

MATERIAL SAFETY DATA SHEET

MSDS No. 10094

Trade Name: POLY-PLUS*

Revision Date: 05/24/2011

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Trade Name: POLY-PLUS*

Chemical Family: Mixture

Product Use: Drilling fluid additive. Shale control agent.

Supplied by: M-I L.L.C.
P.O. Box 42842
Houston, TX 77242
www.miswaco.slb.com

Telephone Number: 281-561-1509

Emergency Telephone (24 hr.): 281-561-1600

Prepared by: Product Safety Group

Revision No. 9

HMIS Rating

Health: 1 **Flammability:** 1 **Physical Hazard:** 0 **PPE:** J

4=Severe, 3=Serious, 2=Moderate, 1=Slight, 0=Minimal Hazard. *Chronic effects - See Section 11. See Section 8 for Personal Protective Equipment recommendations.

2. HAZARDS IDENTIFICATION

Emergency Overview: Caution! May cause eye, skin and respiratory tract irritation. Vapors or mists may cause central nervous system (CNS) effects if inhaled.

Canadian Classification:

UN PIN No: Not regulated. **WHMIS Class:** D2B

Physical State: Viscous Liquid **Color:** White **Odor:** Hydrocarbon

Potential Health Effects:

Acute Effects

Eye Contact: May irritate eyes.

Skin Contact: May be irritating to the skin. Prolonged or repeated contact may cause defatting of the skin and/or dermatitis (inflammation).

Inhalation: Overexposure to vapors and mists which may be released at high temperatures may cause central nervous system (CNS) effects and respiratory tract irritation.

Ingestion: May cause gastric distress, nausea and vomiting if ingested. Aspiration can be a hazard if this material is swallowed.

Carcinogenicity & Chronic Effects:

See Section 11 - Toxicological Information.

Routes of Exposure:

Eyes. Dermal (skin) contact. Inhalation.

Target Organs/Medical

Eyes. Skin. Respiratory System. Central Nervous System (CNS).

Conditions Aggravated by Overexposure:

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3. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredient	CAS No.	Wt. %	Comments:
Water	7732-18-5	30 - 60	No comments.
Synthetic copolymer		30 - 60	No comments.
Petroleum distillates, hydrotreated light	64742-47-8	10 - 30	No comments.
Ethoxylated fatty alcohol		1 - 5	No comments.

Composition Comments: Component LD50 and LC50 values are provided in Section 11, if available.

4. FIRST AID MEASURES

Eye Contact: Promptly wash eyes with lots of water while lifting eye lids. Look for and remove contact lenses. Continue to rinse for at least 15 minutes. Get medical attention if any discomfort continues.

Skin Contact: Wash skin thoroughly with soap and water. Remove contaminated clothing and launder before reuse. Get medical attention if any discomfort continues.

Inhalation: Move person to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Ingestion: Do not induce vomiting. Dilute with 2 - 3 glasses of water or milk, if conscious. Never give anything by mouth to an unconscious person. Get medical attention.

General notes: Persons seeking medical attention should carry a copy of this MSDS with them.

Notes To Physician: Aspiration may cause severe lung damage. Evacuate stomach in a way which avoids aspiration.

5. FIRE FIGHTING MEASURES

Flammable Properties

Flash Point: F (C): >200F (93C)
Flash Point Method: PMCC
Flammable Limits in Air - Lower (%): ND
Flammable Limits in Air - Upper (%): ND
Autoignition Temperature: F (C): ND
Explosion Data - Sensitivity to Mechanical Impact: NA
Explosion Data - Sensitivity to Static Discharge: If applicable, information is provided in Section 5 Special Fire-Fighting Procedures, Other Flammable Properties and Section 6 Spill Procedures.

Flammability Class: IIIB
Extinguishing Media: Water fog, carbon dioxide, foam, dry chemical.

Protection Of Fire-Fighters:

Special Fire-Fighting Procedures: Do not enter fire area without proper personal protective equipment, including NIOSH/MSHA approved self-contained breathing apparatus. Evacuate area and fight fire from a safe distance. Water spray may be used to keep fire-exposed containers cool. Keep water run off out of sewers and waterways.

Hazardous Combustion Products: Oxides of carbon and nitrogen.

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Conditions of Flammability: Products are classified as flammable/combustible based on flash point as defined in the Health Canada Controlled Products Regulations, U.S. Occupational Health and Safety Administration Hazard Communication Standard and transportation regulations. See Sections 1, 2, 5, 14 and 15 for flammable/combustible classification information. Flammable/combustible materials may ignite and burn if exposed to a flame or other sources of ignition.

Other Flammable Properties: ND

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions: Use personal protective equipment identified in Section 8.

