

HALLIBURTON

SAFETY DATA SHEET

HOLEPLUG® 3/8

This safety data sheet was created pursuant to the requirements of: US OSHA Hazard Communication Standard (29 CFR 1910.1200)

Revision date 18-Apr-2025

Revision Number 16

1. Identification

Product identifier

Product Name HOLEPLUG® 3/8
Product Code(s) HM003667
Synonyms None

Recommended use of the chemical and restrictions on use

Recommended use Fluid Loss Additive
Restrictions on use Consumer use

Details of the supplier of the safety data sheet

Manufacturer/Supplier

Baroid Fluid Services
Product Service Line of Halliburton Energy Services, Inc.
P.O. Box 1675
Houston, TX 77251
Telephone: (281) 871-4000

Prepared By

Chemical Stewardship
e-mail: fdunexchem@halliburton.com

Emergency telephone number

Emergency Telephone Number 1-866-519-4752 or 1-760-476-3962 (accessible 24 hours a day / 7 days a week)
Global Incident Response Access Code: 334305
Contract Number: 14012

2. Hazard(s) identification

Classification

Carcinogenicity	Category 1A
Specific target organ toxicity (repeated exposure)	Category 1

Hazards not otherwise classified (HNOC)

Not applicable

Label elements



Danger

Hazard statements

May cause cancer.

Causes damage to organs through prolonged or repeated exposure.

Precautionary Statements - Prevention

Obtain special instructions before use.

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

Wear protective gloves/clothing and eye/face protection.

Do not breathe dust/fume/gas/mist/vapors/spray.

Wash face, hands and any exposed skin thoroughly after handling.

Do not eat, drink or smoke when using this product.

Precautionary Statements - Response

IF exposed or concerned: Get medical advice/attention.

Precautionary Statements - Storage

Store locked up.

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant.

Hazards classified under paragraph (d)(1)(ii) of 1910.1200

No information available.

Other information

This product contains Wyoming bentonite or other sorptive clays. Crystalline silica forms found in this particular clay are limited to quartz. Extreme temperatures that can generate cristobalite or tridymite are not expected to occur under realistic conditions. In addition, all quartz found in sorptive clays are considered "occluded", i.e., strongly coated with an amorphous silica surface (Wendlandt et al., 2007; Hochella and Muryama, 2010; SMI, 2014). Occluded quartz has been experimentally-determined to be relatively non-toxic compared to unoccluded quartz (Geh et al., 2006; Creutzenberg et al., 2008). A lack of health effects found in several studies examining occupational exposure to sorptive clays also suggest that chronic inhalation of sorptive clays is not expected to result in silicosis or cancer (Waxweiler et al., 1988; ACGIH, 1991; USEPA, 1996; IARC, 2005). In light of these findings OSHA has recently exempted Wyoming bentonite and other sorptive clays from the crystalline silica PEL in §1910.1053(a)(1)(iii).

3. Composition/information on ingredients

Substance

Not applicable

Mixture

Chemical Family

Mineral

Chemical name	CAS No.	Weight-%
Crystalline silica, quartz	14808-60-7	1 - 5%

If CAS number is "proprietary", the specific chemical identity and percentage of composition has been withheld as a trade secret.

*The exact percentage (concentration) of composition has been withheld as a trade secret.

4. First-aid measures

Description of first aid measures

General advice	IF exposed or concerned: Get medical advice/attention.
Inhalation	Remove to fresh air
Eye contact	Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician
Skin contact	Wash skin with soap and water.
Ingestion	Rinse mouth.

Most important symptoms and effects, both acute and delayed

Symptoms	No information available.
Effects of Exposure	May cause cancer. Causes damage to organs through prolonged or repeated exposure.

Indication of any immediate medical attention and special treatment needed

Note to physicians	Treat symptomatically.
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5. Fire-fighting measures

<u>Suitable Extinguishing Media</u> Large Fire	All standard fire fighting media. CAUTION: Use of water spray when fighting fire may be inefficient.
<u>Unsuitable extinguishing media</u>	Do not scatter spilled material with high pressure water streams.
<u>Specific hazards arising from the chemical</u>	No information available. Amorphous silica may transform at elevated temperatures to tridymite (870 C) or cristobalite (1470 C).
<u>Explosion data</u> Sensitivity to static discharge	None.
<u>Special protective equipment and precautions for fire-fighters</u>	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Personal precautions	Ensure adequate ventilation.
Other information	Refer to protective measures listed in Sections 7 and 8.

