



Material Safety Data Sheet

WHMIS (Pictograms)	WHMIS (Classification)	Protective Clothing
	Not controlled	

Section 1. Chemical Product and Company Identification

Product Name		DRILL ROD HEAVY GREASE		Code	650-265 File # W218
				DSL	On the DSL
Supplier		PETRO-CANADA P.O. Box 2844 Calgary, Alberta T2P 3E3		Print Date: 5/25/99	
Synonym		None		<u>In case of Emergency</u> Petro-Canada Emergency Number: (403) 296-3000 Canotec Transportation Emergency: (613) 996- 6666 Poison Control Centre Numbers: Consult local telephone directory for emergency number(s).	
Chemical Name		Not applicable.			
Chemical Family		Petroleum hydrocarbons			
Chemical Formula		Not applicable.			
Manufacturer		PETRO-CANADA P.O. Box 2544, Petro-Canada Centre Calgary, Alberta T2P 3E3		Material Uses This product is a multi-purpose grease with a wide range of automotive and industrial lubricant applications.	

Section 2. Composition/Information on Ingredients

Name	CAS #	Exposure Limits (ACGIH)			N (%)
		TLV-TWA (8 h)	STEL	CEILING	
Mixture of hydrocracked neutral base oil and additives.	Not applicable	5 mg/m ³ (oil mist)	Not applicable	Not applicable	100

Section 3. Hazards Identification

Potential Acute Health Effects	May irritate the eyes. Non irritating to skin but for prolonged use, protective gloves are recommended. This product has a low vapour pressure and is not expected to present an inhalation exposure at ambient conditions. Upon heating to high temperatures, or mechanical actions which may produce vapours, mists or fumes, inhalation of this product may cause irritation of the breathing passages. Low toxicity on ingestion; has laxative effect and rapidly eliminated. For more information, refer to Section 11.
Potential Chronic Health Effects	Prolonged or repeated contact with this product may cause skin irritation or inflammation, characterized by dermatitis, and oil acne. For more information, refer to Section 11.

Section 4. First Aid Measures

Eye Contact	Check for and remove any contact lenses. IMMEDIATELY flush eyes with running water for at least 15 minutes, keeping eyelids open. Do not use an eye ointment. Seek medical attention if irritation persists.
Skin Contact	Remove contaminated clothing - launder before reuse. Wash gently and thoroughly the contaminated skin with running water and non-abrasive soap. Get medical attention if redness or irritation occurs. High pressure grease gun is capable of injecting grease through the skin. Grease gun injuries require immediate physician assessment.

Continued on Next Page

P. 1/5

DRILL ROD HEAVY GREASE

Page Number: 2

Inhalation	Evacuate the victim to a safe area as soon as possible. If the victim is not breathing, perform mouth-to-mouth resuscitation. Administer oxygen if available. Allow the victim to rest in a well ventilated area. Seek medical attention.
Hazardous Inhalation	No additional information.
Ingestion	DO NOT induce vomiting because of danger of aspirating liquid into lungs. Has laxative effect - rapidly eliminated. Physician assessment advised.
Hazardous Ingestion	No additional information.

Section 5. Fire-fighting Measures

The Product Is	Class II-B - combustible (NFPA).
Auto-Ignition Temperature	318°C (602°F).
Flash Point	OPEN CUP: 252°C (482°F) (Cleveland, ASTM D32).
Flammable Limits	Not available.
Products of Combustion	Carbon oxides (CO, CO ₂), nitrogen oxides (NO _x), smoke and irritating fumes as products of incomplete combustion.
Fire Hazards in Presence of Various Substances	Low fire hazard. This material must be heated before ignition will occur.
Explosion Hazards in Presence of Various Substances	Do not cut, weld, heat, or drill empty containers.
Fire Fighting Media and Instructions	Cool containing vessels with water spray in order to prevent pressure build-up, autoignition or explosion. Shut off fuel to fire if it is possible to do so without hazard. SMALL FIRE: Use DRY chemicals, foam, or CO ₂ . LARGE FIRE: Use water spray, fog or foam. WATER OR FOAM MAY CAUSE FROTHING. Avoid flushing spilled material into sewers, streams or other bodies of water. For small outdoor fires, portable fire extinguishers may be used, and self contained breathing apparatus (SCBA) may not be required. For all indoor fires and any significant outdoor fires, SCBA is required. Respiratory and eye protection are required for fire fighting personnel.
Special Remarks on Fire Hazards	No additional remark.
Special Remarks on Explosion Hazards	No additional remark.

