Nitterhouse

Masonry Products, LLC

859 CLEVELAND AVENUE, CHAMBERSBURG, PA 17201-0813
CORPORATE OFFICE (717) 267-4500
FAX: (717) 267-4527

SAFETY DATA SHEET

SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: Concrete block (various styles), concrete brick, pavers, Aqua Pave Permable Pavers, VIP Pavers, Parking blocks, Allan® Block, NMP Legacy Stone, NMP Veneer Stone and Architectural Precast.

Manufacturer's Name: Nitterhouse Masonry Products, LLC
859 Cleveland Avenue
Chambersburg, PA 17201

Emergency Phone Number: **(717) 267-4500 (717) 267-4568** **Date Prepared:** January 25, 2011

SECTION 2 - COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous Ingredient:		
	Crystalline Silica (quartz)	25% to 40%
	Iron Oxides	0% to 4.3%
	Chromium (III) Oxide	0% to 1.8%

Chemical Formula:		**CAS No.**
	SiO_2	14808-60-7
	Fe_2O_3 and Fe_3O_4	51274-001,1332-37-2, 1317-61-9
	Cr_2O_3	1308-38-9

OSHA PEL: Exposure to airborne (respirable) crystalline silica shall not exceed an 8-hour time weighted average (TWA) limit as stated in 29 CFR §1910.1000 Table Z-3, Air Contaminants, specifically: $\frac{10\ mg/m^3}{\%SiO^2 + 2}$

ACGIH TLV: Crystalline Silica (quartz) TLV 8-hour TWA = 0.1 mg/m^3 (Respirable Crystalline Silica (quartz) See Threshold Limit Value and Biological Exposure Indices for Chemical Substances in Workroom Air, American Conference of Governmental Industrial Hygienists (latest edition)

Other Recommended Limits: National Institute for Occupational Safety and Health (NIOSH). The recommended exposure limit (REL-10 hour TWA) for respirable crystalline silica is 0.5 mg/m^3 as determined by a full-shift sample for up to a 10-hour working day, 40-hour work week. See NIOSH Criteria for a Recommended Standard Occupational Exposure to Crystalline Silica. Be aware that more restrictive limits may be enforced by some states, agencies or other authorities. Total respirable dust has limits and its monitoring is recommended.

CAUTION: Crystalline silica exists in several forms, the most common of which is quartz. Other forms are trydimite and cristobalite. The OSHA PEL for trydimite and cristobalite forms of crystalline silica is one-half the PEL for crystalline silica (quartz). The ACGIH TLV for trydimite and cristobalite forms of crystalline silica is one-half the TLV for crystalline silica (quartz).

SECTION 3 - HAZARD IDENTIFICATION

EMERGENCY OVERVIEW:

Dry sawing, grinding and other activities that generate dust from the concrete products may release respirable crystalline silica (quartz) in a sufficient concrentration to meet the standards presented in Section 2.

This product is a white or tan sand or gravel. It is not flammable, combustible or explosive. It does not cause burns or severe skin or eye irritation. A single exposure will not result in serious adverse health effects.

Crystalline silica (quartz) is incompatible with hydrofluoric acid, fluorine, chlorine trifluoride or oxygen difluoride.

POTENTIAL HEALTH EFFECTS:

Inhalation:

a. Silicosis: Respirable crystalline silica (quartz) may cause silicosis, a fibrosis (scarring) of the lungs. Silicosis may be progressive; it may lead to disability and death.

b. Cancer: Crystalline silica (quartz) inhaled from occupational sources is classified by IARC as carcinogenic to humans; a lung cancer hazard.

c. Scleroderma: There is evidence that exposure to respirable crystalline silica or the disease silicosis is associated with the increased incidence of scleroderma, an immune system disorder manifested by a fibrosis (scarring) of the lungs, skin and other internal organs.

d. Tuberculosis: Individuals with silicosis may be predisposed to develop tuberculosis.

e. Nephrotoxicity: There are several recent studies suggesting exposure to respirable crystalline silica (quartz) and the associated disease, silicosis, is also linked with increased incidence of kidney lesions.

