

MATERIAL SAFETY DATA SHEET

Product Trade Name: **N-DRIL® HI**

Revision Date: 02-Jan-2013

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Trade Name: N-DRIL® HI
Synonyms: None
Chemical Family: Polysaccharide
Application: Viscosifier

Manufacturer/Supplier Baroid Fluid Services
Product Service Line of Halliburton
P.O. Box 1675
Houston, TX 77251
Telephone: (281) 871-4000
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
Cellulose derivative		60 - 100%	10 mg/m ³	15 mg/m ³

3. HAZARDS IDENTIFICATION

Hazard Overview May cause eye, skin, and respiratory irritation. Airborne dust may be explosive.

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 Wash with soap and water. Get medical attention if irritation persists.

Eyes In case of contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention if irritation persists.

Ingestion Under normal conditions, first aid procedures are not required.

Notes to Physician Not Applicable

5. FIRE FIGHTING MEASURES

Flash Point/Range (F):	430
Flash Point/Range (C):	221
Flash Point Method:	Not Determined
Autoignition Temperature (F):	752
Autoignition Temperature (C):	400
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 Organic dust in the presence of an ignition source can be explosive in high concentrations. Good housekeeping practices are required to minimize this potential.

Special Protective Equipment for Fire-Fighters Full protective clothing and approved self-contained breathing apparatus required for fire fighting personnel.

NFPA Ratings: Health 0, Flammability 0, Reactivity 0
HMS Ratings: Health 0, Flammability 0, Physical Hazard 0

6. ACCIDENTAL RELEASE MEASURES

Personal Precautionary Measures Avoid creating and breathing dust.

Environmental Precautionary Measures None known.

Procedure for Cleaning / Absorption Scoop up and remove.

7. HANDLING AND STORAGE

Handling Precautions Avoid creating or inhaling dust. Avoid dust accumulations.

Storage Information Store away from oxidizers. Store in a dry location. Product has a shelf life of 12 months.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls A well ventilated area to control dust levels. Local exhaust ventilation should be used in areas without good cross ventilation.

Respiratory Protection Not normally needed. But if significant exposures are possible then the following respirator is recommended:
Dust/mist respirator. (N95, P2/P3)

Hand Protection Normal work gloves.

Skin Protection Normal work coveralls.

Eye Protection Wear safety glasses or goggles to protect against exposure.

Other Precautions None known.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State:	Powder
Color:	White to off white
Odor:	Odorless
pH:	6-7
Specific Gravity @ 20 C (Water=1):	1.6
Density @ 20 C (lbs./gallon):	Not Determined
Bulk Density @ 20 C (lbs/ft3):	32-38
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):	Forms gel
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 known.
Incompatibility (Materials to Avoid)	Strong oxidizers.
Hazardous Decomposition Products	Carbon monoxide and carbon dioxide.
Additional Guidelines	Not Applicable

11. TOXICOLOGICAL INFORMATION

Principle Route of Exposure	Eye or skin contact, inhalation.
Inhalation	May cause mild respiratory irritation.
Skin Contact	May cause mild skin irritation.
Eye Contact	May cause mild eye irritation.
Ingestion	None known
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:	Not determined
Dermal Toxicity:	Not determined
Inhalation Toxicity:	Not determined
Primary Irritation Effect:	Not determined
Carcinogenicity	Not determined
Genotoxicity:	Not determined
Reproductive / Developmental Toxicity:	Not determined

12. ECOLOGICAL INFORMATION

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

Ecotoxicological Information

Acute Fish Toxicity:	Not determined
Acute Crustaceans Toxicity:	TLM96: > 1,000,000 ppm (Mysidopsis bahia) SPP @ 0.2 ppb
Acute Algae Toxicity:	Not determined

Chemical Fate Information	Not determined
Other Information	Not applicable

13. DISPOSAL CONSIDERATIONS

Disposal Method	Bury in a licensed landfill according to 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	None
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	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	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	Un-Controlled

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*****