



Material Safety Data Sheet

CALCIUM BROMIDE SOLUTION 52 % (CaBr₂)

SECTION-1. PRODUCT AND COMPANY IDENTIFICATION

Synonyms: Calcium Bromide, Liquid Calcium Bromide, Calcium Dibromide

Chemical Family: Inorganic Salt Solution

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SECTION-2. HAZARDS IDENTIFICATION

NFPA Ratings: (Scale 0-4) Health: 1 Fire: 0 Reactivity: 0

Potential Acute Health Effects:

EMERGENCY OVERVIEW:

Odorless, clear colorless to light yellow color liquid.

WARNING: May cause irritation to skin, eyes and respiratory system. Do not ingest. Avoid breathing mists, contact with eyes, skin and clothing. May be harmful if swallowed. Keep container tightly closed. Wash thoroughly after handling. Use only with adequate ventilation.

Skin Contact: Single, short exposure not likely to cause significant skin irritation. However, direct contact with solution may cause irritation, possibly severe. Additional effects may include blistering, erythema, exfoliation, ulceration, necrosis, and scarring.

Eye Contact: May cause irritation of eyes with redness and/or pain and superficial injury. Additional effects may include tearing and eye discharge.

Inhalation: Inhalation may cause irritation to mucous membranes and respiratory system. Additional effects may include coughing and shortness of breath.

Ingestion: Ingestion may cause abdominal spasms and nausea. Overdose may cause gastrointestinal tract or cardiovascular irregularities.

SECTION-3. COMPOSITION, INFORMATION ON INGREDIENTS

CAS Number	Wt. %	Ingredient Name
7789-41-5	45 - 53 %	Calcium Bromide

SECTION-4. FIRST AID MEASURES

Skin Contact: Remove contaminated clothing and shoes immediately. Wash affected area with soap or mild detergent, and large amounts of water. In cases of burns, cover lightly with sterile, dry dressing. Get medical attention immediately.



Eye Contact: Immediately flush eyes thoroughly with large amounts of water for 15-20 minutes.

Hold eyelids open during flushing. Get medical attention immediately.

Inhalation: Remove from exposure area to fresh air. Obtain medical attention immediately.

Ingestion: Do not attempt to give anything by mouth to an unconscious person. Get medical attention immediately.

Notes to Physician: Treat symptomatically and supportively. Antidote should be administered by qualified medical personnel. No specific antidote for calcium bromide has been recommended. The following antidote has been recommended for bromide poisoning. However, the decision as to whether the severity of poisoning requires

Calcium Bromide Solution

Calcium Bromide Solution administration of any antidote and actual dose required should be made by qualified medical personnel.

Bromide Poisoning: Give sodium chloride, 1 gram orally every hour in water or as salt tablets; for severe involvement, in which oral medication is impossible, give normal saline, 1 liter every 8 hours intravenously to a maximum of 2 liters daily.

Sodium chloride therapy must be continued until the blood bromine level drops below 50 mg/dL.

Simultaneous administration of diuretics is also useful (Driesbach, Handbook of Poisoning, 12th Ed.).

SECTION-5. FIRE FIGHTING MEASURES

Flash Point: Not applicable

Extinguishing Media: Dry chemical or CO₂, water spray or regular foam. Use agent suitable for surrounding fire and/or chemicals.

Fire Fighting: Move container(s) from fire area if you can do so without risk. Apply cooling water to sides of containers that are exposed to flames until well after the fire is out.

Extinguish fire using agent suitable for type of surrounding fire and/or chemicals.

Avoid breathing vapors. Keep upwind. Dike area to prevent runoff and contamination of water sources.

Fire and Explosion Hazard: Negligible fire hazard when exposed to heat or flame.

Products of Combustion: Thermal decomposition products may include toxic and corrosive fumes of bromine and hydrogen bromide. Product may react with some metals (aluminum, zinc, tin, etc.) to release flammable hydrogen gas.

SECTION-6. ACCIDENTAL RELEASE MEASURES

Personal Precautions: Evacuate personnel to safe areas. Keep unnecessary people away. Do not touch spilled material. Wear appropriate protective gear for the situation. See personal protection information in Section 8.

Environmental Precautions: Prevent entry into waterways, sewers, basements or confined areas.



Methods for Containment: Stop leak if you can do so without risk. Isolate hazard area and deny entry.

Methods for Cleaning Up: For small spills, cover with dry earth, dry sand or other non-combustible material. Place material in covered, clean, dry container for disposal. For larger spills, dike far ahead of spill for later disposal. Minimize air borne spreading of vapors. Place material in covered, clean, dry container for disposal.

SECTION-7. HANDLING AND STORAGE

Handling: Avoid skin and eye contact and breathing vapors. Wash thoroughly after handling. Launder contaminated clothing before reuse.

