

MATERIAL SAFETY DATA SHEET

Product Trade Name: 5% AMMONIUM CHLORIDE + ADDITIVES

Revision Date: 03-Jan-2013

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Trade Name: 5% AMMONIUM CHLORIDE + ADDITIVES
Synonyms: None
Chemical Family: Blend
Application: Clay Stabilization Agent

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

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2. COMPOSITION/INFORMATION ON INGREDIENTS

Substances	CAS Number	PERCENT	ACGIH TLV-TWA	OSHA PEL-TWA
Acetic anhydride	108-24-7	1 - 5%	1 ppm	5 ppm
Acetic acid	64-19-7	1 - 5%	10 ppm	10 ppm
Ammonium chloride	12125-02-9	1 - 5%	10 mg/m ³	10 mg/m ³

3. HAZARDS IDENTIFICATION

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

4. FIRST AID MEASURES

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

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

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 Water fog, carbon dioxide, foam, dry chemical.

Special Exposure Hazards 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 2, Flammability 0, Reactivity 0

HMIS Ratings: Health 2, Flammability 0, Reactivity 0

6. ACCIDENTAL RELEASE MEASURES

Personal Precautionary Measures 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

Handling Precautions Avoid breathing vapors. Wash hands after use. Avoid contact with eyes, skin, or clothing. Launder contaminated clothing before reuse.

Storage Information Store away from alkalis. Store in a cool well ventilated area. 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 However, if significant exposures are likely then wear a Organic vapor/acid gas respirator with a dust/mist filter.

Hand Protection Impervious rubber gloves.

Skin Protection Rubber apron.

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

Physical State:	Liquid
Color:	Clear light amber
Odor:	Mild amine

9. PHYSICAL AND CHEMICAL PROPERTIES

pH:	Not Determined
Specific Gravity @ 20 C (Water=1):	Not Determined
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:	Not Determined
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 (centistokes):	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	None anticipated
Incompatibility (Materials to Avoid)	Strong alkalis.
Hazardous Decomposition Products	Oxides of nitrogen. Carbon monoxide and carbon dioxide.
Additional Guidelines	Not Applicable

11. TOXICOLOGICAL INFORMATION

Principle Route of Exposure	Eye or skin contact, inhalation.
Inhalation	May cause respiratory irritation.
Skin Contact	Causes severe skin irritation.
Eye Contact	May cause severe eye irritation.
Ingestion	Causes burns of the mouth, throat and stomach.
Aggravated Medical Conditions	None known.
Chronic Effects/Carcinogenicity	No data available to indicate product or components present at greater than 1% are chronic health hazards.
Other Information	None known.
Toxicity Tests	
Oral Toxicity:	LD50: > 5000 mg/kg (Rat)
Dermal Toxicity:	LD50: > 2000 mg/kg (Rabbit)

Inhalation Toxicity:	Not determined
Primary Irritation Effect:	Draize Rating (Eye): 9/110 (Rabbit) Minimally Irritation Draize Rating (Skin): 0.1/8.0 (Rabbit) Non-Irritating
Carcinogenicity	Not determined
Genotoxicity:	Not determined
Reproductive / Developmental Toxicity:	Not determined

12. ECOLOGICAL INFORMATION

Mobility (Water/Soil/Air)	Not determined
Persistence/Degradability	Slowly biodegradable
Bio-accumulation	Not determined

Ecotoxicological Information

Acute Fish Toxicity:	Not determined
Acute Crustaceans Toxicity:	Not determined
Acute Algae Toxicity:	Not determined

Chemical Fate Information	Not determined
Other Information	Not applicable

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

Land Transportation

DOT
Not restricted

Canadian TDG
Not restricted

ADR
Not restricted

Air Transportation

ICAO/IATA
Not restricted

Sea Transportation

IMDG

Not restricted

Other Transportation Information

Labels: None

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
EPA SARA (313) Chemicals	This product contains toxic chemical(s) listed below which is(are) subject to the reporting requirements of Section 313 of Title III of SARA and 40 CFR Part 372: Ammonium Chloride//12125-02-9
EPA CERCLA/Superfund Reportable Spill Quantity	EPA Reportable Spill Quantity is 5263 Gallons based on Ammonium chloride (CAS: 12125-02-9).
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.
WHMIS Hazard Class	D2B Toxic Materials

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

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