

SAFETY DATA SHEET
ATTAPULGITE**Product Trade Name:****Revision Date:** 09-Apr-2015**Revision Number:** 33**1. Identification****1.1. Product Identifier**

Product Trade Name: ATTAPULGITE
Synonyms: None
Chemical Family: Mineral
Internal ID Code HM000087

1.2 Recommended use and restrictions on use

Application: Suspending Agent
Uses Advised Against No information available

1.3 Manufacturer's Name and Contact Details

Manufacturer/Supplier Halliburton Energy Services
P.O. Box 1431
Duncan, Oklahoma 73536-0431
Emergency Telephone: (281) 575-5000

Prepared By Chemical Stewardship
Telephone: 1-580-251-4335
e-mail: fdunexchem@halliburton.com

1.4. Emergency telephone number

Emergency Telephone Number (281) 575-5000

2. Hazard(s) Identification**2.1 Classification in accordance with paragraph (d) of §1910.1200**

Carcinogenicity	Category 1A - H350
Specific Target Organ Toxicity - (Repeated Exposure)	Category 1 - H372

2.2. Label Elements**Hazard Pictograms**

Signal Word Danger

Hazard Statements H350 - May cause cancer
H372 - Causes damage to organs through prolonged or repeated exposure

Precautionary Statements

Prevention	P201 - Obtain special instructions before use P202 - Do not handle until all safety precautions have been read and understood P260 - Do not breathe dust/fume/gas/mist/vapors/spray P264 - Wash face, hands and any exposed 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	P308 + P313 - IF exposed or concerned: Get medical advice/attention
Storage	P405 - Store locked up
Disposal	P501 - Dispose of contents/container in accordance with local/regional/national/international regulations

Contains Substances

Crystalline silica, quartz

CAS Number

14808-60-7

2.3 Hazards not otherwise classified

None known

3. Composition/information on Ingredients

Substances	CAS Number	PERCENT (w/w)	GHS Classification - US
Crystalline silica, quartz	14808-60-7	1 - 5%	Carc. 1A (H350) STOT RE 1 (H372)

The exact percentage (concentration) of the composition has been withheld as proprietary.

4. First-Aid Measures**4.1. Description of first aid measures**

Inhalation	If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.
Eyes	In case of contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention if irritation persists.
Skin	Wash with soap and water.
Ingestion	Under normal conditions, first aid procedures are not required.

4.2 Most important symptoms/effects, acute and delayed

Breathing crystalline silica can cause lung disease, including silicosis and lung cancer. Crystalline silica has also been associated with scleroderma and kidney disease. Carcinogen. May cause damage to internal organs.

4.3. Indication of any immediate medical attention and special treatment needed

Notes to Physician	Treat symptomatically.
---------------------------	------------------------

5. Fire-fighting measures**5.1. Extinguishing media****Suitable Extinguishing Media**

None - does not burn.

Extinguishing media which must not be used for safety reasons

None known.

5.2 Specific hazards arising from the substance or mixture**Special Exposure Hazards**

None anticipated

5.3 Special protective equipment and precautions for fire-fighters**Special Protective Equipment for Fire-Fighters**

Full protective clothing and approved self-contained breathing apparatus required for fire fighting personnel.

6. Accidental release measures**6.1. Personal precautions, protective equipment and emergency procedures**

Use appropriate protective equipment. Avoid creating and breathing dust. Avoid contact with skin, eyes and clothing. Ensure adequate ventilation. Evacuate all persons from the area. See Section 8 for additional information

6.2. Environmental precautions

Prevent from entering sewers, waterways, or low areas.

6.3. Methods and material for containment and cleaning up

Collect using dustless method and hold for appropriate disposal. Consider possible toxic or fire hazards associated with contaminating substances and use appropriate methods for collection, storage and disposal.

7. Handling and storage**7.1. Precautions for Safe Handling****Handling Precautions**

This product contains quartz, cristobalite, and/or tridymite which may become airborne without a visible cloud. Avoid breathing dust. Avoid creating dusty conditions. Use only with adequate ventilation to keep exposure below recommended exposure limits. Wear a NIOSH certified, European Standard En 149, or equivalent respirator when using this product. Material is slippery when wet.