Spill Procedures: Contain spilled material. Shut off leak if it can be done safely. Extinguish all ignition sources. Avoid sparks, flames, heat and smoking. If released into the environment, take all reasonable measures to repair, remedy and confine the effects of the substance. Remediate, manage, remove or otherwise dispose of the substance in accordance with applicable laws and regulations. Spilled product is very slippery. Absorb in vermiculite, dry sand or earth. Place into containers for disposal.

Environmental Precautions: Waste must be disposed of in accordance with federal, state and local laws. In the U.S., for products with reportable quantity (RQ) components - if the RQ is exceeded, report to National Spill Response Office at 1 800 424 8802.

7. HANDLING AND STORAGE

Handling: Put on appropriate personal protective equipment. Avoid contact with skin and eyes. Avoid breathing vapors or spray mists. Use only in a well ventilated area. Spilled product is very slippery. Wash thoroughly after handling.

Storage: Store in dry, well-ventilated area. Keep container closed. Keep away from heat, sparks and flames. Store away from incompatibles. Follow safe warehousing practices regarding palletizing, banding, shrink-wrapping and/or stacking.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Limits (TLV & PEL - 8H TWA):

Ingredient	CAS No.	Wt. %	ACGIH TLV	OSHA PEL	Other	Notes
Water	7732-18-5	30 - 60	NA	NA	NA	None
Synthetic copolymer		30 - 60	NA	NA	NA	None
Petroleum distillates, hydrotreated light	64742-47-8	10 - 30	NA	NA	NA	(3) Oil mist.
Ethoxylated fatty alcohol		1 - 5	NA	NA	NA	None

Notes

(3) For Oil mist, mineral: ACGIH TLV 5 mg/m³, STEL 10 mg/m³; OSHA PEL 5 mg/m³

Engineering Controls: Local exhaust ventilation as necessary to maintain exposures to within applicable limits.

Personal Protection Equipment

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All chemical Personal Protective Equipment (PPE) should be selected based on an assessment of both the chemical hazards present and the risk of exposure to those hazards. The PPE recommendations below are based on our assessment of the chemical hazards associated with this product. The risk of exposure and need for respiratory protection will vary from workplace to workplace and should be assessed by the user.

Eye/Face Protection: Wear chemical safety goggles.

Skin Protection: Wear appropriate clothing to prevent repeated or prolonged skin contact. Wear chemical resistant gloves such as nitrile or neoprene.

Respiratory Protection: All respiratory protection equipment should be used within a comprehensive respiratory protection program that meets the requirements of 29 CFR 1910.134 (U.S. OSHA Respiratory Protection Standard) or local equivalent.

If exposed to airborne mist/aerosol of this product, use an organic vapor cartridge with a P-95 pre-filter attached. In work environments containing oil mist/aerosol, use an organic vapor cartridge with a P-95 pre-filter attached.

If exposed to vapors from this product, use a NIOSH/MSHA-approved respirator with an organic vapor cartridge.

General Hygiene Considerations: Wash promptly with soap and water if skin becomes contaminated. Change work clothing daily if there is any possibility of contamination.

9. PHYSICAL AND CHEMICAL PROPERTIES

Color:	White
Odor:	Hydrocarbon
Physical State:	Viscous Liquid
pH:	6 - 8
Specific Gravity (H₂O = 1):	1.07 - 1.10
Solubility (Water):	Slightly.
Flash Point: F (C):	>200F (93C)
Melting/Freezing Point:	32F (0C)
Boiling Point:	212F (100C) at 760 mmHg
Pour Point:	-20F (-29C)
Viscosity:	~500 cP
Vapor Pressure:	0.002 mm Hg at 68F (20C)
Vapor Density (Air=1):	ND
Evaporation Rate:	ND
Octanol/Water Partition Coefficient:	ND
Odor Threshold(s):	ND

10. STABILITY AND REACTIVITY

Chemical Stability:	Stable
Conditions to Avoid:	Keep away from heat, sparks and flame.
Materials to Avoid:	Oxidizers.
Conditions of Reactivity:	See Conditions and Materials to Avoid, if applicable.
Hazardous Decomposition Products:	For thermal decomposition products, see Section 5.
Hazardous Polymerization	Will not occur

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11. TOXICOLOGICAL INFORMATION

Acute Exposure Effects, Irritation and Sensitization: See Section 2.

Chronic, Carcinogenicity, Reproductive Toxicity, Teratogenicity, Embryotoxicity, Mutagenicity Effects: See Component Toxicological Summary and Product Toxicological Information, if available.

Synergistic Products/Effects: ND

Component Toxicological Data: Any adverse component toxicological effects and acute toxicity values (LD50s, LC50s) are listed below. If no effects or acute values are listed for components, no such data were identified.

