

# MATERIAL SAFETY DATA SHEET

**Product Trade Name:**            **PENETROL™**

**Revision Date:**                    04-Jan-2011

<b>1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION</b>
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**Product Trade Name:**            PENETROL™  
**Synonyms:**                        None  
**Chemical Family:**                Amide  
**Application:**                      Wetting Agent

**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  
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<b>2. COMPOSITION/INFORMATION ON INGREDIENTS</b>
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Substances	CAS Number	PERCENT	ACGIH TLV-TWA	OSHA PEL-TWA
Diethanolamine	111-42-2	1 - 5%	1 mg/m <sup>3</sup>	Not applicable
Coco diethanolamide		10 - 30%	Not applicable	Not applicable

<b>3. HAZARDS IDENTIFICATION</b>
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**Hazard Overview**                    May cause eye, skin, and respiratory irritation.

<b>4. FIRST AID MEASURES</b>
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**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**                                    Wash with soap and water. Get medical attention if irritation persists. 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	Min: > 300
Flash Point/Range (C):	Not Determined	Min: > 148
Flash Point Method:	T.O.C.	
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, Physical Hazard 0, PPE: D

## 6. ACCIDENTAL RELEASE MEASURES

**Personal Precautionary Measures** Use appropriate protective equipment. Wear self-contained breathing apparatus in enclosed areas.

**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 contact with eyes, skin, or clothing. Avoid breathing vapors.

**Storage Information** Store away from oxidizers. Store in a cool well ventilated area. Keep container closed when not in use. Product has a shelf life of 12 months.

## 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.

**Personal Protective Equipment** If engineering controls and work practices cannot prevent excessive exposures, the selection and proper use of personal protective equipment should be determined by an industrial hygienist or other qualified professional based on the specific application of this product.

**Respiratory Protection** Not normally needed. But if significant exposures are possible then the following respirator is recommended:  
Organic vapor respirator.

**Hand Protection** Polyvinylchloride 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:	Green
Odor:	Coconut
pH:	9.3
Specific Gravity @ 20 C (Water=1):	1.0
Density @ 20 C (lbs./gallon):	8.3
Bulk Density @ 20 C (lbs/ft3):	Not Determined
Boiling Point/Range (F):	315
Boiling Point/Range (C):	Not Determined
Freezing Point/Range (F):	Not Determined
Freezing Point/Range (C):	Not Determined
Vapor Pressure @ 20 C (mmHg):	< 1
Vapor Density (Air=1):	Not Determined
Percent Volatiles:	76
Evaporation Rate (Butyl Acetate=1):	Not Determined
Solubility in Water (g/100ml):	Miscible
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	Avoid contact with oxidizers.
Incompatibility (Materials to Avoid)	Strong acids. Zinc. Copper and copper alloys.
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. Excessive inhalation causes headache, dizziness, nausea and incoordination.
Skin Contact	May cause severe skin irritation.
Eye Contact	May cause eye irritation. May cause corneal injury.
Ingestion	Irritation of the mouth, throat, and stomach. May cause abdominal pain, vomiting, nausea, and diarrhea.
Aggravated Medical Conditions	Skin disorders.
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	

<b>Oral Toxicity:</b>	Not determined
<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 / 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>	Follow all applicable national or local regulations.

## 14. TRANSPORT INFORMATION

### Land Transportation

**DOT**  
Not restricted  
RQ (Diethanolamine - 2270 kg.)

**DOT (Bulk)**  
UN3082, Environmentally Hazardous Substance, Liquid, N.O.S. (contains Diethanolamine), 9, III  
RQ (Diethanolamine) 45.4 KG

**Canadian TDG**  
Not restricted

**ADR**  
Not restricted

### Air Transportation

**ICAO/IATA**

Not restricted  
RQ (Diethanolamine - 2270 kg.)

**Sea Transportation****IMDG**

Not restricted  
RQ (Diethanolamine - 2270 kg.)

**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: Diethanolamine//111-42-2

**EPA CERCLA/Superfund Reportable Spill Quantity** EPA Reportable Spill Quantity is 588 Gallons based on Diethanolamine (CAS: 111-42-2).

**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** 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\*\*\***