

SAFETY DATA SHEET

1. Identification

1. Identinoution			
Product identifier	BENTOMAT® DN		
Other means of identification	None.		
Recommended use	Not available.		
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/ Manufacturer	/Distributor information		
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. 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 exposed or concerned: Get medical advice/attention. Specific treatment (see on this label).		
Storage	Store locked up. Store away from incompatible materials.		
Disposal	Dispose of waste and residues in accordance with local authority requirements. Dispose of contents/container in accordance with local/regional/national/international regulations.		
Other hazards	None known.		
Supplemental information	5.1% of the mixture consists of component(s) of unknown acute oral toxicity. 6.8% of the mixture consists of component(s) of unknown acute dermal toxicity. 6.8% of the mixture consists of component(s) of unknown acute hazards to the aquatic environment. 6.8% of the mixture consists of component(s) of unknown long-term hazards to the aquatic environment.		

3. Composition/information on ingredients

Mixtures

Mixtures			
Chemical name	Common name and synonyms	CAS number	%
SILICA, CRYSTALLINE, QUAR	TZ	14808-60-7	5 - < 10
SILICA, CRYSTALLINE, CRISTOBALITE		14464-46-1	1 - < 3
Other components below report	able levels		90 - 100
M: M-factor PBT: persistent, bioaccumulative a vPvB: very persistent and very bioa All concentrations are in percent by			ume. *Designates that
Composition comments	Occupational Exposure Limits for constituents naturally occurring crystalline silica (not listed i than 6%.		
4. First-aid measures			
Inhalation	Move to fresh air. If symptoms are experienced fresh air. Oxygen or artificial respiration if need inhaled the substance. Induce artificial respirat one-way valve or other proper respiratory med persist.	ed. Do not use mouth-to-mo ion with the aid of a pocket r ical device. Call a physician	uth method if victim nask equipped with a if symptoms develop c
Skin contact	Remove and isolate contaminated clothing and material on unaffected skin.	I shoes. For minor skin cont	act, avoid spreading
Eye contact	Immediately flush eyes with plenty of water for attention immediately.	at least 15 minutes. Continu	e rinsing. Get medica
Ingestion	Rinse mouth thoroughly. If ingestion of a large immediately. Do not induce vomiting without at keep head low so that stomach content doesn' method if victim ingested the substance. Induc equipped with a one-way valve or other proper	dvice from poison control cert t get into the lungs. Do not u e artificial respiration with th	nter. If vomiting occurs se mouth-to-mouth
Most important symptoms/effects, acute and delayed	Direct contact with eyes may cause temporary effects.	irritation. Prolonged exposu	re may cause chronic
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and trea Symptoms may be delayed.	t symptomatically. Keep vict	m under observation.
General information	IF exposed or concerned: Get medical advice/ (show the label where possible). Ensure that m involved, and take precautions to protect them attendance.	edical personnel are aware	of the material(s)
5. Fire-fighting measures			
Suitable extinguishing media	Dry chemical, CO2, water spray or regular foar	n. Use any media suitable fo	or the surrounding fires
Unsuitable extinguishing nedia	None known.		
Specific hazards arising from the chemical	During fire, gases hazardous to health may be	formed.	
Special protective equipment and precautions for firefighters	As in any fire, wear self-contained breathing an (approved or equivalent) and full protective get		MSHA/NIOSH
Fire fighting equipment/instructions	Use water spray to cool unopened containers.		
Specific methods	Use standard firefighting procedures and cons	ider the hazards of other inv	olved materials.
General fire hazards	Not a fire hazard. No unusual fire or explosion	hazards noted.	