Section 6. Accidental Release Measures

Small Spill	Avoid contact. Contain spill. Use appropriate tools to put the spilled materials in a container for reclaiming or disposal. Check with applicable jurisdictions for specific disposal requirements of material and empty containers. DO NOT FLUSH TO SEWER.
Large Spill	No additional remark.

Section 7. Handling and Storage

Handling	Avoid contact with skin and eyes. Practice good personal hygiene. Wash hands after handling and before eating. Launder work clothes frequently. Discard saturated leather goods.
Storage	Store in tightly closed containers in cool, dry, isolated and well-ventilated area.

Continued on Next Page

DRILL ROD HEAVY GREASE

Page Number: 3

Section 8. Exposure Controls/Personal Protection

Engineering Controls	For normal application, special ventilation is not necessary. If user's operations generate fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit. Make-up air should always be supplied to balance air removed by exhaust ventilation. Ensure that eyewash station and safety shower are close to work-station.
Personal Protection	Wear safety glasses, safety shoes or boots. Wear long sleeved clothing to minimize skin contact. For casual contact, use natural rubber and PVC (polyvinyl chloride). For direct contact for more than 2 hours, NEOPRENE or NITRILE gloves are recommended. Respirator normally not necessary. If mist generated by heating, spraying, etc. wear an organic vapour respirator with a mist filter. All respirators must be NIOSH certified.
Personal Protection in Case of a Large Spill	No additional remarks
Exposure Limits	8-hour TLV-TWA of 5 mg/m ³ recommended by Petro-Canada based on ACGIH TLV for oil mists. Consult local authorities for acceptable exposure limits.

Section 9. Physical and Chemical Properties

Physical State and Appearance	Paste of long fibred texture.	Odor	Wet grease like.
Dropping Point	>195°C (>383°F).	Taste	Not available.
Penetration (@ 25°C)	245 (unworked), 220-250 (60 strokes).	Color	Greenish brown.
Boiling Point	280°C (500°F)		
Melting Point	Not available.		
Specific Gravity	0.89 kg/L @ 15°C (Water = 1).		
Vapor Pressure	0.0010 kPa @ 20°C (0.0075 mmHg @ 68°F).		
Vapor Density	Not available.		
Volatility	Semivolatile.		
Odor Threshold	Not available.		
Oil / Water Dist. Coeff.	Not available.		
Viscosity (@ 40°C)	148-183 cSt.		
Solubility	Insoluble in cold water, soluble in non-polar hydrocarbon solvents.		

Section 10. Stability and Reactivity

Stability	The product is stable under normal conditions of storage.		
Instability Temperature,	Not available.		
Conditions to Avoid	Avoid excessive heat.		
Incompatibility with Various Substances	Highly reactive with oxidizing agents.	Decomposition products:	CO _x , NO _x , oxides of barium, smoke on combustion.
Corrosivity	Not applicable		
Special Remarks on Reactivity	Peroxides, chlorine, strong acids, etc.		
Special Remarks on Corrosivity	No additional remark.		

Continued on Next Page

DRILL ROD HEAVY GREASE

Page Number: 4

Section 11. Toxicological Information

Routes of Entry	Skin contact, eye contact, inhalation, and ingestion.
Toxicity to Animals	Acute oral toxicity (LD50): 5000 mg/kg (rat).
Chronic Effects on Humans	Prolonged or repeated contact with this product may cause skin irritation or inflammation, characterized by dermatitis, and oil acne. For more information, refer to Section 11.
Other Toxic Effects on Humans	May irritate the eyes. Non irritating to skin but for prolonged use, protective gloves are recommended. This product has a low vapour pressure and is not expected to present an inhalation exposure at ambient conditions. Upon heating to high temperatures, or mechanical actions which may produce vapours, mists or fumes, inhalation of this product may cause irritation of the breathing passages. Low toxicity on ingestion; has laxative effect and rapidly eliminated. For more information, refer to Section 11.
Special Remarks on Toxicity to Animals	Based on toxicity of severely hydrotreated paraffinic oil only. Severely hydrotreated base oils are negative when tested by the modified Ames test. Propane-deasphalted residual oils are also negative in the sister chromatid exchange in chinese hamster ovary cells and in the mouse lymphoma forward mutation assay.
Special Remarks on Chronic Effects on Humans	Based on toxicity of hydrotreated paraffinic based oils only. Hydrotreated based oils give negative results when tested for: (a) In vitro cytogenetic assay measuring sister chromatid exchange frequencies in Chinese hamster ovary cells; (b) determination of the mutagenic activity towards Salmonella Typhimurium TA 98 using the Modified Ames Assay.
Special Remarks on Other Toxic Effects on Humans	No additional remark.

