

EnerLube

SECTION 1. IDENTIFICATION

Product Identifier	EnerLube
Other Means of Identification	Lubricant
Recommended Use	Drilling Fluid Additive.
Manufacturer / Supplier	AES Drilling Fluids, LLC, 11767 Katy Freeway, Suite 230, Houston, TX, 77079, Sales & Information, 281-556-5628
Emergency Phone No.	CHEMTREC, 1-800-424-9300, 24-hour Emergency
Date of Preparation	April 30, 2015

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification

Flammable liquid - Category 4; Acute toxicity (Oral) - Category 4; Acute toxicity (Dermal) - Category 4; Skin corrosion/irritation - Category 2; Serious eye damage/eye irritation - Category 1; Specific target organ toxicity (single exposure) - Category 3; Aspiration hazard - Category 2

GHS Label Elements



Signal Word:

Danger

Hazard Statement(s):

H227	Combustible liquid.
H302	Harmful if swallowed.
H305	May be harmful if swallowed and enters airways.
H312	Harmful in contact with skin.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.

Precautionary Statement(s):

Prevention:

P210	Keep away from flames and hot surfaces. – No smoking.
P264	Wash hands and skin thoroughly after handling.
P261	Avoid breathing vapours, mist, spray.
P270	Do not eat, drink or smoke when using this product.
P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves/protective clothing/eye protection/face protection.

Response:

P301 + P310	IF SWALLOWED: Immediately call a POISON CENTRE/doctor.
P302 + P352	IF ON SKIN: Wash with plenty of water.
P332 + P313	If skin irritation occurs: Get medical advice/attention.

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P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P337 + P313 If eye irritation persists: Get medical advice/attention.

P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P308 + P313 IF exposed or concerned: Get medical advice/attention.

P362 + P364 Take off contaminated clothing and wash it before reuse.

Storage:

P403 + P233 Store in a well-ventilated place. Keep container tightly closed.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No.	%	Other Identifiers
Chemical Intermediate	68187-76-8	1 - 5	
Trade Secret	CBI*	Trade Secret	
Trade Secret	CBI*	Trade Secret	
Surfactant Blend	9016-45-9	0.1 - 1.0	
Trade Secret	CBI*	Trade Secret	
Trade Secret	CBI*	Trade Secret	

Notes

The specific chemical identity and/or exact percentage of composition (concentration) has been withheld as a trade secret.

CBI = Confidential Business Information.

SECTION 4. FIRST-AID MEASURES

First-aid Measures

Inhalation

Remove source of exposure or move to fresh air. If breathing is difficult, trained personnel should administer emergency oxygen if advised to do so by Poison Centre or doctor. Call a Poison Centre or doctor if you feel unwell or are concerned.

Skin Contact

Immediately rinse with lukewarm, gently flowing water for 15-20 minutes. Take off immediately contaminated clothing, shoes and leather goods (e.g. watchbands, belts). Thoroughly clean clothing, shoes and leather goods before reuse or dispose of safely. Seek medical advice/attention.

Eye Contact

Flush eyes thoroughly with lukewarm water for 15 minutes. Seek medical advice/attention.

Ingestion

Rinse mouth with water. Do not induce vomiting without medical advice. Never give anything by mouth if victim is rapidly losing consciousness, or is unconscious or convulsing. Do not induce vomiting. If vomiting occurs, have victim lean forward to reduce the risk of aspiration. Immediately call a Poison Centre or doctor.

SECTION 5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media

Carbon dioxide, dry chemical powder, appropriate foam, water spray or fog.

Specific Hazards Arising from the Chemical

Can ignite if strongly heated. Closed containers may rupture violently when heated releasing contents.

Special Protective Equipment and Precautions for Fire-fighters

Use water spray to cool containers/tanks. When fighting chemical fires, emergency responders should wear NIOSH approved self contained breathing apparatus.

When fighting chemical fires, emergency responders should wear NIOSH approved self contained breathing apparatus and appropriate protective clothing.

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SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment, and Emergency Procedures

Isolate the hazard area. Keep out unnecessary and unprotected personnel. Use the personal protective equipment recommended in Section 8 of this safety data sheet.

Environmental Precautions

Do not allow into any sewer, on the ground or into any waterway. If the spill is inside a building, prevent product from entering drains, ventilation systems and confined areas. Prevent product from entering drains, soil, ditches, sewers, waterways and/or groundwater.