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice.

7.2. Conditions for safe storage, including any incompatibilities**Storage Information**

Store in a cool, dry location. Use good housekeeping in storage and work areas to prevent accumulation of dust. Close container when not in use. Product has a shelf life of 36 months.

8. Exposure Controls/Personal Protection**8.1 Occupational Exposure Limits**

Substances	CAS Number	OSHA PEL-TWA	ACGIH TLV-TWA
Crystalline silica, quartz	14808-60-7	10 mg/m ³ %SiO ₂ + 2	TWA: 0.025 mg/m ³

8.2 Appropriate engineering controls**Engineering Controls**

Use approved industrial ventilation and local exhaust as required to maintain exposures below applicable exposure limits.

8.3 Individual protection measures, such as personal protective equipment

Respiratory Protection	Wear a NIOSH certified, European Standard EN 149 (FFP2/FFP3), AS/NZS 1715, or equivalent respirator when using this product.
Hand Protection	Normal work gloves.
Skin Protection	Wear clothing appropriate for the work environment. Dusty clothing should be laundered before reuse. Use precautionary measures to avoid creating dust when removing or laundering clothing.
Eye Protection	Wear safety glasses or goggles to protect against exposure.
Other Precautions	None known.

9. Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Physical State: Solid	Color: Gray to red brown
Odor: Odorless	Odor No information available
	Threshold:

<u>Property</u>	<u>Values</u>
<u>Remarks/ - Method</u>	
pH:	No data available
Freezing Point/Range	No information available.
Melting Point/Range	No data available
Boiling Point/Range	No data available
Flash Point	No data available
Flammability (solid, gas)	No data available
upper flammability limit	No data available
lower flammability limit	No data available
Evaporation rate	No data available
Vapor Pressure	No data available
Vapor Density	No data available
Specific Gravity	2.58
Water Solubility	Insoluble in water
Solubility in other solvents	No data available
Partition coefficient: n-octanol/water	No data available
Autoignition Temperature	No data available
Decomposition Temperature	No data available
Viscosity	No data available
Explosive Properties	No information available
Oxidizing Properties	No information available

9.2. Other information

VOC Content (%)	No data available
------------------------	-------------------

10. Stability and Reactivity

10.1. Reactivity

Not expected to be reactive.

10.2. Chemical Stability

Stable

10.3. Possibility of Hazardous Reactions

Will Not Occur

10.4. Conditions to Avoid

None anticipated

10.5. Incompatible Materials

Hydrofluoric acid.

10.6. Hazardous Decomposition Products

Amorphous silica may transform at elevated temperatures to tridymite (870 C) or cristobalite (1470 C).

11. Toxicological Information

11.1 Information on likely routes of exposure

Principle Route of Exposure Eye or skin contact, inhalation.

11.2 Symptoms related to the physical, chemical and toxicological characteristics

Acute Toxicity

Inhalation

Inhaled crystalline silica in the form of quartz or cristobalite from occupational sources is carcinogenic to humans (IARC, Group 1). There is sufficient evidence in experimental animals for the carcinogenicity of tridymite (IARC, Group 2A).

Breathing silica dust may cause irritation of the nose, throat, and respiratory passages. Breathing silica dust may not cause noticeable injury or illness even though permanent lung damage may be occurring. Inhalation of dust may also have serious chronic health effects (See "Chronic Effects/Carcinogenicity" subsection below).

Eye Contact

May cause mechanical irritation to eye.

Skin Contact

May cause mechanical skin irritation.

Ingestion

May cause abdominal pain, vomiting, nausea, and diarrhea.

Chronic Effects/Carcinogenicity

Silicosis: Excessive inhalation of respirable crystalline silica dust may cause a progressive, disabling, and sometimes-fatal lung disease called silicosis. Symptoms include cough, shortness of breath, wheezing, non-specific chest illness, and reduced pulmonary function. This disease is exacerbated by smoking. Individuals with silicosis are predisposed to develop tuberculosis.