Eye Contact: Crystalline silica (quartz) may cause abrasion of the cornea.

Skin Contact: No adverse effects expected.

Ingestion: No adverse effects expected for incidental ingestion.

Chronic Effects: The adverse health effects - silicosis, lung cancer, scleroderma, tuberculosis, and nephrotoxicity - are chronic effects.

Signs and Symptoms of Exposure:	There are generally no signs or symptoms of acute exposure to crystalline silica (quartz). The symptoms of chronic or ordinary silicosis, if present, may be shortness of breath, wheezing, cough and sputum production. The symptoms of acute silicosis may be the same; additionally, weight loss and fever may be associated with acute silicosis. The symptoms of scleroderma include thickening and stiffness of the skin, particularly in the fingers, shortness of breath, difficulty swallowing and joint problems.
Medical Conditions Generally Aggravated by Exposure:	The condition of individuals with lung disease (e.g. bronchitis, emphysema, chronic obstructive pulmonary disease) may be aggravated by exposure.

See Section 11, toxicological information, for additional detail on potenial adverse health effects.

SECTION 4 - FIRST AID MEASURES

Inhalation:	No specific first aid is necessary since the adverse health effects associated with exposure to crystalline silica (quartz) result from chronic exposures. If there is a gross inhalation of crystalline silica (quartz), remove the person immediately to fresh air, give artificial respiration as needed, seek medical attention as needed.
Eye Contact:	Wash immediately with water for at least 15 minutes. If irritation persists, seek medical attention.
Skin Contact:	No first aid should be needed since this product does not effect the skin. Wash exposed skin with soap and water before breaks and at the end of the shift.
Ingestion:	If large amounts are swallowed, get immediate medical attention.

SECTION 5 - FIRE FIGHTING MEASURES

Flammability:	Crystalline silica (quartz) is non-flammable and non-explosive.	**Extinguishing Media:**	None required.
Flash Point:	None	**Special Fire Fighting Procedures:**	N/A
Flammable Limits:	None	**Unusual Fire and Explosion Hazards:**	None

SECTION 6 - ACCIDENTAL RELEASE MEASURES

Spills:	Use dustless methods (vacuum with high efficiency filters) and place into a closable container for disposal, of flush with water. Do not dry sweep. Wear protective equipment specified below.
Waste Disposal Method:	See Section 13

SECTION 7 - HANDLING AND STORAGE

Precautions During Handling and Use: Do Not Breathe dust. Use adequate ventilation and dust collection. Keep airborne dust concentrations below the OSHA Permissible Exposure Limits (PEL) 29 CFR 1910.1000, 29 CFR 1926.55 and ensure embient dust levels are below other pertinent occupational health limits as indicated in Sections 2 and 8. Practice good housekeeping. Do not permit dust to collect on walls, floors, sills, ledges, machinery or equipment. Maintain clean respiratory protective equipment and fit test respirators in accordance with OSHA regulations 29 CFR 1910.134 Respiratory Protection, 1910.94 Ventilation, 1910.440 Recordkeeping. Also review the Construction Standards, 29 CFR 1926 if a construction industry related activity is involved. Maintain and test ventilation and dust collection equiptment. Wash or vacuum clothing which has become dusty. See also control measures in Section 8.

Precautions During Storage: Avoid breakage of bagged material or spills of bulk material. See control measures in Section 8.

The OSHA 29 CFR 1910.94 Ventilation, 1910.134 Respiratory Protection, the OSHA Hazard Communication Standard in 29 CFR Sections 1910.1200, 1915.1200, 1917.28 1918.90 and 1926.59, and state and local worker or community "right to know" laws and regulations should be strictly followed. **WARN YOUR EMPLOYEES (AND YOUR CUSTOMERS IN CASE OF RESALE) BY POSTING NOTICES AND OTHER MEANS OF THE HAZARD WARNING DELINEATING THE OSHA REQUIRED PRECAUTIONS TO BE USED. PROVIDE TRAINING FOR YOUR EMPLOYEES ABOUT THE OSHA PRECAUTIONS.**

See also American Society for Testing and Materials (ASTM) standard practice E 1132-89 (Reapproved 1993), "Standard Practice for Health Requirements Relating to Occupational Exposure to Quartz Dust."

