

Safety Data Sheet

Revised November 2013

Section 1 – Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product name: Crystalline Silica (Quartz), Sand, Silica Sand
Trade name: Silica Sand-All Grades, Actisand[®], Vita-S, RRW, Tip Top
CAS No.: 14808-60-7

1.2. Uses of the product and uses advised against

Use(s): Foundry Molds, Glass and Ceramic Melt Sand, Aggregate Filler, Filtration Media, Frac Sand

Prohibited use(s): **Warning!** Do not use this product for abrasive blasting.

1.3. Details of the product manufacturer and supplier of the safety data sheet

Manley Bros. of Indiana, Inc.
P.O. Box 80, 300 South Vermillion Road
Troy Grove, IL 61372
USA
Telephone: (815) 539 7486

1.4. Emergency Telephone Number

(815) 539-7486 (7:00 am – 4:00 pm Central Time, Monday-Friday)

Section 2 – Hazards Identification

2.1. General

This product contains respirable quartz as an impurity and may damage the lungs or cause cancer through prolonged or repeated inhalation. Depending on the type of handling and the ultimate use employed by the end-user, airborne respirable crystalline silica may be generated. Prolonged and/or massive inhalation of respirable crystalline silica may cause lung fibrosis, commonly referred to as silicosis. Occupational exposure to respirable crystalline silica dust should be monitored and controlled. This product should be handled with care to avoid dust generation.

2.2. Classification of the substance or mixture

GHS-US classification

STOT SE 3 H335
Carcinogen 1A H350
STOT RE 1 H373

For the full text of H-phrases: see section 16

2.3. Label elements

GHS-US labeling

Hazard pictograms (GHS-US):



Signal word (GHS-US): Warning

Hazard statements (GHS-US)
H335 May cause respiratory irritation
H350 May cause cancer (inhalation)

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H373	May cause damage to the lungs and/or respiratory system through prolonged or repeated inhalation
Precautionary statements (GHS-US)	
P304+P34	IF INHALED: Remove person to fresh air and keep comfortable for breathing
P308+P313	If exposed or concerned: Get medical advice/attention
P312	Call a POISON CENTER/doctor if you feel unwell
P264	Wash hands and forearms thoroughly after handling
P270	Do not eat, drink or smoke when using this product
P202	Do not handle until all safety precautions have been read and understood
P280	Wear eye protection, protective clothing, and protective gloves
P260	Do not breathe dust
P271	Use only outdoors or in a well-ventilated area
P403+P233	Store in a well-ventilated place. Keep container tightly closed
P501	Dispose of contents/container according to local, regional, national, and international regulations

2.4. Other hazards

- 2.4.1. Warning!** Do not use this product for abrasive blasting. NIOSH does not recommend the use of sand as an abrasive blasting medium. However NIOSH does recommend the use of a Type CE blasting helmet with supplied air if sand is used for the purpose of abrasive blasting.
- 2.4.2.** Re-use of this product as an abrasive blasting medium can result in fractionation, thereby creating smaller airborne particle sizes than that of the original product. The resulting fractionation can increase the respirable fraction of airborne dust generated during re-use.
- 2.4.3.** This product may become contaminated during use and/or re-use, and the user is responsible for evaluating workplace exposures to contaminants that may be generated as result. Employer selection and implementation of exposure controls or disposal options should consider both silica sand and the potential hazards of the material acted upon by the blasting or filtering operation.
- 2.4.4.** Hazardous Decomposition or Byproducts: Silica will dissolve in hydrofluoric acid and produce a corrosive gas – silicon tetrafluoride.

Section 3 – Composition/information on ingredients

3.1. Substances

Name	Product identifier	% composition	GHS-US classification ¹
Quartz, SiO ₂	CAS No. 14808-60-7 EINECS No. 238-878-4	>95%	Carcinogen 1A - H350 ² STOT SE 3 - H335 ³ STOT RE 1 - H372

¹For the full text of H-phrases: see section 16

²STOT SE = Specific target organ toxicity for a single exposure.

³STOT RE = Specific target organ toxicity for repeated exposure.

3.2. Mixtures

Not applicable

Section 4 – First Aid Measures

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4.1. Description of first aid measures

General:	If medical advice is needed, have product label or safety data sheet at hand.
Inhalation:	If gross inhalation of silica sand occurs, remove the person to fresh air and keep comfortable for breathing, perform artificial respiration as needed, and obtain medical attention as needed.
Eye contact:	Wash the eye with water for at least 15 minutes while holding the eyelids wide open. If irritation persists, seek medical attention.
Skin:	Wash skin with soap and plenty of water. If abrasion occurs, or if irritation persists, seek medical attention.
Ingestion:	If large amounts are ingested do not induce vomiting. Seek medical advice.

