



A Schlumberger Company

MATERIAL SAFETY DATA SHEET

MSDS No. 10130

Trade Name: PIPE-LAX*

Revision Date: 01/07/2011

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Trade Name: PIPE-LAX*

Chemical Family: Mixture
Product Use: Drilling fluid additive.

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

Telephone Number: 281-561-1512
Emergency Telephone (24 hr.): 281-561-1600
Prepared by: Product Safety Group

Revision No. 9

HMIS Rating

Health: 2* **Flammability:** 2 **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: Warning! Combustible liquid and vapor. May cause severe eye irritation. May cause skin and respiratory tract irritation. May be harmful if absorbed through skin. Vapors or mists may cause central nervous system (CNS) effects if inhaled. Contains benzene. Cancer hazard.

Canadian Classification:

UN PIN No: UN1993

WHMIS Class: B3 D2A D2B

Physical State: Liquid **Color:** Dark brown. **Odor:** Hydrocarbon

Potential Health Effects:

Acute Effects

Eye Contact: May cause severe eye irritation.
Skin Contact: May be irritating to the skin. May be harmful if absorbed through skin. Prolonged or repeated contact may cause defatting of the skin and/or dermatitis (inflammation).
Inhalation: Vapors or mists may be irritating to the respiratory tract. May cause central nervous system (CNS) effects.
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. Dermal (skin) absorption. Inhalation.
Target Organs/Medical Conditions Aggravated by Overexposure: Eyes. Skin. Respiratory System. Central Nervous System (CNS).

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3. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredient	CAS No.	Wt. %	Comments:
Fuel Oil	68476-30-2	60 - 100	Various CASs.
n-Butyl alcohol	71-36-3	5 - 10	No comments.
Vegetable oil		1 - 5	No comments.
Naphthalene	91-20-3	0.1 - 1	No comments.
Xylenes	1330-20-7	0.1 - 1	No comments.
Benzene	71-43-2	0.1 - 1	No comments.

4. FIRST AID MEASURES

Eye Contact:	Immediately flush eyes with large amounts of water. Look for and remove contact lenses. Continue to rinse for at least 15 minutes. Seek immediate medical attention.
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 immediate 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):	100F (38C)
Flash Point Method:	PMCC
Flammable Limits in Air - Lower (%):	ND
Flammable Limits in Air - Upper (%):	ND
Autoignition Temperature: F (C):	ND
Flammability Class:	II
Other Flammable Properties:	ND
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. Note that flammable vapors may form an ignitable mixture with air. Vapors may travel considerable distances and flash back if ignited.

Hazardous Combustion Products: Oxides of: Carbon.

6. ACCIDENTAL RELEASE MEASURES

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

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Spill Procedures: Evacuate the spill area with the exception of the spill response team. Keep personnel removed and upwind of spill. Extinguish all ignition sources. Avoid sparks, flames, heat and smoking. Shut off leak if it can be done safely. Contain spilled material. Do not allow spilled material to enter sewers, storm drains or surface waters. Absorb in vermiculite, dry sand or earth. Place into containers for disposal. Use non-sparking or explosion proof means to transfer material to containers. Note that flammable/combustible vapors may form an ignitable mixture with air. Vapors may travel considerable distances from spill and flash back, if ignited.

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. Ground and bond containers when transferring material. 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
Fuel Oil	68476-30-2	60 - 100	100 mg/m ³	NA	NA	(skin)
n-Butyl alcohol	71-36-3	5 - 10	20 ppm	100 ppm	50 ppm ceiling, 1400 ppm IDLH (NIOSH)	None
Vegetable oil		1 - 5	NA	NA	NA	(3) Oil mist.
Naphthalene	91-20-3	0.1 - 1	10 ppm 15 ppm STEL	10 ppm	250 ppm IDLH (NIOSH)	(skin)
Xylenes	1330-20-7	0.1 - 1	100 ppm, 150 ppm STEL	100 ppm	NA	None
Benzene	71-43-2	0.1 - 1	0.5 ppm; 2.5 ppm STEL	1 ppm; 5 ppm STEL; 25 ppm ceiling; 50 ppm peak	NA	(skin) (10)

Notes

(skin) Potential for cutaneous absorption.

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

(10) Benzene is specifically regulated by U.S. OSHA standard 29 CFR 1910.1028.

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 at least a NIOSH-approved N95 half-mask disposable or re-usable particulate respirator. In work environments containing oil mist/aerosol, use at least a NIOSH-approved P95 half-mask disposable or reuseable particulate respirator.

