



Prairie Mud Service Ltd.

"Serving Western Canada with 24 Hour Drilling Mud Service"

MSDS (Material Safety Data Sheet)

1. Product and Company Identification

Material name BENTONITE – Non_treated
Version # 09
Revision date 15-October-2009
CAS # 1302-78-9
Synonym(s) SMECTITE CLAY
Manufacturer American Colloid Company
Industrial Specialties Group
2870 Forbs Avenue
Hoffman Estates, IL 60192 US
safetydata@amcol.com
<http://www.colloid.com/ISG/>
General Information (800) 426-5564
CHEMTREC® (800) 424-9300

2. Hazards Identification

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. Not expected to be a primary skin irritant.
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 Components

	CAS #	Percent
BENTONITE	1302-78-9	60 - 100

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	
Protective equipment for firefighters	As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.
Special protective equipment for fire-fighters	As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.
Explosion data	
Sensitivity to mechanical impact	Not available.
Sensitivity to static discharge	Not available.
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	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

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/m3	Inhalable particles.
QUARTZ (14808-60-7)	TWA	3 mg/m3 0.025 mg/m3	Respirable particles. Respirable fraction.

Canada - Alberta

Impurities	Type	Value	Form
INERT OR NUISANCE DUST (SEQ250)	TWA	3 mg/m3 10 mg/m3	Respirable particles. Total particulate.
QUARTZ (14808-60-7)	TWA	0.1 mg/m3	Respirable particles.

Canada - British Columbia

Impurities	Type	Value	Form
INERT OR NUISANCE DUST (SEQ250)	TWA	3 mg/m3 10 mg/m3	Respirable fraction. Total dust.
QUARTZ (14808-60-7)	TWA	0.025 mg/m3	Respirable fraction.

Canada - Ontario

Impurities	Type	Value	Form
INERT OR NUISANCE DUST (SEQ250)	TWA	10 mg/m3	Inhalable particulate.

Impurities	Type	Value	Form
QUARTZ(14808-60-7)	TWA	3 mg/m ³ 0.1 mg/m ³	Respirable particles. Respirable fraction.
Canada - Quebec			
Impurities	Type	Value	Form
INERTORNUISANCEDUST (SEQ250)	TWA	10 mg/m ³	Total dust.
QUARTZ(14808-60-7)	TWA	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.
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	8 - 11
Melting point	Not available.
Freezing point	Not available.
Boiling point	Not available.
Flash point	Not flammable
Evaporation rate	Not available.
Flammability	Not available.
Flammability limits in air, upper, % by volume	Not explosive
Flammability limits in air, lower, % by volume	Not explosive
Vapor pressure	Not available.
Vapor density	Not available.
Specific gravity	Not available.
Relative density	Not available.
Solubility (water)	Negligible
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Molecular formula	UNKNOWN

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.

11. Toxicological Information

Acute effects	Mild irritant to eyes (according to the modified Kay & Calandra criteria).
Chronic effects	<p>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.)</p> <p>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)</p> <p>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.</p>

Carcinogenicity

IARC Monographs on Occupational Exposures to Chemical Agents: Overall evaluation
QUARTZ (14808'607) 1 Human carcinogen.

12. Ecological Information

Ecotoxicological data

Product	Test Results
BENTONITE (1302-78-9)	LC50 Rainbow trout, donaldson trout (Oncorhynchus mykiss): 19000 mg/l 96.00 Hours

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.
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.
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14. Transport Information

TDG	Not regulated as dangerous goods.
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15. Regulatory Information WHMIS classification D2A - Other

Toxic Effects-VERY TOXIC

WHMIS labeling



WHMIS status

Controlled

Food and Drug Administration (FDA)

Total food additive
Direct food additive
GRAS food additive

Inventory status

Country(s) or region

Australia

Canada

Canada

China

Europe

Europe

Japan

Korea

New Zealand

Philippines

United States & Puerto Rico

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

Inventory name

Australian Inventory of Chemical Substances (AICS)

Domestic Substances List (DSL)

Non-Domestic Substances List (NDSL)

Inventory of Existing Chemical Substances in China (IECSC)

European Inventory of New and Existing Chemicals (EINECS)

European List of Notified Chemical Substances (ELINCS)

Inventory of Existing and New Chemical Substances (ENCS)

Existing Chemicals List (ECL)

New Zealand Inventory

Philippine Inventory of Chemicals and Chemical Substances (PICCS)

Toxic Substances Control Act (TSCA) Inventory

On inventory (yes/no)*

Yes

Yes

N

Yes

Yes

N

N

Yes

Yes

Yes

Yes

16. Other Information

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.

Further information

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

HMIS ratings



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.

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