

MATERIAL SAFETY DATA SHEET**Product Trade Name:** **CALCIUM CHLORIDE LIQUID****Revision Date:** 11-Nov-2012**Revision Number:** 13**1. PRODUCT AND COMPANY IDENTIFICATION****Product Identifier**

Product Trade Name: CALCIUM CHLORIDE LIQUID
Synonyms: None
Chemical Family: Inorganic Salt
Internal ID Code HM000143

Product Use**Application:** Brine**Manufacturer's Name and Contact Details**

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

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

Chemical Compliance
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2. HAZARD(S) IDENTIFICATION**WHMIS Classification****WHMIS Hazard Class** D2B Toxic Materials**WHMIS Symbol(s)****Summary of hazards of the product****Hazard Overview** May cause eye, skin, and respiratory irritation.**3. COMPOSITION/INFORMATION ON INGREDIENTS**

Substances	CAS Number	PERCENT (w/w)	HMIRA Registry Number	Filing Date
Calcium chloride	10043-52-4	30 - 60%	Not applicable	Not applicable

4. FIRST AID MEASURES

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, or suspected contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention immediately after flushing.

Skin

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

Ingestion

Do not induce vomiting. Slowly dilute with 1-2 glasses of water or milk and seek medical attention. Never give anything by mouth to an unconscious person.

Most important symptoms and effects, both acute and delayed

May cause eye, skin, and respiratory irritation.

Indication of any immediate medical attention and special treatment needed**Notes to Physician**

Treat symptomatically

5. FIRE FIGHTING MEASURES**Extinguishing media****Suitable Extinguishing Media**

All standard fire fighting media

Extinguishing media which must not be used for safety reasons

None known.

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

Not applicable.

Advice for firefighters**Special Protective Equipment for Fire-Fighters**

Not applicable.

Hazardous combustion products

None known.

6. ACCIDENTAL RELEASE MEASURES**Personal precautions and emergency procedures****Protective Equipment**

Use appropriate protective equipment.

Environmental Precautionary Measures

Prevent from entering sewers, waterways, or low areas.

Procedure for Cleaning / Absorption

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

7. HANDLING AND STORAGE**Precautions for safe handling**

Avoid contact with eyes, skin, or clothing. Avoid breathing vapors.

Conditions for safe storage and Incompatible materials for storage

Store in a cool well ventilated area. Keep container closed when not in use.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION**Occupational Exposure Limits****Exposure Limits**

Substances	CAS Number	ACGIH TLV-TWA	OSHA PEL-TWA
Calcium chloride	10043-52-4	Not applicable	Not applicable

Appropriate engineering controls**Engineering Controls**

Use in a well ventilated area.

Personal Protective Equipment (PPE)**Personal Protective Equipment**

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.

Respiratory Protection

Dust/mist respirator. (N95, P2/P3)

Hand Protection

Impervious rubber gloves. Polyvinylchloride gloves. Butyl rubber gloves. Nitrile gloves.

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

Information on basic physical and chemical properties**Physical State:** Liquid**Color:** Clear**Odor:** Odorless**Odor Threshold:** No information availablePropertyValuesRemarks/ - Method**pH:**

5.2

pH Concentration of Solution:

No information available.

Freezing Point/Range

4 °C

Melting Point/Range

No information available

Boiling Point/Range (C):

No information available.

Flash Point/Range (C):

No information available.

Flash Point Method:

Not Determined

Autoignition Temperature (C):

No information available.

Flammability Limits in Air - Lower (%):

No information available.

Flammability Limits in Air - Upper (%):

No information available.

Evaporation Rate (Butyl Acetate=1):

No information available.

Vapor Pressure @ 20 C (mmHg):

No information available.

Vapor Density (Air=1):

No information available.

Specific Gravity @ 20 C (Water=1):

1.36

Solubility in Water (g/100ml):

Soluble

Solubility in other solvents

No information available.

Partition Coefficient/n-Octanol/Water:

No information available.