4.2. Principal symptoms and health effects both acute and delayed

General:	Prolonged or repeated inhalation may damage lungs.
Inhalation:	May cause respiratory irritation, sneezing, coughing, burning sensation in the throat or constriction of the larynx, or difficulty breathing.
Eye contact:	Redness, irritation or pain.
Skin:	Prolonged contact with large amounts of this product may cause mechanical irritation. Dust may cause irritation in skin folds or by contact in combination with tight clothing.
Ingestion:	Abdominal pain.
Chronic symptoms:	Shortness of breath, wheezing, cough and sputum production. May cause cancer, silicosis, lung disease, autoimmune disease, tuberculosis, and nephrotoxicity.

4.3. Indication of any immediate medical attention and special treatment needed

No specific actions are required.

Section 5 – Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media:	Use the extinguishing media appropriate for the surrounding fire.
Unsuitable extinguishing media:	None known.

5.2. Special hazards arising from the substance or mixture

Fire hazard:	None. This product is not flammable.
Explosion hazard:	None. This product is not explosive.
Reactivity:	No hazardous combustion products or hazardous reactions are known.

5.3. Advice for firefighters

No specific firefighting instructions are required. Use normal individual personal protective equipment and fight fire from a reasonable distance using normal precautions.

Section 6 – Accidental Release Measures

6.1. Personal precautions, protective equipment, and emergency procedures

General:	Do not breathe dust. Avoid generating airborne dust. Collect the material using a method that does not produce dust [High-Efficiency Particulate Air
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(HEPA) vacuum or thoroughly wetting down the material]. Dispose of according to federal, state, and local regulations.

Protective equipment:

Wear protective clothing as appropriate for the work environment, including gloves, and eye/face protection. Use respiratory protection as recommended in Section 8 – Exposure controls/personal protection.

Emergency procedure:

Collect as any inert solid.

6.2. Environmental precautions

No special requirements.

6.3. Methods and material for containment and cleaning up

Avoid dry sweeping or otherwise generating dust during clean-up of spills. Use water spraying or vacuum cleaning systems to prevent airborne dust generation. Recover product by vacuuming or shoveling and place the material in a covered container appropriate for disposal.

6.4 Reference to other Sections

Refer to Sections 8 and 13 for additional information.

Section 7 – Handling and Storage

7.1. Precautions for safe handling

Work practices:

Avoid airborne dust generation. Provide appropriate exhaust ventilation at places where airborne dust is generated. Do not rely on vision to determine whether respirable silica is present in the air since it may be present without a visible cloud. In case of insufficient ventilation, wear respiratory protective equipment as recommended in Section 8. Handle packaged products carefully to prevent bursting. If you require advice on safe handling techniques, please contact your supplier or check the Good Practices Guide referenced in Section 16.

Hygiene practices:

Do not eat, drink, or smoke in work areas. Wash hands after use. Remove contaminated clothing and protective equipment before entering eating areas.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures:

Minimize airborne dust generation and prevent wind dispersal during loading and unloading.

Precautions:

Store in a cool, dry place. Keep containers closed and store packaged products so as to prevent accidental bursting.

7.3. Specific end use(s)

Intended use(s):

Foundry Molds, Glass and Ceramic Melt Sand, Aggregate Filler, Filtration Media, Frac Sand.

Prohibited use(s):

Warning! Do not use this product for abrasive blasting.

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Section 8 – Exposure Controls/Personal Protection

8.1. Control Parameters

Quartz (14808-60-7)		
USA OSHA	OSHA PEL for mineral dust 8-Hr. TWA	30/(%SiO ₂ + 2) mg/m ³ total dust 10/(%SiO ₂ + 2) mg/m ³ resp. fraction
USA NIOSH	NIOSH REL 8-Hr. TWA	0.05 mg/m ³
USA ACGIH	ACGIH TLV8-Hr. TWA	0.025 mg/m ³

CAUTION:

Crystalline silica exists in several forms, the most common of which is quartz. If crystalline silica (quartz) is heated to more than 870°C (1,598°F) it can change to a form of crystalline silica known as tridymite, and if crystalline silica (quartz) is heated to more than 1,470°C (2,678°F), it can change to a form of crystalline silica known as cristobalite. Crystalline silica as tridymite and cristobalite are more fibrogenic than crystalline silica as quartz. The OSHA/MSHA PEL for crystalline silica as tridymite and cristobalite is one-half the PEL for crystalline silica (quartz); the ACGIH TLV for crystalline silica as cristobalite is equal to the TLV for crystalline silica as quartz.

