

SAFETY DATA SHEET

CALCIUM BROMIDE BRINE

Product Trade Name:

Revision Date: 16-Oct-2015

Revision Number: 26

1. Identification

1.1. Product Identifier

Product Trade Name: CALCIUM BROMIDE BRINE
Synonyms: None
Chemical Family: Inorganic Salt
Internal ID Code: HM006077

1.2 Recommended use and restrictions on use

Application: Brine
Uses Advised Against: No information available

1.3 Manufacturer's Name and Contact Details

Manufacturer/Supplier

Baroid Fluid Services
Product Service Line of Halliburton
P.O. Box 1675
Houston, TX 77251
Telephone: (281) 871-4000
Emergency Telephone: 1-866-519-4752 (US, Canada, Mexico) or 1-760-476-3962

Halliburton Energy Services
645 - 7th Ave SW Suite 2200
Calgary, AB
T2P 4G8
Canada

Prepared By: Chemical Stewardship
Telephone: 1-281-871-6107
e-mail: fdunexchem@halliburton.com

1.4. Emergency telephone number

Emergency Telephone Number: 1-866-519-4752 or 1-760-476-3962

2. Hazard(s) Identification

2.1 Classification in accordance with paragraph (d) of §1910.1200

Serious Eye Damage / Eye Irritation

Category 1 - H318

2.2. Label Elements

Hazard Pictograms



Signal Word Danger

Hazard Statements H318 - Causes serious eye damage

Precautionary Statements

Prevention P264 - Wash face, hands and any exposed skin thoroughly after handling
P280 - Wear eye protection/face protection

Response 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

Storage None

Disposal None

Contains Substances
Calcium bromide

CAS Number
7789-41-5

2.3 Hazards not otherwise classified

None known

3. Composition/information on Ingredients

Substances	CAS Number	PERCENT (w/w)	GHS Classification - US
Calcium bromide	7789-41-5	30 - 60%	Eye Corr. 1 (H318)

The exact percentage (concentration) of the composition has been withheld as proprietary.

4. First-Aid Measures

4.1. Description of first aid measures

Inhalation If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.

Eyes Immediately flush eyes with large amounts of water for at least 30 minutes. Seek prompt medical attention.

Skin In case of contact, immediately flush skin with plenty of soap and water for at least 15 minutes. Get medical attention.

Ingestion Do NOT induce vomiting. Give nothing by mouth. Obtain immediate medical attention.

4.2 Most important symptoms/effects, acute and delayed

Causes severe eye irritation which may damage tissue.

4.3. Indication of any immediate medical attention and special treatment needed

Notes to Physician

Treat symptomatically.

5. Fire-fighting measures**5.1. Extinguishing media****Suitable Extinguishing Media**

Water fog, carbon dioxide, foam, dry chemical.

Extinguishing media which must not be used for safety reasons

None known.

5.2 Specific hazards arising from the substance or mixture**Special Exposure Hazards**

Decomposition in fire may produce harmful gases.

5.3 Special protective equipment and precautions for fire-fighters**Special Protective Equipment for Fire-Fighters**

Full protective clothing and approved self-contained breathing apparatus required for fire fighting personnel.

6. Accidental release measures**6.1. Personal precautions, protective equipment and emergency procedures**

Use appropriate protective equipment. Avoid contact with skin, eyes and clothing. Avoid breathing vapors. Ensure adequate ventilation.

See Section 8 for additional information

6.2. Environmental precautions

Prevent from entering sewers, waterways, or low areas.

6.3. Methods and material for containment and cleaning up

Isolate spill and stop leak where safe. Contain spill with sand or other inert materials. Scoop up and remove.

7. Handling and storage**7.1. Precautions for Safe Handling****Handling Precautions**

Avoid contact with eyes, skin, or clothing. Wash hands after use. Avoid breathing vapors. Ensure adequate ventilation. Launder contaminated clothing before reuse. Use appropriate protective equipment.

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice.

7.2. Conditions for safe storage, including any incompatibilities**Storage Information**

Store in a cool, dry location.

8. Exposure Controls/Personal Protection**8.1 Occupational Exposure Limits**

Substances	CAS Number	OSHA PEL-TWA	ACGIH TLV-TWA
Calcium bromide	7789-41-5	Not applicable	Not applicable

8.2 Appropriate engineering controls**Engineering Controls**

Use in a well ventilated area.

