HALLIBURTON

MATERIAL SAFETY DATA SHEET

Product Trade Name: **HYDRAZINE 35%**

Revision Date: 03-Jan-2012

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Trade Name: HYDRAZINE 35%
Synonyms: None
Chemical Family: Not applicable
Application: Corrosion Retarder

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
Hydrazine	302-01-2	30 - 60%	0.01 ppm	1 ppm

3. HAZARDS IDENTIFICATION

Hazard Overview
May cause eye and skin burns. May cause respiratory irritation. May cause headache, dizziness, and other central nervous system effects. May be absorbed through the skin. May be harmful if swallowed. May cause allergic skin reaction. May cause damage to internal organs. Potential carcinogen. Combustible.

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. Remove contaminated shoes and discard.

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):	126
Flash Point/Range (C):	52
Flash Point Method:	Not Determined
Autoignition Temperature (F):	518
Autoignition Temperature (C):	270
Flammability Limits in Air - Lower (%):	4.7
Flammability Limits in Air - Upper (%):	100

Fire Extinguishing Media Water fog, carbon dioxide, foam, dry chemical.

Special Exposure Hazards Pure hydrazine vapors in contact with rust have an autoignition temperature of 74 F (23 C). Drums should never be heated or exposed to direct sunlight.

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 2, Reactivity 1
HMIS Ratings: Health 3, Flammability 2, Reactivity 1

6. ACCIDENTAL RELEASE MEASURES

Personal Precautionary Measures Evacuate all persons from the area. Use only competent persons for cleanup. Use appropriate protective equipment. Wear self-contained breathing apparatus in enclosed areas.

Environmental Precautionary Measures Prevent from entering sewers, waterways, or low areas. Prevent contamination of soil.

Procedure for Cleaning / Absorption Isolate spill and stop leak where safe. Remove ignition sources and work with non-sparking tools. Contain spill with sand or other inert materials. Scoop up and remove.

7. HANDLING AND STORAGE

Handling Precautions Avoid contact with eyes, skin, or clothing. Avoid breathing vapors. Do NOT consume food, drink, or tobacco in contaminated areas.

Storage Information Store away from oxidizers. Store away from direct sunlight. 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 Ammonia respirator. Positive pressure self-contained breathing apparatus in enclosed areas.

Hand Protection Impervious rubber gloves.

Skin Protection Full protective chemical resistant clothing.

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 colorless
Odor:	Mild ammonia
pH:	9.9
Specific Gravity @ 20 C (Water=1):	1.19
Density @ 20 C (lbs./gallon):	9.91
Bulk Density @ 20 C (lbs/ft3):	Not Determined
Boiling Point/Range (F):	229
Boiling Point/Range (C):	109
Freezing Point/Range (F):	-87
Freezing Point/Range (C):	-66
Vapor Pressure @ 20 C (mmHg):	Not Determined
Vapor Density (Air=1):	Not Determined
Percent Volatiles:	100
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	None known.
Incompatibility (Materials to Avoid)	Strong acids. Organic matter. Prolonged contact with aluminum, lead or zinc. Copper and copper alloys. Stainless steel. Iron oxide.
Hazardous Decomposition Products	Not Determined.
Additional Guidelines	Not Applicable

11. TOXICOLOGICAL INFORMATION

Principle Route of Exposure	Eye or skin contact, inhalation.
Inhalation	Causes severe respiratory irritation. May cause central nervous system depression including headache, dizziness, drowsiness, incoordination, slowed reaction time, slurred speech, giddiness and unconsciousness.
Skin Contact	Causes severe burns. May be absorbed through the skin and produce effects similar to those caused by inhalation and/or ingestion. May cause an allergic skin reaction.
Eye Contact	Causes severe eye burns.
Ingestion	May be harmful if swallowed.
Aggravated Medical Conditions	Lung disorders. Skin disorders. Liver and kidney disorders.

Chronic Effects/Carcinogenicity Prolonged or repeated exposure may cause liver, kidney and blood effects. Prolonged or repeated exposure may cause lung damage. Contains hydrazine which has produced lung cancers in laboratory animals.

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:	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

UN2030,Hydrazine, Aqueous Solution, 8, (6.1), II
RQ (Hydrazine - 0.45 kg.)
NAERG 153

Canadian TDG
Hydrazine, Aqueous Solution, 8, (6.1), UN2030, II

ADR

UN2030,Hydrazine, Aqueous Solution, 8, (6.1), II

Air Transportation

ICAO/IATA

UN2030,Hydrazine, Aqueous Solution, 8, (6.1), II
RQ (Hydrazine - 0.45 kg.)

Sea Transportation

IMDG

UN2030,Hydrazine, Aqueous Solution, 8, (6.1), II
RQ (Hydrazine - 0.45 kg.)
EmS F-A, S-Q

Other Transportation Information

Labels:	Corrosive Toxic

15. REGULATORY INFORMATION

US Regulations

US TSCA Inventory	All components listed on inventory or are exempt.
EPA SARA Title III Extremely Hazardous Substances	CAS: 302-01-2//Chemical Name: Hydrazine///TPQ: 500
EPA SARA (311,312) Hazard Class	Fire Hazard Acute Health Hazard Chronic Health 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 0.29 Gallons based on Hydrazine (CAS: 302-01-2).
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: Listed Waste U133 Ignitability D001
California Proposition 65	The California Proposition 65 regulations apply to this product.
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
B2 Flammable Liquids
D2A Very Toxic Materials
D1B 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*****