

MATERIAL SAFETY DATA SHEET

CALCIUM CHLORIDE

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

TRADE NAME: CALCIUM CHLORIDE

CHEMICAL CLASS: Inorganic salts.

APPLICATIONS: Oil well drilling fluid additive. Oil well completion fluid additive. Weighting agent.

EMERGENCY TELEPHONE: 281-561-1600

SUPPLIER: Supplied by a Business Unit of
M-I L.L.C.
P.O. Box 42842, Houston, Texas 77242-2842
See cover sheet for local supplier.

TELEPHONE: 281-561-1509

FAX: 281-561-7240

CONTACT PERSON: Sam Hoskin - Manager, Occupational Health

2. COMPOSITION, INFORMATION ON INGREDIENTS

INGREDIENT NAME:	CAS No.:	CONTENTS :	EPA RQ:	TPQ:
Calcium chloride	10043-52-4	60-100 %		

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW:

CAUTION! MAY CAUSE EYE, SKIN AND RESPIRATORY TRACT IRRITATION. Avoid contact with eyes, skin and clothing. Avoid breathing airborne product. Keep container closed. Use with adequate ventilation. Wash thoroughly after handling.

This product is a/an white powder. A nuisance dust. Dike and contain spills. Keep out of sewers and waterways. No significant immediate hazards for emergency response personnel are known.

ACUTE EFFECTS:

HEALTH HAZARDS, GENERAL:

Particulates may cause mechanical irritation to the eyes, nose, throat and lungs. Particulate inhalation may lead to pulmonary fibrosis, chronic bronchitis, emphysema and bronchial asthma. Dermatitis and asthma may result from short contact periods.

INHALATION: Irritating to the respiratory tract if inhaled.

INGESTION: Harmful if swallowed. May cause gastric distress, nausea and vomiting if ingested.

SKIN: Irritating to the skin.

EYES: Irritating to the eyes.

CHRONIC EFFECTS:

CARCINOGENICITY:

IARC: Not listed. OSHA: Not regulated. NTP: Not listed.

ROUTE OF ENTRY:

Inhalation. Skin and/or eye contact.

TARGET ORGANS:

Respiratory system, lungs. Skin. Eyes.

4. FIRST AID MEASURES

GENERAL:

Persons seeking medical attention should carry a copy of this MSDS with them.

INHALATION:

Move the exposed person to fresh air at once. Perform artificial respiration if breathing has stopped. Get medical attention.

INGESTION:

Drink a couple of glasses water or milk. Do not give victim anything to drink of he is unconscious. Get medical attention.

SKIN:

Wash skin thoroughly with soap and water. Remove contaminated clothing. Get medical attention if any discomfort continues.

EYES:

Promptly wash eyes with lots of water while lifting the eye lids. Continue to rinse for at least 15 minutes. Get medical attention if any discomfort continues.

5. FIRE FIGHTING MEASURES

FLAMMABILITY LIMIT - LOWER(%): N/D

FLAMMABILITY LIMIT - UPPER(%): N/D

EXTINGUISHING MEDIA:

Use extinguishing media appropriate for surrounding fire. Carbon dioxide (CO₂). Dry chemicals. Foam. Water spray, fog or mist.

SPECIAL FIRE FIGHTING PROCEDURES:

No specific fire fighting procedure given.

UNUSUAL FIRE & EXPLOSION HAZARDS:

No unusual fire or explosion hazards noted.

HAZARDOUS COMBUSTION PRODUCTS:

This material is not combustible. No specific hazardous combustion products noted.

6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS:

Wear proper personal protective equipment (see MSDS Section 8).

SPILL CLEAN-UP PROCEDURES:

Avoid generating and spreading of dust. Shovel into dry containers. Cover and move the containers. Flush the area with water. Do not contaminate drainage or waterways. Repackage or recycle if possible.