Methods and material for containment and cleaning up

Methods for containment	Prevent further leakage or spillage if safe to do so.
Methods for cleaning up	Pick up and transfer to properly labeled containers.

7. Handling and storage

Precautions for safe handling

Advice on safe handling Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing.

Conditions for safe storage, including any incompatibilities

Storage Conditions Use good housekeeping in storage and work areas to prevent accumulation of dust. Close container when not in use. Do not reuse empty container. Product has a shelf life of 60 months.

8. Exposure controls/personal protection

Working area parameters, subject to mandatory control (MAC or TSEL)

Exposure Limits

Chemical name	ACGIH TLV	OSHA PEL	NIOSH
Crystalline silica, quartz 14808-60-7	No data available	TWA: 50 µg/m ³ (vacated) TWA: 0.1 mg/m ³ respirable dust : (250)/(%SiO ₂ + 5) mppcf TWA respirable fraction : (10)/(%SiO ₂ + 2) mg/m ³ TWA respirable fraction	IDLH: 50 mg/m ³ respirable dust TWA: 0.05 mg/m ³ respirable dust

Other information Exposures to crystalline silica that result from bentonite or other sorptive clays are exempt from the PEL in §1910.1053. The PEL in §1910.1000 Table Z-3 (i.e., the formula that is approximately equivalent to 100 µg/m³) applies to occupational exposures to respirable crystalline silica from sorptive clays.

Appropriate engineering controls

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

Individual protection measures, such as personal protective equipment

Eye/face protection Wear safety glasses or goggles to protect against exposure.

Hand protection Normal work gloves Wear suitable gloves

Skin and body 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. Wear suitable protective clothing.

Respiratory protection Not normally needed. But if significant exposures are possible then the following respirator is recommended:
Dust/mist respirator. (N95, P2/P3)

General hygiene considerations If engineering controls and work practices cannot prevent excessive exposures, the selection and proper use of personal protective equipment should be determined by an industrial hygienist or other qualified professional based on the specific application of this product. Do not eat, drink or smoke when using this product. Wash hands before breaks

and immediately after handling the product.

Other protective equipment None known.

9. Physical and chemical properties

Information on basic physical and chemical properties

Physical state Solid
Color Various
Odor (includes odor threshold) Odorless

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
Melting point / freezing point	No data available	
Boiling point (or initial boiling point or boiling range)	No data available	
Flammability	No data available	
Flammability Limit in Air		
Upper flammability or explosive limits	No data available	
Lower flammability or explosive limits	No data available	
Flash point	No data available	
Autoignition temperature	No data available	
Decomposition temperature	No data available	
SADT (°C)	No data available	
pH	7.5	aqueous solution
Kinematic viscosity	No data available	
Dynamic viscosity	No data available	
Water solubility	Insoluble in water	
Solubility in other solvents	No data available	
Partition coefficient n-octanol/water (log value)	No data available	
Vapor pressure (includes evaporation rate)	No data available	
Evaporation rate	No data available	
Density and/or relative density	2.12	
Bulk density	No data available	
Liquid Density	No data available	
Relative vapor density	No data available	
Particle characteristics		
Particle Size	No data available	
Particle Size Distribution	No data available	

10. Stability and reactivity

Reactivity Stable under normal conditions.

Chemical stability Stable under normal conditions.

Possibility of hazardous reactions None under normal processing.

Conditions to avoid None known based on information supplied.

Incompatible materials Hydrofluoric acid.

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

11. Toxicological information

Information on likely routes of exposure

Principle Routes of Exposure Eye or skin contact, inhalation

Product Information

Inhalation May cause mild respiratory irritation.
Eye contact May cause mild eye irritation.
Skin contact May cause mild skin irritation.
Ingestion May cause abdominal pain, vomiting, nausea, and diarrhea.

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms No information available.