Section 12. Ecological Information

Ecotoxicity	No studies were found.
BOD5 and COD	No studies were found.
Products of Biodegradation	No studies were found.
Toxicity of the Products of Biodegradation	No studies were found.
Special Remarks on the Products of Biodegradation	No additional remark.

Section 13. Disposal Considerations

Waste Disposal	Preferred waste management priorities are: (1) recycle or reprocess; (2) incineration with energy recovery; (3) disposal at licensed waste disposal facility. Ensure that disposal or reprocessing is in compliance with government regulations and local disposal regulations.
----------------	---

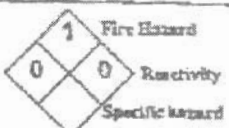
Section 14. Transport Information

TDG Classification	Not controlled under TDG (Canada).
Special Provisions for Transport	No additional remark.

Section 15. Regulatory Information and Pictograms

Other Regulations	All components of this formulation are listed in the Cosmetic Substances List (CSL-Canadian) and in the Toxic Substances Central Inventory (TSCI-US.). This product is not known to contain any of the carcinogens required to be listed under OSHA hazard communication standard, 29 CFR 1910.1203 (U.S.). Not listed in EPCRA or SARA Title II, Section 313, Toxic Chemicals (40 CFR 365). Not listed in CERCLA (40 CFR 302.40). Please note that the chemical identity of some or all of the ingredients that may be listed herein is confidential business information and is being withheld as permitted by 29 CFR 1910.1200 and various State Right to Know Laws.
Other Classifications	WEHMS (Canada): Not controlled

Continued on Next Page

DRILL ROD HEAVY GREASE		Page Number: 5								
DSD/DPD (EKC)		Not classified under the Dangerous Substances or Dangerous Preparations Directives.								
WHMIS (Canada) (Pictograms)										
HMIS (U.S.A.)	<table border="1"> <tr> <td>Health Hazard</td> <td>0</td> </tr> <tr> <td>Fire Hazard</td> <td>1</td> </tr> <tr> <td>Reactivity</td> <td>0</td> </tr> <tr> <td>Personal Protection</td> <td>a</td> </tr> </table>	Health Hazard	0	Fire Hazard	1	Reactivity	0	Personal Protection	a	NFPA (U.S.A.) 
Health Hazard	0									
Fire Hazard	1									
Reactivity	0									
Personal Protection	a									
DSD/DPD (Europe) (Pictograms)										
TDG (Canada) (pictograms)										
DOT (U.S.A.) (Pictograms)										
Protective Clothing (Pictograms)	 									

Section 16. Other Information	
References	Available upon request.
Other Special Considerations	No additional remark.
Prepared by May on 5/7/96.	Data entry by May Chau. Print Date: 5/25/99.
Information Contact	Petro-Canada Product Safety Coordinator (403) 296-4410
<i>To the best of our knowledge, the information contained herein is accurate. However, neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.</i>	



Material Safety Data Sheet

WHMIS (Pictograms)	WHMIS (Classification)	Protective Clothing
	D-2A	

Section 1. Chemical Product and Company Identification

Product Name	API MODIFIED THREAD COMPOUND		Code	550-775 File # W235
Supplier	PETRO-CANADA P.O. Box 2844 Calgary, Alberta T2P 3E3		DSL	Ingredient(s) are listed.
Synonym	None		Print Date:	5/25/99.
Chemical Name	Not applicable.		In case of Emergency Petro-Canada: 403-296-3000 Genotec Transportation: 613-995-6666 Poison Control Centre: Consult local telephone directory for emergency number(s).	
Chemical Family	Petro-Canada lubricants			
Chemical Formula	Not applicable.			
Manufacturer	PETRO-CANADA P.O. Box 2844 Calgary, Alberta T2P 3E3	Material Uses	API Modified Thread Compound is used in drilling operations for the lubrication of casing, tubing, and line pipe, as protection for threads and as a sealant against drilling fluids.	