7. HANDLING AND STORAGE

HANDLING PRECAUTIONS:

Avoid handling causing generation of dust. Wear full protective clothing for prolonged exposure and/or high concentrations. Eye wash and emergency shower must be available at the work place. Wash hands often and change clothing when needed. Provide good ventilation. Mechanical ventilation or local exhaust ventilation is required.

STORAGE PRECAUTIONS:

Store at moderate temperatures in dry, well ventilated area. Keep in original container.

8. EXPOSURE CONTROLS, PERSONAL PROTECTION

INGREDIENT NAME:	CAS No.:	OSHA PEL:		ACGIH TLV:		OTHER:		UNITS:
		TWA:	STEL:	TWA:	STEL:	TWA:	STEL:	
Calcium chloride	10043-52-4	5		3				mg/m ³ resp.dus

INGREDIENT COMMENTS:

No exposure limits noted for ingredient(s). Exposure limits are for Particulates Not Otherwise Classified (PNOC).

PROTECTIVE EQUIPMENT:



ENGINEERING CONTROLS:

Use appropriate engineering controls such as, exhaust ventilation and process enclosure, to reduce air contamination and keep worker exposure below the applicable limits.

VENTILATION: Supply natural or mechanical ventilation adequate to exhaust airborne product and keep exposures below the applicable limits.

RESPIRATORS: Use at least a NIOSH-approved N95 half-mask disposable or reusable particulate respirator. In work environments containing oil mist/aerosol use at least a NIOSH-approved P95 half-mask disposable or reusable particulate respirator.

PROTECTIVE GLOVES:

Use suitable protective gloves if risk of skin contact.

EYE PROTECTION:

Wear dust resistant safety goggles where there is danger of eye contact.

PROTECTIVE CLOTHING:

Wear appropriate clothing to prevent repeated or prolonged skin contact.

HYGIENIC WORK PRACTICES:

Wash promptly with soap and water if skin becomes contaminated. Change work clothing daily if there is any possibility of contamination.

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE/PHYSICAL STATE:	Powder, dust.
COLOR:	White.
ODOR:	Odorless or no characteristic odor.
SOLUBILITY DESCRIPTION:	Very soluble in water.

SOLUBILITY VALUE (g/100g H ₂ O 68°F):	75	
DENSITY/SPECIFIC GRAVITY (g/ml):	2.2	TEMPERATURE (°F): 68
VAPOR DENSITY (air=1):	N/D	
VAPOR PRESSURE:	N/D	TEMPERATURE (°F):
pH-VALUE, DILUTED SOLUTION:	N/D	CONCENTRATION (%M):

10. STABILITY AND REACTIVITY

STABILITY: Normally stable.

CONDITIONS TO AVOID:
Avoid contact with water.

HAZARDOUS POLYMERIZATION:
Will not polymerize.

POLYMERIZATION DESCRIPTION:
Not relevant.

MATERIALS TO AVOID:
Sulfuric acid

HAZARDOUS DECOMPOSITION PRODUCTS:
No specific hazardous decomposition products noted.

11. TOXICOLOGICAL INFORMATION

TOXIC DOSE - LD 50: 1000 mg/kg (oral rat)

12. ECOLOGICAL INFORMATION

ECOLOGICAL INFORMATION:
Contact M-I Environmental Affairs for ecological information.

13. DISPOSAL CONSIDERATIONS

WASTE MANAGEMENT:
This product, should it become a waste, is not hazardous by U.S. RCRA criteria.

DISPOSAL METHODS:
Recover and reclaim or recycle, if practical. Should this product become a waste, dispose of in a permitted industrial landfill. Ensure that containers are empty by RCRA criteria prior to disposal in a permitted industrial landfill.

14. TRANSPORT INFORMATION

PRODUCT RQ: N/A

U.S. DOT:
U.S. DOT CLASS: Not regulated.

CANADIAN TRANSPORT:
TDGR CLASS: Not regulated.

SEA TRANSPORT:
IMDG CLASS: Not regulated.

AIR TRANSPORT:
ICAO CLASS: Not regulated.