Storage: Observe all state and local regulations when storing this product. Store in a covered, clean and dry container away from incompatible materials.

SECTION-8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls:

Provide local exhaust ventilation system. Where there is possibility of exposure, eye wash fountain and safety shower should be provided within the immediate work area for emergency use.

Exposure Limits: Not Available.

Personal Protective Equipment (PPE)

Calcium Bromide Solution

Eyes: Wear safety glasses with side shields or safety goggles/shields.

Hands and Feet: Wear appropriate chemical protective gloves and boots.

Body: Wear appropriate protective (impervious) clothing.

Respiratory: A respirator is not indicated under normal operating conditions. Use of a respirator should be used based on contamination levels found in the area.

For Firefighting and Other Immediately Dangerous to Life or Health Conditions:

Any self-contained breathing apparatus that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode. Any supplied-air respirator that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary self-contained breathing apparatus (SCBA) operated in pressure-demand or other positive-pressure mode.

SECTION-9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Clear, Colorless to light yellow liquid

Odor: Odorless

Odor Threshold: Not Established

pH: 6.50 to 8.0

Freezing Point: < (-)7°C



Boiling Point: 265°F (129°C)
Flash Point: Not Established
Evaporation Rate: Not Established
Flammability: Not Applicable
Upper/Lower Explosive Limits: Not Applicable
Vapor Pressure: Not Applicable
Vapor Density (Air=1): Not Applicable
Relative Density: Not Established
Solubility : Completely (water)
Auto-ignition Temperature: Not Established
Decomposition Temperature: Not Established
Specific Gravity (H₂O=1): 1.70

SECTION-10. STABILITY AND REACTIVITY

Stability and Reactivity: Stable under normal temperatures and pressures. Can evolve hydrogen bromide and/or bromine when heated.

Incompatibilities: Strong oxidizing agents and strong acids.

Hazardous Decomposition: Thermal decomposition products may include toxic and corrosive fumes of hydrogen bromide and/or bromine.

Polymerization: Does not occur under normal temperatures and pressures.

Conditions to Avoid: May burn but does not ignite readily. Flammable, poisonous gases may accumulate in tanks and hopper cars. May ignite combustibles (wood, paper, oil, etc.)

SECTION-11. TOXICOLOGICAL INFORMATION

Primary Routes of Exposure: Skin contact. Eye contact. Inhalation.

Toxicity Data: Calcium Bromide:

LD50: 740 mg/kg, mouse, interperitoneal

LD50: 1580 mg/kg, mouse, subcutaneous

Local Effects – Eye, mucous membrane and skin irritant

Health Effects – Moderately toxic by ingestion. Slightly toxic by dermal absorption.

SECTION-12. ECOLOGICAL INFORMATION

The environmental impact of this product has not been fully investigated.

SECTION-13. DISPOSAL INFORMATION

Observe all state and local regulations when disposing of this substance.



SECTION-14. DEPARTMENT OF TRANSPORTATION (DOT) TRANSPORT INFORMATION

UN Identification Number: Not DOT Regulated

UN Proper Shipping Name: Not Applicable

Transport Hazard Class (es): Not Applicable

Packing Group: Not Applicable

Marine Pollutant: Not Applicable

Emergency Guide Number: Not Applicable

SECTION-15. REGULATORY INFORMATION

SARA Title III:

Section 302/304: This product does not contain ingredients listed as an Extremely Hazardous Substance

Section 311/312:

Immediate (Acute) Health Hazard: No

Delayed (Chronic) Health Hazard: No

Fire Hazard: No

Reactive Hazard: No

Sudden Release of Pressure Hazard: No

Section 313: This product does not contain ingredients (at a level of 1% or greater) on the List of Toxic Chemicals.

OTHER REGULATORY INFORMATION

This product does not contain any chemicals of carcinogenic nature.



SECTION-16. OTHER INFORMATION

Individuals handling this product should be informed of the recommended safety precautions and should have access to this information.

This information relates to the specific product designated and may not be valid for such product used in combination with any other materials or in any other processes. Such information is to the best of our knowledge and belief, accurate and reliable as of the date compiled. However, no representation, warranty or guarantee is made as to its accuracy, reliability, or completeness. It is the users' responsibility to satisfy themselves as to the suitability and completeness of such information for their own particular use. We do not accept liability for any loss or damage that may occur from the use of this information nor do we offer warranty against patent infringement.

Chemcon Speciality Chemicals reserves the right to refuse shipment of this product to any consumer who fails to demonstrate the ability to consistently handle and use it safely and in compliance with all applicable laws, rules and regulations. Such demonstration may require on-site inspection of any or all storage, processing, packaging and other handling systems that come in contact with it.

Customers are responsible for compliance with local and or state regulations that may be pertinent in the storage, application and disposal of this product.