Section 2. Composition/Information on Ingredients

Name	CAS #	Exposure Limits (ACGIH)			% (V/V)
		TLV-TWA(8 h)	STEL	CEILING	
Severely hydrotreated paraffinic oil.	72623-85-9	5 mg/m ³ (oil mist)	Not applicable	Not applicable	20-30
Lead (powder)	7439-92-1	0.05 mg/m ³	Not applicable	Not applicable	30-40
Zinc (dust)	7440-66-6	10 mg/m ³	Not applicable	Not applicable	10-15
Graphite (powder)	7782-42-5	None	Not applicable	Not applicable	15-20
Copper (powder)	7440-50-8	1.2 mg/m ³ (dust/mist)	Not applicable	Not applicable	1-5
Aluminum stearate thickener, inhibitor	7429-90-5	None	Not applicable	Not applicable	5-10

Section 3. Hazards Identification.

Potential Acute Health Effects	Mildly irritating to eyes and skin. This product has a low vapour pressure and is not expected to present an inhalation exposure at ambient conditions. Upon heating to high temperatures, or mechanical actions which may produce vapours, mists or fumes, inhalation of this product may cause irritation of the breathing passages. For more information, refer to Section 11.
Potential Chronic Health Effects	Prolonged or repeated contact with skin may cause irritation and possibly dermatitis. Prolonged exposure to leaded grease may cause neurotoxic, embryotoxic and/or reproductive effects. For more information, refer to Section 11.

Continued on Next Page

P. 1/6

API MODIFIED THREAD COMPOUND

Page Number: 2

Section 4. First Aid Measures

Eye Contact	Check for and remove any contact lenses. IMMEDIATELY flush eyes with running water for at least 15 minutes, keeping eyelids open. DO NOT use an eye ointment. Seek medical attention if irritation persists.
Skin Contact	Remove contaminated clothing - launder before reuse. Wash gently and thoroughly the contaminated skin with running water and non-abrasive soap. Get medical attention if redness or irritation occurs. High pressure grease gun is capable of injecting grease through the skin. Grease gun injuries require immediate physician assessment.
Inhalation	Evacuate the victim to a safe area as soon as possible. If the victim is not breathing, perform mouth-to-mouth resuscitation. Administer oxygen if available. Allow the victim to rest in a well ventilated area. Seek medical attention.
Hazardous Inhalation	No additional information.
Ingestion	DO NOT induce vomiting because of danger of aspirating liquid into lungs. Physician assessment advised.
Hazardous Ingestion	No additional information.

Section 5. Fire-fighting Measures

The Product is:	Nonflammable, but will burn on prolonged exposure to flame or high temperature.
Auto-Ignition Temperature	385°C (683°F)
Flash Points	OPEN CUP: 221°C (430°F) (Cleveland, ASTM D32)
Flammable Limits	Not applicable.
Products of Combustion	Carbon oxides (CO, CO ₂), smoke and irritating fumes as products of incomplete combustion.
Fire Hazards in Presence of Various Substances	Low fire hazard. Must be moderately heated before ignition will occur. Avoid contact with strong oxidizing agents.
Explosion Hazards in Presence of Various Substances	Do not cut, drill or weld empty containers.
Fire Fighting Media and Instructions	NAERG96, GUIDE 171, Substances (low to moderate hazard). If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (0.5 mile) in all directions; also, consider initial evacuation for 800 meters (0.5 mile) in all directions. DO NOT extinguish a leaking gas flame unless leak can be stopped. Shut off fuel to fire if it is possible to do so without hazard. If this is impossible, withdraw from area and let fire burn out under controlled conditions. Withdraw immediately in case of rising sound from venting safety device or any discoloration of tank due to fire. Cool containing vessels with water spray in order to prevent pressure buildup, boiling liquid expansion, or explosion. SMALL FIRE: use DRY chemicals, foam, or CO ₂ . LARGE FIRE: use water spray, fog or foam. For small outdoor fires, portable fire extinguishers may be used and self contained breathing apparatus (SCBA) may not be required. For all indoor fires and any significant outdoor fires, SCBA is required. Respiratory and eye protection are required for fire fighting personnel.
Special Remarks on Fire Hazards	Flash point is typical mineral oil component.
Special Remarks on Explosion Hazards	No additional remark.

Continued on Next Page

API MODIFIED THREAD COMPOUND

Page Number: 2

Section 6. Accidental Release Measures

Small Spill:	Avoid contact. ELIMINATE ALL IGNITION SOURCES; no flames, smoking or flames in hazard area. Stop leak if without risk. Contain spill. Absorb with inert absorbent such as dry clay, diatomaceous earth, or commercial sorbents. Place used absorbent and rags in closed metal containers. DO NOT FLUSH TO SEWER. Check with applicable jurisdictions for specific disposal requirements of material and empty containers.
Large Spill:	No additional remarks.