Cancer Status: The International Agency for Research on Cancer (IARC) has determined that crystalline silica inhaled in the form of quartz or cristobalite from occupational sources can cause lung cancer in humans (Group 1 - carcinogenic to humans) and has determined that there is sufficient evidence in experimental animals for the carcinogenicity of tridymite (Group 2A - possible carcinogen to humans). Refer to IARC Monograph 68, Silica, Some Silicates and Organic Fibres (June 1997) in conjunction with the use of these minerals. The National Toxicology Program classifies respirable crystalline silica as "Known to be a human carcinogen". Refer to the 9th Report on Carcinogens (2000). The American Conference of Governmental Industrial Hygienists (ACGIH) classifies crystalline silica, quartz, as a suspected human carcinogen (A2).

There is some evidence that breathing respirable crystalline silica or the disease silicosis is associated with an increased incidence of significant disease endpoints such as scleroderma (an immune system disorder manifested by scarring of the lungs, skin, and other internal organs) and kidney disease.

11.3 Toxicity data

Toxicology data for the components

Substances	CAS Number	LD50 Oral	LD50 Dermal	LC50 Inhalation
Crystalline silica, quartz	14808-60-7	>15,000 mg/kg (Human) 500 mg/kg (Rat)	No data available	No data available

Substances	CAS Number	Skin corrosion/irritation
Crystalline silica, quartz	14808-60-7	Non-irritating to the skin

Substances	CAS Number	Eye damage/irritation
Crystalline silica, quartz	14808-60-7	Mechanical irritation of the eyes is possible.

Substances	CAS Number	Skin Sensitization
Crystalline silica, quartz	14808-60-7	No information available.

Substances	CAS Number	Respiratory Sensitization
Crystalline silica, quartz	14808-60-7	No information available

Substances	CAS Number	Mutagenic Effects
Crystalline silica, quartz	14808-60-7	Not regarded as mutagenic.

Substances	CAS Number	Carcinogenic Effects
Crystalline silica, quartz	14808-60-7	Contains crystalline silica which may cause silicosis, a delayed and progressive lung disease. The IARC and NTP have determined there is sufficient evidence in humans of the carcinogenicity of crystalline silica with repeated respiratory exposure. Based on available scientific evidence, this substance is a threshold carcinogen with a mode of action involving indirect genotoxicity secondary to lung injury.

Substances	CAS Number	Reproductive toxicity
Crystalline silica, quartz	14808-60-7	No information available

Substances	CAS Number	STOT - single exposure
Crystalline silica, quartz	14808-60-7	No significant toxicity observed in animal studies at concentration requiring classification.

Substances	CAS Number	STOT - repeated exposure
Crystalline silica, quartz	14808-60-7	Causes damage to organs through prolonged or repeated exposure if inhaled: (Lungs)

Substances	CAS Number	Aspiration hazard
Crystalline silica, quartz	14808-60-7	Not applicable

12. Ecological Information**12.1. Toxicity****Ecotoxicity Effects****Product Ecotoxicity Data**

No data available

Substance Ecotoxicity Data

Substances	CAS Number	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Toxicity to Invertebrates
Crystalline silica, quartz	14808-60-7	No information available	LL0 (96h) 10,000 mg/L (Danio rerio) (similar substance)	No information available	LL50 (24h) > 10,000 mg/L (Daphnia magna) (similar substance)

12.2. Persistence and degradability

Substances	CAS Number	Persistence and Degradability
------------	------------	-------------------------------

Crystalline silica, quartz	14808-60-7	The methods for determining biodegradability are not applicable to inorganic substances.
----------------------------	------------	------------------------------------------------------------------------------------------

12.3. Bioaccumulative potential

Substances	CAS Number	Log Pow
Crystalline silica, quartz	14808-60-7	No information available

12.4. Mobility in soil

Substances	Mobility
Crystalline silica, quartz	No information available

12.5 Other adverse effects

No information available

13. Disposal Considerations

13.1. Waste treatment methods

Disposal Method	Bury in a licensed landfill according to federal, state, and local regulations.
Contaminated Packaging	Follow all applicable national or local regulations.

