

SAFETY DATA SHEET

According to OSHA Hazard Communication Standard 29 CFR 1910.1200 (GHS)

Product name	Calcium Bromide Brine	
Product id	1390S	
Revision date	29/04/2015	Revision: 9
Supersedes	08/11/2012	

1. Identification of the substance & the company

Chemical name	Calcium bromide water solution
Type of product and use	For use in completion and workover fluids
Supplier	ICL-IP America Inc. 95 MacCorkle Ave. SW, South Charleston, WV 25303-1411, USA Tel: (304) 720-3950 Fax: (304) 746-3101
Emergency Telephone	Chemtrec: (800) 424-9300 Medical: PROSAR 1-888-875-1685 (24HRS)

2. Hazards identification

GHS classification Eye Damage 1, H318 Causes serious eye damage

Labels and other form of warning

Symbol(s)



Signal Word DANGER

Hazard statements H318 - Causes serious eye damage

Precautionary statements P280 - Wear protective gloves/protective clothing/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
P310 - Immediately call a POISON CENTER or doctor/physician

NFPA Ratings (Scale 0-4) Health = 3, Fire = 0, Reactivity = 0.

3. Composition / information on ingredients

Components	CAS No.	Weight %
Calcium Bromide	7789-41-5	52

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4. First-aid measures

Eye contact	Holding the eyelids apart, flush eyes promptly with copious flowing water for at least 20 minutes. Get medical attention immediately.
Skin contact	Remove contaminated clothing. Wash skin thoroughly with mild soap and plenty of water for at least 15 minutes. Wash clothing before reuse. Get medical attention immediately.
Inhalation	In case of mist inhalation or breathing fumes released from heated material, remove person to fresh air. Keep him quiet and warm. Apply artificial respiration if necessary and get medical attention immediately.
Ingestion	If swallowed, wash mouth thoroughly with plenty of water. Get medical attention immediately.

NOTE: Never give an unconscious person anything to drink

Most important symptoms and effects, acute or delayed

- Ocular Causes serious eye damage

Notes to the physician No specific antidote.
In case of ingestion DO NOT induce vomiting.
Treat symptomatically and supportively.

5. Fire - fighting measures

Suitable extinguishing media	Material is not combustible. Use extinguishing media appropriate to surrounding fire conditions.
Unusual fire and explosion hazards	CaBr ₂ will decompose slowly from ca. 700°C, releasing poisonous and corrosive fumes of hydrogen bromide and bromine.
Fire fighting procedure	Cool containers with water spray. In closed stores, provide fire-fighters with self-contained breathing apparatus in positive pressure mode.

6. Accidental release measures

Personal precautions	Wear respirator, chemical safety goggles, rubber gloves and boots
Methods for cleaning up	Absorb on sand or vermiculite and place in closed container for disposal. Ventilate area and wash spill site after material pickup is complete.

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7. Handling and storage

Handling Keep containers tightly closed. Avoid bodily contact.
Storage Keep in a well-ventilated place away from incompatible materials (see "materials to avoid").

8. Exposure controls / personal protection

Exposure Limits :

Components	ACGIH-TLV Data	OSHA (PEL) Data
Calcium Bromide 7789-41-5	Not determined	Not determined

Ventilation requirements Provide adequate ventilation. Use local exhaust as necessary, especially under mist conditions.

Personal protective equipment:

- **Respiratory protection** Wear an approved respirator in the absence of adequate ventilation. In the event mists or aerosols are generated, use a respirator equipped with an appropriate filter
- **Hand protection** Neoprene coated latex gloves
- **Eye protection** Chemical safety goggles
- **Skin and body protection** Body covering clothes and boots

Hygiene measures Do not eat, smoke or drink where material is handled, processed or stored. Wash hands thoroughly after handling and before eating or smoking. Safety shower and eye bath should be provided.

9. Physical and chemical properties

Appearance Colourless liquid, odourless
Melting point/range < -7°C
Boiling point/range 130°C
Flash point None
Evaporation rate (ether=1) As of water
Flammable/Explosion limits Not flammable
Vapor pressure Not available
Vapor density Not available
Solubility:
- **Solubility in water** For CaBr₂ 100%:
142 g/100ml at 30°C
312 gr/100ml at 100°C
- **Solubility in other solvents** Alcohol
Pyridine
Acetone
Auto-ignition temperature Not applicable

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Decomposition temperature	>700 °C (CaBr ₂ 100%)
Specific gravity	1.7
Explosive properties	Not explosive
Oxidising properties	Not oxidising