8.3 Individual protection measures, such as personal protective equipment**Personal Protective Equipment**

If engineering controls and work practices cannot prevent excessive exposures,

Respiratory Protection	the selection and proper use of personal protective equipment should be determined by an industrial hygienist or other qualified professional based on the specific application of this product. If engineering controls and work practices cannot keep exposure below occupational exposure limits or if exposure is unknown, wear a NIOSH certified, European Standard EN 149, AS/NZS 1715:2009, or equivalent respirator when using this product. Selection of and instruction on using all personal protective equipment, including respirators, should be performed by an Industrial Hygienist or other qualified professional.
Hand Protection	Dust/mist respirator. (N95, P2/P3) Chemical-resistant protective gloves (EN 374) Suitable materials for longer, direct contact (recommended: protection index 6, corresponding to > 480 minutes permeation time as per EN 374): Nitrile gloves. (>= 0.35 mm thickness) This information is based on literature references and on information provided by glove manufacturers, or is derived by analogy with similar substances. Please note that in practice the working life of chemical-resistant protective gloves may be considerably shorter than the permeation time determined in accordance with EN 374 as a result of the many influencing factors (e.g. temperature). If signs of wear and tear are noticed then the gloves should be replaced. Manufacturer's directions for use should be observed because of great diversity of types.
Skin Protection	Normal work coveralls.
Eye Protection	Chemical goggles; also wear a face shield if splashing hazard exists.
Other Precautions	Eyewash fountains and safety showers must be easily accessible.

9. Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Physical State:	Liquid	Color:	Clear colorless to pale yellow
Odor:	Odorless	Odor	No information available
		Threshold:	

<u>Property</u>	<u>Values</u>
<u>Remarks/ - Method</u>	
pH:	7
Freezing Point/Range	<-7 °C
Melting Point/Range	No data available
Boiling Point/Range	No data available
Flash Point	No data available
Flammability (solid, gas)	No data available
upper flammability limit	No data available
lower flammability limit	No data available
Evaporation rate	No data available
Vapor Pressure	10
Vapor Density	No data available
Specific Gravity	1.01 - 1.71
Water Solubility	Soluble in water
Solubility in other solvents	No data available
Partition coefficient: n-octanol/water	No data available
Autoignition Temperature	No data available
Decomposition Temperature	No data available
Viscosity	No data available
Explosive Properties	No information available
Oxidizing Properties	No information available

9.2. Other information

VOC Content (%)	No data available
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10. Stability and Reactivity

10.1. Reactivity

Not expected to be reactive.

10.2. Chemical Stability

Stable

10.3. Possibility of Hazardous Reactions

Will Not Occur

10.4. Conditions to Avoid

None anticipated

10.5. Incompatible Materials

Contact with water. Potassium.

10.6. Hazardous Decomposition Products

Hydrogen bromide.

11. Toxicological Information

11.1 Information on likely routes of exposure

Principle Route of Exposure Eye or skin contact, inhalation.

11.2 Symptoms related to the physical, chemical and toxicological characteristics

Acute Toxicity

Inhalation	May cause mild respiratory irritation.
Eye Contact	Causes severe eye irritation which may damage tissue.
Skin Contact	May cause mild skin irritation.
Ingestion	Irritation of the mouth, throat, and stomach. May be harmful if swallowed.

Chronic Effects/Carcinogenicity No data available to indicate product or components present at greater than 0.1% are chronic health hazards.

11.3 Toxicity data

Toxicology data for the components

Substances	CAS Number	LD50 Oral	LD50 Dermal	LC50 Inhalation
Calcium bromide	7789-41-5	2447 mg/kg (Rat) 2210 mg/kg (Rat)	>2000 mg/kg (Rabbit)	> 203 mg/L (Rat, aerosol, 1h) > 204 mg/L (Rat, dust, 1h)

Substances	CAS Number	Skin corrosion/irritation
Calcium bromide	7789-41-5	Non-irritating to the skin (Rabbit)

Substances	CAS Number	Eye damage/irritation
Calcium bromide	7789-41-5	Causes severe eye irritation. (Rabbit)

Substances	CAS Number	Skin Sensitization
Calcium bromide	7789-41-5	Did not cause sensitization on laboratory animals (guinea pig)

Substances	CAS Number	Respiratory Sensitization
Calcium bromide	7789-41-5	No information available

Substances	CAS Number	Mutagenic Effects
Calcium bromide	7789-41-5	In vitro tests did not show mutagenic effects

Substances	CAS Number	Carcinogenic Effects
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Calcium bromide	7789-41-5	Did not show carcinogenic effects in animal experiments (similar substances)
Substances	CAS Number	Reproductive toxicity
Calcium bromide	7789-41-5	Animal testing did not show any effects on fertility. Adverse developmental effects were only observed at maternally toxic doses. (similar substances)
Substances	CAS Number	STOT - single exposure
Calcium bromide	7789-41-5	No significant toxicity observed in animal studies at concentration requiring classification.
Substances	CAS Number	STOT - repeated exposure
Calcium bromide	7789-41-5	No information available
Substances	CAS Number	Aspiration hazard
Calcium bromide	7789-41-5	Not applicable

12. Ecological Information

12.1. Toxicity

Ecotoxicity Effects

Product Ecotoxicity Data

No data available

Substance Ecotoxicity Data

Substances	CAS Number	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Toxicity to Invertebrates
Calcium bromide	7789-41-5	EC50 (48h) > 440 mg/L (Growth rate) (Skeletonema costatum) (similar substance)	LC50 (96h) > 440 mg/L (Scophthalmus maximus) (similar substance) LC50 (96h) > 1000 mg/L (Lepomis macrochirus) (similar substance) NOEC (124d) 10 mg/L (Poecelia reticulata) (similar substance)	EC50 (3h) > 1000 mg/L (activated sludge, domestic) (similar substance)	EC50 (48h) > 100 mg/L (Daphnia magna) NOEC (21d) 7.5 mg/L (Reproduction) (Daphnia magna) (similar substance)

12.2. Persistence and degradability

Substances	CAS Number	Persistence and Degradability
Calcium bromide	7789-41-5	The methods for determining biodegradability are not applicable to inorganic substances.