14. Transport Information

US DOT

UN Number:	Not restricted
UN Proper Shipping Name:	Not restricted
Transport Hazard Class(es):	Not applicable
Packing Group:	Not applicable
Environmental Hazards:	Not applicable

US DOT Bulk

DOT (Bulk)	Not applicable
-------------------	----------------

Canadian TDG

UN Number:	Not restricted
UN Proper Shipping Name:	Not restricted
Transport Hazard Class(es):	Not applicable
Packing Group:	Not applicable
Environmental Hazards:	Not applicable

IMDG/IMO

UN Number:	Not restricted
UN Proper Shipping Name:	Not restricted
Transport Hazard Class(es):	Not applicable
Packing Group:	Not applicable
Environmental Hazards:	Not applicable

IATA/ICAO

UN Number:	Not restricted
UN Proper Shipping Name:	Not restricted
Transport Hazard Class(es):	Not applicable
Packing Group:	Not applicable
Environmental Hazards:	Not applicable

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code: Not applicable

Special Precautions for User: None

15. Regulatory Information

US Regulations

US TSCA Inventory	All components listed on inventory or are exempt.
EPA SARA Title III Extremely Hazardous Substances	Not applicable
EPA SARA (311,312) Hazard Class	Chronic Health Hazard
EPA SARA (313) Chemicals	This product does not contain a toxic chemical for routine annual "Toxic Chemical Release Reporting" under Section 313 (40 CFR 372).
EPA CERCLA/Superfund Reportable Spill Quantity	Not applicable.
EPA RCRA Hazardous Waste Classification	If product becomes a waste, it does NOT meet the criteria of a hazardous waste as defined by the US EPA.
California Proposition 65	The California Proposition 65 regulations apply to this product.
MA Right-to-Know Law	One or more components listed.
NJ Right-to-Know Law	One or more components listed.
PA Right-to-Know Law	One or more components listed.

Canadian Regulations

Canadian DSL Inventory	All components listed on inventory or are exempt.
-------------------------------	---------------------------------------------------

16. Other information

Preparation Information

Prepared By	Chemical Stewardship Telephone: 1-580-251-4335 e-mail: fdunexchem@halliburton.com
--------------------	-----------------------------------------------------------------------------------------

Revision Date:	09-Apr-2015
-----------------------	-------------

Reason for Revision	Update to Format SECTION: 2
----------------------------	-----------------------------

Additional information

For additional information on the use of this product, contact your local Halliburton representative.

For questions about the Safety Data Sheet for this or other Halliburton products, contact Chemical Stewardship at 1-580-251-4335.

Key or legend to abbreviations and acronyms

bw – body weight
CAS – Chemical Abstracts Service
EC50 – Effective Concentration 50%
ErC50 – Effective Concentration growth rate 50%
LC50 – Lethal Concentration 50%
LD50 – Lethal Dose 50%
LL50 – Lethal Loading 50%
mg/kg – milligram/kilogram
mg/L – milligram/liter
NIOSH – National Institute for Occupational Safety and Health
NTP – National Toxicology Program
OEL – Occupational Exposure Limit
PEL – Permissible Exposure Limit
ppm – parts per million
STEL – Short Term Exposure Limit
TWA – Time-Weighted Average
UN – United Nations
h - hour
mg/m³ - milligram/cubic meter
mm - millimeter
mmHg - millimeter mercury
w/w - weight/weight
d - day

Key literature references and sources for data

www.ChemADVISOR.com/
OSHA
ECHA C&L

Disclaimer Statement

This information is furnished without warranty, expressed or implied, as to accuracy or completeness. The information is obtained from various sources including the manufacturer and other third party sources. The information may not be valid under all conditions nor if this material is used in combination with other materials or in any process. Final determination of suitability of any material is the sole responsibility of the user.

End of Safety Data Sheet