SECTION 8 - EXPOSURE CONTROL/PERSONAL PROTECTION

Local Exhaust: Use sufficient local exhaust ventilation to reduce the level of respirable crystalline silica to OSHA PEL. See ACGIH "Industrial Ventilation, A Manual of Recommended Practice" (latest edition).

Respiratory Protection: NIOSH recommends that workers wear the type CE supplied air abrasive blasting respirator operated in the positive-pressure mode (assigned protection factor (APF) of 2,000 during abrasive blasting operations that involve crystalline silica sand. For other operations, the following table lists the minimum respiratory equipment required to meet the ACGIH-TLV for crystalline silica under given conditions. Workers should wear the most protective respirator that is feasible and consistent with the tasks to be performed. For additional information about respirator selection, consult the NIOSH Respirator Decision Logic.

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

NIOSH - RESPIRATORY PROTECTION FOR WORKERS EXPOSED TO RESPIRABLE CRYSTALLINE SILICA (QUARTZ)

Condition	Minimum respiratory protection * required to meet the Condition ACGIH-TLV for crystalline silica (0.1 mg/m^3)**
Less than or equal to 0.1 mg/m^3 (10 x TLV)***	Any air-purifying respirator with P100 filter
Less than or equal to 2.5 mg/m^3 (25 x TLV)	Any powered, air-purifying respirator with a P100 filter. Any supplied-air respirator equipped with a hood or helmet and operated in a continuous-flow mode (for example, type CE abrasive respirators operated in the continuous-flow mode).
Less than or equal to 5.0 mg/m^3 (50 x TLV)	Any air-purifying, full-facepiece respirator with a P100 or Any powered, air-purifying respirator with a tight-fitting facepiece and P100 filter.
Less than or equal to 100 mg/m^3 (1,000 x TLV)	Any supplied-air respirator equipped with a half-mask and operated in a pressure-demand or other positive-pressure mode.
Less than or equal to 200 mg/m^3 (2,000 x TLV)	Any supplied air-respirator equipped with a half-mask and operated in a pressure-demand or other positive-pressure mode (for example, a type CE abrasive blasting respirators operated in a positive-pressure mode).
Planned or emergency entry into environments containing unknown concentrations or concentrations less than or equal to 1,000 mg/m^3 (10,000 x TLV)	Any self-contained breathing apparatus equipped with a full facepiece and operated in a pressure-demand or other positive-pressure mode, **** or Any supplied-air respirator equipped with a full facepiece 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	Any self-contained breathing apparatus equipped with a full facepiece and operated in a pressure-demand or other positive-pressure mode ****
Escape only	Any air-purifying, full-facepiece respirator with a P100 filter, or Any appropriate escape-type, self-contained breathing apparatus

* Only NIOSH approved equipment should be used.

** These recommendations are intended to protect workers from silicosis; only the most protective respirators are recommended for use with carcinogens.

*** Assigned protection factor (APF) times the ACGIH - TLV. The APF is the minimum anticipated level of protection provided by each type of respirator.

**** Most protective respirators.

For respirators used, maintained and fitted in accordance with ANSI standard Z88.2 (level revision) "American National Standard Practices for Respiratory Protection."
Refer to 42 CFR 84 for a description of respirator types.

Permissible Exposure Limits

			Exposure Guidelines						
			OSHA		ACGIH		NIOSH		
Component	CAS No.	Percentage (by wt.)	PEL-TWA 8-hour	STEL	TLV-TWA 8-hour	STEL	REL-TWA 10-hour	STEL	UNIT
Crystalline Silica (quartz)	14808-60-7	75-99.7	10 / $\%SiO_2$,+2	None	1	None	0.05	None	mg/m^3

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Appearance: White or tan sand or gravel; granular.

Boiling Point: 4046° F/2230° C

Odor: None

Vapor Pressure (mm Hg): None

Specific Gravity (H_2O=1): 2.65

Vapor Density (AIR = 1): None

Melting Point: 2930° F/1610° C

Solubility In Water: Negligible

Evaporation Rate (Butyl Acetate=1): None

SECTION 10 - STABILITY AND REACTIVITY

Stability: Crystalline silica (quartz) is stable.

