

GEL

SECTION 1. IDENTIFICATION

Product Identifier	GEL
Other Means of Identification	Viscosifier
Recommended Use	Drilling Fluid Additive.
Manufacturer/Supplier Identifier	AES Drilling Fluids, LLC, 11767 Katy Freeway, Suite 230, Houston, TX, 77079, Sales & Information, 281-556-5628
Emergency Phone No.	AES Drilling Fluids, LLC, 1-888-556-4533
Date of Preparation	August 17, 2015

SECTION 2. HAZARD IDENTIFICATION

Classification

Not classified under any hazard class.

Label Elements

Not applicable

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No.	%	Other Identifiers
BENTONITE	1302-78-9	100	
Christalline silica; cristobalite	14464-46-1	<1	

SECTION 4. FIRST-AID MEASURES

First-aid Measures

Inhalation

Remove source of exposure or move to fresh air. Get medical advice or 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. Get medical advice or attention if you feel unwell or are concerned.

Eye Contact

Rinse the contaminated eye(s) with lukewarm, gently flowing water for 5 minutes, while holding the eyelid(s) open. If eye irritation persists, get medical advice or attention.

Ingestion

Rinse mouth with water. Get medical advice or attention if you feel unwell or are concerned.

SECTION 5. FIRE-FIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media

Not combustible. Use extinguishing agent suitable for surrounding fire.

Specific Hazards Arising from the Product

This product presents no unusual hazards in a fire situation. Does not burn.

Not known to generate any hazardous decomposition products in a fire.

Special Protective Equipment and Precautions for Fire-fighters

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

Keep out unnecessary and unprotected personnel. Ensure adequate ventilation in area. Use the personal protective equipment recommended in Section 8 of this safety data sheet. Remove or isolate incompatible materials as well as other hazardous materials.

Environmental Precautions

It is good practice to prevent releases into the environment.

Methods and Materials for Containment and Cleaning Up

Avoid generating dust. Avoid dry sweeping. If necessary, use a dust suppressant such as water. Do not use compressed air for clean-up. Collect using shovel/scoop or approved HEPA vacuum and place in a suitable container for disposal. 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. Avoid creating excessive dust while handling the 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.

Conditions for Safe Storage

Store in an area that is: dry, cool, well-ventilated. Separate from incompatible materials keep containers tightly closed when not in use. Use good housekeeping to prevent accumulation of dust.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters

Chemical Name	ACGIH® TLV®		Alberta		SASK	
	TWA	STEL [C]	OEL	STEL	OEL	STEL
BENTONITE	3 mg/m3 (R)	Not established	3 mg/m3 (R)	Not established	3 mg/m3	6 mg/m3
Christalline silica; cristobalite	0.025 mg/m3 A2	Not established	0.025 mg/m3	Not established	0.05 mg/m3	Not established

ACGIH® = American Conference of Governmental Industrial Hygienists. TLV® = Threshold Limit Value. STEL = Short-term Exposure Limit. C = Ceiling limit. OEL = Occupational Exposure Limit r = Respirable fraction. Product may cause irritation similar to nuisance dust and meet the criteria of Particulates Not Otherwise Specified, respirable particles. or inhalable particles.

Appropriate Engineering Controls

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

Individual Protection Measures

Eye/Face Protection

Safety glasses with side shields are recommended to prevent eye contact. Use goggles or face shield when there is

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risk of eye contact or visible dust produced.

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.

Respiratory Protection

If conditions of use promote large amounts of dust to gather in the work area, wear NIOSH approved dust mask or respirator.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Basic Physical and Chemical Properties

Appearance	fine powder.
Odour	Odourless
Odour Threshold	Not available
pH	8.5 - 11.0
Melting Point/Freezing Point	> 842 °F (450 °C) (melting); Not available (freezing)
Initial Boiling Point/Range	Not available
Flash Point	Not available
Evaporation Rate	Not available
Flammability (solid, gas)	Will not burn.
Upper/Lower Flammability or Explosive Limit	Not available (upper); Not available (lower)
Vapour Pressure	0 kPa at 25 °C
Vapour Density (air = 1)	Not available
Relative Density (water = 1)	2.6
Solubility	< 0.9 mg/L in water
Partition Coefficient, n-Octanol/Water (Log Kow)	Not available
Auto-ignition Temperature	Not available
Decomposition Temperature	> 932 °F (500 °C)
Viscosity	Not available (kinematic); Not available (dynamic)
Other Information	
Physical State	Solid

SECTION 10. STABILITY AND REACTIVITY

Reactivity

Not reactive under normal conditions of use.

