



Novinda

Innovative Solutions for Industry

Amended Silicates™

MSDS



MATERIAL SAFETY DATA SHEET

1. Product and Company Identification

Material name AMENDED SILICATES EXPERIMENTAL MERCURY SORBENT
Version # 04
Revision date 26-August-2009
Chemical description Modified Bentonite
CAS # Mixture
Company Amended Silicates, Inc
2000 S. Colorado Blvd. Suite A-315
Denver, Co 80222 US
<http://www.amendedsilicates.com>
General Information (720) 473-8330
Emergency (303) 562-7386

2. Hazards Identification

Emergency overview Material can be slippery when wet.
Potential health effects
Routes of exposure Inhalation. Eye contact.
Eyes Dust or powder may irritate eye tissue. Symptoms include itching, burning, redness and tearing.
Skin Non-irritating to the skin.
Inhalation Inhalation of dusts may cause respiratory irritation. Repeated or prolonged inhalation may cause toxic effects. For additional information on inhalation hazards, see Section 11 of this safety data sheet.
Ingestion No significant adverse effects are expected upon ingestion of the product.
Target organs Lungs.
Chronic effects This product has the potential for generation of respirable dust during handling and use. Dust may contain respirable crystalline silica. Overexposure to dust may result in pneumoconiosis, a respiratory disease caused by inhalation of mineral dust, which can lead to fibrotic changes to the lung tissue, or silicosis, a respiratory disease caused by inhalation of silica dust, which can lead to inflammation and fibrosis of the lung tissue.

3. Composition / Information on Ingredients

The manufacturer lists no ingredients as hazardous according to OSHA 29 CFR 1910.1200.

Composition comments Bentonite contains naturally occurring crystalline silica (not listed in Annex I of Directive 67/548/EEC) in quantities less than 6%. Occupational Exposure Limits for impurities are listed in Section 8.

4. First Aid Measures

First aid procedures
Eye contact Flush eyes immediately with large amounts of water. Get medical attention if irritation develops or persists.
Skin contact No special measures required. Get medical attention if irritation develops or persists.
Inhalation If symptoms are experienced, remove source of contamination or move victim to fresh air. If the affected person is not breathing, apply artificial respiration. If breathing is difficult, give oxygen. Call a physician if symptoms develop or persist.
Ingestion No special measures required. If ingestion of a large amount does occur, seek medical attention.
Notes to physician Provide general supportive measures and treat symptomatically.
General advice If you feel unwell, seek medical advice (show the label where possible).

5. Fire Fighting Measures

Flammable properties The product is not flammable. This material will not burn.
Extinguishing media
Suitable extinguishing media Dry chemical, CO₂, water spray or regular foam. Use any media suitable for the surrounding fires.
Protection of firefighters



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Protective equipment and precautions for firefighters Material can be slippery when wet.

Hazardous combustion Products None known.

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 Prevent further leakage or spillage if safe to do so. Runoff from fire control or dilution water may cause pollution. Do not let product enter drains. Do not flush into surface water or sanitary sewer system.

Methods for containment Block any potential routes to water systems.

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

Handling Material can be slippery when wet. Forms smooth, slippery surfaces on floors, posing an accident risk.
Keep formation of airborne dusts to a minimum. Provide appropriate exhaust ventilation at places where dust is formed. In case of insufficient ventilation, wear suitable respiratory equipment.

Storage Guard against dust accumulation of this material. No special storage conditions required. No special restrictions on storage with other products.

8. Exposure Controls / Personal Protection

Occupational exposure limits

ACGIH

Impurities	Type	Value	Form
INERT OR NUISANCE DUST (SEQ250)	TWA	10 mg/m ³	Inhalable particles.
		3 mg/m ³	Respirable particles.
QUARTZ (14808-60-7)	TWA	0.025 mg/m ³	Respirable fraction.

U.S. - OSHA

Impurities	Type	Value	Form
INERT OR NUISANCE DUST (SEQ250)	PEL	15 mg/m ³	Total dust.
		5 mg/m ³	Respirable fraction.
	TWA	5 mg/m ³	Respirable fraction.
		50 mppcf	Total dust.
		15 mppcf	Respirable fraction.
QUARTZ (14808-60-7)	TWA	15 mg/m ³	Total dust.
		2.4 mppcf	Respirable.
		0.3 mg/m ³	Total dust.
		0.1 mg/m ³	Respirable.
		0.1 mg/m ³	Respirable dust.

Exposure guidelines Occupational exposure to nuisance dust (total and respirable) and respirable crystalline silica should be monitored and controlled.