Incompatibility (Materials to Avoid): Contact with powerful oxidizing agents such as fluorine, chlorine, trifluoride, oxygen difluoride may cause fires.

Hazardous Decomposition or Byproducts: Silica will dissolve in hydrofluoric acid and produce a corrosive gas - silicon tetrafluoride.

Hazardous Polymerization: Will not occur.

SECTION 11 - TOXICOLOGICAL INFORMATION

A. SILICOSIS

The major concern is silicosis, caused by th inhalation and retention of respirable crystalline silica dust. Silicosis may be developed through long-term (chronic or ordinary) and short-term (accelerated or acute) exposures.

Chronic or Ordinary Silicosis is the most common form of silicosis, and may occur after many years of exposure to relatively low levels of 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 that 1 centimeter in diameter, primarily in the upper lung zones. Often, simple silicosis is not associated with symptoms of diability.

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 of PMF, the symptoms, if present, may be shortness of breath,

wheezing, cough and sputum production. Complicated silicosis of PMF may be associated with decreased lung function and may be disabling. Advanced complicated silicosis of PMF may lead to death. Advanced complicated silicosis or PMF may result in heart disease secondary to lung disease (cor pumonale).

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

Acute Silicosis may occur with exposures to very high concentration 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 can be fatal.

B. CANCER

IARC - The International Agency for Research on Cancer ("IARC") concluded that there was "sufficient evidence in humans for the carcinogencity of inhaled crystalline silica in the form 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 "carcinogenicity was not detected in all industrial circumstances studies. Carcinogenicity may be dependent on inherent characteristics of the crystalline silica or on external factors affecting its biological activity or distribution of it 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 Sixth Annual Report on Carcinogens, concluded that "silica, crystalline (respirabe)" may reasonably be anticipated to be a carcinogen, based on sufficient evidence in experimental animals and limited evidence in humans.

OSHA U. S. Occupational Safety and Health Administration has recognized IARC's finding that respirable crystalline silica is a known human carcinogen. (29 CFR 1910.1200 Hazard Communication)

There is substantial literature on the issues of the carcinogenicity of crystalline silica, which the reader should consult for additional information. A summary of the literature is set forth in "Exposure to crystalline silica and risk of lung cancer, the epidemiological evidence," Thorax, Volume 51, pp. 97-102 (1996). The official statement of the American Thoracic Society on the issue of silica carcinogenicity was published in "Adverse Effects of Crystalline Silica Exposure," American Journal of Respiratory and Critical Care Medicine, Volume 155, pp. 761-765 (199). The official statement concluded that, "The available data support the conclusion that silicosis produces increased risk for bronchogenic carcinoma. The cancer risk may also be increased by smoking and other carcinogens in the workplace. Epidemiologic studies provide convincing evidence for increased cancer risk among tobacco smokers with silicosis. Less information is available for never-smokers and for workers exposed to silica but who do not have silicosis. For workers with silicosis, the risk for lung cancer is relatively high and consistent among various countries and investigators. Silicosis should be considered a condition that predisposes workers to an increased risk of lung cancer." ID. At 763.

C. SCLERODERMA

There is evidence that exposure to respirable crystalline silica or that the disease silicosis is associated with the increased incidence of scleroderma, an immune system disorder manifested by a fibrosis (scarring) of the lungs, skins and other internal organs. Recently, the American Thoracic Society noted, "There is

persuasive evidence relating scleroderma to occupational silica exposures in setting where there is appreciable silicosis risk." The following may be consulted for additional information on crystallin silica, silicosis and scleroderma (also known as progressive systemic sclerosis): Occupational Lung Disorders, Third Edition, Chapter 12, entitled "Silicosis and Related Diseases," Parkes W. Raymond (1994). "Adverse effects of Crystalline Silica Exposure." American Journal of Respiratory and Critical Care Medicine, Volume 155, page 761-765, (1997)

D. TUBERCULOSIS

Individuals with silicosis may be predisposed to develop tuberculosis. The following may be consulted for further information: Occupational Lung Disorders, Third Edition, Chaper 12, entitled " Silicosis and Related Diseases," Parkes, W. Raymond (1994). "Adverse effects of Crystalline Silica Exposure," American Journal of Respiratory and Critical Care Medicine, Volume 155, page 761-765 (1997).

