



SAFETY DATA SHEET

1. Identification

Product identifier	VOLCLAY® 325
Other means of identification	Not available.
Synonym(s)	Smectite * Bentonite * Bentonite, Sodian * Bentonite, Calcian * Sodium-activated Bentonite * Montmorillonite
Recommended use	Bentonite has a variety of uses. It can be used as a rheology modifier, binding agent, adsorbent, hydraulic-barrier, and filler.
Recommended restrictions	None known.
Manufacturer/Importer/Supplier/Distributor information	
Manufacturer	
Company name	American Colloid Company
Address	2870 Forbs Avenue Hoffman Estates, IL 60192 United States
Telephone	General Information 800 426-5564
Website	http://www.colloid.com/ISG/
E-mail	safetydata@amcol.com
Emergency phone number	Not available.
Americas	1.866.519.4752 (US, Canada, Mexico) 1 760 476 3962

2. Hazard(s) identification

Physical hazards	Not classified.
Health hazards	Not classified.
Environmental hazards	Not classified.
OSHA defined hazards	Not classified.

Label elements

Hazard symbol	None.
Signal word	Not available.
Hazard statement	Not available.
Prevention	Not available.
Response	Not available.
Storage	Not available.
Disposal	Not available.
Hazard(s) not otherwise classified (HNOC)	None known.
Supplemental information	None.

3. Composition/information on ingredients

Substances

Chemical name	Common name and synonyms	CAS number	%
Bentonite	Smectite Bentonite Bentonite, Sodian Bentonite, Calcian Sodium-activated Bentonite Montmorillonite	1302-78-9	100

Bentonite is a UVCB substance sub-type 4. The purity of the product is 100 % w/w. Bentonite is composed mainly of smectite group minerals but the composition is varied, as expected for a UVCB substance, and other mineral constituents will be present in small and varying amounts. These minor constituents are not relevant for classification and labelling.

Composition comments

Bentonite is composed mainly of smectite group minerals but the composition is varied, as expected for a UVCB substance, and other mineral constituents will be present in small and varying amounts. These minor constituents are not relevant for classification and labelling. The purity of the product is 100% w/w. Impurities are not applicable for a UVCB substance. This product contains 10% total crystalline silica. The respirable crystalline silica as determined by the SWeRF method is <1% w/w. Details about the SWeRF method are available at www.crystallinesilica.eu.

4. First-aid measures

Inhalation

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

Skin contact

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

Eye contact

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

Ingestion

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

Most important symptoms/effects, acute and delayed

Dust in the eyes will cause irritation.

Indication of immediate medical attention and special treatment needed

Provide general supportive measures and treat symptomatically.

General information

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

5. Fire-fighting measures

Suitable extinguishing media

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

None known.

Fire-fighting equipment/instructions

Material can be slippery when wet.

General fire hazards

This material will not burn.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

No special precautions are necessary beyond normal good hygiene practices. See Section 8 for additional personal protection advice when handling this product.

Methods and materials for containment and cleaning up

Avoid the generation of dusts during clean-up. Collect powder using special dust vacuum cleaner with particle filter or carefully sweep into closed container.

Environmental precautions

No special environmental precautions required. Prevent further leakage or spillage if safe to do so.

7. Handling and storage

Precautions for safe 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.

Conditions for safe storage, including any incompatibilities

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. 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/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 (CAS SEQ250)	TWA	5 mg/m ³	Respirable fraction.

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

Constituents	Type	Value	Form
		15 mg/m ³	Total dust.
		50 millions of particle	Total dust.
		15 millions of particle	Respirable fraction.

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.

Biological limit values

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

Appropriate 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.

Individual protection measures, such as personal protective equipment**Eye/face protection**

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

Hand protection

No protection is ordinarily required under normal conditions of use.

Other

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.

Thermal hazards

Not applicable.

General hygiene considerations

Use good industrial hygiene practices in handling this material.

9. Physical and 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

Melting point/freezing point

> 842 °F (> 450 °C) / Not applicable.

Initial boiling point and boiling range

Not applicable.

Flash point

Not applicable.

Evaporation rate

Not available.

Flammability (solid, gas)

This product is not flammable.

Upper/lower flammability or explosive limits**Flammability limit - lower (%)**

Not applicable.

Flammability limit - upper (%)

Not applicable.

Explosive limit - lower (%)

Not available.

Explosive limit - upper (%)

Not available.

Vapor pressure

Not applicable.

Vapor density

Not applicable.

Relative density

2.6 g/cm³

Solubility(ies)**Solubility (water)**

< 0.9 mg/l

Partition coefficient (n-octanol/water)

Not applicable.

Not applicable.

Auto-ignition temperature	Not applicable.
Decomposition temperature	> 932 °F (> 500 °C)
Viscosity	Not applicable.
Viscosity temperature	Not applicable.
Other information	
Bulk density	0.9 - 1.4 g/cm ³
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 (Train fire)	Not applicable.
Flammability class	Not applicable.
Flash point class	Not flammable
Molecular formula	UVCB Substance
Molecular weight	Not applicable.
Oxidizing properties	None.
Percent volatile	0 %
pH in aqueous solution	8.5 - 11
Specific gravity	Not applicable.
VOC (Weight %)	0 %

10. Stability and reactivity

Reactivity	Not available.
Chemical stability	Stable at normal conditions.
Possibility of hazardous reactions	Will not occur.
Conditions to avoid	Moisture.
Incompatible materials	None known.
Hazardous decomposition products	None.

11. Toxicological information

Information on likely routes of exposure

Ingestion	Not classified.
Inhalation	Not classified. Inhalation of dusts may cause respiratory irritation.
Skin contact	Not classified.
Eye contact	Not classified. Dust in the eyes will cause irritation.

Symptoms related to the physical, chemical and toxicological characteristics None known.

Information on toxicological effects

Acute toxicity Not classified.

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

Skin corrosion/irritation Not classified.

Serious eye damage/eye irritation Not classified. Mild irritant to eyes (according to the modified Kay & Calandra criteria)

Respiratory or skin sensitization

Respiratory sensitization Not classified.

Skin sensitization Not classified.

Germ cell mutagenicity 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.

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

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

Bioaccumulative potential Will not bio-accumulate.

Mobility in soil Bentonite is almost insoluble and thus presents a low mobility in most soils.

Mobility in general The product has poor water-solubility.

Other adverse effects No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal instructions Dispose in accordance with all applicable regulations.

Hazardous waste code Not regulated.

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.

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

15. Regulatory information

US federal regulations

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

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

SARA 302 Extremely hazardous substance No

SARA 311/312 Hazardous chemical No

SARA 313 (TRI reporting)
Not regulated.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

Food and Drug Administration (FDA) Total food additive
Direct food additive
GRAS food additive

US state regulations

US. Massachusetts RTK - Substance List

Not regulated.

US. New Jersey Worker and Community Right-to-Know Act

Not regulated.

US. Rhode Island RTK

Not regulated.

US. California Proposition 65

Not Listed.

International Inventories

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, including date of preparation or last revision

Issue date 17-October-2013

Revision date 07-March-2014

Version # 26

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

NFPA ratings

0
0 0

List of abbreviations

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.
UVCB = a substance of Unknown or Variable composition, Complex reaction products or Biological materials

References

For any information on literature references or toxicity/ecotoxicity studies, please contact the supplier.

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.

Revision Information

Product and Company Identification: Alternate Trade Names



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