



SANDSTONE

SAFETY DATA SHEET (SDS)

Effective Date: May 1, 2018

IDENTIFICATION
PRODUCT IDENTIFIER: SANDSTONE
TRADE NAME: Sandstone
SYNONYMS: N/A CHEMICAL FORMULA: N/A MOLECULAR WEIGHT: N/A DOT IDENTIFICATION NO: NONE
RECOMMENDED USE AND RESTRICTION ON USE: Commercial and Residential construction.
MANUFACTURER INFORMATION: Earthworks Stone 4287 N Highway 51 Perryville, MO 63775 Telephone: 573-547-9097 Contact: Safety Manager

SECTION II – PRODUCT AND COMPONENT DATA			
<i>Component(s) Chemical Name</i>	<i>CAS Registry No</i>	<i>% (Approx)</i>	<i>Exposure Limits</i>
Sandstone*	None	100	See Section 6
*Composition varies naturally – typically contains high levels of quartz (crystalline silica)	14808-60-7	>1	

SECTION III – PHYSICAL DATA

Appearance: Angular gray, white and tan particles ranging in size from powder to boulders.
Odor: No odor.

Specific Gravity	2.6 – 2.75
Boiling Point (At 1 Atm.)	N/A
Vapor Density in Air (Air = 1)	N/A
Vapor Pressure (mmHg @ 20°C)	N/A
% Volatile, By Volume (@ 100°F)	0%
Evaporation Rate (at 1Atm, and 5°C; n-butyl acetate = 1)	0
Solubility in Water	0

SECTION IV – REACTIVITY DATA

STABILITY: *Stable*

CONDITIONS TO AVOID: *Avoid contact with incompatible materials (see below).*

INCOMPATIBILITY (materials to avoid): *Contact with powerful oxidizing agents such as fluorine, boron trifluoride, chlorine trifluoride, manganese trifluoride, and oxygen difluoride may cause fire and/or explosions. Silica dissolves in hydrofluoric acid producing a corrosive gas – silicon tetrafluoride.*

HAZARDOUS DECOMPOSITION PRODUCTS: *Silica-containing respirable dust particles may be generated by handling. When heated, quartz is slowly transformed into tridymite (above 860°C / 1580°F) and cristobalite (above 1470°C / 2678°F). Both tridymite and cristobalite are considered more fibro genic to the lungs than quartz.*

HAZARDOUS POLYMERIZATION: *Not known to polymerize.*

SECTION V – FIRE AND EXPLOSION HAZARD DATA

<i>Flashpoint (Method used)</i> <i>Flammable Limits in Air</i> <i>Extinguishing Agents</i>	Not Flammable Not Flammable None Required
<i>Unusual Fire and Explosion Hazards:</i> Contact with powerful oxidizing agents may cause fire and/or explosions (see section 4 of this MSDS)	

SECTION VI – TOXICITY AND FIRST AID

EXPOSURE LIMITS:

- When exposure to this product and other chemicals is concurrent, the exposure limit must be defined in the workplace
- Unless specified otherwise, limits are expressed as eight-hour time-weighted averages (TWA). Limits for cristobalite and tridymite (other forms of crystalline silica) are equal to one-half of the limits for quartz.

ABBREVIATIONS:

- TLV® = Threshold limit value of the American Conference of Governmental Industrial Hygienists (ACGIH)
- MSHA PEL = permissible exposure limit of the Mine Safety and Health Administration (MSHA)
- OSHA PEL = permissible exposure limit of the Occupational Safety and Health Administration (OSHA)
- mg/m³ = milligrams of substance per cubic meter of air.

OTHER PARTICULATES:

- 2001 ACGIH TLV® = 10mg/m³ (inhalable/total particulate, not otherwise specified),
- 2001 ACGIH TLV® = 3mg/m³ (respirable particulate, not otherwise specified).
- OSHA PEL = 15mg/m³ (total particulate, not otherwise regulated).
- OSHA PEL = 5mg/m³ (respirable particulate, not otherwise regulated).

RESPIRABLE CRYSTALLINE SILICA (SiO₂ quartz):

- ACGIH TLV® = 0.05mg/m³ ;
- MSHA and OSHA PEL = MSHA and OSHA PEL = 10mg/m³ ÷ (%SiO₂ + 2), for respirable dust containing crystalline silica.

TOTAL DUST, RESPIRABLE AND NONRESPIRABLE: 1973 ACGIH TLV® = 30mg/m³ ÷ (%quartz + 3).

