



MATERIAL SAFETY DATA SHEET

1. Product and Company Identification

Material name VELOCITY-PRO™
Version # 17
Revision date 08-August-2012
CAS # 1302-78-9
Synonym(s) Smectite * Bentonite * Bentonite, Sodian * Bentonite, Calcian * Sodium-activated Bentonite * Montmorillonite
Manufacturer information CETCO
Drilling Products Group
2870 Forbs Avenue
Hoffman Estates, IL 60192 United States
safetydata@amcol.com
<http://www.cetco.com/>
General Information (800) 527-9948
CHEMTREC® (800) 424-9300

2. Hazards Identification

Potential health effects

Eyes 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

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

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 and precautions for firefighters** None known.

Fire fighting equipment/instructions Material can be slippery when wet.

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 (SEQ250)	TWA	3 mg/m ³	Respirable particles.
		10 mg/m ³	Inhalable particles.

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

Constituents	Type	Value	Form
INERT OR NUISANCE DUSTS (SEQ250)	PEL	5 mg/m ³	Respirable fraction.
		15 mg/m ³	Total dust.

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

Constituents	Type	Value	Form
INERT OR NUISANCE DUSTS (SEQ250)	TWA	5 mg/m ³	Respirable fraction.
		15 mg/m ³	Total dust.
		50 mppcf	Total dust.
		15 mppcf	Respirable fraction.

Engineering controls Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below 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-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.
- General hygiene considerations** Use good industrial hygiene practices in handling this material.

9. Physical & Chemical Properties

- Appearance** Lump, granular or fine powder.
- Physical state** Solid.

Form	Various.
Color	Various.
Odor	None.
Odor threshold	Not applicable.
pH	8.5 - 11
Vapor pressure	Not applicable.
Vapor density	Not applicable.
Boiling point	Not applicable.
Melting point/Freezing point	> 842 °F (> 450 °C) / 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 limits in air, lower, % by volume	Not applicable.
Auto-ignition temperature	Not applicable.
VOC	0 %
Viscosity	Not applicable.
Viscosity temperature	Not applicable.
Percent volatile	0 %
Partition coefficient (n-octanol/water)	Not applicable. 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	> 932 °F (> 500 °C)
Explosive limit	Not applicable.
Explosive properties	Not explosive
Explosivity	Not applicable.
Flame extension	Not applicable.
Flammability	Not applicable.
Flammability (flash back)	Not applicable.
Flammability (Heat of combustion)	Not applicable.
Flammability (solid, gas)	This product is not flammable.
Flammability class	Not applicable.
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	None.

Possibility of hazardous reactions Will not occur.

11. Toxicological Information

Toxicological data

Product	Species	Test Results
Bentonite (1302-78-9)		
Acute		
<i>Inhalation</i>		
LC50	Rat	> 5.27 mg/l, 4 hr, OECD 436
<i>Oral</i>		
LD50	Rat	> 2000 mg/kg, OECD 425
Sensitization	Not classified.	
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.	
Skin corrosion/irritation	Not classified.	
Mutagenicity	Not classified.	
Reproductive effects	Not classified.	
Symptoms and target organs	None known.	

12. Ecological Information

Ecotoxicological data

Product	Species	Test Results
Bentonite (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
Persistence and degradability	Not relevant for inorganic substances	
Bioaccumulation / Accumulation	Will not bio-accumulate.	
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

DOT

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

15. Regulatory Information

US federal regulations

Drug Enforcement Administration (DEA). List 2, Essential Chemicals (21 CFR 1310.02(b) and 1310.04(f)(2))

Not regulated.

DEA Essential Chemical Code Number

Not regulated.

Drug Enforcement Administration (DEA). List 1 & 2 Exempt Chemical Mixtures (21 CFR 1310.12(c))

Not regulated.

DEA Exempt Chemical Mixtures Code Number

Not regulated.

CERCLA (Superfund) reportable quantity

None

Superfund Amendments and Reauthorization Act of 1986 (SARA)

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

Section 302 extremely hazardous substance
No

Section 311 hazardous chemical
No

Inventory status

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

*A "Yes" indicates that all components of this product comply with the inventory requirements 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.
UVCB = a substance of Unknown or Variable composition, Complex reaction products or Biological materials
SWERF = Size Weighted Respirable Fraction methodology is a scientific method developed to quantify the content of respirable particles within a bulk product. All details about the SWERF method are available at www.crystallinesilica.eu.
HMIS® is a registered trade and service mark of the NPCA.

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

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. 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

20-November-2007

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

Product and Company Identification: Synonyms
Composition / Information on Ingredients: Composition comments
Toxicological Information: Carcinogenicity
Other Information: Further information