If exposed to vapors from this product use a NIOSH/MSHA-approved respirator with an Organic Vapor cartridge.

General Hygiene Considerations: Work clothes should be washed separately at the end of each work day. Disposable clothing should be discarded, if contaminated with product.

9. PHYSICAL AND CHEMICAL PROPERTIES

Color:	Dark brown.
Odor:	Hydrocarbon
Physical State:	Liquid
pH:	5.6 - 6.6 (1% solution)
Specific Gravity (H₂O = 1):	0.9 g/cc at 68F (20C)
Solubility (Water):	Slightly.
Flash Point: F (C):	100F (38C)
Melting/Freezing Point:	ND
Boiling Point:	ND
Pour Point:	<15 F (-9 C)
Vapor Pressure:	ND
Vapor Density (Air=1):	ND
Evaporation Rate:	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. Acids. Alkalies.
Hazardous Decomposition Products:	For thermal decomposition products, see Section 5.
Hazardous Polymerization	Will not occur

11. TOXICOLOGICAL INFORMATION

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Component Toxicological Data: Any adverse component toxicological effects are listed below. If no effects are listed, no such data were found.

Ingredient	CAS No.	Acute Data
Fuel Oil	68476-30-2	Oral LD50 : 12000 mg/kg (rat)
n-Butyl alcohol	71-36-3	Oral LD50: 0.79 - 4.36 g/kg (rat); Dermal LD50: 3.4 - 5.3 g/kg (rabbit); Inhalation LC50: >8000 ppm/4H (rat)
Naphthalene	91-20-3	Oral LD50: 490 mg/kg (rat); Dermal LD50: >20 g/kg (rabbit); Inhalation LC50: 340 mg/m ³ /1H (rat) (RTECS)
Xylenes	1330-20-7	Oral LD50: 1590 - 8600 mg/kg (rat); Dermal LD50: 1700 - >43,000 mg/kg (rabbit); Inhalation LC50: 5000 - 6700 ppm/4H (rat) (RTECS)
Benzene	71-43-2	Oral LD50: 690 mg/kg (rat) Dermal LD50: >8260 mg/kg (rabbit) Inhalation LC50: 13050 ppm/4H (rat)

Ingredient	Component Toxicological Summary
Fuel Oil	<p>A review of Fuel Oils by the International Agency for Research on Cancer (IARC) concluded that distillate (light) fuel oils, such as Fuel Oil No. 2, were not classifiable as to their carcinogenicity to humans (IARC Group 3). (IARC Vol 45, 1989) Fuel Oil No. 2 has produced mixed results in mutagenicity assays. (HSDB)</p> <p>ACGIH has classified diesel fuel an A3 (confirmed carcinogen with unknown relevance to humans (as total hydrocarbons)).</p> <p>The IARC has designated diesel fuel exhaust a Group 2B (possibly carcinogenic to humans) (overall evaluation upgraded from 3 to 2B with supporting evidence). This designation was based on sufficient evidence in animals and insufficient evidence of carcinogenicity in humans (IARC Vol. 45, 1989).</p>

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Ingredient	Component Toxicological Summary
n-Butyl alcohol	In an inhalation developmental toxicity study, rats were exposed 7H/day to 0, 3500, 6000 or 8000 ppm butanol. Maternal toxicity and fetotoxicity were observed at 6000 and 8000 ppm. A slight increase in skeletal abnormalities was observed at 8000 ppm, a dose which caused 10% maternal deaths. The no effect concentration for developmental toxicity was 3500 ppm. In a behavioral teratology study, rats were exposed 7H/day to 0, 3000 or 6000 ppm. Significant effects were not observed. Rats were exposed orally via gavage to doses of 0, 30, 125 and 500 mg/kg/day for 13 weeks. Central nervous system (CNS) effects were observed in the high dose animals during the final 6 weeks of dosing. The no observed adverse effect level was 125 mg/kg/day. In another study, liver effects were observed when rats were exposed to 6.9% butanol in drinking water for 3 months. (Vendor MSDS)
Naphthalene	Naphthalene, a common component of aromatic hydrocarbon solvents, has caused respiratory tumors in laboratory animals. Available data are considered inadequate, however, to determine carcinogenic potential of naphthalene to humans. (HSDB) The International Agency for Research on Cancer (IARC) has classified naphthalene as a Group 2B carcinogen (sufficient evidence in animals for carcinogenicity, inadequate evidence in humans) (Vol 82 (2002)). The National Toxicology Program (NTP) has classified naphthalene as reasonably anticipated to be a human carcinogen.
Xylenes	Chronic exposure to xylenes may cause reversible eye damage, dyspnea (shortness of breath), central nervous system (CNS) effect, memory loss, anorexia (loss of appetite), ringing in the ears and liver and kidney effects. (Hazardtext) Overexposure to xylene vapors or solvent abuse may cause irregular heartbeat which could lead to death. (Vendor MSDSs) Reproductive and developmental effects were observed in rats exposed to xylene. Effects were primarily reported at levels which were maternally toxic. (HSDB)
Benzene	This component has been classified by the International Agency for Research on Cancer (IARC) as a Group 1 carcinogen (sufficient evidence of causing cancer in humans). This component is a known human carcinogen and may cause leukemia (AML - acute myelogenous leukemia), damage to the blood-producing systems, and serious blood disorders from prolonged, high exposure based on human epidemiology studies. There is genetic and immunological effects in laboratory animals and human studies. Fetal toxicity in laboratory animal studies is also exhibited, but does not impair fertility. OSHA has recognized this component as a cancer hazard and regulates it under 29 CFR 1910.1028. ACGIH has recognized this component as a A1 carcinogen, confirmed human carcinogen.