TOTAL DUST: MSHA PEL = 10mg/m³ , for nuisance particulates listed in Appendix E of the 1973 ACGIH TLV® booklet. {Appendix E includes: alundum (Al₂O₃); calcium carbonate; cellulose (paper fiber); portland cement; corundum (Al₂O₃); emery; glass [fibrous (<5-7 µm in diameter) or dust]; glycerin mist; graphite (synthetic); gypsum; vegetable oil mists (except castor, cashew nut, or similar irritant oils); kaolin; limestone; magnesite; marble; pentaerythritol; plaster of Paris; rouge; silicon carbide; starch; sucrose; tin oxide; and titanium dioxide.}

Per ACGIH, adverse effects are not likely to occur in the workplace provided exposure levels do not exceed the appropriate TLVs/PELs. However, because of the wide variation in individual susceptibility, lower exposure limits may be appropriate for some individuals including persons with pre-existing medical conditions such as those described below.

Medical Conditions Aggravated by Exposure: Inhaling respirable dust and/or crystalline silica may aggravate existing respiratory system disease(s) and/or dysfunctions. Exposure to dust may aggravate existing skin and/or eye conditions.

Primary Route(s) of Exposure

☒ Inhalation ☐ Skin ☐ Ingestion

ACUTE TOXICITY

EYE CONTACT: Direct contact with dust may cause irritation by mechanical abrasion.

SKIN CONTACT: Direct contact may cause irritation by mechanical abrasion.

SKIN ABSORPTION: Not expected to be a significant exposure route.

INGESTION: Expected to be practically non-toxic. Ingestion of large amounts may cause gastrointestinal irritation and blockage.

INHALATION: Dusts may irritate the nose, throat, and respiratory tract by mechanical abrasion. Coughing, sneezing, and shortness of breath may occur following exposures in excess of appropriate exposure limits.

Use of sandstone for construction purposes is not believed to cause additional acute toxic effects. However, repeated overexposures to very high levels of respirable crystalline silica (quartz, cristobalite, tridymite) for periods as short as six months have caused acute silicosis. Acute silicosis is a rapidly progressive, incurable lung disease that is typically fatal. Symptoms include (but are not limited to): shortness of breath, cough, fever, weight loss, and chest pain.

FIRST AID

EYES: Immediately flush eye(s) with plenty of clean water for at least 15 minutes, while holding the eyelid(s) open. Occasionally lift the eyelid(s) to ensure thorough rinsing. Beyond flushing, do not attempt to remove material from the eye(s). Contact a physician if irritation persists or later develops.

SKIN: Wash with soap and water. Contact a physician if irritation persists or later develops.

INGESTION: If person is conscious, give large quantity of water and induce vomiting; however, never attempt to make an unconscious person drink or vomit. Get immediate medical attention.

INHALATION: Remove to fresh air. Dust in throat and nasal passages should clear spontaneously. Contact a physician if irritation persists or later develops.

CHRONIC TOXICITY

Prolonged and repeated inhalation of respirable crystalline silica-containing dust in excess of appropriate exposure limits has caused silicosis, a lung disease. Not all individuals with silicosis will exhibit symptoms (signs) of the disease. However, silicosis can be progressive, and symptoms can appear at any time, even years after exposure has ceased. Symptoms of silicosis may include, but are not limited to, the following: shortness of breath; difficulty breathing with or without exertion; coughing; diminished work capacity; diminished chest expansion; reduction of lung volume; right heart enlargement and/or failure. Smoking may increase the risk of developing lung disorders, including emphysema and lung cancer. Persons with silicosis have an increased risk of pulmonary tuberculosis infection. Respirable dust containing newly broken silica particles has been shown to be more hazardous to animals in laboratory tests than respirable dust containing older silica particles of similar size. Respirable silica particles which had aged for sixty days or more showed less lung injury in animals than equal exposures of respirable dust containing newly broken particles of silica.

There are reports in the literature suggesting that excessive crystalline silica exposure may be associated with adverse health effects involving the kidney, scleroderma (thickening of the skin caused by swelling and thickening of fibrous tissue) and other autoimmune disorders. However, this evidence has been obtained primarily from case reports involving individuals working in high exposure situations or those who have already developed silicosis; and therefore, this evidence does not conclusively prove a causal relationship between silica or silicosis and these adverse health effects.

Several studies of persons with silicosis also indicate an increased risk of developing lung cancer, a risk that increases with the duration of exposure. Many of these studies of silicosis do not account for lung cancer confounders, especially smoking. Sandstone is not listed as a carcinogen by the International Agency for Research on Cancer (IARC), the National Toxicology Program (NTP), or the Occupational Safety and Health Administration (OSHA). In October 1996, an IARC Working Group re-assessing crystalline silica, a component of this product, designated crystalline silica as carcinogenic (Group 1). The NTP's Report on Carcinogens, 9th edition, lists respirable crystalline silica as a "known human carcinogen." In year 2000, the American Conference of Governmental Industrial Hygienists (ACGIH) listed respirable crystalline silica (quartz) as a suspected human carcinogen (A-2). These classifications are based on sufficient evidence of carcinogenicity in certain experimental animals and on selected epidemiological studies of workers exposed to crystalline silica.