8.2. Exposure controls

8.2.1. Engineering controls

Minimize the generation of airborne dust. Use process controls, local exhaust ventilation, or other engineering controls to maintain airborne levels below the limits shown in Section 8.1. above. See also ACGIH, Industrial Ventilation – Recommended Practice (latest edition).

8.2.2. Personal protective equipment (PPE)

Respiratory Protection:

Avoid breathing dust produced during the use and handling of this product. The following chart specifies the types of respirators that may provide respiratory protection for crystalline silica. Use only NIOSH-approved respirators. This chart is based on the OSHA/MSHA PEL, assuming that the material involved is ≥98% crystalline silica, thereby resulting in a PEL of 0.1 mg/m³. NIOSH recommends that workers wear the type CE abrasive blasting supplied air respirator operated in the positive-pressure mode (assigned protection factor (APF) of 2,000) if abrasive blasting operations involve crystalline silica sand.

Particulate Concentration	Minimum respiratory protection required (≥98%crystalline silica) PEL = 0.1 mg/m ³
≤1.0 mg/m ³ (10 x PEL)	<ul style="list-style-type: none"> Half-mask air-purifying respirator with a P100 filter approved by NIOSH.
≤5.0 mg/m ³ (50 x PEL)	<ul style="list-style-type: none"> Full facepiece air-purifying respirator with a P100 filter approved by NIOSH, or Supplied-air respirator equipped with a hood or helmet and operated in a continuous-flow mode (for example, type CE abrasive blasting respirators operated in the continuous flow mode) approved by NIOSH.
≤10 mg/m ³ (100 x PEL)	<ul style="list-style-type: none"> Any powered air-purifying respirator with a P100 filter approved by NIOSH, or Any supplied-air respirator equipped with a hood or helmet and operated in a continuous-flow mode (for example, type CE abrasive blasting respirators operated in the continuous flow mode) approved by NIOSH.
≤100 mg/m ³ (1,000 x PEL)	<ul style="list-style-type: none"> Full facepiece supplied-air respirator operated in pressure-demand mode, or Any supplied-air respirator equipped with a hood or helmet and operated in a continuous-flow mode (for example, type CE abrasive blasting respirators operated in the continuous flow mode) approved by NIOSH.

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Particulate Concentration	Minimum respiratory protection required ($\geq 98\%$ crystalline silica) PEL = 0.1 mg/m ³
Planned or emergency entry into environments containing unknown concentrations or concentrations >100 mg/m ³ (1,000 x PEL)	<ul style="list-style-type: none">Any self-contained breathing apparatus equipped with a full face piece and operated in a pressure-demand or other positive-pressure mode, orAny supplied-air respirator equipped with a full face piece and operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary self-contained breathing apparatus operated in a pressure-demand or other positive-pressure mode.
Firefighting	<ul style="list-style-type: none">Any self-contained breathing apparatus equipped with a full face piece and operated in a pressure-demand or other positive-pressure mode approved by NIOSH.
Escape only	<ul style="list-style-type: none">Any air-purifying respirator with a P100 filter approved by NIOSH, orAny appropriate escape-type, self-contained breathing apparatus.

If the workplace airborne crystalline silica concentration is unknown for a given task, conduct air monitoring to determine the appropriate level of respiratory protection needed. Consult with a certified industrial hygienist, your insurance risk manager, or the OSHA/MSHA Consultative Services group for more information. Ensure appropriate respirators are worn during and following the task, including clean-up or whenever airborne dust is present, in order to manage employee exposures below occupational health limits.

Eye protection: Goggles are recommended where airborne dust is produced.

Hand and skin protection: Impermeable gloves are recommended in situations where abrasion from sand may occur. Wash hands with soap and water after use.

Other: Wear protective clothing as appropriate for the work environment. Dusty clothing should be laundered before it is reused. Do not take dusty clothing home.