Product Toxicological Information:

No toxicological data is available for this product.

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
Fuel Oil	68476-30-2	LC50: 35 mg/l (Pimephales promelas)

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Ingredient	CAS No.	Data
n-Butyl alcohol	71-36-3	LC50 96H static: 1510 mg/l (fathead minnow); EC50 5M: 2056 mg/l, EC50 30M: 2186 mg/l (Photobacterium phosphoreum); LC50 48H static: 14.8 mmol/l (Spirostomum ambiguum (protozoa))
Naphthalene	91-20-3	LC50 96H: 6.14 mg/l (fathead minnow); LC50 96H: 1.60 mg/l (rainbow trout (juvenile)); LC50 96H (static): 1.24 mg/l (pink salmon (fry)); EC50 30M: 0.93 mg/l (Photobacterium phosphoreum); EC50 48H: 2.16 mg/l (water flea)
Xylenes	1330-20-7	LC50 96H: 13.4 mg/l (fathead minnow); LC50 96H: 8.05 mg/l (rainbow trout); LC50 96H: 16.1 mg/l (bluegill); EC50 24H: 3.82 mg/l (water flea); EC50 24H: 0.0084 mg/l (Photobacterium phosphoreum)
Benzene	71-43-2	LC50 72 H: 29 ppm (Selenastrum capricornutum) EC50 48H: 10 mg/l (Daphnia magna)

Product Ecotoxicity Data: Contact M-I Environmental Affairs Department for available product ecotoxicity data.
Biodegradation: ND
Bioaccumulation: ND
Octanol/Water Partition Coefficient: 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

U.S. DOT

Shipping Description:

Flammable liquid, n.o.s., (contains n-butyl alcohol, fuel oil)
Class 3, UN1993, PG III.

Emergency Response Guide No.:

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Other Information:

Flammable liquids with flash points in the range 100 - 141F (38 - 60.5C) may be re-classified as combustible liquids under certain conditions outlined at 49 CFR 173.150.

Canada TDG Shipping Description:

See U.S. Shipping Description.

UN PIN No:

UN1993

IMDG Shipping Description:

See U.S. Shipping Description.

ICAO/IATA Shipping Description:

See U.S. Shipping Description.

15. REGULATORY INFORMATION

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U.S. Federal and State Regulations

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

Ingredient	SARA 302 / TPQs	SARA 313	CERCLA RQ	CA 65 Cancer	CA 65 Dev. Tox.	CA 65 Repro. F	CA 65 Repro. M
n-Butyl alcohol	----	1.0%	5000 lbs (2270 kg)	---	---	---	---
Naphthalene	---	1.0%	100 lbs (45.4 kg)	X	---	---	---
Xylenes	---	1.0%	100 lb (45.4 kg)	---	---	---	---
Benzene	---	0.1%	10 lbs (4.5 kg)	X	X	---	X

State Comments: Proposition 65: This product contains chemical(s) considered by the State of California's Safe Drinking Water and Toxic Enforcement Act of 1986 to cause cancer and/or reproductive toxicity. See table under U.S. Federal and State Regulations for the specific chemicals.

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 - Contains a component that is not listed.
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: B3 D2A D2B

16. OTHER INFORMATION

The following sections have been revised: 1, 2, 3, 4, 5, 6, 8, 11, 12, 14, 15, 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.

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