

## MATERIAL SAFETY DATA SHEET

Product Trade Name: **CALCIUM HYPOCHLORITE - HYDRATED**

Revision Date: 03-Jan-2012

**1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION**

Product Trade Name: CALCIUM HYPOCHLORITE - HYDRATED  
Synonyms: None  
Chemical Family: Oxidant  
Application: Catalyst

Manufacturer/Supplier: Halliburton Energy Services  
P.O. Box 1431  
Duncan, Oklahoma 73536-0431  
Emergency Telephone: (281) 575-5000

Prepared By: Chemical Compliance  
Telephone: 1-580-251-4335  
e-mail: fdunexchem@halliburton.com

**2. COMPOSITION/INFORMATION ON INGREDIENTS**

| Substances           | CAS Number | PERCENT   | ACGIH TLV-TWA  | OSHA PEL-TWA   |
|----------------------|------------|-----------|----------------|----------------|
| Calcium hypochlorite | 7778-54-3  | 60 - 100% | Not applicable | Not applicable |

**3. HAZARDS IDENTIFICATION**

Hazard Overview: May cause eye, skin, and respiratory burns. May be harmful if swallowed. Oxidizer.

**4. FIRST AID MEASURES**

**Inhalation** If inhaled, remove to fresh air. If not breathing give artificial respiration, preferably mouth-to-mouth. If breathing is difficult give oxygen. Get medical attention.

**Skin** In case of contact, immediately flush skin with plenty of soap and water for at least 15 minutes. Get medical attention. Remove contaminated clothing and launder before reuse.

**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.

**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.

**Notes to Physician** Not Applicable

## 5. FIRE FIGHTING MEASURES

|                                         |                |
|-----------------------------------------|----------------|
| Flash Point/Range (F):                  | Not Determined |
| Flash Point/Range (C):                  | Not Determined |
| Flash Point Method:                     | Not Determined |
| Autoignition Temperature (F):           | Not Determined |
| Autoignition Temperature (C):           | Not Determined |
| Flammability Limits in Air - Lower (%): | Not Determined |
| Flammability Limits in Air - Upper (%): | Not Determined |

|                                                |                                                                                                                |
|------------------------------------------------|----------------------------------------------------------------------------------------------------------------|
| Fire Extinguishing Media                       | Carbon Dioxide, Dry Chemicals, Foam.                                                                           |
| Special Exposure Hazards                       | Oxidizer. May ignite combustibles. Decomposition in fire may produce toxic gases.                              |
| Special Protective Equipment for Fire-Fighters | Full protective clothing and approved self-contained breathing apparatus required for fire fighting personnel. |
| NFPA Ratings:                                  | Health 3, Flammability 0, Reactivity 1                                                                         |
| HMIS Ratings:                                  | Health 3, Flammability 0, Reactivity 1                                                                         |

## 6. ACCIDENTAL RELEASE MEASURES

|                                      |                                                                                                                                                                                                                     |
|--------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Personal Precautionary Measures      | Use appropriate protective equipment. Avoid creating and breathing dust.                                                                                                                                            |
| Environmental Precautionary Measures | Prevent from entering sewers, waterways, or low areas.                                                                                                                                                              |
| Procedure for Cleaning / Absorption  | Collect using dustless method and hold for appropriate disposal. Consider possible toxic or fire hazards associated with contaminating substances and use appropriate methods for collection, storage and disposal. |

## 7. HANDLING AND STORAGE

|                      |                                                                                                                                                                                              |
|----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Handling Precautions | Avoid contact with eyes, skin, or clothing. Avoid creating or inhaling dust. Wash hands after use. Launder contaminated clothing before reuse.                                               |
| Storage Information  | Store away from combustibles. Store away from reducing agents. Store away from water. Store away from acids. Keep from heat, sparks, and open flames. Keep container closed when not in use. |

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

|                        |                                                                                                                  |
|------------------------|------------------------------------------------------------------------------------------------------------------|
| Engineering Controls   | Use in a well ventilated area. Local exhaust ventilation should be used in areas without good cross ventilation. |
| Respiratory Protection | Dust/mist respirator. (95%)                                                                                      |
| Hand Protection        | Impervious rubber gloves.                                                                                        |
| Skin Protection        | Rubber apron. Rubber boots.                                                                                      |
| Eye Protection         | Dust proof goggles.                                                                                              |
| Other Precautions      | Eyewash fountains and safety showers must be easily accessible.                                                  |

## 9. PHYSICAL AND CHEMICAL PROPERTIES

|                 |               |
|-----------------|---------------|
| Physical State: | Solid         |
| Color:          | White to gray |

## 9. PHYSICAL AND CHEMICAL PROPERTIES

|                                             |                |
|---------------------------------------------|----------------|
| Odor:                                       | Chlorine       |
| pH:                                         | Not Determined |
| Specific Gravity @ 20 C (Water=1):          | 2.35           |
| Density @ 20 C (lbs./gallon):               | Not Determined |
| Bulk Density @ 20 C (lbs/ft3):              | Not Determined |
| Boiling Point/Range (F):                    | Not Determined |
| Boiling Point/Range (C):                    | Not Determined |
| Freezing Point/Range (F):                   | Not Determined |
| Freezing Point/Range (C):                   | Not Determined |
| Vapor Pressure @ 20 C (mmHg):               | Not Determined |
| Vapor Density (Air=1):                      | Not Determined |
| Percent Volatiles:                          | 0              |
| Evaporation Rate (Butyl Acetate=1):         | Not Determined |
| Solubility in Water (g/100ml):              | Soluble        |
| Solubility in Solvents (g/100ml):           | Not Determined |
| VOCs (lbs./gallon):                         | Not Determined |
| Viscosity, Dynamic @ 20 C (centipoise):     | Not Determined |
| Viscosity, Kinematic @ 20 C (centistrokes): | Not Determined |
| Partition Coefficient/n-Octanol/Water:      | Not Determined |
| Molecular Weight (g/mole):                  | Not Determined |