Section 7. Handling and Storage

Handling:	Keep away from sources of ignition. Avoid inhalation of fumes, oil mist and volatile decomposition products if heated excessively such as with a welding torch. Avoid contact with skin and eyes. Practice good personal hygiene. Wash hands after handling and before eating. Launder work clothes frequently. Discard saturated leather goods.
Storage:	Store in tightly closed containers in cool, dry, isolated, well-ventilated area and away from strong oxidizing agents.

Section 8. Exposure Controls/Personal Protection

Engineering Controls:	For normal application, special ventilation is not necessary. If user's operations generate fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit. Make-up air should always be supplied to balance air removed by exhaust ventilation. Ensure that eyewash station and safety shower are close to work-station.
Personal Protection:	Wear safety glasses, safety shoes or boots. Wear long sleeved clothing to minimize skin contact. For casual contact, use natural rubber and PVC (polyvinyl chloride). For direct contact for more than 2 hours, NEOPRENE or NITRILE gloves are recommended. Respirator normally not necessary. If mist generated by heating, spraying, etc. wear an organic vapour respirator with a mist filter. All respirators must be NIOSH certified.
Personal Protection in Case of a Large Spill:	No additional remarks
Exposure Limits:	8-hour TLV-TWA of 0.06 mg/m ³ recommended by Manufacturers based on ACGIH TLV for lead component. Consult local authorities for acceptable exposure limits.

Section 9. Physical and Chemical Properties

Physical State and Appearance:	Buttery smooth semi-solid.	Odor:	Mild grease like.
Dropping Point:	99°C (typical).	Taste:	Not available.
Penetration (@ 25°C):	310-340 (60 strokes); 200 (min.) unworked.	Color:	Dark gray.
Boiling Point:	>274°C (>525°F)		
Melting Point:	Not available.		
Specific Gravity:	1.97 kg/L (Water = 1)		
Vapor Pressure:	<0.1 kPa @ 20°C (<0.1 mmHg @ 68°F).		
Vapor Density:	>5		
Volatility:	Non-volatile		
Odor Threshold:	Not available.		
Oil / Water Dist. Coeff.	Not available.		
Viscosity (@ 40°C):	Not available.		
Solubility:	Insoluble in cold water, soluble in non-polar hydrocarbon solvents.		

Continued on Next Page

API MODIFIED THREAD COMPOUND

Page Number: 4

Section 10. Stability and Reactivity

Stability	The product is stable under normal conditions of use and storage.		
Instability Temperature	Not available.		
Conditions to Avoid	Avoid excessive heat. Sources of ignition.		
Incompatibility with Various Substances	Can react with strong organic oxidizing agents.	Decomposition products:	CO ₂ , oxides of lead, zinc, copper, and aluminum; smoke on combustion.
Corrosivity	Non corrosive.		
Special Remarks on Reactivity	Peroxides, chlorine, strong acids, etc.		
Special Remarks on Corrosivity	No additional remark.		

Section 11. Toxicological Information

Routes of Entry	Skin contact, eye contact, and ingestion.
Toxicity to Animals	Acute oral toxicity (LD ₅₀): 5000 mg/kg (rat).
Chronic Effects on Humans	Prolonged or repeated contact with skin may cause irritation and possibly dermatitis. Prolonged exposure to leaded grease may cause neurotoxic, embryotoxic and/or reproductive effects. For more information, refer to Section 11.
Other Toxic Effects on Humans	Mildly irritating to eyes and skin. This product has a low vapour pressure and is not expected to present an inhalation exposure at ambient conditions. Upon heating to high temperatures or mechanical actions which may produce vapours, mists or fumes, inhalation of this product may cause irritation of the breathing passages. For more information, refer to Section 11.
Special Remarks on Toxicity to Animals	No additional remark.
Special Remarks on Chronic Effects on Humans	Toxicity of lead is CUMULATIVE AND IRREVERSIBLE. The major targets for its toxic effects are the peripheral nervous system, the central nervous system (more commonly in children), blood formation, gastrointestinal effects, kidney damage, and reproductive effects in men, women and children.
Special Remarks on Other Toxic Effects on Humans	No additional remark.

Section 12. Ecological Information

Ecotoxicity	Not available.
BOD5 and COD	Not available.
Products of Biodegradation	Not available.
Toxicity of the Products of Biodegradation	No studies were found.
Special Remarks on the Products of Biodegradation	No additional remark.

Continued on Next Page

API MODIFIED THREAD COMPOUND

Page Number: 5

Section 13. Disposal Considerations

Waste Disposal Consult your local or regional authorities. Preferred waste management priorities are: (1) recycle or reprocess; (2) disposal at licensed waste disposal facility. Ensure that disposal or reprocessing is in compliance with government requirements and local disposal regulations.

