

## EnerLube III

### SECTION 1. IDENTIFICATION

<b>Product Identifier</b>	EnerLube III
<b>Other Means of Identification</b>	Lubricant
<b>Recommended Use</b>	Drilling Fluid Additive.
<b>Manufacturer / Supplier</b>	AES Drilling Fluids, LLC, 11767 Katy Freeway, Suite 230, Houston, TX, 77079, Sales & Information, 281-556-5628
<b>Emergency Phone No.</b>	CHEMTREC, 1-800-424-9300, 24-hour Emergency
<b>Date of Preparation</b>	May 05, 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 2A; Carcinogenicity - Category 2; Specific target organ toxicity (single exposure) - Category 3; Aspiration hazard - Category 2

#### GHS Label Elements



Signal Word:

Warning

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.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H351	Suspected of causing cancer.

Precautionary Statement(s):

Prevention:

P202	Do not handle until all safety precautions have been read and understood.
P210	Keep away from flames and hot surfaces. – No smoking.
P261	Avoid breathing.
P264	Wash hands and skin thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P280	Wear protective gloves/protective clothing/eye protection/face protection.

Response:

P301 + P310	IF SWALLOWED: Immediately call a POISON CENTRE/doctor.
P304 + P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P308 + P313 IF exposed or concerned: Get medical advice/attention.  
 P302 + P352 IF ON SKIN: Wash with plenty of water.  
 P332 + P313 If skin irritation occurs: Get medical advice/attention.  
 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.  
 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

Mixture:

Chemical Name	CAS No.	%	Other Identifiers
Diethanolamine	111-42-2	0.5-1.5	
Blend of Fatty Amide	CBI*	5-10	
Trade Secret	CBI*	20	
Trade Secret	CBI*	18	
Trade Secret	CBI*	5	
Trade Secret	CBI*	5	
Trade Secret	CBI*	Trade Secret	
Chemical Intermediate	CBI*	2	
Blend of Fatty Acid Amine	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. Get medical advice/attention if you feel unwell or are concerned.

##### Skin Contact

Take off contaminated clothing, shoes and leather goods (e.g. watchbands, belts). Wash gently and thoroughly with lukewarm, gently flowing water and mild soap. If skin irritation occurs get medical advice/attention. Thoroughly clean clothing, shoes and leather goods before reuse or dispose of safely.

##### Eye Contact

Immediately rinse the contaminated eye(s) with lukewarm, gently flowing water for 15-20 minutes, while holding the eyelid(s) open. Remove contact lenses, if present and easy to do. Seek medical advice/attention.

##### Ingestion

Immediately call a Poison Centre or doctor. Rinse mouth with water. Do not induce vomiting without medical advice. If vomiting occurs, have victim lean forward to reduce the risk of aspiration.

### 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

Product can ignite if strongly heated and exposed to open flames. Closed containers may rupture violently when

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heated releasing contents.  
Oxides of carbon.

### 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 and appropriate protective clothing.

## 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. Prevent contamination of waterways or sewers. Do not use absorbents. Contain 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 ingest product. 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. Avoid generating vapours or mists. Eliminate heat and ignition sources such as sparks, open flames, hot surfaces and static discharge. Post "No Smoking" signs. Wear personal protective equipment to avoid direct contact with this chemical. See Section 8 for appropriate Personal Protective Equipment (PPE). 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. Separate from incompatible materials (see Section 10: Stability and Reactivity). 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]
Chemical Intermediate	Not established		Not established		Not established	
Trade Secret	5 mg/m3		Not established		Not established	
Trade Secret	Not established		Not established		Not established	
Blend of Fatty Amide	Not established		Not established		Not established	
Trade Secret	Not established		Not established		Not established	

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Trade Secret	5 mg/m3		5 mg/m3		Not established	
Trade Secret	Not established	Not established	Not established	Not established	Not established	Not established
Diethanolamine	1 mg/m3 Skin		Not established		Not established	
Blend of Fatty Acid Amine	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. OEL values are for Oil Mist. There is no established TLV or OEL's for petroleum distillates.

#### Appropriate Engineering Controls

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

<b>Appearance</b>	Amber liquid.
<b>Odour</b>	Citrus
<b>Odour Threshold</b>	Not available
<b>pH</b>	Not available
<b>Melting Point/Freezing Point</b>	Not available (melting); Not available (freezing)
<b>Initial Boiling Point/Range</b>	Not available
<b>Flash Point</b>	180 °F (82 °C)
<b>Evaporation Rate</b>	Not available
<b>Upper/Lower Flammability or Explosive Limit</b>	Not available (upper); Not available (lower)
<b>Vapour Pressure</b>	Not available
<b>Vapour Density (air = 1)</b>	Not available
<b>Relative Density (water = 1)</b>	0.89
<b>Solubility</b>	Insoluble in water
<b>Partition Coefficient, n-Octanol/Water (Log Kow)</b>	Not available
<b>Auto-ignition Temperature</b>	Not available
<b>Decomposition Temperature</b>	Not available
<b>Other Information</b>	
<b>Physical State</b>	Liquid

## SECTION 10. STABILITY AND REACTIVITY

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**Reactivity**

Not reactive under normal conditions of use.

**Chemical Stability**

Stable under normal conditions.

**Possibility of Hazardous Reactions**

Product will not undergo hazardous polymerization.