Section 9 – Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Appearance: Light buff to white granular solid

Odor: Odorless

pH: Not applicable

Vapor Pressure: Not applicable

Vapor Density: Not applicable

Boiling Point or Range, °F: 2,230°C (4,046°F) for quartz

Melting Point or Range, °F: 1,710°C (3,110°F) for quartz

Solubility In Water: Insoluble

Specific Gravity: 2.65 (quartz)

9.2 Other information

No other information

Section 10 – Stability and Reactivity

10.1. Reactivity

Inert, not reactive.

10.2. Chemical stability

Stable under normal temperature and pressure.

10.3. Possibility of hazardous reactions

Hazardous polymerization will not occur.

10.4 Conditions to avoid

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None known

10.5 Incompatible materials

Strong oxidizing agents such as fluorine, chlorine trifluoride, hydrogen fluoride, and oxygen difluoride.

10.6 Hazardous decomposition products

Silica will dissolve in hydrofluoric acid and produce a corrosive gas – silicon tetrafluoride.

Section 11 – Toxicological Information

A. SILICOSIS

The primary effect on humans from exposure to crystalline silica is silicosis, a lung disease caused by the inhalation and retention of respirable crystalline silica dust. Silicosis can exist in several forms; chronic (or ordinary), accelerated, or acute.

Chronic or Ordinary Silicosis is the most common form of silicosis, and can occur after many years of exposure to levels above the occupational exposure limits for airborne respirable crystalline silica dust. It is further defined as either simple or complicated silicosis.

Simple silicosis is characterized by lung lesions (shown as radiographic opacities) less than 1 centimeter in diameter, primarily in the upper lung zones. Often, simple silicosis is not associated with symptoms, detectable changes in lung function or disability. Simple silicosis may be progressive and may develop into complicated silicosis or progressive massive fibrosis (PMF).

Complicated silicosis or PMF is characterized by lung lesions (shown as radiographic opacities) greater than 1 centimeter in diameter. Although there may be no symptoms associated with complicated silicosis or PMF, the symptoms, if present, are shortness of breath, wheezing, cough and sputum production. Complicated silicosis or PMF may be associated with decreased lung function and may be disabling. Advanced complicated silicosis or PMF may lead to death. Advanced complicated silicosis or PMF can result in heart disease (cor pulmonale) secondary to the lung disease.

Accelerated Silicosis can occur with exposure to high concentrations of respirable crystalline silica over a relatively short period; the lung lesions can appear within five (5) years of the initial exposure. The progression can be rapid. Accelerated silicosis is similar to chronic or ordinary silicosis, except that the lung lesions appear earlier and the progression is more rapid.

Acute Silicosis can occur with exposures to very high concentrations of respirable crystalline silica over a very short time period, sometimes as short as a few months. The symptoms of acute silicosis include progressive shortness of breath, fever, cough and weight loss. Acute silicosis is fatal.

B. CANCER

IARC - The International Agency for Research on Cancer ("IARC") concluded that there was "*sufficient evidence* in humans for the carcinogenicity of crystalline silica in the forms of quartz or cristobalite from occupational sources", and that there is "*sufficient evidence* in experimental animals for the carcinogenicity of quartz and cristobalite." The overall IARC evaluation was that "crystalline silica inhaled in the form of quartz or cristobalite from occupational sources is *carcinogenic to humans (Group 1)*." The IARC evaluation noted that not all industrial circumstances studied evidenced carcinogenicity. The monograph also stated that "[C]arcinogenicity may be dependent on inherent characteristics of the crystalline silica or on external factors affecting its biological activity or distribution of its polymorphs." For further information on the IARC evaluation, see IARC Monographs on the Evaluation of Carcinogenic Risks to Humans, Volume 68, "Silica, Some Silicates..." (1997).

NTP - The National Toxicology Program, in its Ninth Annual Report on Carcinogens, concluded that respirable crystalline silica is known to be a human carcinogen, based on sufficient evidence of carcinogenicity from studies in humans indicating a causal relationship between exposure to respirable crystalline silica and increased lung cancer rates in workers exposed to crystalline silica dust.

OSHA – Not regulated as a carcinogen.