Section 14. Transport Information

TDG Classification Shipping name: Environmentally hazardous substances, liquid, n.o.s. (lead); Class 9.2 : UN3082, Packing Group: III.

Special Provisions for Transport 109 The consignor must determine legal limit.

Section 15. Regulatory Information and Pictograms

Other Regulations All components of this formulation are listed in the Domestic Substances List (DSL-Canadian) and in the Toxic Substances Control Act Inventory (TSCA-U.S.). Please note that the chemical identity of some or all of the ingredients that may be listed herein is confidential business information and is being withheld as permitted by 29 CFR 1910.1200 and various State Right to Know Laws.

Other Classifications

WHMIS (Canada)	D-2A
DSD/DPD (EEC)	36/38- Irritating to eyes and skin. 23/25- Toxic by inhalation and if swallowed.

WHMIS (Canada)
(Pictograms)



HMIS (U.S.A.)

Health Hazard	2
Fire Hazard	1
Reactivity	0
Personal Protection	0

NFPA (U.S.A.)

Health		1	Fire Hazard
		0	Reactivity
			Specific hazard

DSD/DPD (Europe)
(Pictograms)



TDG (Canada)
(pictograms)



DOT (U.S.A.)
(Pictograms)



Protective Clothing
(Pictograms)



API MODIFIED THREAD COMPOUND

Page Number: 6

Section 16. Other Information

References Available upon request.

Other Special
Considerations No additional remarks.

Prepared by May Chau on 8/24/98.

Data entry by May Chau.

Print Date: 5/25/99.

Information
Contact Western Canada, telephone: 1-800-661-1199; fax: 1-800-378-4518
Ontario & Central Canada, telephone: 1-800-268-5850; fax: 1-800-201-6285
Quebec & Eastern Canada, telephone: 1-800-787-5682; fax: 905-403-5528

For Product Safety Information: (905) 896-6720

To the best of our knowledge, the information contained herein is accurate. However, neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

MATERIAL SAFETY DATA SHEET



QUIK-GEL®

00029 1.00 US EA 07.01.1999 MSDS_US

1. PRODUCT AND COMPANY IDENTIFICATION

Product Code	00029
Trade Name	QUIK-GEL®
Generic Description	BENTONITE, SODIUM MONTMORILLONITE (CAS# 1302-78-9)
Manufacturer/Supplier	Barold
Address	P.O. Box 1675 Houston, TX 77251
Phone Number	(281) 871-5900
Emergency Phone Number	(281) 871-5900
Chemtrec Number	(800) 424-9300
MSDS first issued	7 January 1999
MSDS data revised	

2. COMPOSITION INFORMATION ON THE COMPONENTS

Hazardous Components in Preparation for US	Codes	Concentration
Component Name		
SILICA, CRYSTALLINE AS QUARTZ	14306-81-7	3.00 - 6.00

3. HAZARD IDENTIFICATION

Routes of Entry	- Inhalation of dusts - Eye contact - Skin contact
Carcinogenic Status	An ingredient is: - Listed as carcinogenic by IARC
Target Organs	- Eye - Skin - Lung
Health Effects - Eyes	Dust may cause slight transient irritation.
Health Effects - Skin	Material may cause slight irritation on prolonged or repeated contact.
Health Effects - Ingestion	Swallowing may have the following effects: - Irritation of mouth, throat and digestive tract.
Health Effects - Inhalation	Exposure to dust may have the following effects: - Irritation of nose, throat and respiratory tract. Prolonged inhalation of dust may result in cancerous and noncancerous lung disease. Crystalline silica inhaled in the form of quartz or cristobalite from occupational sources is carcinogenic to humans.

MATERIAL SAFETY DATA SHEET



QUICK-GEL®

00029 1.00 US EA 07.01.1996 MSDS_US

4. FIRST AID MEASURES

First Aid - Eyes	Immediately flood the eye with plenty of water for at least 15 minutes, holding the eye open. Obtain medical attention if soreness or redness persists.
First Aid - Skin	Wash skin thoroughly with soap and water.
First Aid - Ingestion	Wash out mouth with water.
First Aid - Inhalation	Remove from exposure. If there is difficulty in breathing, give oxygen. Seek medical attention if symptoms persist.
Advice to Physicians	Treat symptomatically.