Methods and Materials for Containment and Cleaning Up

Eliminate all ignition sources. Dike and recover contaminated water for appropriate disposal. Ventilate the area to prevent the gas from accumulating, especially in confined spaces. Contain and soak up spill using noncombustible material such as vermiculite, earth or sand. Store recovered product or absorbent material in suitable containers for disposal according to local regulations.

Other Information

Contact EH&S regarding spill as spills of certain products and certain quantities may require reporting to various authorities.

SECTION 7. HANDLING AND STORAGE

Precautions for Safe Handling

Avoid breathing in this product. Do not get in eyes, on skin or on clothing. Do not eat, drink or smoke in areas where product is handled. Employees should wash hands after working with product and before going on breaks outside of the work area. Wear personal protective equipment to avoid direct contact with this chemical. See Section 8 for appropriate Personal Protective Equipment (PPE). Avoid generating vapours or mists. Eliminate heat and ignition sources such as sparks, open flames, hot surfaces and static discharge. Post "No Smoking" signs. Keep containers tightly closed when not in use or empty.

Conditions for Safe Storage

Store in an area that is: cool, dry, well-ventilated. Away from open flames, excessive heat or sources of ignition. Keep containers tightly closed when not in use.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters

Chemical Name	ACGIH® TLV®		OSHA PEL		AIHA® WEEL™	
	TWA	STEL [C]	TWA	Ceiling	8-hr TWA	Short-term TWA [C]
Trade Secret	Not established		Not established		Not established	
Trade Secret	5 mg/m3		Not established		Not established	
Surfactant Blend	1 mg/m3 Skin A3		Not established		Not established	
Trade Secret	Not established	Not established	Not established	Not established	Not established	Not established
Trade Secret	Not established		Not established		Not established	
Chemical Intermediate	Not established		Not established		Not established	

ACGIH® = American Conference of Governmental Industrial Hygienists. TLV® = Threshold Limit Value. TWA = Time-Weighted Average. OSHA = US Occupational Safety and Health Administration. PEL = Permissible Exposure Limits. AIHA® = AIHA® Guideline Foundation. WEEL™ = Workplace Environmental Exposure Limit.

Appropriate Engineering Controls

Use local exhaust ventilation, if general ventilation is not adequate to control amount in the air. While working with the

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product an eyewash and safety shower should be within acceptable distance to the work area.

Individual Protection Measures

Eye/Face Protection

Safety glasses with side shields are recommended to prevent eye contact. Wear chemical safety goggles if the product could be splashed.

Skin Protection

Wear gloves with appropriate chemical resistance, see manufacturers specifications for suitability. Wear long sleeves, long pants and appropriate footwear while working with product. If a splashing hazard exists wear chemical protective clothing e.g. gloves that extend up arms, aprons, boots.

Respiratory Protection

If conditions exist above the OEL wear a NIOSH approved air-purifying respirator with an appropriate cartridge.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Basic Physical and Chemical Properties

Appearance	Dark amber liquid.
Odour	Faint
Odour Threshold	Not available
pH	Not available
Melting Point/Freezing Point	Not available (melting); Not available (freezing)
Initial Boiling Point/Range	Not available
Flash Point	187.1 °F (86.2 °C)
Evaporation Rate	Not available
Upper/Lower Flammability or Explosive Limit	Not available (upper); Not available (lower)
Vapour Pressure	< 1.0 mm Hg
Vapour Density (air = 1)	Not available
Relative Density (water = 1)	0.90 - 0.91
Solubility	Insoluble in water
Auto-ignition Temperature	Not available
Decomposition Temperature	Not available
Other Information	
Physical State	Liquid

SECTION 10. STABILITY AND REACTIVITY

Reactivity

Not reactive under normal conditions of use.

Chemical Stability

Stable under normal conditions.

Possibility of Hazardous Reactions

Hazardous polymerization may occur under certain conditions of storage or use.

Conditions to Avoid

Open flames, sparks, static discharge, heat and other ignition sources.

Incompatible Materials

Strong oxidizing agents (e.g. perchloric acid), strong reducing agents (e.g. hydrides).

Hazardous Decomposition Products

Oxides of carbon.

SECTION 11. TOXICOLOGICAL INFORMATION

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Likely Routes of Exposure

Inhalation; skin contact; skin absorption; eye contact; ingestion.

Acute Toxicity

Chemical Name	LC50	LD50 (oral)	LD50 (dermal)
Trade Secret	Not available	Not available	Not available
Trade Secret	Not available	> 5000 mg/kg (rat)	> 2000 mg/kg (rabbit)
Surfactant Blend	Not available	Not available	> 2000 mg/kg (rabbit)
Trade Secret	Not available	Not available	Not available
Trade Secret	Not available	Not available	Not available
Chemical Intermediate	Not available	Not available	Not available

LC50: No information was located.

