

SAFETY DATA SHEET

1. Identification			
Product identifier	VOLCLAY® TG-50		
Other means of identification			
CAS number	1302-78-9		
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	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.		
Manufacturer/Importer/Supplier	/Distributor information		
Manufacturer			
Company name Address	CETCO, an MTI Company 2870 Forbs Avenue Hoffman Estates, IL 60192 United States		
Telephone	General Information 800 527-9948		
Website E-mail	http://www.cetco.com/LT/ safetydata@mineralstech.com		
Emergency phone number	1.866.519.4752 (US, CA, 1 760 476 3962 MX)		
Supplier	Not available.		
2. Hazard identification			
Physical hazards	Not classified.		
Health hazards	Carcinogenicity Category 1A		
	Specific target organ toxicity, repeated Category 1 exposure		
Environmental hazards	Not classified.		
Label elements			
Signal word	Danger		
Hazard statement	May cause cancer. Causes damage to organs through prolonged or repeated exposure.		
Precautionary statement			
Prevention	Keep out of reach of children. Read label before use. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe dust. Do not breathe dust/fume/gas/mist/vapors/spray. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Wear protective gloves/protective clothing/eye protection/face protection.		
Response	If medical advice is needed, have product container or label at hand. IF SWALLOWED: Call a POISON CENTER/doctor// if you feel unwell. IF exposed or concerned: Call a POISON CENTER/doctor/.		
Storage	Store away from incompatible materials.		
Disposal	Dispose of contents/container in accordance with local/regional/national/international regulations.		
Other hazards	Material can be slippery when wet		
Supplemental information	6% of the mixture consists of component(s) of unknown acute oral toxicity. 8% of the mixture consists of component(s) of unknown acute dermal toxicity. 8% of the mixture consists of component(s) of unknown acute hazards to the aquatic environment.		

3. Composition/information on ingredients

Mixtures

mixtures			
Chemical name	Common name and synonyms	CAS number	%
SILICA, CRYSTALLINE, QUAF	RTZ	14808-60-7	6
SILICA, CRYSTALLINE, CRISTOBALITE		14464-46-1	2
Other components below repor	table levels		92
M: M-factor PBT: persistent, bioaccumulative a vPvB: very persistent and very bio All concentrations are in percent b			ne. *Designates that
Composition comments	Occupational Exposure Limits for constituents H-phrases is displayed in section 16.	are listed in Section 8. The full	text for all R- and
4. First-aid measures			
Inhalation	Oxygen or artificial respiration if needed. Do n substance. Induce artificial respiration with the valve or other proper respiratory medical device	e aid of a pocket mask equippe	
Skin contact	Remove and isolate contaminated clothing an attention if irritation develops and persists. Fo unaffected skin.		
Eye contact	Immediately flush eyes with plenty of water for	r at least 15 minutes. Continue	rinsing.
Ingestion	Rinse mouth. If ingestion of a large amount do Do not induce vomiting without advice from po- low so that stomach content doesn't get into the victim ingested the substance. Induce artificia with a one-way valve or other proper respirator	bison control center. If vomiting ne lungs. Do not use mouth-to- I respiration with the aid of a po	occurs, keep head mouth method if
Most important symptoms/effects, acute and delayed	Prolonged exposure may cause chronic effect	S.	
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and trea Symptoms may be delayed.	at symptomatically. Keep victim	under observation.
General information	IF exposed or concerned: Get medical advice, (show the label where possible). Ensure that r involved, and take precautions to protect them attendance.	nedical personnel are aware of	the material(s)
5. Fire-fighting measures			
Suitable extinguishing media	Use any media suitable for the surrounding fir	es.	
Unsuitable extinguishing media	Not applicable, non-combustible.		
Specific hazards arising from the chemical	During fire, gases hazardous to health may be	e formed.	
Special protective equipment and precautions for firefighters	Firefighters should wear full protective gear.		
Fire fighting equipment/instructions	Use water spray to cool unopened containers		
Specific methods	Use standard firefighting procedures and cons	sider the hazards of other involv	ved materials.
General fire hazards	This material will not burn. Material can be slip noted.	opery when wet No unusual fire	or explosion hazard