Ingredient	CAS No.	Acute Data
Petroleum distillates, hydrotreated light	64742-47-8	Oral LD50: >5000 mg/kg (rat); Dermal LD50: >2000 mg/kg (rabbit); Inhalation LC50: >5.2 mg/l/4H (rat)

Product Toxicological Information: This product may contain trace amounts of acrylamide (< 0.1%). Acrylamide (CAS 79-06-1) has been classified by the International Agency for Research on Cancer (IARC) as a Group 2A carcinogen (probably carcinogenic to humans) and a suspect carcinogen by the National Toxicology Program (NTP). (LOLI). Acrylamide is included on the California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65) list of substances "known to cause cancer".

12. ECOLOGICAL INFORMATION

Component Ecotoxicity Data: Component ecotoxicity data are listed below. If no data are listed, none were found in the component review.

Ingredient	CAS No.	Data
Petroleum distillates, hydrotreated light	64742-47-8	LC50 96H flow-through: 45 mg/l (Pimephales promelas (fathead minnow)); LC50 96H static: 2.2 mg/l (Lepomis macrochirus (bluegill)); LC50 96H static: 2.4 mg/l (Oncorhynchus mykiss (rainbow trout)); LC50 96H static: 4720 mg/l (Dendronereides heteropodia (polychaete))

Product Ecotoxicity Data: Contact M-I Environmental Affairs Department for available product ecotoxicity data.

Biodegradation: ND

Bioaccumulation: ND

13. DISPOSAL CONSIDERATIONS

Waste Classification: ND

Waste Management: Under U.S. Environmental Protection Agency (EPA) Resource Conservation and Recovery Act (RCRA), it is the responsibility of the user to determine at the time of disposal, whether the product meets RCRA criteria for the hazardous waste. This is because product uses, transformations, mixtures, processes, etc., may render the resulting materials hazardous. Empty containers retain residues. All labeled precautions must be observed.

Disposal Method: Recover and reclaim or recycle, if practical. Should this product become a waste, dispose of in a permitted industrial landfill. Ensure that the containers are empty by the RCRA criteria prior to disposal in a permitted industrial landfill.

14. TRANSPORT INFORMATION

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U.S. DOT

Shipping Description:

Not regulated for transportation by DOT, TDG, IMDG, ICAO/IATA.

Canada TDG Shipping Description:

Not regulated.

UN PIN No:

Not regulated.

IMDG Shipping Description:

Not regulated.

ICAO/IATA Shipping Description:

Not regulated.

15. REGULATORY INFORMATION

U.S. Federal and State Regulations

SARA 311/312 Hazard Categories: Immediate (acute) health hazard.

SARA 302/304, 313; CERCLA RQ, California Proposition 65: Note: If no components are listed below, this product is not subject to the referenced SARA and CERCLA regulations and is not known to contain a Proposition 65 listed chemical at a level that is expected to pose a significant risk under anticipated use conditions.

International Chemical Inventories

Australia AICS - Components are listed or exempt from listing.
Canada DSL - Components are listed or exempt from listing.
China Inventory - Components are listed or exempt from listing.
European Union EINECS/ELINCS - Components are listed or exempt from listing.
Japan METI ENCS - Components are listed or exempt from listing.
Korea TCCL ECL - Components are listed or exempt from listing.
New Zealand - Components are listed or exempt from listing.
Philippine PICCS - Components are listed or exempt from listing.
U.S. TSCA - Components are listed or exempt from listing.
U.S. TSCA - No components are subject to TSCA 12(b) export notification requirements.

Canadian Classification:

Controlled Products Regulations Statement: This product has been classified in accordance with the hazard criteria of the CPR and the MSDS contains all the information required by the CPR.

WHMIS Class:

D2B

16. OTHER INFORMATION

The following sections have been revised: 1, 3, 5, 8, 9, 11, 12, 16.

NA - Not Applicable, ND - Not Determined.

*A mark of M-I L.L.C.

Disclaimer:

MSDS furnished independent of product sale. While every effort has been made to accurately describe this product, some of the data are obtained from sources beyond our direct supervision. We can not make any assertions as to its reliability or completeness; therefore, user may rely on it only at user's risk. We have made no effort to censor or conceal deleterious aspects of this product. Since we cannot anticipate or control the conditions under which this information and product may be used, we make no guarantee that the precautions we have suggested will be adequate for all individuals and/or situations. It is the obligation of each user of this product to comply with the requirements of all applicable laws regarding use and disposal of this product. Additional information will be furnished upon request to assist the user; however, no warranty, either expressed or implied, nor liability of any nature with respect to this product or to the data herein is made or incurred hereunder.