10326-27-9): "sn 2146" As Barium compounds [RR-00555-0]

Barium Chloride Dihydrate (CAS # 10326-27-9): sn 2146

Barium Chloride Dihydrate (CAS # 10326-27-9): SN 2146 500 lb TPQ (except Barium sulfate CAS number 7727-43-7, Category Code N040. Includes any unique chemical substance that contains the named metal as part of that chemical structure)

Potassium Permanganate (CAS # 7722-64-7): "SN 2324 500 lb TPQ (Category Code N450. Includes any unique chemical substance that contains the named metal as part of that chemical structure)" As Manganese compounds [RR-00602-0]

Potassium Permanganate (CAS # 7722-64-7): "sn 2324" As Manganese compounds [RR-00602-0]

Potassium Permanganate (CAS # 7722-64-7): sn 1578

Potassium Permanganate (CAS # 7722-64-7): sn 2324

Potassium Permanganate (CAS # 7722-64-7): SN 2324 500 lb TPQ (Category Code N450. Includes any unique chemical substance that contains the named metal as part of that chemical structure)

15.8. California Proposition 65

Not listed.

Safety Data Sheet

15.9. Canada Domestic Substances List / Non-Domestic Substances List (DSL/NDSL)

Barium Chloride Dihydrate (CAS # 10326-27-9): Present (DSL)

Potassium Permanganate (CAS # 7722-64-7): Present (DSL)

Water (CAS # 7732-18-5): Present (DSL)

15.10. United States of America Toxic Substances Control Act (TSCA) List

All components of this solution are listed as active on the TSCA Inventory or are mixtures (hydrates) of active items listed on the TSCA Inventory.

Barium Chloride Dihydrate (CAS # 10326-27-9): Present (ACTIVE)

Potassium Permanganate (CAS # 7722-64-7): Present (ACTIVE)

Water (CAS # 7732-18-5): Present (ACTIVE)

15.11. European Inventory of Existing Commercial Chemical Substances (EINECS), European List of Notified Chemical Substances (ELINCS), and No Longer Polymers (NLP)

Barium Chloride Dihydrate (CAS # 10326-27-9): 233-788-1

Potassium Permanganate (CAS # 7722-64-7): 231-760-3

Water (CAS # 7732-18-5): 231-791-2

SECTION 16: Other Information

16.1. Full Text of Hazard Statements and Precautionary Statements

Causes severe skin burns and eye damage. Causes serious eye irritation. Harmful to aquatic life. Toxic to aquatic life with long lasting effects.

Do not breathe fumes, mist, vapors, or spray. Wash arms, hands and face thoroughly after handling. Avoid release to the environment. Wear protective gloves and eye protection.

IF SWALLOWED: rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. IF INHALED: Remove person to fresh air and keep comfortable for breathing. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or physician. Specific treatment (Wash areas of contact with water). If eye irritation persists: Get medical attention. Wash contaminated clothing before reuse. Collect spillage.

Store locked up.

Dispose of contents in accordance with local, state, federal and international regulations.

16.2. Miscellaneous Hazard Classes

Canadian Carcinogenicity Hazard Class: Not Applicable.

Physical Hazards Not Otherwise Classified (PHNOC): Not Applicable.

Health Hazards Not Otherwise Classified (HHNOC): Not Applicable.

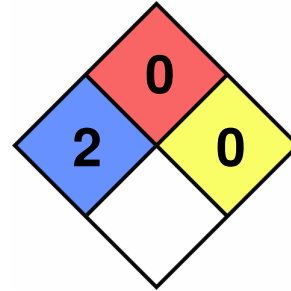
Biohazardous Infectious Materials Hazard Class: Not Applicable.



Safety Data Sheet

16.3. National Fire Protection Association (NFPA) Rating

Health: 2
Flammability: 0
Reactivity: 0
Special Hazard:



16.4. Document Revision

Last Revision Date: 2023-11-13

DISCLAIMER

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.