Decomposition Temperature (C):

No information available.

Viscosity

No information available

Explosive Properties

No information available

Oxidizing Properties

No information available

Other Information**Molecular Weight (g/mole):**

58.44

VOC Content (%)

No information available

10. STABILITY AND REACTIVITY

Conditions of Reactivity**Conditions to Avoid**

None anticipated

Hazardous Polymerization:

Will Not Occur

Chemical Stability

Stable

Sensitivity to Static Discharge

Not available

Sensitivity to Mechanical Impact

Not available

Incompatible materials

Amphoteric metals such as aluminum, magnesium, lead, tin, or zinc.

Hazardous Decomposition Products

None known.

11. TOXICOLOGICAL INFORMATION

Routes of entry

Eye or skin contact, inhalation.

Information on Toxicological Effects**Acute effects from exposure****Inhalation**

May cause respiratory irritation.

Eye Contact

Causes severe eye irritation May cause eye burns.

Skin Contact

May cause severe skin irritation. May cause skin burns on prolonged contact.

Ingestion

Causes burns of the mouth, throat and stomach.

Chronic effects from exposure**Chronic Effects/Carcinogenicity**

No data available to indicate product or components present at greater than 1% are chronic health hazards.

Irritancy of product**Irritation**

Irritating to eyes and skin

Sensitization of product**Sensitization**

Did not cause sensitization on laboratory animals

Mutagenicity**Mutagenic Effects**

Not regarded as mutagenic

Carcinogenicity**Carcinogenic Effects**

No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC, NTP, or OSHA.

Reproductive Toxicity**Reproductive Toxicity**

This product does not contain any known or suspected reproductive hazards

Teratogenicity/embryotoxicity**Teratogenic**

Not a teratogen or embryotoxin.

Toxicologically synergistic material Not available**Acute Toxicity**

Substances	CAS Number	LD50 Oral	LD50 Dermal	LC50 Inhalation
Calcium chloride	10043-52-4	> 1000 mg/kg (Rat) 2301 mg/kg (Rat)	2630 mg/kg (Rat)	No data available

12. ECOLOGICAL INFORMATION

Toxicity
Ecotoxicity Effects

Substances	CAS Number	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Daphnia Magna (Water Flea)
Calcium chloride	10043-52-4	EC50(72h): 2900 mg/L	LC50(96h): 4630 mg/L	No information available	EC50(48h): 2400 mg/L (Daphnia magna)

Persistence and Degradability

The methods for determining biodegradability are not applicable to inorganic substances.

Bioaccumulation potential

Does not bioaccumulate

Mobility in soil

No information available

Results of PBT and vPvB assessment

No information available.

Other adverse effects

Endocrine Disruptor Information

This product does not contain any known or suspected endocrine disruptors

13. DISPOSAL CONSIDERATIONS

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

Canadian TDG

UN Number: Not restricted.
 UN Proper Shipping Name: Not restricted
 Transport Hazard Class(es): Not applicable

IATA/ICAO

UN Number: Not restricted.
 UN Proper Shipping Name: Not restricted
 Transport Hazard Class(es): Not applicable

IMDG/IMO

UN Number: Not restricted.
 UN Proper Shipping Name: Not restricted
 Transport Hazard Class(es): Not applicable

Special Precautions for User None

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

15. REGULATORY INFORMATION

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

Canadian Regulations**Canadian DSL Inventory**

All components listed on inventory or are exempt.

WHMIS Hazard Class

D2B Toxic Materials

WHMIS Symbol(s)**US Regulations****US TSCA Inventory**

All components listed on inventory or are exempt.

16. OTHER INFORMATION

Preparation Information**Prepared By**

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e-mail: fdunexchem@halliburton.com

Revision Date:

11-Nov-2012

Not applicable

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 Compliance at 1-580-251-4335.

Key or legend to abbreviations and acronyms

WHMIS: Workplace Hazardous Materials Information System

Key literature references and sources for data

www.ChemADVISOR.com/

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*****END OF MSDS*****