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	Avoid the generation of dusts during clean-up. This product is miscible in water. Collect dust or particulates using a vacuum cleaner with a HEPA filter. 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. None necessary. Reduce airborne dust and prevent scattering by moistening with water.
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. In case of insufficient ventilation, wear suitable respiratory equipment. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Observe good industrial hygiene practices.
Conditions for safe storage, including any incompatibilities	Store locked up. No special restrictions on storage with other products. Store in original tightly closed container. No special storage conditions required. Guard against dust accumulation of this material. Keep out of the reach of children. Store away from incompatible materials (see Section 10 of the SDS).
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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 (Occupation	al Health & Safety Code, Scl	hedule 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
TRADE SECRET	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)

Туре	Value	Form
TWA	0.025 mg/m3	Respirable fraction.
TWA	0.025 mg/m3	Respirable fraction.
Туре	Value	Form
TWA	3 mg/m3	Respirable fraction.
	10 mg/m3	Total dust.
-	TWA TWA Type	TWA 0.025 mg/m3 TWA 0.025 mg/m3 TWA 0.025 mg/m3 Type Value TWA 3 mg/m3

Components	g. 217/2006, The Workplace Safety An Type	d Health Act) 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.
	trol of Exposure to Biological or Chen	÷ ·	_
Components	Туре	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
TRADE SECRET	TWA	3 mg/m3	Respirable fraction.
		10 mg/m3	Inhalable fraction.
Canada. Quebec OELs. (Min Components	istry of Labor - Regulation respecting Type	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
TRADE SECRET	TWA	10 mg/m3	Total dust.
Canada. Saskatchewan OEL Components	s (Occupational Health and Safety Reg Type	gulations, 1996, Table 21) Value	Form
SILICA, CRYSTALLINE, CRISTOBALITE (CAS 14464-46-1)	15 minute	10 mg/m3	Inhalable fraction.
	8 hour	0.05 mg/m3	Respirable fraction.
SILICA, CRYSTALLINE, QUARTZ (CAS 14808-60-7)	8 hour	0.05 mg/m3	Respirable fraction.
Constituents	Туре	Value	Form
TRADE SECRET	15 minute	6 mg/m3	Respirable fraction.
		20 mg/m3	Inhalable fraction.
	8 hour	3 mg/m3	Respirable fraction.
		10 mg/m3	Inhalable fraction.
	No biological exposure limits noted for	the ingredient(s).	
logical limit values			
logical limit values posure guidelines	Occupational exposure to nuisance due should be monitored and controlled.	st (total and respirable) and re	spirable crystalline silica
-		ent to maintain concentrations ist be worn. Good general ver ntilation rates should be match cal exhaust ventilation, or othe iended exposure limits. If expo an acceptable level. If materi ts, use appropriate local exha	of dust particulates below tilation (typically 10 air ned to conditions. If er engineering controls to psure limits have not been al is ground, cut, or used i
oosure guidelines propriate engineering strols	should be monitored and controlled. If engineering measures are not sufficient OEL, suitable respiratory protection much changes per hour) should be used. Ver applicable, use process enclosures, loc maintain airborne levels below recomment established, maintain airborne levels to any operation which may generate dust	ent to maintain concentrations ist be worn. Good general ver ntilation rates should be match cal exhaust ventilation, or othe iended exposure limits. If expo o an acceptable level. If materi ts, use appropriate local exha posure limits.	of dust particulates below tilation (typically 10 air ned to conditions. If er engineering controls to psure limits have not been al is ground, cut, or used i
oosure guidelines propriate engineering strols	should be monitored and controlled. If engineering measures are not sufficie OEL, suitable respiratory protection mu changes per hour) should be used. Ver applicable, use process enclosures, loo maintain airborne levels below recomm established, maintain airborne levels to any operation which may generate dus exposures below the recommended exposures below the recommended exposures.	ent to maintain concentrations ist be worn. Good general ver ntilation rates should be match cal exhaust ventilation, or othe iended exposure limits. If expo o an acceptable level. If materi ts, use appropriate local exha posure limits.	of dust particulates below tilation (typically 10 air ned to conditions. If er engineering controls to psure limits have not been al is ground, cut, or used i

Other	Use of an impervious apron is recommended. No special protective equipment required.
Respiratory protection	Use a particulate filter respirator for particulate concentrations exceeding the Occupational Exposure Limit.
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.
General hygiene considerations	Observe any medical surveillance requirements. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Eye wash fountain is recommended. Use good industrial hygiene practices in handling this material.