5. FIRE FIGHTING MEASURES

Extinguishing Media	Not combustible. Select extinguishing agent appropriate to other materials involved.
Special Hazards of Product	Avoid the formation of dust clouds.
Protective Equipment for Fire Fighting	No specific measures necessary.

6. ACCIDENTAL RELEASE MEASURES

Spill Procedures	Avoid creating a dust. Sweep or preferably vacuum up and collect in suitable containers for recovery or disposal. Avoid accumulation of dust.
Personal Precautions	Wear appropriate protective clothing. Wear respiratory protection. Material can create slippery conditions underfoot.
Environmental Precautions	No specific measures necessary.

7. HANDLING AND STORAGE

Handling ⁽¹⁾	Avoid creating a dust. Use in well ventilated area. Avoid inhaling dust.
Storage	Store in original containers. Storage area should be: - cool - dry - well ventilated - under cover

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational Exposure Standards	
SILICA, CRYSTALLINE AS	OSHA (respirable): 10 mg/m ³ / %SiO ₂ + 2
QUARTZ	OSHA (Total Dust): 30 mg/m ³ / %SiO ₂ + 2
	Dust, respirable:

MATERIAL SAFETY DATA SHEET



QUIK-GEL®

00029 1.00 US EA 07.01.1999 MSDS_US

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Control Measures	ACGIH: TLV 0.1mg/m3 8h TWA. UK EH40: MEL 0.4mg/m3 8h TVVA. Engineering methods to prevent or control exposure are preferred. Methods include process or personnel enclosure, mechanical ventilation (dilution and local exhaust), and control of process conditions. If engineering controls and work practices are not effective in preventing or controlling exposure, then suitable personal protective equipment, which is known to perform satisfactorily, should be used. Use of the basic principles of industrial hygiene will enable this material to be used safely.
Respiratory Protection	The specific respirator selected must be based on the airborne concentration found in the workplace and must not exceed the working limits of the respirator.
Hand Protection	Work gloves
Eye Protection	Dust tight goggles.
Body Protection	Normal work wear. - overall or apron

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Powder
Color	Light Brown - Grey
Odor	Odorless
pH	Not applicable.
Specific Gravity	2.5
Boiling Range/Point (°C/F)	Not determined.
Flash Point (PMCC) (°C/F)	None.
Explosion Limits (%)	None.
Vapor Pressure	Not applicable.
Density (g/l)	47.6 lb/lb at 20 °C. (loose)
Solubility in Water	Not applicable.
Vapor Density (Air = 1)	Not applicable.
Evaporation Rate	Not applicable.
VOC (g/l)	0

10. STABILITY AND REACTIVITY

Stability	Stable under normal conditions.
Materials to Avoid	None known.

MATERIAL SAFETY DATA SHEET



QUIK-GEL™

00029 1.00 US EA 07.01.1999 MSDS_LS

10. STABILITY AND REACTIVITY

Hazardous Polymerization	Will not occur.
Hazardous Decomposition Products	None known.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity	Low order of acute toxicity predicted.
Chronic Toxicity/Carcinogenicity	IARC assessment: one of the components of this product is carcinogenic to humans (Group 1).
Genotoxicity	No relevant studies identified.
Reproductive/Developmental Toxicity	No relevant studies identified.

12. ECOLOGICAL INFORMATION

Mobility	The product is insoluble in water.
Persistence/Degradability	No relevant studies identified.
Bio-accumulation	No relevant studies identified.
Ecotoxicity	No relevant studies identified.

13. DISPOSAL

Product Disposal	Dispose of in accordance with all applicable local and national regulations.
Container Disposal	Dispose of containers with care.

14. TRANSPORT INFORMATION

DOT GFR 172.101 Data	Proper Shipping Name: Not Regulated
UN Proper Shipping Name	Not Regulated
UN Class	None.
UN Number	None.

15. REGULATORY INFORMATION

TSCA Listed	Yes.
MA Right To Know Law	Listed.

MATERIAL SAFETY DATA SHEET



QUIK-GEL®

00029 1.00 US EA 07.01.1999 MSDS_US

15. REGULATORY INFORMATION

PA Right To Know Law	Listed
NJ Right to Know Law	Listed
California Proposition 65	This product contains the following chemicals that have been found by the State of California to cause cancer, birth defects or other reproductive harm: - Silica, crystalline
SARA Title III Sect. 302 (EHS)	Not listed.
SARA Title III Sect. 311/312 Categorization	Delayed (Chronic) Health Hazard
SARA Title III Sect. 313	This product does not contain a chemical which is listed in Section 313 at or above the minimum concentrations.

