

SAFETY DATA SHEET

1. PRODUCT IDENTIFICATION

GSH PRODUCT IDENTIFIER: LONE STAR BENTONITE

COMPANY NAME: Lone Star GTC, LLC

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TRANSPORT EMERGENCY PHONE NUMBER: (+1) 210-710-3183

RECOMMENDED USE OF THE CHEMICAL AND RESTRICTIONS ON USE: Oil well drilling fluids, cement slurries for oil well casing, bonding agent in foundry sands, food additive. Workers should be informed of the potential presence of respirable dust and respirable crystalline silica as well as their potential hazards.

OTHER NAMES

NAME	PRODUCT CODE
Sodium Bentonite	
API Bentonite	
Calcium Bentonite	
Granular Bentonite	

2. HAZARDS IDENTIFICATION

GSH CLASSIFICATION OF THE SUSTANCE/MIXTURE: Classified as Hazardous according to the Globally Harmonised System of Classification and labelling of Chemicals.

Not classified as Dangerous Goods according to DOT (US Department of Transportation), IATA (International Air Transport Association) and IMDG (International Maritime Dangerous Goods).

Classification:

Carcinogenicity: Category 1.

STOT Repeated Exposure Category 2.

Signal Word(s): DANGER

Hazard Statement(s):

H350 May cause cancer by inhalation

H373 May cause damage to organs through prolonged or repeated exposure by inhalation.

Pictogram(s):

Health Hazard



Precautionary statement - 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/vapours/spray.

P281 Use personal protective equipment as required.

Precautionary statement - Response:

P308+P313 If exposed or concerned: Get medical advice/attention.

Precautionary statement - Storage:

P401 Store locked up

Precautionary statement - Disposal:

P501 Dispose of contents/container to an approved waste disposal plant.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients:

Name	CAS	Proportion
Bentonite	1302-78-9	100%

4. FIRST - AID MEASURES

Gross Inhalation: Remove to fresh air. If breathing has stopped, perform artificial respiration. If breathing is difficult have qualified personnel administer oxygen. Get prompt medical attention.

Skin Contact: No first aid should be needed since this product does not affect the skin. Wash exposed skin with soap and water before breaks and at the end of the shift.

Ingestion: If large amounts are swallowed, get immediate medical attention.

Eye Contact: Flush the eyes immediately with large amounts of water, lifting the upper and lower lids occasionally. If irritation persists or for imbedded foreign body, get immediate medical attention.

5. FIRE - FIGHTING MEASURES

Suitable extinguishing media: Water fog. Foam. Dry chemical powder. Carbon dioxide (CO₂). Use any media suitable for the surrounding fires.

Unsuitable extinguishing media: Not applicable, non-combustible.

Specific hazards arising from the chemical: None known. The product itself does not burn.

Special protective equipment and precautions for firefighters: Material can be slippery when wet.

Fire fighting equipment/instructions: In the event of fire, cool tanks with water spray. Material can be slippery when wet.

General fire hazards: No unusual fire or explosion hazards noted. This material will not burn.

6. ACCIDENTAL RELEASE MEASURES

- Personal precautions:** Material can be slippery when wet. Forms smooth, slippery surfaces on floors, posing an accident risk. Wear a dust mask if dust is generated above exposure limits.
- Environmental precautions:** No special environmental precautions required.
- Methods for containment:** None necessary.
- Methods for cleaning up:** Avoid the generation of dusts during clean-up. Collect dust or particulates using a vacuum cleaner with a HEPA filter. Reduce airborne dust and prevent scattering by moistening with water.

7. HANDLING AND STORAGE

- Precautions for safe handling:** Minimize dust generation and accumulation. Provide appropriate exhaust ventilation at places where dust is formed. Avoid breathing dust. Avoid contact with skin and eyes. In case of insufficient ventilation, wear suitable respiratory equipment. Practice good housekeeping.
- Conditions for safe storage, including any incompatibilities:** No special restrictions on storage with other products. Store in a dry area. Store in original tightly closed container. Keep the container dry. Store in a well-ventilated place. Store away from incompatible materials (see Section 10 of the SDS). Guard against dust accumulation of this material.

8. EXPOSURE CONTROL/PERSONAL PROTECTION

Occupational exposure limits:

SPECIFIC CHEMICAL IDENTITY: COMMON NAME(S)	¹ OSHA PEL (TWA)	² ACGIH TLV (TWA)	³ NIOS REL (TWA)	% OPTIONAL
QUARTZ CAS:14808-60-7 (NATURALLY OCCURRING CONSTITUENT)	-----	-----	-----	-----
RESPIRABLE QUARTZ	0.1 Mg/M3	50 Mg/M3	50 Mg/M3	< 1-2%
NUISANCE DUST-RESPIRABLE	5 Mg/M3	3 Mg/M3	-----	-----
TOTAL DUST	15 Mg/M3	10 Mg/M3	-----	-----

(n-octanol/water): Not applicable.
Auto-ignition temperatura: Not applicable.
Decomposition temperatura: > 932 °F (> 500 °C)
Viscosity: Not applicable.
Bulk density: 920 – 980 kg/m³
Explosive limit: Not applicable.
Explosive properties: Not explosive
Explosivity: Not applicable.
Flame extensión: Not applicable.
Flammability: Not applicable.
Flammability (flash back): Not applicable.
Flammability (Heat of combustion): Not applicable.
Flammability (Train fire): Not applicable.
Flammability class: Not applicable.

10. STABILITY AND REACTIVITY

Reactivity: The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability: Stable at normal conditions.
Possibility of hazardous reactions: Will not occur.
Conditions to avoid: Moisture. Avoid temperatures exceeding the decomposition temperature. Contact with incompatible materials. Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air).
Incompatible materials: None known.
Hazardous decomposition products: None.