15. REGULATORY INFORMATION

REGULATORY STATUS OF INGREDIENTS:

NAME:	CAS No:	TSCA:	CERCLA:	SARA 302:	SARA 313:	DSL(CAN):
Calcium chloride	10043-52-4	Yes	No	No	No	Yes

US FEDERAL REGULATIONS: WASTE CLASSIFICATION:

Not a hazardous waste by U.S. RCRA criteria. See Section 13.

REGULATORY STATUS:

This Product or its components, if a mixture, is subject to following regulations (Not meant to be all inclusive - selected regulations represented):

SECTION 313: This product does not contain toxic chemical subject to the reporting requirements of Section 313 of Title III of the Superfund Amendment and Reauthorization Act of 1986 and 40 CFR Part 372.

SARA 311 Categories:

1: Immediate (Acute) Health Effects.

The components of this product are listed on or are exempt from the following international chemical registries:

TSCA (U.S.)
DSL (Canada)
EINECS (Europe)

STATE REGULATIONS:

STATE REGULATORY STATUS:

This product or its components, if a mixture, is subject to following regulations (Not meant to be all inclusive - selected regulations represented):

None.

PROPOSITION 65: This product does not contain chemicals considered by the State of California's Safe Drinking Water and Toxic Enforcement Act of 1986 as causing cancer or reproductive toxicity, and for which warnings are now required.

CANADIAN REGULATIONS: LABELS FOR SUPPLY:



REGULATORY STATUS:

This Material Safety Data Sheet has been prepared in compliance with the Controlled Product Regulations.

Canadian WHMIS Classification: D2B - Other Toxic Effects: Toxic Material

16. OTHER INFORMATION

NPCA HMIS HAZARD INDEX: FLAMMABILITY:

1 Slight Hazard
0 Minimal Hazard

REACTIVITY: 1 Slight Hazard
NPCA HMIS PERS. PROTECT. INDEX: E - Safety Glasses, Gloves, Dust Respirator

USER NOTES: N/A = Not applicable N/D = Not determined

INFORMATION SOURCES: OSHA Permissible Exposure Limits, 29 CFR 1910, Subpart Z, Section 1910.1000, Air Contaminants.

ACGIH Threshold Limit Values and Biological Exposure Indices for Chemical Substances and Physical Agents (latest edition).

Sax's Dangerous Properties of Industrial Materials, 9th ed., Lewis, R.J. Sr., (ed.), VNR, New York, New York, (1997).
Product information provided by the commercial vendor(s).

PREPARED BY: Sam Hoskin

REVISION No./Repl. MSDS of: 1 / September 7, 1995

MSDS STATUS: Approved.

DATE: August 19, 1998

DISCLAIMER:

MSDS furnished independent of product sale. While every effort has been made to accurately describe this product, some of the data are obtained from sources beyond our direct supervision. We cannot make any assertions as to its reliability or completeness; therefore, user may rely on it only at user's risk. We have made no effort to censor or conceal deleterious aspects of this product. Since we cannot anticipate or control the conditions under which this information and product may be used, we make no guarantee that the precautions we have suggested will be adequate for all individuals and/or situations. It is the obligation of each user of this product to comply with the requirements of all applicable laws regarding use and disposal of this product. Additional information will be furnished upon request to assist the user; however, no warranty, either expressed or implied, nor liability of any nature with respect to this product or to the data herein is made or incurred hereunder.

MATERIAL SAFETY DATA SHEET

CLEAN UP

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

TRADE NAME: CLEAN UP

CHEMICAL CLASS: Detergent.

EMERGENCY TELEPHONE: 281-561-1600

SUPPLIER: Supplied by a Business Unit of
M-I L.L.C.
P.O. Box 42842, Houston, Texas 77242-2842
See cover sheet for local supplier.