Skin Corrosion/Irritation

May cause skin irritation.

Serious Eye Damage/Irritation

May cause serious eye irritation or corneal injury.

STOT (Specific Target Organ Toxicity) - Single Exposure**Inhalation**

May cause irritation of the respiratory tract.

Skin Absorption

Ingredients of this product may be absorbed through the skin.

Ingestion

May cause irritation of the gastrointestinal tract.

Aspiration Hazard

No information was located.

STOT (Specific Target Organ Toxicity) - Repeated Exposure

Prolonged skin contact may aggravate existing skin conditions such as dermatitis.

Respiratory and/or Skin Sensitization

Not known to be a respiratory sensitizer. Not known to be a skin sensitizer.

Carcinogenicity

Chemical Name	IARC	ACGIH®	NTP	OSHA
Trade Secret	Not Listed	Not Listed	Not Listed	Not Listed
Trade Secret	Not Listed	Not Listed	Not Listed	Not Listed
Surfactant Blend	Group 2B	A3	Not Listed	Not Listed
Trade Secret	Not Listed	Not Listed	Not Listed	Not Listed
Trade Secret	Not Listed	Not Listed	Not Listed	Not Listed
Chemical Intermediate	Not Listed	Not Listed	Not Listed	Not Listed

Conclusions cannot be drawn from the limited studies available.

Key to Abbreviations

IARC = International Agency for Research on Cancer. Group 2B = Possibly carcinogenic to humans. ACGIH® = American Conference of Governmental Industrial Hygienists. A3 = Animal carcinogen. NTP = National Toxicology Program. OSHA = US Occupational Safety and Health Administration.

Reproductive Toxicity**Development of Offspring**

No information was located.

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Sexual Function and Fertility

No information was located.

Germ Cell Mutagenicity

No information was located.

SECTION 12. ECOLOGICAL INFORMATION

Do not allow product to contaminate domestic or irrigation water supplies, lakes, streams, ponds or rivers.

Toxicity

No information was located.

Acute Aquatic Toxicity

Chemical Name	LC50 Fish	EC50 Crustacea	ErC50 Aquatic Plants	ErC50 Algae
Trade Secret	Not available	Not available	Not available	Not available
Trade Secret	2.9 mg/L (Oncorhynchus mykiss (rainbow trout); 96-hour)	Not available	Not available	Not available
Surfactant Blend	Not available	3.3 mg/L (Daphnia magna (water flea); static)	Not available	Not available
Trade Secret	Not available	Not available	Not available	Not available
Trade Secret	Not available	Not available	Not available	Not available
Chemical Intermediate	Not available	Not available	Not available	Not available

Persistence and Degradability

No information was located.

Bioaccumulative Potential

No information was located.

Mobility in Soil

No information was located.

SECTION 13. DISPOSAL CONSIDERATIONS**Disposal Methods**

Dispose of in accordance with all local, state and federal regulations. Not classified as RCRA Hazardous. RCRA WASTE NUMBER: Not Applicable.

SECTION 14. TRANSPORT INFORMATION

Not regulated under US DOT Regulations.

Other Information

This material does not sustain combustion when tested by ASTM-4206 and therefore meets the 49 CFR 173.120(b)(3) exemption from DOT hazmat shipping requirements.

SECTION 15. REGULATORY INFORMATION**Safety, Health and Environmental Regulations****USA****Toxic Substances Control Act (TSCA) Section 8(b)**

All ingredients are on the TSCA Inventory or are exempt from TSCA Inventory requirements under 40 CFR 720.

Additional USA Regulatory Lists

Product does not contain any chemicals subject to the reporting requirement of CERCLA.

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SARA Title III - Section 302: Not applicable.
SARA Title III - Section 311/312: Immediate Health Hazard
SARA Title III - Section 313: None.

SECTION 16. OTHER INFORMATION

NFPA Rating **Health - 2** **Flammability - 2** **Instability - 0**

SDS Prepared By AES Drilling Fluids

Phone No. 281-556-5628

Date of Preparation April 30, 2015

Disclaimer Do not handle or use until precautions on MSDS are read and understood. The information on this form is furnished solely for the purpose of enabling those who transport, handle or use our products to ensure the safety and health of their employees and to comply with various laws and regulations (federal, state and local). We believe the statements, technical information and recommendations contained herein are reliable but, they are given without warranty or guarantee of any kind, express or implied and we assume no responsibility for any loss, damage, direct or consequential, arising out of their use.

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