Acute toxicity

The following ATE values have been calculated for the mixture

ATEmix (oral) 99,999.00 mg/kg
ATEmix (dermal) 99,999.00 mg/kg
ATEmix (inhalation-gas) 99,999.00 ppm
ATEmix (inhalation-vapor) 99,999.00 mg/l
ATEmix (inhalation-dust/mist) 99,999.00 mg/l

Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Crystalline silica, quartz 14808-60-7	> 15000 mg/kg (human)	-	-

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Toxicological Effects Summary

This product contains Wyoming bentonite or other sorptive clays. Crystalline silica forms found in this particular clay are limited to quartz. Extreme temperatures that can generate cristobalite or tridymite are not expected to occur under realistic conditions. In addition, all quartz found in sorptive clays are considered "occluded", i.e., strongly coated with an amorphous silica surface (Wendlandt et al., 2007; Hochella and Murayama, 2010; SMI, 2014). Occluded quartz has been experimentally-determined to be relatively non-toxic compared to unoccluded quartz (Geh et al., 2006; Creutzenberg et al., 2008). A lack of health effects found in several studies examining occupational exposure to sorptive clays also suggests that chronic inhalation of sorptive clays is not expected to result in silicosis or cancer (Waxweiler et al., 1988; ACGIH, 1991; USEPA, 1996; IARC, 2005). In light of these findings OSHA has recently exempted Wyoming bentonite and other sorptive clays from the crystalline silica PEL in §1910.1053(a)(1)(iii).

Skin corrosion/irritation Based on available data, the classification criteria are not met.

Chemical name	Skin corrosion/irritation
Crystalline silica, quartz 14808-60-7	Non-irritating to the skin

Serious eye damage/eye irritation Based on available data, the classification criteria are not met.

Chemical name	Serious eye damage/eye irritation
Crystalline silica, quartz 14808-60-7	Non-irritating to the eye

Respiratory or skin sensitization Based on available data, the classification criteria are not met.

Chemical name	Respiratory sensitization
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Crystalline silica, quartz 14808-60-7	Not classified
Chemical name	Skin sensitization
Crystalline silica, quartz 14808-60-7	Not classified

Germ cell mutagenicity Based on available data, the classification criteria are not met.

Chemical name	Germ cell mutagenicity
Crystalline silica, quartz 14808-60-7	Not regarded as mutagenic.

Carcinogenicity Contains a known or suspected carcinogen. Classification based on data available for ingredients. May cause cancer.

Chemical name	Carcinogenicity
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.

The table below indicates whether each agency has listed any ingredient as a carcinogen.

Chemical name	ACGIH	IARC	NTP	OSHA
Crystalline silica, quartz 14808-60-7	-	Group 1	Known	X

IARC (International Agency for Research on Cancer)

Group 1 - Carcinogenic to Humans

NTP (National Toxicology Program)

Known - Known Carcinogen

Occupational Safety and Health Administration of the US Department of Labor

X - Present

Reproductive toxicity Based on available data, the classification criteria are not met.

Chemical name	Reproductive toxicity
Crystalline silica, quartz 14808-60-7	This product does not contain any known or suspected reproductive hazards

STOT - single exposure Based on available data, the classification criteria are not met.

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

STOT - repeated exposure Causes damage to organs through prolonged or repeated exposure.

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

Aspiration hazard Based on available data, the classification criteria are not met.

Chemical name	Aspiration hazard
Crystalline silica, quartz 14808-60-7	Based on available data, the classification criteria are not met

Other adverse effects No information available.**Interactive effects** No information available.**Alternative classification methods** No information available

12. Ecological information

Ecotoxicity

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Crystalline silica, quartz 14808-60-7	EC50(72 h)=440 mg/L (Pseudokirchneriella subcapitata)	LL0(96 h)=10000 mg/L (Danio rerio)	-	LL50(24 h)>10000 mg/L (Daphnia magna)

Persistence and degradability Based on available data, the classification criteria are not met

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

Bioaccumulation Based on available data, the classification criteria are not met.

Mobility Based on available data, the classification criteria are not met

Chemical name	Mobility
Crystalline silica, quartz 14808-60-7	No information available

Other adverse effects No information available.

13. Disposal considerations

Disposal methods

Waste from residues/unused products Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

Contaminated packaging Do not reuse empty containers.

14. Transport information

DOT Not regulated

IATA Not regulated

IMDG Not regulated

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

15. Regulatory information

US Federal Regulations

TSCA All components listed on inventory or are exempt
TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

TSCA Section 5(a) Does not contain any substances listed in this regulation

TSCA Section 5(e) Consent Orders Does not contain any substances listed in this regulation

TSCA Section 6 restricted substances Does not contain any substances listed in this regulation

TSCA Section 12(b) Export Regulations Does not contain substances triggering TSCA12B Export Notification

EPA SARA Title III Extremely Hazardous Substances Complies

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

SARA 311/312 Hazard Categories

Should this product meet EPCRA 311/312 Tier reporting criteria at 40 CFR 370, refer to Section 2 of this SDS for appropriate classifications.