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There have been many articles published on the carcinogenicity of crystalline silica, which the reader should consult for additional information; the following are examples of recently published articles: (1) "Lung cancer among industrial sand workers exposed to crystalline silica," *Am J Epidemiol*, (153) 695-703 (2001); (2) "Crystalline Silica and the risk of lung cancer in the potteries," *Occup Environ Med*, (55) 779-785 (1998); (3) "Is Silicosis Required for Silica-Associated Lung Cancer?," *American Journal of Industrial Medicine*, (37) 252- 259 (2000); (4) "Silica, Silicosis, and Lung Cancer: A Risk Assessment," *American Journal of Industrial Medicine*, (38) 8-18 (2000); (5) "Silica, Silicosis, and Lung Cancer: A Response to a Recent Working Group Report," *Journal of Occupational and Environmental Medicine*, (42) 704-720 (2000).

C. AUTOIMMUNE DISEASES

There is evidence that exposure to respirable crystalline silica (without silicosis) or that the disease silicosis may be associated with the increased incidence of several autoimmune disorders, -- scleroderma, systemic lupus erythematosus, rheumatoid arthritis and diseases affecting the kidneys. For a review of the subject, the following may be consulted: "Occupational Exposure to Crystalline Silica and Autoimmune Disease", *Environmental Health Perspectives*, (107) Supplement 5, 793-802 (1999); "Occupational Scleroderma," *Current Opinion in Rheumatology*, (11) 490-494 (1999); "Connective tissue disease and silicosis," *Am J Ind Med*, (35), 375-381 (1999).

D. TUBERCULOSIS

Individuals with silicosis are at increased risk to develop pulmonary tuberculosis, if exposed to persons with tuberculosis. The following may be consulted for further information: *Occupational Lung Disorders*, Third Edition, Chapter 12, entitled "Silicosis and Related Diseases", Parkes, W. Raymond (1994); "Risk of pulmonary tuberculosis relative to silicosis and exposure to silica dust in South African gold miners," *Occup Environ Med*, (55) 496-502 (1998); "Occupational risk factors for developing tuberculosis", *Am J Ind Med*, (30) 148-154 (1996).

E. KIDNEY DISEASE

There is evidence that exposure to respirable crystalline silica (without silicosis) or that the disease silicosis is associated with the increased incidence of kidney diseases, including end stage renal disease. For additional information on the subject, the following may be consulted: "Kidney Disease and Silicosis", *Nephron*, (85) 14-19 (2000); "End stage renal disease among ceramic workers exposed to silica," *Occup Environ Med*, (56) 559-561 (1999); "Kidney disease and arthritis in a cohort study of workers exposed to silica," *Epidemiology*, (12) 405-412 (2001).

F. NON-MALIGNANT RESPIRATORY DISEASES

NIOSH has cited the results of studies that report an association between dusts found in various mining operations and non-malignant respiratory disease, particularly among smokers, including bronchitis, emphysema, and small airways disease. The results were not conclusive regarding an association among those with silicosis, only smokers, or the result of general mineral dust that does not contain silica. See *NIOSH Hazard Review – Health Effects of Occupational Exposure to Respirable Crystalline Silica*, published in April 2002, available from NIOSH, 4676 Columbia Parkway, Cincinnati, OH 45226, or at <http://www.cdc.gov/niosh/02-129A.html>.

Section 12 – Ecological Information

12.1. Toxicity

Not relevant.

12.2. Persistence and degradability

Not biodegradable.

12.3. Bioaccumulative potential

Not known to bioaccumulate.

12.4. Mobility in soil

Negligible.

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12.5. Other adverse effects

No other specific adverse effects known.

Section 13 – Disposal Considerations

13.1. Waste treatment methods

General: The unused product/product residue may be landfilled.

Packaging: Material should be placed in covered containers to minimize generation of airborne dust.

RCRA: Crystalline silica (quartz) is not classified as a hazardous waste under the Resource Conservation and Recovery Act, or its regulations, 40 CFR §261 et seq.

NOTE: The above information applies to Manley Bros. Silica Sand only as sold. Since the product may become contaminated during use and/or re-use, it is the responsibility of the user to determine the appropriate disposal method.

Section 14 – Transport Information

14.1. UN Number

Not relevant.

14.2. UN proper shipping name

Not relevant.

14.3. Transport hazards class

Crystalline silica (quartz) is not a hazardous material for purposes of transportation under the U.S. Department of Transportation Table of Hazardous Materials, 49 CFR §172.101.

14.4. Packing group

Not applicable.

14.5. Environmental hazards

Not relevant.

14.6. Special precautions for user

No special precautions.

Section 15 – Regulatory Information

15.1. US Federal regulations

TSCA No.: Crystalline silica (quartz) is listed on the EPA TSCA inventory under CAS No. 14808-60-7.