9. Physical and chemical properties

9. Physical and chemical p	ropenies
Appearance	The product consists of bentonite granules between geotextile layers
Physical state	Solid.
Form	Solid. Mat or Fabric
Color	Various.
Odor	None.
Odor threshold	Not available.
рН	Not available.
Melting point/freezing point	Not available.
Initial boiling point and boiling range	Not available.
Flash point	Not flammable
Evaporation rate	Not available.
Flammability (solid, gas)	Not available.
Upper/lower flammability or expl	osive limits
Flammability limit - lower (%)	Not explosive
Flammability limit - upper (%)	Not explosive
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	0.00001 hPa estimated
Vapor density	Not available.
Relative density	Not available.
Solubility(ies)	
Solubility (water)	Negligible
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.
Other information	
Explosive properties	Not explosive.
Oxidizing properties	Not oxidizing.
Percent volatile	0 % estimated
10. Stability and reactivity	
Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Stable at normal conditions.
Possibility of hazardous reactions	Will not occur.
Conditions to avoid	Contact with incompatible materials

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	May cause discomfort if swallowed. Expected to be a low ingestion hazard. However, ingestion is not likely to be a primary route of occupational exposure.	
Symptoms related to the physical, chemical and toxicological characteristics	Direct contact with eyes may cause temporary irritation. Exposure may cause temporary irritation, redness, or discomfort.	
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 may	cause temporary irritation.
Serious eye damage/eye irritation	Mild irritant to eyes (accordin	g to the modified Kay & Calandra criteria)
Respiratory or skin sensitizatio	n	
Canada - Alberta OELs: Irri	tant	
SILICA, CRYSTALLINE, (CAS 14464-46-1)	CRISTOBALITE	Irritant
Respiratory sensitization	Not a respiratory sensitizer.	
Skin sensitization	According to the classificatio being a skin irritant.	n criteria of the European Union, the product is not considered as
Germ cell mutagenicity	No data available to indicate mutagenic or genotoxic.	product or any components present at greater than 0.1% are
Carcinogenicity	inhaled from occupational sc overall evaluation, IARC note circumstances studied. Carc crystalline silica or on extern polymorphs." (IARC Monogr humans, Silica, silicates dus 2003, SCOEL (the EU Scien main effect in humans of the sufficient information to conc silicosis (and, apparently, no in the ceramic industry). The risk" (SCOEL SUM Doc 94 protection against silicosis ca occupational exposure limits	nal Agency for Research on Cancer) concluded that crystalline silica burces can cause lung cancer in humans. However in making the ed that "carcinogenicity was not detected in all industrial inogenicity may be dependent on inherent characteristics of the al factors affecting its biological activity or distribution of its aphs on the evaluation of the carcinogenic risks of chemicals to t and organic fibres, 1997, Vol. 68, IARC, Lyon, France.) In June tific Committee on Occupational Exposure Limits) concluded that the inhalation of respirable crystalline silica dust is silicosis. "There is lude that the relative risk of lung cancer is increased in persons with t in employees without silicosis exposed to silica dust in quarries and perfore, preventing the onset of silicosis will also reduce the cancer -final, June 2003) According to the current state of the art, worker an be consistently assured by respecting the existing regulatory . May cause cancer. Occupational exposure to respirable dust and hould be monitored and controlled.
ACGIH Carcinogens		
SILICA, CRYSTALLINE, (CAS 14464-46-1) SILICA, CRYSTALLINE,	CRISTOBALITE QUARTZ (CAS 14808-60-7)	A2 Suspected human carcinogen. A2 Suspected human carcinogen.
Canada - Alberta OELs: Ca		
SILICA, CRYSTALLINE, (CAS 14464-46-1) SILICA, CRYSTALLINE	CRISTOBALITE QUARTZ (CAS 14808-60-7)	Suspected human carcinogen. Suspected human carcinogen.
Canada - Manitoba OELs: c		
SILICA, CRYSTALLINE,		Suspected human carcinogen.

