

## SAFETY DATA SHEET

**Product Trade Name:** BaraDrilN X

**Revision Date:** 28-Aug-2015

**Revision Number:** 2

### 1. Identification

#### 1.1. Product Identifier

**Product Trade Name:** BaraDrilN X  
**Synonyms:** None  
**Chemical Family:** Inorganic Salt  
**Internal ID Code** HM008137

#### 1.2 Recommended use and restrictions on use

**Application:** Additive  
**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: 1-580-251-4335  
e-mail: fdunexchem@halliburton.com

#### 1.4. Emergency telephone number

**Emergency Telephone Number** (281) 575-5000

### 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 protective gloves/protective clothing/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** In case of contact, immediately flush eyes with plenty of water for at least 30 minutes. Remove contact lenses after the first 5 minutes and continue washing. Seek immediate medical attention/advice. Suitable emergency eye wash facility should be immediately available

**Skin** Wash with soap and water. Get medical attention if irritation persists. Remove contaminated clothing and launder before reuse.

**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. Avoid breathing vapors. Ensure adequate ventilation. Wash hands after use. 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. Product has a shelf life of 12 months.

**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

<b>Personal Protective Equipment</b>	If engineering controls and work practices cannot prevent excessive exposures, 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.
<b>Respiratory Protection</b>	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. Dust/mist respirator. (N95, P2/P3)
<b>Hand Protection</b>	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.
<b>Skin Protection</b>	Normal work coveralls.
<b>Eye Protection</b>	Wear safety glasses or goggles to protect against exposure.
<b>Other Precautions</b>	Eyewash fountains and safety showers must be easily accessible.

## 9. Physical and Chemical Properties

### 9.1. Information on basic physical and chemical properties

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

<u>Property</u>	<u>Values</u>
<u>Remarks/ - Method</u>	
<b>pH:</b>	7
<b>Freezing Point/Range</b>	No data available
<b>Melting Point/Range</b>	No data available
<b>Boiling Point/Range</b>	No data available
<b>Flash Point</b>	No data available
<b>Flammability (solid, gas)</b>	No data available
upper flammability limit	No data available
lower flammability limit	No data available
<b>Evaporation rate</b>	No data available
<b>Vapor Pressure</b>	No data available
<b>Vapor Density</b>	No data available
<b>Specific Gravity</b>	1.68
<b>Water Solubility</b>	Soluble in water
<b>Solubility in other solvents</b>	No data available
<b>Partition coefficient: n-octanol/water</b>	No data available
<b>Autoignition Temperature</b>	No data available
<b>Decomposition Temperature</b>	No data available
<b>Viscosity</b>	No data available
<b>Explosive Properties</b>	No information available
<b>Oxidizing Properties</b>	No information available

### 9.2. Other information

VOC Content (%)

No data available

**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**

Sulfuric acid. Isocyanates. Bromine trifluoride.

**10.6. Hazardous Decomposition Products**

Hydrogen bromide. Chlorine.

**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**

<b>Inhalation</b>	May cause respiratory irritation.
<b>Eye Contact</b>	Causes serious eye damage.
<b>Skin Contact</b>	May cause skin irritation.
<b>Ingestion</b>	Irritation of the mouth, throat, and stomach.

**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
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** Disposal should be made in accordance with federal, state, and local regulations.  
**Contaminated Packaging** 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.

### 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
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Calcium bromide	7789-41-5	Not applicable	Not applicable
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**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** The California Proposition 65 regulations apply to this product.

**MA Right-to-Know Law** One or more components listed.

**NJ Right-to-Know Law** One or more components listed.

**PA Right-to-Know Law** One or more components listed.

**Canadian Regulations**

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

**16. Other information****Preparation Information****Prepared By**

Chemical Stewardship  
Telephone: 1-580-251-4335  
e-mail: fdunexchem@halliburton.com

**Revision Date:** 28-Aug-2015

**Reason for Revision** Update to Format  
SECTION:

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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/m<sup>3</sup> - milligram/cubic meter  
mm - millimeter  
mmHg - millimeter mercury  
w/w - weight/weight  
d - day

**Key literature references and sources for data**

[www.ChemADVISOR.com/](http://www.ChemADVISOR.com/)  
OSHA  
ECHA C&L

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**End of Safety Data Sheet**