11. TOXICOLOGICAL INFORMATION

Inhalation: Inhalation of dusts may cause respiratory irritation.
Skin contact: Not classified.
Eye contact: Dust in the eyes will cause irritation.
Ingestion: Ingestion of this product may irritate the gastric tract causing nausea and vomiting.

Information on toxicological effects:

Product	Species	Test Results
Bentonite		
<u>Acute</u>		
<u>Inhalation</u>		
Dust		
LC50	Rat	> 5.27 mg/l, 4 hr OECD 436
<u>Oral</u>		
Dust		
LD50	Rat	> 2000 mg/kg OECD 425

Carcinogenicity:In 1997, IARC (the International Agency for Research on Cancer) concluded that crystalline silica inhaled from occupational sources can cause lung cancer in humans. However in making the overall evaluation, IARC noted that "carcinogenicity was not detected in all industrial circumstances studied. Carcinogenicity may be dependent on inherent characteristics of the crystalline silica or on external factors affecting its biological activity or distribution of its polymorphs." (IARC Monographs on the evaluation of the carcinogenic risks of chemicals to humans, Silica, silicates dust and organic fibres, 1997, Vol. 68, IARC, Lyon, France.) In June 2003, SCOEL (the EU Scientific Committee on Occupational Exposure Limits) concluded that the main effect in humans of the inhalation of respirable crystalline silica dust is silicosis. "There is sufficient information to conclude that the relative risk of lung cancer is increased in persons with silicosis (and, apparently, not in employees without silicosis exposed to silica dust in quarries and in the ceramic industry). Therefore, preventing the onset of silicosis will also reduce the cancer risk..." (SCOEL SUM Doc 94-final, June 2003.

According to the current state of the art, worker protection against silicosis can be consistently assured by respecting the existing regulatory occupational exposure limits. Occupational exposure to nuisance dust (total and respirable) and respirable crystalline silica should be monitored and controlled.

IARC Monographs on Occupational Exposures to Chemical Agents: Overall evaluation
QUARTZ (14808-60-7) / 1 Human carcinogen.
US ACGIH Threshold Limit Values: A2 carcinogen
QUARTZ (14808-60-7) / Group A2 Suspected human carcinogen.
US NTP Report on Carcinogens: Known carcinogen
QUARTZ (14808-60-7) / Known carcinogen

Reproductive toxicity: Not classified.
Specific target organ toxicity - single exposure: Not classified.
Specific target organ toxicity - repeated exposure: Not classified.
Aspiration Hazard: Not available.

12. ECOLOGICAL INFORMATION

Ecotoxicity:

This product has no known eco-toxicological effects. This product is not expected to produce significant

ecotoxicity upon exposure to aquatic organisms and aquatic systems.

Bentonite (test result): LC50 Rainbow trout, donaldson trout (*Oncorhynchus mykiss*)= 19000 mg/l 96.00 Hours

Environmental effects: Based on the physical properties of this product, significant environmental persistence and bioaccumulation would not be expected.

Persistence and degradability: Not available.

13. DISPOSAL CONSIDERATIONS

Disposal instructions: Dispose in accordance with all applicable regulations. Material should be recycled if possible.

14. TRANSPORT INFORMATION

U.N. Number: None Allocated.

U.N. proper shipping name: None allocated.

Transport hazard class(es): None allocated.

DOT: Not regulated as dangerous goods.

IATA: Not regulated as dangerous goods.

IMDG: Not regulated as dangerous goods.

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

15. REGULATORY INFORMATION

SARA 311/312: Hazard Categories for SARA Section 311/312 Reporting: Chronic Health.

SARA 313: This product contains the following chemicals subject to annual release reporting requirements under the SARA section.

313 (40 CFR 372): None.

CERCLA Section 103 Reportable Quantity: None.

California Proposition 65: This product contains the following substances known to the state of California to cause cancer and/or reproductive harm: crystalline silica (respirable).

Toxic Substances Control Act: All of the components of this product are listed on the EPA TSCA Inventory or are exempt from notification requirements.

European Inventory of Commercial Chemical Substances: All the components of this product are listed on the EINECS Inventory or exempt from notification requirements. (The EINECS number for Quartz: 231-545-5).

Canadian Environmental Protection Act: All the components of this product are listed on the Canadian Domestic Substances List or exempt from notification requirements.

Japan MITI: All the components of this product are existing chemical substances as defined in the Chemical Substance Control Law

Australian Inventory of Chemical Substances: All the components of this product are listed on the AICS Inventory or exempt from notification requirements.

Canadian WHMIS Classification: This product contains crystalline silica (respirable), classified as a Class D, Division 2, Subdivision A substance.

European Community Labeling Classification: Harmful (Xn)

European Community Risk and Safety Phrases: R40, R48, S22

16. OTHER INFORMATION

REFERENCES:

Registry for Toxic Effects of Chemical Substances (RTECS), 1995.

Patty's Industrial Hygiene and Toxicology.

NTP Ninth Annual Report on Carcinogens, 1997.

IARC Monograph Volume 68, Silica, Some Silicates and Organic Fibers, 1997.

Further information:

This safety datasheet only contains information relating to safety and does not replace any product information or product specification.

Recommended restrictions:

Workers (and your customers or users in the case of resale) should be informed of the potential presence of respirable dust and respirable crystalline silica as well as their potential hazards. Appropriate training in the proper use and handling of this material should be provided as required under applicable regulations.

NFPA ratings:

Health: 1
Flammability: 0
Instability: 0

HMIS ratings:



Disclaimer:

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The manufacturer expressly does not make any representations, warranties, or guarantees as to its accuracy, reliability or completeness nor assumes any liability, for its use. It is the user's responsibility to verify the suitability and completeness of such information for each particular use.

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