16. OTHER INFORMATION

NFPA Ratings	NFPA Code for Health 1 NFPA Code for Flammability 0 NFPA Code for Reactivity 0
Abbreviations	® Registered trademark of Baroid Technology (TM) Trademark of Halliburton Energy Services N/A. Denotes no applicable information found or available CAS# Chemical Abstracts Service Number ACGIH: American Conference of Governmental Industrial Hygienists OSHA: Occupational Safety and Health Administration TLV: Threshold Limit Value PEL: Permissible Exposure Limit STEL: Short Term Exposure Limit NTP: National Toxicology Program IARC: International Agency for Research on Cancer R: Risk S: Safety LC50: Lethal Concentration 50% LD50: Lethal Dose 50% BOD: Biological Oxygen Demand K _{OC} : Soil Organic Carbon Partition Coefficient
Prepared By:	Environmental Services

All information recommendations and suggestions herein concerning our product are based on tests and data believed to be reliable. However, it is the user's responsibility to determine the safety, toxicity and suitability for his own use of the product described herein. Since the actual use by others is beyond our control, no guarantees, expressed or implied, is made by Baroid as to the effects of such use, the results to be obtained, or the safety and toxicity of the product nor does Baroid assume any liability arising from the use, by others, of the product referred to herein. Nor is the information herein to be construed as absolutely complete since additional information may be necessary or desirable.

MATERIAL SAFETY DATA SHEET



QUIK-GEL®

00028 1.00 US EA 07.01.1999 MSDS_US

16. OTHER INFORMATION

When particular or exceptional conditions or circumstances exist or because of applicable laws or government regulations.

Baroid Drilling Fluids
MATERIAL SAFETY DATA SHEET

EZ-MUDS

00177 1.0000 24.00 1999 MSDS US

1. PRODUCT AND COMPANY IDENTIFICATION

Product Code
Trade Name
Generic Description-Manufacturer/Supplier
AddressPhone Number
Emergency Phone Number
Chemtrec Number
MSDS first issued
MSDS data revised00177
EZ-MUDS
PARTIALLY HYDROLYZED
POLYACRYLAMIDE
Baroid
P.O. Box 1675
Houston, TX 77251
(281) 871-5900
(281) 871-5900
(800) 424-9300
6 January 1999

2. COMPOSITION/INFORMATION ON THE COMPONENTS

Hazardous Components in Preparation for US

Component Name	Code	Concentration
PETROLEUM DISTILLATE	947-2-41-3	24.00
HYDROTREATED LIGHT		

3. HAZARD IDENTIFICATION

Routes of Entry

Carcinogenic Status

Target Organs

Health Effects - Eyes

Health Effects - Skin

Health Effects - Ingestion

- Eye contact - Skin contact -
Inhalation - Ingestion
Not considered carcinogenic by
NTP, IARC, and OSHA
- Eye - Skin - Lung - Central
Nervous System - Blood - Heart
Liquid, mist or vapor may cause
slight transient irritation.
Material may cause slight
irritation on prolonged or
repeated contact.
Swallowing may have the

P.1/6

Health Effects - Inhalation

following effects:

- irritation of mouth, throat and digestive tract

Exposure to vapor may have the following effects:

- irritation of nose, throat and respiratory tract Prolonged or repeated exposure will have the following effects:

- dizziness - drowsiness - headache - damage to the central nervous system - damage to heart muscle - blood disorders

4. FIRST AID MEASURES

First Aid - Eyes

Immediately flood the eye with plenty of water for at least 15 minutes, holding the eye open. Obtain medical attention if soreness or redness persists.

First Aid - Skin

Wash skin thoroughly with soap and water. Contaminated clothing should be washed or dry-cleaned before re-use.

First Aid - Ingestion First Aid - Inhalation

Wash out mouth with water.

Remove from exposure. If there is difficulty in breathing, give oxygen. Seek medical attention if symptoms persist.

Advice to Physicians

Treat symptomatically.

5. FIRE FIGHTING MEASURES

Extinguishing Media

Use water spray, foam, dry chemical or carbon dioxide. Keep containers and surroundings cool with water spray.

Special Hazards of Product Protective Equipment for Fire-Fighting

None known.

Wear full protective clothing and self-contained breathing apparatus.

6. ACCIDENTAL RELEASE MEASURES

Spill Procedures

Contain and absorb using earth, sand or other inert material.

Transfer into suitable containers for recovery or disposal.

Personal Precautions

Wear appropriate protective clothing. Wear respiratory protection. Material can create slippery conditions underfoot.

Environmental Precautions

None known.