TELEPHONE: 281-561-1509

FAX: 281-561-7240

CONTACT PERSON: Sam Hoskin

2. COMPOSITION, INFORMATION ON INGREDIENTS

INGREDIENT NAME:	CAS No.:	CONTENTS :	EPA RQ:	TPQ:
Proprietary ingredients		95-99 %		
Diethanolamine	111-42-2	1-5 %	100 lbs	

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW:

WARNING! CAUSES EYE, SKIN AND RESPIRATORY TRACT IRRITATION. Avoid contact with eyes and skin and clothing. Avoid breathing airborne product. Do not take internally. Wash thoroughly after handling.

This product is a/an This product is very slippery. liquid A nuisance dust. Dike and contain spills. Keep out of sewers and waterways.

ACUTE EFFECTS:

INHALATION: May be irritating to the respiratory tract if inhaled.

INGESTION: May cause gastric distress, nausea and vomiting if ingested.

SKIN: Irritating to the skin.

EYES: Irritating to the eyes.

CHRONIC EFFECTS:

CARCINOGENICITY:

IARC: Not listed. OSHA: Not regulated. NTP: Not listed.

ROUTE OF ENTRY:

Inhalation. Skin and/or eye contact.

TARGET ORGANS:

Respiratory system, lungs. Skin. Eyes.

4. FIRST AID MEASURES

- GENERAL:** Persons seeking medical attention should carry a copy of this MSDS with them.
- INHALATION:** Move the exposed person to fresh air at once. Perform artificial respiration if breathing has stopped. Get medical attention.
- INGESTION:** Drink a couple of glasses water or milk. Do NOT induce vomiting unless directed to do so by a physician. Never give anything by mouth to an unconscious person. Get medical attention.
- SKIN:** Wash skin thoroughly with soap and water. Remove contaminated clothing. Get medical attention if any discomfort continues.
- EYES:** Promptly wash eyes with lots of water while lifting the eye lids. Continue to rinse for at least 15 minutes. Get medical attention if any discomfort continues.
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5. FIRE FIGHTING MEASURES

FLASH POINT (°F): >210 **METHOD:** PM Closed cup.
AUTO IGNITION TEMP. (°F): N/D
FLAMMABILITY LIMIT - LOWER(%): N/D
FLAMMABILITY LIMIT - UPPER(%): N/D

EXTINGUISHING MEDIA:
Carbon dioxide (CO2). Dry chemicals. Foam. Water spray, fog or mist.

SPECIAL FIRE FIGHTING PROCEDURES:
Wear positive-pressure, self-contained breathing apparatus (SCBA) and protective fire fighting clothing (including fire fighting helmet, coat, pants, boots, and gloves). If protective equipment is not available or not used, fight fire from a protected location or safe distance.

UNUSUAL FIRE & EXPLOSION HAZARDS:
No unusual fire or explosion hazards noted.

HAZARDOUS COMBUSTION PRODUCTS:
Irritating gases/vapors/fumes. Oxides of: Carbon.

6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS:
Wear proper personal protective equipment (see MSDS Section 8).

SPILL CLEAN-UP PROCEDURES:
Absorb in vermiculite, dry sand or earth and place into containers. Rinse area with water. Dike far ahead of larger spills for later disposal. Do not contaminate drainage or waterways.

7. HANDLING AND STORAGE

HANDLING PRECAUTIONS:
Ventilate well, avoid breathing vapors. Use approved respirator if air contamination is above accepted level. Wear full protective clothing for prolonged exposure and/or high concentrations. Eye wash and emergency shower must be available at the work place. Wash hands often and change clothing when needed.

STORAGE PRECAUTIONS:

Store at moderate temperatures in dry, well ventilated area. Keep in original container.

8. EXPOSURE CONTROLS, PERSONAL PROTECTION

INGREDIENT NAME:	CAS No.:	OSHA PEL:		ACGIH TLV:		OTHER:		UNITS:
		TWA:	STEL:	TWA:	STEL:	TWA:	STEL:	
Proprietary ingredients		5		3				mg/m ³ resp.dust
Diethanolamine	111-42-2			2	Sk			mg/m ³

INGREDIENT COMMENTS:

Exposure limits for Particulates Not Otherwise Classified (PNOC) apply to dust/mist/aerosol of the proprietary ingredients this product.