(CAS 14464-46-1)

SILICA, CRYSTALLINE, (Canada - Quebec OELs: Car	QUARTZ (CAS 14808-60-7)	Suspected human carcinogen.
SILICA, CRYSTALLINE, ((CAS 14464-46-1)		Detected carcinogenic effect in animals.
SILICA, CRYSTALLINE, (QUARTZ (CAS 14808-60-7) Evaluation of Carcinogenicity	Suspected carcinogenic effect in humans.
SILICA, CRYSTALLINE, ((CAS 14464-46-1)	CRISTOBALITE	1 Carcinogenic to humans.
	QUARTZ (CAS 14808-60-7) gram (NTP) Report on Carcine	1 Carcinogenic to humans. ogens
SILICA, CRYSTALLINE, ((CAS 14464-46-1)	CRISTOBALITE	Known To Be Human Carcinogen.
SILICA, CRYSTALLINE, (QUARTZ (CAS 14808-60-7)	Reasonably Anticipated to be a Human Carcinogen. 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 three	ough prolonged or repeated exposure.
Aspiration hazard	Not an aspiration hazard.	
Chronic effects	inhaled from occupational sou overall evaluation, IARC notec circumstances studied. Carcin crystalline silica or on external polymorphs." (IARC Monogra	al Agency for Research on Cancer) concluded that crystalline silica rces can cause lung cancer in humans. However in making the d that "carcinogenicity was not detected in all industrial ogenicity may be dependent on inherent characteristics of the factors affecting its biological activity or distribution of its phs on the evaluation of the carcinogenic risks of chemicals to and organic fibres, 1997, Vol. 68, IARC, Lyon, France.)
	that the main effect in humans "There is sufficient information persons with silicosis (and, ap	Scientific Committee on Occupational Exposure Limits) concluded of the inhalation of respirable crystalline silica dust is silicosis. to conclude that the relative risk of lung cancer is increased in parently, not in employees without silicosis exposed to silica dust in dustry). Therefore, preventing the onset of silicosis will also reduce M Doc 94-final, June 2003)
	assured by respecting the exis organs through prolonged or r exposure may cause chronic e	of the art, worker protection against silicosis can be consistently sting regulatory occupational exposure limits. Causes damage to epeated exposure. Prolonged inhalation may be harmful. Prolonged effects. Some of the components of this product are hazardous in because of the physical nature of this product, dust generation is
12 Ecological information		

12. Ecological information

Ecotoxicity	The product is not expected to be hazardous to the environment. This product is not expected to produce significant ecotoxicity upon exposure to aquatic organisms and aquatic systems.	
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. Material should be recycled if possible.
Local disposal regulations	Dispose in accordance with all applicable regulations.
Hazardous waste code	The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Waste from residues / unused products	Dispose 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).

Since 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.

ΙΑΤΑ

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 Or	n 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)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	No
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
Taiwan	Taiwan Chemical Substance Inventory (TCSI)	No
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	
Issue date	09-July-2018
Revision date	09-July-2018
Version #	24
Further information	This safety datasheet only contains information relating to safety and does not replace any product information or product specification.
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 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.
	Third party materials: Insofar as materials not manufactured or supplied by this manufacturer are used in conjunction with, or instead of this product, it is the responsibility of the customer to obtain, from the manufacturer or supplier, all technical data and other properties relating to these and other materials and to obtain all necessary information relating to them. No liability can be accepted in respect of the use of this product in conjunction with materials from another supplier. 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. 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.
Revision information	Product and Company Identification: Product and Company Identification Composition / Information on Ingredients: Ingredients GHS: Classification