

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product identifier BENTONITE
Version No. 17
Issue date 01-February-2012
Revision date 04-August-2014
Supersedes date 03-October-2013
CAS # 1302-78-9
Synonym(s) SMECTITE CLAY * BENTONITE
Manufacturer information CETCO
 2870 Forbs Avenue
 Hoffman Estates, IL 60192 United States
 safetydata@amcol.com
 http://www.cetco.com/
 General Information 800 527-9948

Americas 1.866.519.4752 (US, Canada, Mexico) 1 760 476 3962

2. Hazards Identification

Potential health effects

Eye Dust or powder may irritate eye tissue. Mild irritant to eyes (according to the modified Kay & Calandra criteria)

Inhalation Inhalation of dusts may cause respiratory irritation.

Ingestion No significant adverse effects are expected upon ingestion of the product.

Signs and Symptoms None known.

3. Composition/Information on Ingredients

Components	CAS #	Percent
BENTONITE	1302-78-9	100
Constituents	CAS #	Percent
SMECTITE GROUP MINERALS	1318-93-0	
Calcium carbonate	471-34-1	
Quartz	14808-60-7	<= 8
Cristobalite	14464-46-1	<= 2

Composition comments The purity of the product is 100% w/w. Impurities are not applicable for a UVCB substance.

4. FIRST-AID MEASURES

First aid procedures

Eye contact No specific first aid measures noted. Flush thoroughly with water. If irritation occurs, get medical assistance.

Skin contact No specific first aid measures noted. Wash skin with soap and water. Get medical attention if irritation develops and persists.

Inhalation No specific first aid measures noted. Move to fresh air. Call a physician if symptoms develop or persist.

Ingestion No specific first aid measures noted. Rinse mouth thoroughly. Get medical attention if any discomfort occurs.

Notes to physician Provide general supportive measures and treat symptomatically.

General advice No hazards which require special first aid measures. Provide general supportive measures and treat symptomatically.

5. Fire-fighting measures

Flammable properties	The product is not flammable.
Extinguishing media	
Suitable extinguishing media	Use any media suitable for the surrounding fires.
Unsuitable extinguishing media	Not applicable, non-combustible.
Protection of firefighters	
Specific hazards arising from the chemical	None known. The product itself does not burn.
Protective equipment for firefighters	None known.
Fire fighting equipment/instructions	Material can be slippery when wet.
Explosion data	
Sensitivity to static discharge	Not available.
Sensitivity to mechanical impact	Not available.
General fire hazards	This material will not burn.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions	No special precautions are necessary beyond normal good hygiene practices. See Section 8 for additional personal protection advice when handling this product.
Environmental precautions	No special environmental precautions required. Prevent further leakage or spillage if safe to do so.

7. HANDLING AND STORAGE

Handling	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	Store in a dry area. Keep the container dry. No special restrictions on storage with other products.

8. Exposure Controls / Personal Protection

Occupational exposure limits

US. ACGIH Threshold Limit Values

Constituents	Type	Value	Form
INERT OR NUISANCE DUSTS (CAS SEQ250)	TWA	3 mg/m ³	Respirable particles.
		10 mg/m ³	Inhalable particles.

Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2)

Constituents	Type	Value	Form
INERT OR NUISANCE DUSTS (CAS SEQ250)	TWA	3 mg/m ³	Respirable particles.
		10 mg/m ³	Total particulate.

Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended)

Constituents	Type	Value	Form
INERT OR NUISANCE DUSTS (CAS SEQ250)	TWA	3 mg/m ³	Respirable fraction.
		10 mg/m ³	Total dust.

Canada. Manitoba OELs (Reg. 217/2006, The Workplace Safety And Health Act)

Constituents	Type	Value	Form
INERT OR NUISANCE DUSTS (CAS SEQ250)	TWA	3 mg/m3	Respirable particles.
		10 mg/m3	Inhalable particles.

Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents)

Constituents	Type	Value	Form
INERT OR NUISANCE DUSTS (CAS SEQ250)	TWA	3 mg/m3	Respirable particles.
		10 mg/m3	Inhalable

Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment)

Constituents	Type	Value	Form
INERT OR NUISANCE DUSTS (CAS SEQ250)	TWA	10 mg/m3	Total dust.

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Constituents	Type	Value	Form
INERT OR NUISANCE DUSTS (CAS SEQ250)	PEL	5 mg/m3	Respirable fraction.
		15 mg/m3	Total dust.

US. OSHA Table Z-3 (29 CFR 1910.1000)

Constituents	Type	Value	Form
INERT OR NUISANCE DUSTS (CAS SEQ250)	TWA	5 mg/m3	Respirable fraction.
		15 mg/m3	Total dust.
		50 millions of particle	Total dust.
		15 millions of particle	Respirable fraction.

Biological limit values

No biological exposure limits noted for the ingredient(s).

Engineering controls

Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. If these are not sufficient to maintain concentrations of particulates and solvent vapour below the OEL, suitable respiratory protection must be worn.

Personal protective equipment**Eye / face protection**

Wear dust-resistant safety goggles where there is danger of eye contact.

Skin protection

No special protective equipment required. Normal work clothing (long sleeved shirts and long pants) is recommended.