**Conditions to Avoid**

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

**Incompatible Materials**

Strong oxidizing agents (e.g. perchloric acid).

**Hazardous Decomposition Products**

Oxides of carbon.

**SECTION 11. TOXICOLOGICAL INFORMATION****Likely Routes of Exposure**

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

**Acute Toxicity**

Chemical Name	LC50	LD50 (oral)	LD50 (dermal)
Chemical Intermediate	Not available	Not available	Not available
Trade Secret	Not available	> 5000 mg/kg (rat)	> 2000 mg/kg (rabbit)
Trade Secret	Not available	Not available	Not available
Blend of Fatty Amide	Not available	Not available	Not available
Trade Secret	Not available	Not available	Not available
Trade Secret	Not available	> 5000 mg/kg (rat)	> 2000 mg/kg (rabbit)
Trade Secret	Not available	Not available	Not available
Diethanolamine	Not available	.62 mg/kg (rat)	7.64 mg/kg (rabbit)
Blend of Fatty Acid Amine	Not available	Not available	Not available

**Skin Corrosion/Irritation**

May cause moderate to severe skin irritation.

**Serious Eye Damage/Irritation**

May cause moderate eye irritation. Symptoms can include: redness, swelling, a burning sensation and blurred vision.

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

May cause irritation of the mucous membranes and upper respiratory tract. May cause depression of the central nervous system.

**Skin Absorption**

Ingredients of this product can be absorbed through the skin.

**Ingestion**

May cause irritation of the mouth, throat and stomach. May cause nausea, vomiting, diarrhea, depression of the central nervous system.

**Aspiration Hazard**

Liquid may be aspirated into the lungs during ingestion or vomiting resulting in lung injury.

**STOT (Specific Target Organ Toxicity) - Repeated Exposure**

Prolonged skin contact may aggravate existing skin conditions such as dermatitis. Prolonged exposures to high vapour concentrations can cause headache, dizziness, nausea, blurred vision and depression of central nervous system. Prolonged or repeated exposures may cause liver and kidney damage.

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## 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
Chemical Intermediate	Not Listed	Not Listed	Not Listed	Not Listed
Trade Secret	Group 3	A4	Known carcinogen	Not Listed
Trade Secret	Not Listed	Not Listed	Not Listed	Not Listed
Blend of Fatty Amide	Not Listed	Not Listed	Not Listed	Not Listed
Trade Secret	Not Listed	Not Listed	Not Listed	Not Listed
Trade Secret	Group 3	A3	Not Listed	Not Listed
Trade Secret	Not Listed	Not Listed	Not Listed	Not Listed
Diethanolamine	Group 2B	A3	Not Listed	Not Listed
Blend of Fatty Acid Amine	Not Listed	Not Listed	Not Listed	Not Listed

May cause cancer.

The National Toxicology Program rates Mineral oils (untreated and mildly treated) as reasonably anticipated human carcinogens.

### Key to Abbreviations

IARC = International Agency for Research on Cancer. Group 2B = Possibly carcinogenic to humans. Group 3 = Not classifiable as to its carcinogenicity to humans. ACGIH® = American Conference of Governmental Industrial Hygienists. A3 = Animal carcinogen. A4 = Not classifiable as a human carcinogen. NTP = National Toxicology Program. OSHA = US Occupational Safety and Health Administration.

## Reproductive Toxicity

### Development of Offspring

No information was located.

### 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
Chemical Intermediate	Not available	Not available	Not available	Not available
Trade Secret	Not available	Not available	Not available	Not available
Trade Secret	Not available	Not available	Not available	Not available
Blend of Fatty Amide	Not available	Not available	Not available	Not available
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
Trade Secret	Not available	Not available	Not available	Not available
Diethanolamine	55 mg/L (Daphnia magna (water flea);	Not available	Not available	Not available

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	48-hour; fresh water; static)			
Blend of Fatty Acid Amine	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.

**Other Adverse Effects**

There is no information available.

**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.

This product contains one or more ingredients as a hazardous substance in Appendix A of 49 CFR 172.101. The product quantity, in one package, which triggers the RQ requirements under 49 CFR for each hazardous substance is shown.

Reportable quantities:

RQ substance: Diethanolamine  
RQ limit for substance: 100lb  
RQ limit for product: 6600lb

Shipping information for product over in containers larger than 6600lb would be UN 3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (DIETHANOLAMINE), CLASS 9, PG III

**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**

CERCLA: May contain <3.0% Diethanolamine.  
SARA Title III - Section 302: Not applicable.  
SARA Title III - Section 311/312: Immediate Health Hazard Chronic Health Hazard.  
SARA Title III - Section 313: May contain <3.0% Diethanolamine.

**SECTION 16. OTHER INFORMATION**

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<b>NFPA Rating</b>	<b>Health - 2    Flammability - 2    Instability - 0</b>
<b>SDS Prepared By</b>	AES Drilling Fluids
<b>Phone No.</b>	281-556-5628
<b>Date of Preparation</b>	May 05, 2015
<b>Revision Indicators</b>	The following MSDS content was changed on May 25, 2015: Section 11 - Toxicological Information; Carcinogenicity. The following MSDS content was changed on May 25, 2015: Section 8 - Exposure Controls/Personal Protection; Exposure Guidelines.
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