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Wear a dust mask if dust is generated above exposure limits. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up	Stop the flow of material, if this is without risk. Following product recovery, flush area with water. Put material in suitable, covered, labeled containers. For waste disposal, see section 13 of the SDS.
Environmental precautions	Avoid discharge into drains, water courses or onto the ground.
7. Handling and storage	
Precautions for safe handling	Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep formation of airborne dusts to a minimum. Provide appropriate exhaust ventilation at places where dust is formed. Do not breathe dust. Avoid prolonged exposure. When using, do not eat, drink or smoke. Should be handled in closed systems, if possible. Wear appropriate personal protective equipment. Wash thoroughly after handling. Observe good industrial hygiene practices.
Conditions for safe storage, including any incompatibilities	Store in tightly closed container. Keep out of the reach of children. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

US. ACGIH Threshold Limit Values

Components	Туре	Value	Form
SILICA, CRYSTALLINE, CRISTOBALITE (CAS 14464-46-1)	TWA	0.025 mg/m3	Respirable fraction.
SILICA, CRYSTALLINE, QUARTZ (CAS 14808-60-7)	TWA	0.025 mg/m3	Respirable fraction.

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

Components	Туре	Value	Form
SILICA, CRYSTALLINE, CRISTOBALITE (CAS 14464-46-1)	TWA	0.025 mg/m3	Respirable.
		0.025 mg/m3	Respirable particles.
SILICA, CRYSTALLINE, QUARTZ (CAS 14808-60-7)	TWA	0.025 mg/m3	Respirable particles.
Constituents	Туре	Value	Form
INERT OR NUISANCE DUSTS	TWA	3 mg/m3	Respirable particles.
		10 mg/m3	Total particulate.

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

Components	Туре	Value	Form
SILICA, CRYSTALLINE, CRISTOBALITE (CAS 14464-46-1)	TWA	0.025 mg/m3	Respirable fraction.
SILICA, CRYSTALLINE, QUARTZ (CAS 14808-60-7)	TWA	0.025 mg/m3	Respirable fraction.
Constituents	Туре	Value	Form
INERT OR NUISANCE DUSTS	TWA	3 mg/m3	Respirable fraction.
		10 mg/m3	Total dust.

Components	eg. 217/2006, The Workplace Safety A Type	Value	Form
SILICA, CRYSTALLINE, CRISTOBALITE (CAS 14464-46-1)	TWA	0.025 mg/m3	Respirable fraction.
SILICA, CRYSTALLINE, QUARTZ (CAS 14808-60-7)	TWA	0.025 mg/m3	Respirable fraction.
Canada. Ontario OELs. (Cor Components	ntrol of Exposure to Biological or Ch Type	emical Agents) Value	Form
SILICA, CRYSTALLINE, CRISTOBALITE (CAS 14464-46-1)	TWA	0.05 mg/m3	Respirable fraction.
SILICA, CRYSTALLINE, QUARTZ (CAS 14808-60-7)	TWA	0.1 mg/m3	Respirable fraction.
Constituents	Туре	Value	Form
INERT OR NUISANCE DUSTS	TWA	3 mg/m3	Respirable fraction.
		10 mg/m3	Inhalable fraction.
Canada. Quebec OELs. (Mir Components	istry of Labor - Regulation respectin Type	ng occupational health and sa Value	fety) Form
SILICA, CRYSTALLINE, CRISTOBALITE (CAS 14464-46-1)	TWA	0.05 mg/m3	Respirable dust.
SILICA, CRYSTALLINE, QUARTZ (CAS 14808-60-7)	TWA	0.1 mg/m3	Respirable dust.
Constituents	Туре	Value	Form
INERT OR NUISANCE DUSTS	TWA	10 mg/m3	Total dust.
logical limit values	No biological exposure limits noted for	or the ingredient(s).	
oosure guidelines	Occupational exposure to nuisance of should be monitored and controlled.	lust (total and respirable) and re	espirable crystalline silica
propriate engineering htrols	Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.		
ividual protection measures,	such as personal protective equipm	ent	·
Eye/face protection	Wear safety glasses with side shields Applicable for industrial settings only		in is recommended.
Skin protection Hand protection	Suitable gloves can be recommended by the glove supplier. Applicable for industrial settings on		
Other	Applicable for industrial settings only. Use of protective coveralls and long sleeves is recommended.		
Respiratory protection	Use a particulate filter respirator for p Exposure Limit. Applicable for industr respiratory protection.		
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.		
neral hygiene nsiderations	Observe any medical surveillance rea measures, such as washing after har smoking. Routinely wash work clothi	dling the material and before e	ating, drinking, and/or
Physical and chemical	properties		
pearance	Lump, granular or fine powder.		
Physical state Form	Solid. Solid. Various.		

Various.