Respiratory protection

Use a particulate filter respirator for particulate concentrations exceeding the Occupational Exposure Limit.

9. Physical & Chemical Properties

Appearance	Lump, granular or fine powder.
Physical state	Solid.
Form	Various.
Colour	Various.
Odour	None.
Odour threshold	Not applicable.
pH	8.5 - 11
Vapour pressure	0 kPa at 25 °C Not applicable.
Vapour density	Not applicable.
Boiling point	Not applicable.

Melting point/freezing point	> 450 °C (> 842 °F) / Not applicable.
Solubility (water)	< 0.9 mg/l
Specific gravity	Not applicable.
Relative density	2.6 g/cm ³
Flash point	Not applicable.
Flammability limits in air, upper, % by volume	Not applicable.
Flammability limit - upper (%) temperature	Not applicable.
Flammability limits in air, lower, % by volume	Not applicable.
Flammability limit - lower (%) temperature	Not applicable.
Auto-ignition temperature	Not applicable.
VOC	0 %
Evaporation rate	Not applicable.
Viscosity	Not applicable.
Viscosity temperature	Not applicable.
Percent volatile	0 %
Partition coefficient (n-octanol/water)	Not applicable.
Flammability (Train fire)	Not applicable.
Bulk density	0.9 - 1.4 g/cm ³
Molecular weight	Not applicable.
Molecular formula	UVCB Substance
Other data	
Decomposition temperature	> 500 °C (> 932 °F)
Explosive limit	Not applicable.
Explosive limit - lower (%)	Not applicable.
Explosive limit - lower (%) temperature	Not applicable.
Explosive limit – upper (%)	Not applicable.
Explosive limit - upper (%) temperature	Not applicable.
Explosive properties	Not explosive
Explosivity	Not applicable.
Fire point	Not applicable.
Flame extension	Not applicable.
Flame projection	Not applicable.
Flammability	Not applicable.
Flammability (flash back)	Not applicable.
Flammability (Heat of combustion)	Not applicable.
Flammability (solid, gas)	This product is not flammable.
Flash point class	Not flammable
Oxidizing properties	None.
pH in aqueous solution	8.5 - 11

10. Chemical Stability & Reactivity Information

Chemical stability	Stable at normal conditions.
Conditions to avoid	Moisture.
Incompatible materials	None known.
Hazardous decomposition products	Irritating and/or toxic fumes and gases may be emitted upon the products decomposition.
Possibility of hazardous reactions	Will not occur.

11. TOXICOLOGICAL INFORMATION

Toxicological data

Product	Species	Test results
BENTONITE (CAS 1302-78-9)		
Acute		
<i>Inhalation</i>		
LC50	Rat	> 5.27 mg/l, 4 hrOECD 436
<i>Oral</i>		
LD50	Rat	> 2000 mg/kgOECD 425
Acute effects	Not classified.	
Carcinogenicity	No carcinogenicity data available for this product. Sepiolite was evaluated by IARC as class 3 ("Cannot be classified as to carcinogenicity to humans"). Based on read-across with sepiolite, bentonite was assessed as non-carcinogenic. Therefore classification of bentonite for carcinogenicity is not warranted.	
Mutagenicity	Not classified.	
Reproductive effects	Not classified.	
Symptoms and target organs	None known.	

12. ECOLOGICAL INFORMATION

Ecotoxicological data

Product	Species	Test results	
BENTONITE (CAS 1302-78-9)			
Crustacea	EC50	Daphnia	> 100 mg/l, 48 hours
Other	EC50	Freshwater algae	> 100 mg/l, 72 hours
	LC50	Freshwater fish	16000 mg/l, 96 hours
		Marine water fish	2800 - 3200 mg/l, 24 hours
Aquatic			
Crustacea	EC50	Coon stripe shrimp (<i>Pandalus danae</i>)	24.8 mg/l, 96 hours
		Dungeness or edible crab (<i>Cancer magister</i>)	81.6 mg/l, 96 hours
Fish	LC50	Rainbow trout, donaldson trout (<i>Oncorhynchus mykiss</i>)	19000 mg/l, 96 hours
Persistence and degradability	Not relevant for inorganic substances		
Bioaccumulation / Accumulation	Will not bio-accumulate.		
Partition coefficient	Not applicable.		
Mobility in environmental media	Low water solubility, expected to sink and migrate into the sediment. Expected to partition to sediment and wastewater solids.		

13. DISPOSAL CONSIDERATIONS

Disposal instructions	Dispose in accordance with all applicable regulations.
Waste from residues / unused products	Dispose of in accordance with local regulations.
Contaminated packaging	Store containers and offer for recycling of material when in accordance with the local regulations.

14. Transport information

TDG

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

15. REGULATORY INFORMATION

WHMIS status Controlled

WHMIS Classification D2A - Other Toxic Effects-VERY TOXIC

WHMIS labeling



Inventory status

Country(s) or region	Inventory name	On inventory (yes/no)*
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 Existing Commercial Chemical Substances (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)	Yes
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)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. OTHER INFORMATION

Recommended restrictions None known.

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

HMIS® ratings Health: 1
Flammability: 0
Physical Hazard: 0

NFPA ratings Health: 0
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. 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.

Prepared by EHS Department