## 10. STABILITY AND REACTIVITY

|                                      |                                                                                                                                                      |
|--------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|
| Stability Data:                      | Stable                                                                                                                                               |
| Hazardous Polymerization:            | Will Not Occur                                                                                                                                       |
| Conditions to Avoid                  | Keep away from heat, sparks and flame. Keep away from any contact with water. Avoid contact with organic materials. Temperatures over 302 F (150 C). |
| Incompatibility (Materials to Avoid) | Organic matter. Combustible materials. Reducing agents. Amines. Water. Strong acids.                                                                 |
| Hazardous Decomposition Products     | Oxygen. Chlorine.                                                                                                                                    |
| Additional Guidelines                | Not Applicable                                                                                                                                       |

## 11. TOXICOLOGICAL INFORMATION

|                                 |                                                                                                          |
|---------------------------------|----------------------------------------------------------------------------------------------------------|
| Principle Route of Exposure     | Eye or skin contact, inhalation.                                                                         |
| Inhalation                      | Causes severe respiratory burns.                                                                         |
| Skin Contact                    | Causes severe burns.                                                                                     |
| Eye Contact                     | Causes severe eye burns.                                                                                 |
| Ingestion                       | Causes burns of the mouth, throat and stomach. May cause abdominal pain, vomiting, nausea, and diarrhea. |
| Aggravated Medical Conditions   | Skin disorders.                                                                                          |
| Chronic Effects/Carcinogenicity | Prolonged or repeated exposure may cause lung damage.                                                    |
| Other Information               | None known.                                                                                              |
| Toxicity Tests                  |                                                                                                          |
| Oral Toxicity:                  | LD50: 820 mg/kg (Rat)                                                                                    |

|                                                   |                |
|---------------------------------------------------|----------------|
| <b>Dermal Toxicity:</b>                           | Not determined |
| <b>Inhalation Toxicity:</b>                       | Not determined |
| <b>Primary Irritation Effect:</b>                 | Not determined |
| <b>Carcinogenicity</b>                            | Not determined |
| <b>Genotoxicity:</b>                              | Not determined |
| <b>Reproductive /<br/>Developmental Toxicity:</b> | Not determined |

## 12. ECOLOGICAL INFORMATION

|                                  |                |
|----------------------------------|----------------|
| <b>Mobility (Water/Soil/Air)</b> | Not determined |
| <b>Persistence/Degradability</b> | Not determined |
| <b>Bio-accumulation</b>          | Not determined |

### Ecotoxicological Information

|                                    |                |
|------------------------------------|----------------|
| <b>Acute Fish Toxicity:</b>        | Not determined |
| <b>Acute Crustaceans Toxicity:</b> | Not determined |
| <b>Acute Algae Toxicity:</b>       | Not determined |

|                                  |                |
|----------------------------------|----------------|
| <b>Chemical Fate Information</b> | Not determined |
| <b>Other Information</b>         | Not applicable |

## 13. DISPOSAL CONSIDERATIONS

|                               |                                                                                                                                                                                          |
|-------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Disposal Method</b>        | Disposal should be made in accordance with federal, state, and local regulations.                                                                                                        |
| <b>Contaminated Packaging</b> | This bag may contain residue of a hazardous material. Some authorities may regulate such containers as hazardous waste. Dispose of container according to national or local regulations. |

## 14. TRANSPORT INFORMATION

### Land Transportation

#### DOT

UN2880, Calcium Hypochlorite, Hydrated, 5.1, II  
 RQ (Calcium Hypochlorite - 4.5 kg.)  
 NAERG 140

#### Canadian TDG

Calcium Hypochlorite, Hydrated, 5.1, UN2880, II

#### ADR

UN2880, Calcium Hypochlorite, Hydrated, 5.1, II

### Air Transportation

## ICAO/IATA

UN2880, Calcium Hypochlorite, Hydrated, 5.1, II  
RQ (Calcium Hypochlorite - 4.5 kg.)

## Sea Transportation

### IMDG

UN2880, Calcium Hypochlorite, Hydrated, 5.1, II  
RQ (Calcium Hypochlorite - 4.5 kg.)  
EmS F-H, S-Q

## Other Transportation Information

Labels: Oxidizer

## 15. REGULATORY INFORMATION

### US Regulations

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

**EPA SARA Title III Extremely Hazardous Substances** Not applicable

**EPA SARA (311,312) Hazard Class** Acute Health Hazard  
Fire Hazard  
Reactive Hazard

**EPA SARA (313) Chemicals** This product does not contain a toxic chemical for routine annual "Toxic Chemical Release Reporting" under Section 313 (40 CFR 372).

**EPA CERCLA/Superfund Reportable Spill Quantity** EPA Reportable Spill Quantity is 10 Pounds based on Calcium Hypochlorite (CAS: 7778-54-3)

**EPA RCRA Hazardous Waste Classification** If product becomes a waste, it does meet the criteria of a hazardous waste as defined by the US EPA, because of:

Ignitability D001

**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.

### Canadian Regulations

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

**WHMIS Hazard Class** C Oxidizing Materials  
E Corrosive Material

## 16. OTHER INFORMATION

The following sections have been revised since the last issue of this MSDS

Not applicable

### Additional Information

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

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

### Disclaimer Statement

This information is furnished without warranty, expressed or implied, as to accuracy or completeness. The information is obtained from various sources including the manufacturer and other third party sources. The information may not be valid under all conditions nor if this material is used in combination with other materials or in any process. Final determination of suitability of any material is the sole responsibility of the user.

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