

SILVERSEAL

SECTION 1. IDENTIFICATION

Product Identifier	SILVERSEAL
Other Means of Identification	Blended Powder
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 13, 2015

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification

Acute toxicity (Oral) - Category 4; Carcinogenicity - Category 1A; Specific target organ toxicity (repeated exposure) - Category 1

OSHA Defined Hazards: Combustible dust

GHS Label Elements



Signal Word:

Danger

Hazard Statement(s):

H302 Harmful if swallowed.

Dust in eye may result in mechanical irritation.

H332 Harmful if inhaled.

H372 Causes damage to organs through prolonged or repeated exposure.

H350 May cause cancer.

May form combustible dust concentrations in air

Precautionary Statement(s):

Prevention:

P202 Do not handle until all safety precautions have been read and understood.

P260 Do not breathe dust.

P271 Use only outdoors or in a well-ventilated area.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

Response:

P301 + P312 IF SWALLOWED: Call a POISON CENTRE/doctor if you feel unwell.

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.

Storage:

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SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Mixture:

Chemical Name	CAS No.	%	Other Identifiers
Graphite (natural)	7782-42-5	<16	
Silica, quartz	14808-60-7	<1	
Trade Secret	CBI*	Confidential	
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Trade Secret	CBI*	Confidential	
Trade Secret	CBI*	Confidential	

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. Get medical advice/attention if irritation develops.

Skin Contact

Wash gently and thoroughly with lukewarm, gently flowing water and mild soap. 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

Rinse mouth with water. Do not induce vomiting without medical advice. Seek medical advice.

SECTION 5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media

Water, Carbon Dioxide, Foam, Dry chemical.

Specific Hazards Arising from the Chemical

At very high dust concentrations, product may form combustible dust concentrations or explosive dust-air mixtures. Oxides of carbon.

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

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

It is good practice to prevent releases into the environment. Do not allow into any sewer, on the ground or into any waterway.

Methods and Materials for Containment and Cleaning Up

Eliminate all ignition sources. Vacuum or sweep product up, try to minimize dust build-up. Wet sweeping may be used

to minimize dust build-up. Store recovered product in suitable containers that are: tightly-covered. Containerize for solid waste disposal.

SECTION 7. HANDLING AND STORAGE

Precautions for Safe Handling

It is good practice to: avoid breathing product; avoid skin and eye contact and wash hands after handling. Only use where there is adequate ventilation. Avoid creating excessive dust while handling the product. See Section 8 for appropriate Personal Protective Equipment (PPE).

Conditions for Safe Storage

Store in an area that is: well-ventilated. Away from open flames, excessive heat or sources of ignition. 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®		OSHA PEL		AIHA® WEEL™	
	TWA	STEL [C]	TWA	Ceiling	8-hr TWA	Short-term TWA [C]
Silica, quartz	0.025 mg/m3 A2		0.1 mg/m3		Not established	
Graphite (natural)	2 mg/m3 (R)		3 mg/m3 (R)		Not established	
Trade Secret	5 mg/m3 (R)		5 mg/m3 (R)		Not established	
Trade Secret	2 mg/m3 (R) A4	Not established	2 mg/m3 (R)		Not established	
Trade Secret	0.025 mg/m3 A2		0.1 mg/m3		Not established	
Trade Secret	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. R = Respirable fraction.

Appropriate Engineering Controls

Use local exhaust ventilation, if general ventilation is not adequate to control amount in the air. While working with this product an eyewash should be within acceptable distance to the work area.

Individual Protection Measures

Eye/Face Protection

Use goggles or face shield when there is risk of eye contact or visible dust produced.

Skin Protection

Work gloves. 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	Grey powder.
Odour	Faint
Odour Threshold	Not available

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pH	Not available
Melting Point/Freezing Point	Not applicable (melting); Not applicable (freezing)
Initial Boiling Point/Range	Not available
Flash Point	Not applicable
Evaporation Rate	Not applicable
Flammability (solid, gas)	Not available
Upper/Lower Flammability or Explosive Limit	Not applicable (upper); Not applicable (lower)
Vapour Pressure	Not available
Vapour Density (air = 1)	Not available
Relative Density (water = 1)	1.5 - 2.0
Solubility	Insoluble in water
Partition Coefficient, n-Octanol/Water (Log Kow)	Not available
Auto-ignition Temperature	Not available
Decomposition Temperature	Not available
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

Generation of dust.

Incompatible Materials

Strong Oxidizing Agents.

Hazardous Decomposition Products

Oxides of carbon.

SECTION 11. TOXICOLOGICAL INFORMATION

Likely Routes of Exposure

Inhalation; eye contact; skin contact; ingestion.

Acute Toxicity

Chemical Name	LC50	LD50 (oral)	LD50 (dermal)
Silica, quartz	Not available	500 mg/kg (rat)	Not available
Graphite (natural)	Not available	Not available	Not available
Trade Secret	Not available	6450 mg/kg (rat)	Not available
Trade Secret	Not available	Not available	Not available
Trade Secret	Not available	Not available	Not available
Trade Secret	Not available	Not available	Not available

Skin Corrosion/Irritation

May cause skin irritation.

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Serious Eye Damage/Irritation

May cause eye irritation.

STOT (Specific Target Organ Toxicity) - Single Exposure

Inhalation

May cause irritation of the mucous membranes and upper respiratory tract.

Skin Absorption

Not harmful.

Ingestion

May be harmful if ingested may cause. irritation of the gastrointestinal tract, nausea, vomiting, diarrhea.

STOT (Specific Target Organ Toxicity) - Repeated Exposure

This product contains small 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. Chronic inhalation exposure to natural graphite is associated with the development of pneumoconiosis, a disease of the lungs.

Respiratory and/or Skin Sensitization

Not a respiratory sensitizer. Not a skin sensitizer.

Carcinogenicity

Chemical Name	IARC	ACGIH®	NTP	OSHA
Silica, quartz	Group 1	A2	Known carcinogen	Not Listed
Graphite (natural)	Not Listed	Not Listed	Not Listed	Not Listed
Trade Secret	Not Listed	Not Listed	Not Listed	Not Listed
Trade Secret	Group 3	A4	Not Listed	Not Listed
Trade Secret	Not Listed	Not Listed	Not Listed	Not Listed
Trade Secret	Not Listed	Not Listed	Not Listed	Not Listed

This product contains free 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. Group 3 = Not classifiable as to its carcinogenicity to humans. ACGIH® = American Conference of Governmental Industrial Hygienists. A2 = Suspected human carcinogen. A4 = Not classifiable as a human carcinogen. 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.

Interactive Effects

Smoking and being exposed to free silica may cause a greater risk of developing certain pulmonary illnesses.

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
Silica, quartz	Not available	Not available	Not available	Not available
Graphite (natural)	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
Trade Secret	Not available	Not available	Not available	Not available
Trade Secret	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.

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 exempt from the TSCA.

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 Chronic 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 April 13, 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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