Color

Odor threshold	Not applicable.
рН	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 applicable.
Flammability (solid, gas)	This product is not flammable.
Upper/lower flammability or expl	losive limits
Flammability limit - lower (%)	Not applicable.
Flammability limit - lower (%) temperature	Not applicable.
Flammability limit - upper (%)	Not applicable.
Flammability limit - upper (%) temperature	Not applicable.
Explosive limit - lower (%)	Not applicable.
Explosive limit - lower (%) temperature	Not applicable.
Explosive limit - upper (%)	Not applicable.
Explosive limit - upper (%) temperature	Not applicable.
Vapor pressure	Not applicable.
Vapor density	Not applicable.
Relative density	2.6 g/cm ³
Solubility(ies)	
Solubility (water)	< 0.9 mg/l
Partition coefficient (n-octanol/water)	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/cm³
Explosive limit	Not applicable.
Explosive properties	Not explosive. 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 (Train fire)	Not applicable.
Flammability class	Not applicable.
Flash point class	Not flammable
Molecular formula	UVCB Substance
Molecular weight	Not applicable.
5	

Oxidizing properties	Not oxidizing. None.
Percent volatile	0 %
pH in aqueous solution	8.5 - 11
Specific gravity	Not applicable.
VOC	0 %

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. Avoid temperatures exceeding the decomposition temperature. Contact with incompatible materials.
Incompatible materials	Powerful oxidizers. Chlorine.
Hazardous decomposition products	No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure

Inhalation	Prolonged inhalation may be harmful.
Skin contact	No adverse effects due to skin contact are expected.
Eye contact	Direct contact with eyes may cause temporary irritation.
Ingestion	Expected to be a low ingestion hazard.
Symptoms related to the physical, chemical and toxicological characteristics	Direct contact with eyes may cause temporary irritation.

Information on toxicological effects

Acute toxicity	Not known.		
Components	Species	Test Results	
SILICA, CRYSTALLINE, CRISTO	BALITE (CAS 14464-46-1)		
<u>Acute</u>			
Oral			
LD50	Rat	> 22500 mg/kg	
Skin corrosion/irritation	Prolonged skin contact ma	Prolonged skin contact may cause temporary irritation.	
Serious eye damage/eye irritation	Direct contact with eyes may cause temporary irritation.		
Respiratory or skin sensitizatio	n		
Canada - Alberta OELs: Irrit	tant		
SILICA, CRYSTALLINE, 14464-46-1)	CRISTOBALITE (CAS	Irritant	
Respiratory sensitization	Not a respiratory sensitizer		
Skin sensitization	This product is not expecte	d to cause skin sensitization.	
Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.		

Carcinogenicity

respirable crystalline slica should be monitored and controlled.	In 1997, IARC (the International Agency for Research on Cancer) conclinhaled from occupational sources can cause lung cancer in humans. I overall evaluation, IARC noted that "carcinogenicity was not detected in circumstances studied. Carcinogenicity may be dependent on inherent crystalline silica or on external factors affecting its biological activity or o polymorphs." (IARC Monographs on the evaluation of the carcinogenic humans, Silica, silicates dust and organic fibres, 1997, Vol. 68, IARC, L 2003, SCOEL (the EU Scientific Committee on Occupational Exposure main effect in humans of the inhalation of respirable crystalline silica du sufficient information to conclude that the relative risk of lung cancer is silicosis (and, apparently, not in employees without silicosis exposed to in the ceramic industry). Therefore, preventing the onset of silicosis wil risk" (SCOEL SUM Doc 94-final, June 2003) According to the current protection against silicosis can be consistently assured by respecting th occupational exposure limits. May cause cancer. Occupational exposure respirable crystalline silica should be monitored and controlled.	However in making the a all industrial characteristics of the distribution of its risks of chemicals to yon, France.) In June Limits) concluded that the ust is silicosis. "There is increased in persons with silica dust in quarries and I also reduce the cancer state of the art, worker ne existing regulatory
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ACGIH Carcinogens