12.3. Bioaccumulative potential

Substances	CAS Number	Log Pow
Calcium bromide	7789-41-5	No information available

12.4. Mobility in soil

Substances	CAS Number	Mobility
Calcium bromide	7789-41-5	No information available

12.5 Other adverse effects

No information available

13. Disposal Considerations

13.1. Waste treatment methods

Disposal Method

Contaminated Packaging

Disposal should be made in accordance with federal, state, and local regulations.
Follow all applicable national or local regulations.

14. Transport Information

US DOT

UN Number: Not restricted
 UN Proper Shipping Name: Not restricted
 Transport Hazard Class(es): Not applicable
 Packing Group: Not applicable
 Environmental Hazards: Not applicable

US DOT Bulk

DOT (Bulk) Not applicable

Canadian TDG

UN Number: Not restricted
 UN Proper Shipping Name: Not restricted
 Transport Hazard Class(es): Not applicable
 Packing Group: Not applicable
 Environmental Hazards: Not applicable

IMDG/IMO

UN Number: Not restricted
 UN Proper Shipping Name: Not restricted
 Transport Hazard Class(es): Not applicable
 Packing Group: Not applicable
 Environmental Hazards: Not applicable

IATA/ICAO

UN Number: Not restricted
 UN Proper Shipping Name: Not restricted
 Transport Hazard Class(es): Not applicable
 Packing Group: Not applicable
 Environmental Hazards: Not applicable

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code: Not applicable

Special Precautions for User: None

15. Regulatory Information

US Regulations

US TSCA Inventory All components listed on inventory or are exempt.

TSCA Significant New Use Rules - S5A2

Substances	CAS Number	TSCA Significant New Use Rules - S5A2
Calcium bromide	7789-41-5	Not applicable

EPA SARA Title III Extremely Hazardous Substances

Substances	CAS Number	EPA SARA Title III Extremely Hazardous Substances
Calcium bromide	7789-41-5	Not applicable

EPA SARA (311,312) Hazard Class

Acute Health Hazard

EPA SARA (313) Chemicals

Substances	CAS Number	Toxic Release Inventory (TRI) - Group I	Toxic Release Inventory (TRI) - Group II
Calcium bromide	7789-41-5	Not applicable	Not applicable

EPA CERCLA/Superfund Reportable Spill Quantity

Substances	CAS Number	CERCLA RQ
Calcium bromide	7789-41-5	Not applicable

EPA RCRA Hazardous Waste Classification

If product becomes a waste, it does NOT meet the criteria of a hazardous waste as defined by the US EPA.

California Proposition 65 All components listed do not apply to the California Proposition 65 Regulation.

MA Right-to-Know Law Does not apply.

NJ Right-to-Know Law Does not apply.

PA Right-to-Know Law Does not apply.

NFPA Ratings: Health 1, Flammability 0, Reactivity 0
HMIS Ratings: Health 2, Flammability 0, Physical Hazard 0

Canadian Regulations

Canadian DSL Inventory All components listed on inventory or are exempt.

16. Other information**Preparation Information**

Prepared By Chemical Stewardship
 Telephone: 1-281-871-6107
 e-mail: fdunexchem@halliburton.com

Revision Date: 16-Oct-2015

Reason for Revision SDS sections updated:
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Additional information

For additional information on the use of this product, contact your local Halliburton representative.

For questions about the Safety Data Sheet for this or other Halliburton products, contact Chemical Stewardship at 1-580-251-4335.

Key or legend to abbreviations and acronyms

bw – body weight
 CAS – Chemical Abstracts Service
 EC50 – Effective Concentration 50%
 ErC50 – Effective Concentration growth rate 50%
 LC50 – Lethal Concentration 50%
 LD50 – Lethal Dose 50%
 LL50 – Lethal Loading 50%
 mg/kg – milligram/kilogram
 mg/L – milligram/liter
 NIOSH – National Institute for Occupational Safety and Health
 NTP – National Toxicology Program
 OEL – Occupational Exposure Limit
 PEL – Permissible Exposure Limit

ppm – parts per million
STEL – Short Term Exposure Limit
TWA – Time-Weighted Average
UN – United Nations
h - hour
mg/m³ - milligram/cubic meter
mm - millimeter
mmHg - millimeter mercury
w/w - weight/weight
d - day

Key literature references and sources for data

www.ChemADVISOR.com/

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End of Safety Data Sheet