PROTECTIVE EQUIPMENT:**ENGINEERING CONTROLS:**

Use appropriate engineering controls such as, exhaust ventilation and process enclosure, to reduce air contamination and keep worker exposure below the applicable limits.

VENTILATION: Supply natural or mechanical ventilation adequate to exhaust airborne product and keep exposures below the applicable limits.

RESPIRATORS: If exposed to particulates/aerosols:
Use at least a NIOSH-approved N95 half-mask disposable or reusable particulate respirator. In work environments containing oil mist/aerosol use at least a NIOSH-approved P95 half-mask disposable or reusable particulate respirator.
If exposed to organic vapors:
Use a NIOSH/MSHA-approved organic vapor respirator. CCROV: CCR with organic vapor cartridge.

PROTECTIVE GLOVES:

Chemical resistant gloves required for prolonged or repeated contact. Use protective gloves made of: Impermeable material. Such as, Neoprene, nitrile, polyethylene or PVC.

EYE PROTECTION:

Wear chemical safety goggles where eye exposure is reasonably probable.

PROTECTIVE CLOTHING:

Wear appropriate clothing to prevent repeated or prolonged skin contact.

HYGIENIC WORK PRACTICES:

Wash promptly with soap and water if skin becomes contaminated. Change work clothing daily if there is any possibility of contamination.

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE/PHYSICAL STATE:	Liquid.	
COLOR:	Colorless.	
ODOR:	Slight.	
SOLUBILITY DESCRIPTION:	Soluble in water.	
DENSITY/SPECIFIC GRAVITY (g/ml):	1.008	TEMPERATURE (°F): 68
VAPOR DENSITY (air=1):	N/D	
VAPOR PRESSURE:	N/D	TEMPERATURE (°F):
EVAPORATION RATE:	N/D	REFERENCE:
pH-VALUE, DILUTED SOLUTION:	8.3	CONCENTRATION (%M): 1%

10. STABILITY AND REACTIVITY

STABILITY: Normally stable.

CONDITIONS TO AVOID:
Avoid heat.

HAZARDOUS POLYMERIZATION:
Will not polymerize.

POLYMERIZATION DESCRIPTION:
Not relevant.

MATERIALS TO AVOID:
Strong oxidizing agents. Strong alkalis.

HAZARDOUS DECOMPOSITION PRODUCTS:
No specific hazardous decomposition products noted.

11. TOXICOLOGICAL INFORMATION

TOXICOLOGICAL INFORMATION:
No toxicological data is available for this product. Toxicological data for major component(s):

Component:	Diethanolamine			
TOXICOLOGICAL DATA:				
Corrosive effects.	24 hours.	Eye.	Rabbit.	750 ug - Severe Irritation
Corrosive effects.	24 hours.	Skin.	Rabbit.	500 mg - Mild Irritation
TOXIC DOSE - LD 50:	710 mg/kg (oral rat)			
TOXIC DOSE - LD 50:	12,200 mg/kg (skn-rbt)			

12. ECOLOGICAL INFORMATION

ACUTE AQUATIC TOXICITY:
This product passes the mysid shrimp toxicity test required by the U.S. Environmental Protection Agency (EPA) Region VI (Gulf of Mexico) NPDES Permit, which regulates offshore discharge of drilling fluids, when tested in a standard drilling fluid. Contact M-I's Environmental Affairs Department for more information.

13. DISPOSAL CONSIDERATIONS

WASTE MANAGEMENT:
This product does not meet the criteria of a hazardous waste if discarded in its purchased form. Under RCRA, it is the responsibility of the user of the product to determine at the time of disposal, whether the product meets RCRA criteria for hazardous waste. This is because product uses, transformations, mixtures, processes, etc, may render the resulting materials hazardous.
Empty containers retain residues. All labeled precautions must be observed.