E. NEPHROTOXICITY

There are several recent studies suggesting exposure to respirable crystalline silica or other disease silicosis is associated with the increased incidence of kidney lesions. The following may be consulted for additional information on crystalline silica, silicosis and nephrotoxicity: Occupational Lung Disorders, Third Edition, Chaper 12, entitled "Silicosis and Related Diseases," Parkes, W. Raymond (1994). "Further evidence of human silica nephrotoxicity in occupationally exposed workers" British Journal of Industrial Medicine, Volume 50, Number 10, pp. 907-912 (1993). "Adverse effects of Crystalline Silica Exposure," American Journal of Respiratory and Critical Care Medicine, Volume 155, page 761-765 (1997).

SECTION 12 - ECOLOGICAL INFORMATION

Crystalline silica (quartz) is not known to be ecotoxic. There is no data which suggests that crystalline silica (quartz) is toxic to birds, fish, invertebrates, microorganisms or plants. For additional information on crystalline silica (quartz), see Sections 9 (physical and chemical properties) and 10 (stability and reactivity) of the MSDS.

SECTION 13 - DISPOSAL CONSIDERATIONS

General: The product may be landfilled; however, material should be covered 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.

Crystalline silica may be contaminated during use, and it is the responsibility of the user to assess the appropriate disposal of the used material.

SECTION 14 - TRANSPORT INFORMATION

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.

SECTION 15 - REGULATORY INFORMATION

UNITED STATES (FEDERAL AND STATE)

TSCA No.:	Crystalline silica (quartz) appears on the EPA TSCA inventory under the CAS No. 14808-60-7.
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 NMP was not processed with or does not contain any Class I or Class II ozone depleting substances.
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 probable carcinogen.
OSHA Hazard Communication Evaluation:	Crystalline silica (quartz) meets criteria for hazardous material, as defined by 29 CFR 1910.1200.
California Proposition 65:	Crystalline silica (quartz) is classified as a substance known to the state of California to be a carcinogen.

CANADA

Domestic Substances List:	All the components of this product are listed on the Canadian DSL.
WHMIS Classification:	D-2A

OTHER

EINECS No.:	231-545-4
EEC Label (Risk/Safety Phrases):	R 48/20, R 40/20, S22, S38
IARC:	Crystalline silica (quartz) is classified in IARC Group 1.

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. Consult all changes and applicable laws since that day of this MSDS.

SECTION 16 - OTHER INFORMATION

National Fire Protection Association (NFPA):

Health	0
Flammability	0
Reactivity	0

Warning Label Text:
The preceding information should be considered by you in developing a health hazard warning for this product. Nitterhouse Masonry Products, LLC disclaims all responsibility for the completeness, accuracy and legal sufficiency of this information. Consult with your attorney as to the appropriate warning text in your circumstance.

Web Sites with Information about Effects of Crystalline Silica Exposure:

- http://www.msha.gov
  The Mine Safety Health Administration Home page, which contains general (not mining specific) information on silicosis. Click on "Silicosis Prevention."

- http://www.cdc.gov/niosh/silicpag.html
  NIOSH Hotlinks to Silicosis Prevention

NITTERHOUSE MASONRY PRODUCTS, LLC DISCLAIMER

The information and recommendations contained herein are based upon data believed to be correct. However, no guarantee or warranty of any kind, express or implied, is made with respect to the information contained herein. We accept no responsilibity and disclaim all liability for any harmful effects which may be caused by purchase, resale, use or exposure to our silica. Customer-users of silica must comply with all applicable health and safety laws, regulations and orders, including OSHA Hazard Communication Standard.

Approved By: Name (Print): John H. Gorrell, Jr.

Signature: John H. Gorrell, Jr.

Title: Safety Director Date: Janurary 25, 2011