SARA Section 311/312: Crystalline silica is listed under CAS No. 14808-60-7: Silica sand, all grades. Classified as an immediate and delayed health hazard.

RCRA: Crystalline silica (quartz) is not classified as a hazardous waste under the Resource Conservation and Recovery Act, or its regulations, 40 CFR §261 et seq.

CERCLA: Crystalline silica (quartz) is not classified as a hazardous substance under regulations of the Comprehensive Environmental Response Compensation and Liability Act (CERCLA), 40 CFR §302.

Emergency Planning and Community Right to Know Act: Crystalline silica (quartz) is not an extremely hazardous substance under Section 302 and is not a toxic chemical subject to the requirements of Section 313.

Clean Air Act: Crystalline silica (quartz) mined and processed by Manley Bros. of Indiana was not processed with or does not contain any Class I or Class II ozone depleting substances.

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FDA: Silica is included in the list of substances that may be included in coatings used in food contact surfaces, 21 CFR §175.300(b)(3)(xxvi).

NTP: Respirable crystalline silica (quartz) is classified as a known human carcinogen.

OSHA Carcinogen: Crystalline silica (quartz) is not listed.

15.2. US state regulations

California Proposition 65: Crystalline silica (quartz) is classified as a substance known to the state of California to be a carcinogen.

California Inhalation Reference Exposure Limit (REL): The California chronic REL for respirable crystalline silica is 3 ug/m³. A chronic REL is an airborne level of a substance at or below which no adverse health effects are anticipated in individuals indefinitely exposed to the substance at that level.

Maine: Listed as a chemical of high concern.

Massachusetts Toxic Use Reduction Act: Respirable crystalline silica is considered toxic per the Massachusetts Toxic Use Reduction Act.

Minnesota: Listed on the state hazardous substances list.

New Jersey Right to Know Act: Quartz is considered hazardous for purposes of the Act and is also listed on the New Jersey special health hazards substances list.

Pennsylvania Worker and Community Right to Know Act: Quartz is considered hazardous for purposes of the Act, but it is not a special hazardous substance or an environmental hazardous substance.

15.3 International regulations

Canada: Manley Bros. of Indiana products, as naturally occurring substances, are on the Canadian DSL and categorized under WHMIS as D-2A

European Union: EINECS No.: 231-545-4

IARC: Crystalline silica (quartz) is classified in IARC as a Group 1 carcinogen.

15.4. Other regulations

National, state, provincial or local emergency planning, community right to know or other laws, regulations or ordinances may be applicable--consult applicable national, state, provincial or local laws.

Section 16 – Other Information

An electronic version of this SDS is available at <http://www.manleybros.com/>. More information on the effects of crystalline silica exposure may be obtained from the Occupational Safety and Health Administration (OSHA) (phone number: 1-800-321-OSHA; website: <http://www.osha.gov>) or from the National Institute for Occupational Safety and Health (NIOSH) (phone number: 1-800-35-NIOSH; website: <http://www.cdc.gov/niosh>).

HMIS:

Health:	2 (See Section 2 and Section 11 of this SDS)
Flammability:	0
Reactivity:	0
Protective Equipment:	E

NFPA

Health:	2
Flammability:	0
Reactivity:	0

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MANLEY BROS. OF INDIANA, INC. COMPANY DISCLAIMER

This Safety Data Sheet was prepared in accordance with the requirements outlined in the Federal Register, Volume 77, No. 58, March 26, 2012, page 17574. In this final rule, OSHA modified its Hazard Communication Standard (HCS) to conform to the United Nations' Globally Harmonized System of Classification and Labelling of Chemicals (GHS). The modifications to the standard included but were not limited to revised criteria for classification of chemical hazards and a new specified format for Safety Data Sheets.

The information contained in this Safety Data Sheet relates only to the specific material designated herein and does not relate to use in combination with any other material or in any process. The information and recommendations set forth herein are based on technical data that Manley Bros. of Indiana, Inc. believes to be correct and reliable. It is intended for use by persons having technical skill and at their own discretion and risk. Since conditions of use are outside the control of Manley Bros. of Indiana, Inc. no warranties, expressed or implied, are made and no liability is assumed in connection with any use of this information. Any use of this data and information must be determined by the user to be in accordance with federal, state, and local laws and regulations. Customers and users of crystalline silica must comply with all applicable health and safety laws, regulations, and orders.