Chemical Stability

Stable under normal conditions.

Possibility of Hazardous Reactions

None expected under normal conditions of storage and use.

Conditions to Avoid

Exposure to moisture may affect product quality.

Incompatible Materials

None known.

Hazardous Decomposition Products

No decomposition if stored and applied as directed.

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SECTION 11. TOXICOLOGICAL INFORMATION

Likely Routes of Exposure

Inhalation; eye contact; skin contact; ingestion. dust may result in irritation of skin, eye or respiratory system.

Acute Toxicity

Chemical Name	LC50	LD50 (oral)	LD50 (dermal)
BENTONITE	> 5.27 mg/L (rat) (4-hour exposure)	> 2000 mg/kg (rat)	Not available
Christalline silica; cristobalite	Not available	500 mg/kg (rat)	Not available

Skin Corrosion/Irritation

Not a skin irritant.

Serious Eye Damage/Irritation

May cause mechanical irritation to eyes.

STOT (Specific Target Organ Toxicity) - Single Exposure

Inhalation

High dust levels may cause irritation of the respiratory tract.

Skin Absorption

No information was located.

Ingestion

No effects anticipated.

Aspiration Hazard

No information was located.

STOT (Specific Target Organ Toxicity) - Repeated Exposure

This product may contain trace amounts of crystalline silica (quartz). Long term exposure to respirable crystalline silica dust over the TLV may lead to the development of silicosis or other respiratory problems. Symptoms include cough, shortness of breath, wheezing, non-specific chest illness and reduced pulmonary function.

Respiratory and/or Skin Sensitization

Not a skin sensitizer. May cause respiratory irritation, not classified.

Carcinogenicity

Chemical Name	IARC	ACGIH®	NTP	OSHA
BENTONITE	Not Listed	Not designated	Not Listed	Not Listed
Christalline silica; cristobalite	Group 1	A2	Known carcinogen	Not Listed

This product may contain trace amounts of crystalline silica which the International Agency for Research on Cancer (IARC) has listed as causing cancer in humans.

Key to Abbreviations

IARC = International Agency for Research on Cancer. Group 1 = Carcinogenic to humans. ACGIH® = American Conference of Governmental Industrial Hygienists. A2 = Suspected 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.

Effects on or via Lactation

No information was located.

Germ Cell Mutagenicity

Not known to be a mutagen.

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SECTION 12. ECOLOGICAL INFORMATION

Environmental information was not located.

Ecotoxicity

No information was located.

Acute Aquatic Toxicity

Chemical Name	LC50 Fish	EC50 Crustacea	ErC50 Aquatic Plants	ErC50 Algae
BENTONITE	19000 mg/L (Oncorhynchus mykiss (rainbow trout); 96-hour; fresh water)	> 100 mg/L (Daphnia magna (water flea); 48-hour)	Not available	Not available
Christalline silica; cristobalite	Not available	Not available	Not available	Not available

Persistence and Degradability

No information was located.

Bioaccumulative Potential

This product and its degradation products are not known to bioaccumulate.

Mobility in Soil

If released into the environment, this product can move slowly through the soil.

Other Adverse Effects

No known significant effects.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal Methods

Dispose of unused product in accordance with local environmental and public health regulations.

SECTION 14. TRANSPORT INFORMATION

Not regulated under Canadian TDG regulations. Not regulated under US DOT Regulations.

SECTION 15. REGULATORY INFORMATION

Safety, Health and Environmental Regulations

Canada

Domestic Substances List (DSL) / Non-Domestic Substances List (NDSL)

All ingredients are listed on the DSL or are not required to be listed.

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.

SARA Title III - Section 302: No listed components.

SARA Title III - Section 311/312: No listed components.

SARA Title III - Section 313: No listed components.

SECTION 16. OTHER INFORMATION

NFPA Rating **Health - 0** **Flammability - 0** **Instability - 0**
SDS Prepared By HSE Department

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Phone No. 403-269-2800

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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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