SECTION VII— PERSONAL PROTECTION AND CONTROLS

Respiratory Protection: For respirable quartz levels that exceed or are likely to exceed an 8-hr TWA of $0.1\text{mg}/\text{m}^3$, a NIOSH approved dust respirator is recommended. For respirable quartz levels that exceed or are likely to exceed an 8-hr TWA of $0.5\text{mg}/\text{m}^3$, a NIOSH approved HEPA filter respirator is recommended. If respirable quartz levels exceed or are likely to exceed an 8-hr TWA of $5\text{mg}/\text{m}^3$, a NIOSH approved positive pressure, full face respirator or equivalent is recommended. Respirator use must comply with applicable MSHA or OSHA standards, which include provisions for a user training program, respirator repair and cleaning, respirator fit testing, and other requirements.

Ventilation: Local exhaust or general ventilation adequate to maintain exposures below appropriate exposure limits.

Skin Protection

See "Hygiene" section below.

Eye Protection

Safety glasses with side shields should be worn as minimum protection. Dust goggles should be worn when excessively (visible) dusty conditions are present or are anticipated.

Hygiene

Wash dust-exposed skin with soap and water before eating, drinking, smoking, and using toilet facilities. Wash work clothes after each use.

Other Control Measures

Respirable dust and quartz levels should be monitored regularly. Dust and quartz levels in excess of appropriate exposure limits should be reduced by all feasible engineering controls, including (but not limited to) wet suppression, ventilation, process enclosure, and enclosed employee work stations.

SECTION VIII – STORAGE AND HANDLING PRECAUTIONS

This product is not intended or designed for use as an abrasive blasting material, and should not be used for abrasive blasting.

Respirable crystalline silica-containing dust may be generated during processing, handling, and storage. The personal protection and controls identified in Section 7 of the MSDS should be applied as appropriate.

Do not store near food and beverages or smoking materials.

SECTION IX – SPILL, LEAK, AND DISPOSAL PRACTICES

Steps to be Taken in Case Material is Released or Spilled

The personal protection and controls identified in Section 7 of the MSDS should be used as appropriate. Spilled material, where dust can be generated, may overexpose cleanup personnel to respirable crystalline silica-containing dust. Wetting of spilled material and/or use of respiratory protective equipment may be necessary. Do not dry sweep spilled material.

Prevent spilled materials from inadvertently entering streams, drains, or sewers.

Waste Disposal Method

Pick up and reuse clean materials. Dispose of waste materials only in accordance with applicable federal, state, and local laws and regulations.

The above information applies to Earthworks product only, as sold. The product may be contaminated during use and it is the responsibility of the user to assess the appropriate disposal method in their situation.

SECTION X – TRANSPORT INFORMATION**DOT HAZARD CLASSIFICATION:**

None

PLACARD REQUIRED:

None

LABEL REQUIRED:

Label as required by the OSHA Hazard Communication standard {29 CFR 1910.1200(f)}, and applicable state and local regulations.

SECTION XI – OTHER INFORMATION

User's Responsibility:

The OSHA Hazard Communication Standard 29 CFR 1910.1200 requires that this SDS be made available to your employees who handle or may be exposed to this product. Educate and train your employees regarding applicable precautions. Instruct your employees to handle this product properly.

Disclaimer:

The information contained in this document applies to this specific material as supplied and Earthworks believes that the information contained in this SDS is accurate. The suggested precautions and recommendations are based on recognized good work practices and experience as of the date of publication. They are not necessarily all-inclusive or fully adequate in every circumstance as not all use circumstances can be anticipated. It may not be valid for this material if it is used in combination with other materials. It is the user's responsibility to satisfy oneself as to the suitability and completeness of this information for one's own particular use. Since the actual use of the product described herein is beyond our control, Earthworks, assumes no liability arising out of the use of the product by others. Appropriate warnings and safe handling procedures should be provided to handlers and users. Also, the suggestions should not be confused with nor followed in violation of applicable laws, regulation, rules or insurance requirement. However, product must not be used in a manner which could result in harm.

Notice:

Earthworks believes that the information contained on this Safety Data Sheet is accurate. The suggested procedures are based on experience as of the date of publication. They are not necessarily all-inclusive or fully adequate in every circumstance. Also, the suggestions should not be confused with or followed in violation of applicable laws, regulation, rules or insurance requirements.

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