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.

Chemical Facility Anti-Terrorism Standards (CFATS)

This product does not contain any Chemicals of Interest regulated by the Department of Homeland Security under the Chemical Facility Anti-Terrorism Standards. See 6 CFR Part 27, including Appendix A.

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

U.S. EPA Label Information

EPA Pesticide Registration Number Not applicable

US State Regulations

California Proposition 65 This product contains the following Proposition 65 chemicals:

Chemical name	California Proposition 65
Crystalline silica, quartz (0 - 5%)	Carcinogen

U.S. State Right-to-Know Regulations

Chemical name	New Jersey	Massachusetts	Pennsylvania
Crystalline silica, quartz 14808-60-7	X	X	X

International Inventories

DSL

All components listed on inventory or are exempt

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

16. Other information

NFPA Ratings:

Health 0, Flammability 0, Reactivity 0

Key or legend to abbreviations and acronyms used in the safety data sheet

ADR - The European Agreement concerning the International Carriage of Dangerous Goods by Road

AS/NZS 1715 - New Zealand Standard on Selection, use and maintenance of respiratory protective equipment

bw – body weight
 C - Celsius
 CAS – Chemical Abstracts Service
 CLP – REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL on Classification, Labelling and Packaging of substances and mixtures
 EC – European Commission
 EC10 – Effective Concentration 10%
 EC50 – Effective Concentration 50%
 EEC – European Economic Community
 EN 149 - European standard on filtering halfmasks to protect against particles
 ErC50 – Effective Concentration growth rate 50%
 EN 374 - European standard on Protective gloves against chemicals and micro-organisms
 FFP - Filtering Facepieces
 h - hour
 IATA/ICAO - International Air Transport Association / International Civil Aviation Organization
 IBC Code – International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk
 LC50 – Lethal Concentration 50%
 IMDG/IMO - International Maritime Dangerous Goods / International Maritime Organization
 LD50 – Lethal Dose 50%
 LL0 – Lethal Loading 0%
 LL50 – Lethal Loading 50%
 MAK - Maximum Workplace Concentration
 MARPOL – International Convention for the Prevention of Pollution from Ships
 mg/kg – milligram/kilogram
 mg/L – milligram/liter
 mg/m³ - milligram/cubic meter
 mm - millimeter
 mmHg - millimeter mercury
 NIOSH – National Institute for Occupational Safety and Health
 NOEC – No Observed Effect Concentration
 NDS - najwyższe dopuszczalne stężenie na stanowisku pracy
 NDS - OEL-TWA [Poland najwyższe dopuszczalne stężenie na stanowisku pracy]
 NTP – National Toxicology Program
 OEL – Occupational Exposure Limit
 PBT – Persistent Bioaccumulative and Toxic
 PC – Chemical Product category
 PEL – Permissible Exposure Limit
 ppm – parts per million
 PROC – Process category
 REACH – REGULATION (EC) No 1907/2006 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals
 R/H-phrases - Risk/Hazard-phrases
 RID - The European Agreement concerning the International Carriage of Dangerous Goods by Rail
 STEL – Short Term Exposure Limit
 SU – Sector of Use category
 SZW - Netherlands Ministry of Social Affairs and Employment
 TWA – Time-Weighted Average
 UK - United Kingdom
 UN – United Nations
 VLA-EC - short-time excursion limits [Spain valores límite ambientales para la exposición de corta duración]
 VLA-ED - time-weighted average values for a whole work shift [Spain valores límite ambientales para la exposición diaria]
 VOC – Volatile Organic Carbon
 vPvB – very Persistent and very Bioaccumulative
 w/w - weight/weight

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value	Sk*	Skin designation

Key literature references and sources for data used to compile the SDS

Acute Exposure Guideline Level(s) (AEGl(s))
 European Chemicals Agency (ECHA) (ECHA_API)

European Chemicals Agency (ECHA) Committee for Risk Assessment (ECHA_RAC)
Hazardous Substance Database
International Uniform Chemical Information Database (IUCLID)
NIOSH (National Institute for Occupational Safety and Health)

Revision date 18-Apr-2025
Revision Note Update to Format.

Disclaimer

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End of Safety Data Sheet