ACGIN Carcinogens		
SILICA, CRYSTALLINE, (14464-46-1)	CRISTOBALITE (CAS	A2 Suspected human carcinogen.
	QUARTZ (CAS 14808-60-7)	A2 Suspected human carcinogen.
Canada - Alberta OELs: Caro	cinogen category	
SILICA, CRYSTALLINE, (14464-46-1)	CRISTOBALITE (CAS	Suspected human carcinogen.
	QUARTZ (CAS 14808-60-7)	Suspected human carcinogen.
Canada - Manitoba OELs: ca	rcinogenicity	
SILICA, CRYSTALLINE, (14464-46-1)	,	Suspected human carcinogen.
	QUARTZ (CAS 14808-60-7)	Suspected human carcinogen.
Canada - Quebec OELs: Car	cinogen category	
SILICA, CRYSTALLINE, (14464-46-1)	CRISTOBALITE (CAS	Detected carcinogenic effect in animals.
	QUARTZ (CAS 14808-60-7)	Suspected carcinogenic effect in humans.
IARC Monographs. Overall E	Evaluation of Carcinogenicity	
SILICA, CRYSTALLINE, (14464-46-1)	CRISTOBALITE (CAS	1 Carcinogenic to humans.
	QUARTZ (CAS 14808-60-7)	1 Carcinogenic to humans.
US. National Toxicology Pro	gram (NTP) Report on Carcine	ogens
SILICA, CRYSTALLINE, (14464-46-1)	CRISTOBALITE (CAS	Known To Be Human Carcinogen.
		Reasonably Anticipated to be a Human Carcinogen.
SILICA, CRYSTALLINE, C	QUARTZ (CAS 14808-60-7)	Known To Be Human Carcinogen.
Reproductive toxicity	This product is not expected to	o cause reproductive or developmental effects.
Specific target organ toxicity - single exposure	Not classified.	
Specific target organ toxicity - repeated exposure	Causes damage to organs thr	ough prolonged or repeated exposure.
Aspiration hazard	Not an aspiration hazard.	
Chronic effects	Causes damage to organs through prolonged or repeated exposure. Prolonged inhalation may be harmful. Prolonged exposure may cause chronic effects.	
12. Ecological information		
Ecotoxicity		s environmentally hazardous. However, this does not exclude the nt spills can have a harmful or damaging effect on the environment.
Persistence and degradability	No data is available on the degradability of this product.	
Bioaccumulative potential	No data available.	
Mobility in soil	No data available.	

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 Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents/container in accordance with local/regional/national/international regulations.

Local disposal regulationsDispose in accordance with all applicable regulations.Hazardous waste codeThe waste code should be assigned in discussion between the user, the producer and the waste
disposal company.Waste from residues / unused
productsDispose of in accordance with local regulations. Empty containers or liners may retain some
product residues. This material and its container must be disposed of in a safe manner (see:
Disposal instructions).Contaminated packagingSince emptied containers may retain product residue, follow label warnings even after container is
emptied. Empty containers should be taken to an approved waste handling site for recycling or
disposal.

14. Transport information

TDG

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

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

15. Regulatory information

Canadian regulations

This product has been classified in accordance with the hazard criteria of the HPR and the SDS contains all the information required by the HPR.

Controlled Drugs and Substances Act

Not regulated.

Export Control List (CEPA 1999, Schedule 3)

Not listed.

Greenhouse Gases

Not listed.

Precursor Control Regulations

Not regulated.

International regulations

Stockholm Convention

Not applicable.

Rotterdam Convention

Not applicable.

Kyoto protocol

Not applicable.

- **Montreal Protocol**
 - Not applicable.

Basel Convention

Not applicable.

International Inventories

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)	No
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)	No

Country(s) or region	Inventory name On inventory (yes/n	-
Taiwan		No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	No
	nents of this product comply with the inventory requirements administered by the governing country(s) components of the product are not listed or exempt from listing on the inventory administered by the governing country is the governing country of the governing country administered by the governing country of the governing country administered by the governing country of the governing country	ng
16. Other information		
Issue date	19-July-2018	
Revision date	25-October-2018	
Version #	24	
References	ACGIH EPA: AQUIRE database NLM: Hazardous Substances Data Base US. IARC Monographs on Occupational Exposures to Chemical Agents	
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 manufacturer expressly does not make 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.	any
	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 specificat. 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, 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, 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, This safety data sheet was prepared in accordance JIS Z 7253:2012. Additional information is given in the Material Safety Data Sheet. CETCO, an MTI Company cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available.	ion. s ition with he
Povision information	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 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 specificat. 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, 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, This safety data sheet was prepared in accordance JIS Z 7253:2012. Additional information is given in the Material Safety Data Sheet. CETCO, an MTI Company cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the	ge io s atic wi he

Revision informationHazard identification: Prevention
First-aid measures: Inhalation
Handling and storage: Conditions for safe storage, including any incompatibilities
Exposure controls/personal protection: Eye/face protection
Exposure controls/personal protection: Hand protection
Exposure controls/personal protection: Respiratory protection
Exposure controls/personal protection: Other
Stability and reactivity: Conditions to avoid
Regulatory information: International regulations
Other information: References
GHS: Classification