

ENERPLUS

SECTION 1. IDENTIFICATION

Product Identifier	ENERPLUS
Other Means of Identification	Liquid Polymer
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	March 11, 2015

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification

Acute toxicity (Dermal) - Category 5; Skin corrosion/irritation - Category 2; Serious eye damage/eye irritation - Category 2B; Specific target organ toxicity (single exposure) - Category 3; Aspiration hazard - Category 2

GHS Label Elements



Signal Word:

Warning

Hazard Statement(s):

H305	May be harmful if swallowed and enters airways.
H315	Causes skin irritation.
H320	Causes eye irritation.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.

Precautionary Statement(s):

Prevention:

P261	Avoid breathing mist, vapours, spray.
P264	Wash hands and skin thoroughly after handling.
P271	Use only outdoors or in a well-ventilated area.
P270	Do not eat, drink or smoke when using this product.
P280	Wear protective gloves/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.
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.
P312	Call a POISON CENTRE/doctor if you feel unwell.

Storage:
Disposal:

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Contains no hazardous ingredients. Mixture:

Chemical Name	CAS No.	%	Other Identifiers
Distillates (petroleum), hydrotreated light	64742-47-8	20-45	
Trade Secret	CBI*	<5	

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 contaminant 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

Wash gently and thoroughly with lukewarm, gently flowing water and mild soap for 5 minutes. Remove contaminated clothing and launder before reuse. If irritation persists, get medical advice/attention.

Eye Contact

Flush eyes thoroughly with lukewarm water for 15 minutes. If eye irritation persists, get medical advice/attention.

Ingestion

Immediately call a Poison Centre or doctor. Do not induce vomiting. Rinse mouth with water.

First-aid Comments

Get medical advice/attention if you feel unwell or are concerned.

SECTION 5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media

Water, Carbon Dioxide, Foam, Dry chemical.

Specific Hazards Arising from the Chemical

Forms slippery compound when mixed with water.

The nature of decomposition products is not known and will be influenced by other products/materials involved in the fire.

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,

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waterways and/or groundwater.

Methods and Materials for Containment and Cleaning Up

Eliminate all ignition sources. Dike spilled product to prevent runoff. Do not use absorbents. Contain spill using noncombustible material such as vermiculite, earth or sand. Spill material may cause floors and contact surfaces to become slippery, flush slowly with water, collect and store in suitable containers. 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. Avoid contact with eyes, skin and 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. Keep containers tightly closed when not in use or empty. Keep away from heat and open flames. See Section 8 for appropriate Personal Protective Equipment (PPE).

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]
Trade Secret	Not established					
Distillates (petroleum), hydrotreated light	5 mg/m ³		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. A suitable eyewash station should be within acceptable distance to the work area.

Individual Protection Measures

Eye/Face Protection

Wear safety glasses and if contact is possible wear chemical safety goggles.

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

Not normally required if product is used as directed. If handled at elevated temperatures without sufficient ventilation. 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 viscous liquid.

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Odour	Faint
pH	5 - 8
Melting Point/Freezing Point	< 41 °F (5 °C) (melting); > 212 °F (freezing)
Initial Boiling Point/Range	Not available
Flash Point	> 200 °F (93 °C)
Evaporation Rate	Not available
Upper/Lower Flammability or Explosive Limit	Not available (upper); Not available (lower)
Vapour Pressure	2.3 kPa at 20 °C
Vapour Density (air = 1)	Not applicable
Relative Density (water = 1)	1.0 - 1.1
Solubility	Not available in water
Partition Coefficient, n-Octanol/Water (Log Kow)	Not available
Auto-ignition Temperature	Not available
Other Information	
Physical State	Liquid

SECTION 10. STABILITY AND REACTIVITY

Reactivity

Not reactive.

Chemical Stability

Stable under normal conditions.

Possibility of Hazardous Reactions

None expected under normal conditions of storage and use.

Conditions to Avoid

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

Incompatible Materials

Strong Oxidizing Agents.

Hazardous Decomposition Products

Oxides of carbon. Oxides of nitrogen.

SECTION 11. TOXICOLOGICAL INFORMATION

Likely Routes of Exposure

Inhalation; skin contact; eye contact; ingestion.

Acute Toxicity

Chemical Name	LC50	LD50 (oral)	LD50 (dermal)
Trade Secret	Not available	Not available	Not available
Distillates (petroleum), hydrotreated light	Not available	> 5000 mg/kg (rat)	> 2000 mg/kg (rabbit)

Skin Corrosion/Irritation

Prolonged contact may cause mild irritation.

Serious Eye Damage/Irritation

May cause eye irritation.

STOT (Specific Target Organ Toxicity) - Single Exposure

Inhalation

May be harmful if inhaled. Symptoms may include headache, nausea, dizziness, drowsiness and confusion.

Ingestion

Harmful if ingested. 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.

Respiratory and/or Skin Sensitization

Not a respiratory sensitizer. Not a skin sensitizer.

Carcinogenicity

Chemical Name	IARC	ACGIH®	NTP	OSHA
Trade Secret	Not Listed	Not Listed	Not Listed	Not Listed
Distillates (petroleum), hydrotreated light	Not Listed	Not Listed	Not Listed	Not Listed

Not a carcinogen.

Key to Abbreviations

IARC = International Agency for Research on Cancer. ACGIH® = American Conference of Governmental Industrial Hygienists. NTP = National Toxicology Program. OSHA = US Occupational Safety and Health Administration.

Reproductive Toxicity**Development of Offspring**

Not known to harm the unborn child.

Sexual Function and Fertility

Not known to cause effects on sexual function or fertility.

Germ Cell Mutagenicity

Not known to be a mutagen.

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
Distillates (petroleum), hydrotreated light	2.9 mg/L (Oncorhynchus mykiss (rainbow trout); 96-hour)	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

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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.

SECTION 15. REGULATORY INFORMATION

Safety, Health and Environmental Regulations

USA

Toxic Substances Control Act (TSCA) Section 8(b)

All ingredients are listed on the TSCA Inventory.

Additional USA Regulatory Lists

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

SARA Title III - Section 302: No listed components.

SARA Title III - Section 311/312: Immediate Health Hazard

SARA Title III - Section 313: No chemicals are reportable under Section 313.

SECTION 16. OTHER INFORMATION

NFPA Rating **Health - 1** **Flammability - 1** **Instability - 0**

SDS Prepared By AES Drilling Fluids

Phone No. 281-556-5628

Date of Preparation March 11, 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.