10. Stability and reactivity

Reactivity	No reactive hazards known/expected.
Stability	Stable under normal conditions
Possibility of hazardous reactions	Not expected to occur
Conditions to avoid	Heating above decomposition temperature.
Materials to avoid	Avoid strong acids and oxidizers.
Hazardous decomposition products	Hydrogen bromide and bromine

11. Toxicological information

Note: *The toxicological data presented below are the results of studies conducted on the active ingredient CaBr₂.*

Acute toxicity:	
- Rat oral LD ₅₀	2210 mg/kg
- Eye irritation (rabbit)	Severe irritant
- Dermal irritation (rabbit)	Moderate irritant
Dermal sensitization	Not a sensitizer
Chronic toxicity	Repeated skin contact may cause dermatitis. Repeated oral intake of bromides (>9 mg/kg body weight/day) may affect the central nervous system. Warning symptoms include mental dullness, slurred speech, weakened memory, apathy, anorexia, constipation, drowsiness and loss of sensitivity to touch and pain.
Mutagenicity	Not mutagenic by the Ames Test.
Carcinogenicity	Not classified by IARC Not included in NTP 13th Report on Carcinogens
Reproductive toxicity	No data available for calcium bromide. Studies in rats fed high doses of sodium bromide showed a reversible reduction in fertility.
Aspiration hazard	Not expected to occur

12. Ecological information

Aquatic toxicity :

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- 48 Hour-EC50, *Daphnia magna* >105 mg/l (For CaBr₂ 95%)

Persistence and degradability Biodegradation is not relevant for inorganic salts.

Bioaccumulative potential Not expected to bioaccumulate

Mobility in soil Expected to be mobile due to high solubility.

13. Disposal considerations

Waste disposal Drain into sewer with ample water. Observe all federal, state and local environmental regulations when disposing of this material.

14. Transportation information

DOT Not regulated

IMDG Not regulated

ICAO/IATA Not regulated

15. Regulatory information

USA Reported in the EPA TSCA Inventory.

Canada Listed in DSL

EU Reported in EINECS

Japan ENCS no. 1-1038
ISHL no. 1-1038

Australia Listed in AICS

New Zealand Inventory Listed in NZIoC

China
- China inventory Listed in IECSC

Korea Listed in the Korea Existing Chemicals Inventory (KECI), number 04485

Philippines Listed in PICCS

16. Other information

This data sheet contains changes from the previous version in section(s)
2, 4

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Health, Safety & Environment Policy

We will strive to ensure that our operations and products meet the needs of the present global community without compromising the ability of future generations to meet their needs. We accept that the success of our business is dependent on the supply of products and services that will benefit society whilst ensuring human safety and protection of the environment and natural resources. Within the framework of our commitment to the Responsible Care program, we will provide a healthy and safe work environment for employees and will responsibly manage our products at all stages of their life cycle in order to protect human health and the environment whilst maintaining high production standards of operation.

TO MEET THIS COMMITMENT WE WILL: Comply with or exceed applicable national and international regulatory requirements and other requirements to which we subscribe. Communicate openly and actively encourage dialogue with employees, customers and community concerning our products and operations. Implement documented management systems consistent with and for promotion of the Responsible Care ethics.

Develop and supply products that can be manufactured, transported, used and disposed of safely whilst best meeting the needs of our customers. Regularly assess, continually improve and responsibly manage health, safety and environmental risks associated with products and processes throughout their life-cycles. Share knowledge and expertise with others and seek to learn from and incorporate improved practices into our own operations.

Educate and train employees, contractors and customers to improve their HSE performance. Communicate up-to-date information to enable our workers, customers and other interested parties to handle our products in a safe and environmentally responsible manner. Endeavor to work with customers, suppliers, distributors and contractors to foster the safe use, transport and disposal of our chemicals. Support Product Stewardship programs in cooperation with customers, distributors and transporters.

Although the information and recommendations set forth herein (hereinafter "information") are presented in good faith and believed to be correct as of the date hereof, ICL-IP America Inc. makes no representations as to the completeness or accuracy thereof. Information is supplied upon the condition that the persons receiving same will make their own determination as to its safety and suitability for their purposes prior to use. In no event will ICL-IP America Inc. be responsible for damages of any nature whatsoever resulting from the use of or reliance upon information. NO REPRESENTATIONS OR WARRANTIES, EITHER EXPRESSED OR IMPLIED, OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR OF ANY OTHER NATURE, ARE MADE HEREUNDER WITH RESPECT TO INFORMATION OR THE PRODUCT TO WHICH THE INFORMATION REFERS.

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End of safety data sheet