Engineering controls If material is ground, cut, or used in any operation which may generate dusts, use appropriate local exhaust ventilation to keep exposures below the recommended exposure limits. If engineering measures are not sufficient to maintain concentrations of dust particulates below the OEL, suitable respiratory protection must be worn.



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Personal protective equipment

Eye / face protection	Wear dust goggles.
Skin protection	No special protective equipment required.
Respiratory protection	Use a particulate filter respirator for particulate concentrations exceeding the Occupational Exposure Limit.
General hygiene considerations	Eye wash fountain is recommended. Use good industrial hygiene practices in handling this material.

9. Physical & Chemical Properties

Appearance	Not available.
Color	Various.
Odor	None.
Odor threshold	Not available.
Physical state	Solid.
Form	Various.
pH	5.5 - 6.5
Melting point	Not available.
Freezing point	Not available.
Boiling point	Not available.
Flash point	Not available.
Evaporation rate	Not available.
Flammability	Not available.
Flammability limits in air, upper, % by volume	Not available.
Flammability limits in air, lower, % by volume	Not available.
Vapor pressure	Not available.
Vapor density	Not available.
Specific gravity	Not available.
Relative density	Not available.
Solubility (water)	Not available.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Percent volatile	estimated

10. Chemical Stability & Reactivity Information

Chemical stability	Stable at normal conditions.
Conditions to avoid	None known.
Incompatible materials	None known.
Hazardous decomposition products	None known.
Possibility of hazardous Reactions	Will not occur.



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11. Toxicological Information

Toxicological data

Product

AMENDED SILICATES EXPERIMENTAL MERCURY SORBENT (Mixture)

Test Results

Acute Oral LD50 Rat: 46875 mg/kg estimated

Acute Other LD50 Mouse: 65050 mg/kg estimated

* Estimates for product may be based on additional component data not shown.

Chronic effects

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.

Carcinogenicity

IARC Monographs: 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.

12. Ecological Information

Ecotoxicological data

Product

AMENDED SILICATES EXPERIMENTAL MERCURY SORBENT (Mixture)

Test Results

EC50 Daphnia: 16768 mg/l 48.00 Hours estimated

LC50 Fish: 16133 mg/l 96.00 Hours estimated

* Estimates for product may be based on additional component data not shown.

Ecotoxicity

No data available for this product. Components of this product are hazardous to aquatic life.

Environmental effects

No data available for this product. An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

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

DOT

Not regulated as dangerous goods.



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IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

15. Regulatory Information

US federal regulations

OSHA Process Safety Standard: This material is not known to be hazardous by the OSHA Highly Hazardous Process Safety Standard, 29 CFR 1910.119.

CERCLA (Superfund) reportable quantity

None

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories
Immediate Hazard - Yes
Delayed Hazard - Yes
Fire Hazard - No
Pressure Hazard - No
Reactivity Hazard - No

Section 302 extremely hazardous substance No

Section 311 hazardous chemical Yes

Inventory status

<u>Country(s) or region</u>	<u>Inventory name</u>	<u>On inventory (yes/no)*</u>
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of New and Existing Chemicals (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

State regulations

WARNING: This product contains a chemical known to the State of California to cause cancer.

US - California Proposition 65 - Carcinogens & Reproductive Toxicity (CRT): Listed substance

QUARTZ (14808-60-7) Listed.

US - California Proposition 65 - CRT: Listed date/Carcinogenic substance

QUARTZ (14808-60-7) Listed: October 1, 1988 Carcinogenic.

US - Pennsylvania RTK - Hazardous Substances: Listed substance

QUARTZ (14808-60-7) Listed.

16. Other Information

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.

HMIS ratings

HMIS®		
HEALTH	*	1
FLAMMABILITY		0
PHYSICAL HAZARD		0
PERSONAL PROTECTION		

NFPA ratings

Health: 1
 Flammability: 0
 Instability: 0

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.

Third party materials: Insofar as materials not manufactured or supplied by this manufacturer are used in conjunction with, or instead of this product, it is the responsibility of the customer to obtain, from the manufacturer or supplier, all technical data and other properties relating to these and other materials and to obtain all necessary information relating to them. No liability can be accepted in respect of the use of this product in conjunction with materials from another supplier. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

Issue date

26-August-2009

This data sheet contains changes from the previous version in section(s):

Composition / Information on Ingredients: Ingredients
 Physical & Chemical Properties: Physical & Chemical Properties
 Ecological Information: Ecotoxicity
 Ecological Information: Environmental effects