DISPOSAL METHODS:
Recover and reclaim or recycle, if practical. Should this product become a waste, dispose of in a permitted industrial landfill. Ensure that containers are empty by RCRA criteria prior to disposal in a permitted industrial landfill.

14. TRANSPORT INFORMATION

GENERAL: RQ = 238 gallons

U.S. DOT:
U.S. DOT CLASS: Not regulated.

CANADIAN TRANSPORT:
TDGR CLASS: Not regulated.

SEA TRANSPORT:
IMDG CLASS: Not regulated.

AIR TRANSPORT:
ICAO CLASS: Not regulated.

15. REGULATORY INFORMATION

REGULATORY STATUS OF INGREDIENTS:

NAME:	CAS No:	TSCA:	CERCLA:	SARA 302:	SARA 313:	DSL(CAN):
Proprietary ingredients		Yes	No	No	No	Yes
Diethanolamine	111-42-2	Yes	Yes	No	Yes	Yes

US FEDERAL REGULATIONS: WASTE CLASSIFICATION:

Not a hazardous waste by U.S. RCRA criteria. See Section 13.

REGULATORY STATUS:

This Product or its components, if a mixture, is subject to following regulations (Not meant to be all inclusive - selected regulations represented):

SECTION 313: The chemical(s) listed above are subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization act of 1986 and 40 CFR Part 372.

SARA 311 Categories:

I: Immediate (Acute) Health Effects.

The components of this product are listed on or are exempt from the following international chemical registries:

TSCA (U.S.)

STATE REGULATIONS: STATE REGULATORY STATUS:

This product or its components, if a mixture, is subject to following regulations (Not meant to be all inclusive - selected regulations represented):

Illinois Right-to-Know.

New Jersey Right-to-Know.

Pennsylvania Right-to-Know.

PROPOSITION 65: This product does not contain chemicals considered by the State of California's Safe Drinking Water and Toxic Enforcement Act of 1986 as causing cancer or reproductive toxicity, and for which warnings are now required.

CANADIAN REGULATIONS: LABELS FOR SUPPLY:



REGULATORY STATUS:

This Material Safety Data Sheet has been prepared in compliance with the Controlled Product Regulations.

Canadian WHMIS Classification: D2B - Other Toxic Effects: Toxic Material

16. OTHER INFORMATION

NPCA HMIS HAZARD INDEX:

2 Moderate Hazard

FLAMMABILITY:

1 Slight Hazard

REACTIVITY:

0 Minimal Hazard

NPCA HMIS PERS. PROTECT. INDEX:

J - Splash Goggles, Gloves, Synthetic Apron, Dust and Vapor Respirator.

USER NOTES:

N/A = Not applicable N/D = Not determined

INFORMATION SOURCES:

OSHA Permissible Exposure Limits, 29 CFR 1910, Subpart Z, Section 1910.1000, Air Contaminants.

ACGIH Threshold Limit Values and Biological Exposure Indices for Chemical Substances and Physical Agents (latest edition).

Sax's Dangerous Properties of Industrial Materials, 9th ed., Lewis, R.J. Sr., (ed.), VNR, New York, New York, (1997).

Product information provided by the commercial vendor(s).

PREPARED BY:

Sam Hoskin

REVISION No./Repl. MSDS of:

1 / December 19, 1996

MSDS STATUS:

Approved.

DATE: June 23, 1998

DISCLAIMER:

MSDS furnished independent of product sale. While every effort has been made to accurately describe this product, some of the data are obtained from sources beyond our direct supervision. We cannot make any assertions as to its reliability or completeness; therefore, user may rely on it only at user's risk. We have made no effort to censor or conceal deleterious aspects of this product. Since we cannot anticipate or control the conditions under which this information and product may be used, we make no guarantee that the precautions we have suggested will be adequate for all individuals and/or situations. It is the obligation of each user of this product to comply with the requirements of all applicable laws regarding use and disposal of this product. Additional information will be furnished upon request to assist the user; however, no warranty, either expressed or implied, nor liability of any nature with respect to this product or to the data herein is made or incurred hereunder.