



Material Safety Data Sheet

May be used to comply with OSHA's Hazard Communication Standard, 29 CFR 1910 1200. Standard must be consulted for specific requirements.

U.S. Department of Labor

Occupational Safety and Health Administration
 (Non-Mandatory Form)
 Form Approved
 OMB No. 1218-0072

IDENTITY (as Used on Label and List):
PRECAST CONCRETE PRODUCTS: PIPE, CATCH BASINS AND ACCESSORIES

Note: Blank spaces are not permitted. If any item is not applicable or no information is available, the space must be marked to indicate that.

Section I

Manufacturer's name: MID-ATLANTIC DRAINAGE, INC.	Emergency Telephone Number: 828-324-0808 OR 843-358-4206
Address (Number, Street, City, State and ZIP Code): 105 GE PLANT ROAD SW, CONOVER, NC 28613	Telephone Number for Information: 828-324-0808
1124 WHITE OAK LANE, GALIVANTS FERRY, SC 29544	Date Prepared: 11/26/10
	Signature of Preparer (optional):

Section II—Hazardous Ingredients/Identity Information

Hazardous Components (Specific Chemical Identity, Common Name(s)): CAS No.	OSHA PEL	ACGIH TLV	Other	% (optional)
Portland Cement (Holcim / Giant) 65997-15-1	15mg/m3 (Total) 5mg/m3 (Respirable)	10mg/m3		10-30%
Crystalline Silica (Quartz) (Aggregate materials) (Vulcan / Martin Marietta) 14808-60-7	30mg/m3 / (%SiO2 +2) 10mg/m3 / (%SiO2 +2) (Respirable)	0.025mg/m3 (Respirable Dust)		35-80%
Fly Ash which contains: (SEFA) 68131-74-8	N/A	N/A		1-4%
Aluminum Oxide (Al2O3) 1344-28-1	15mg/m3 (Total) 5mg/m3 (Respirable)	10mg/m3		0.1-2%
Amorphous Silica 61790-53-2	80mg/m3 (%SiO2)	10mg/m3 (Inhalable) 3mg/m3 (Respirable)		0.01-3%
Calcium Oxide (CaO) 1305-78-8	5mg/m3	2mg/m3		0-1%
Iron Oxide (Fe2O3) 1309-37-1	10mg/m3 (as Fe2O3)	5mg/m3 (as Fe)		0.01-2%

Section III—Physical/Chemical Characteristics

Boiling Point:	N/A	Specific Gravity (H2O = 1):	N/A
Vapor Pressure (mm Hg):	N/A	Melting Point:	N/A
Vapor Density (AIR = 1):	N/A	Evaporation Rate (Butyl Acetate = 1):	N/A

Solubility in Water: Not Soluble

Appearance and Odor: Odorless solid

Section IV—Fire and Explosion Hazard Data

Flash Point (Method Used): N/A	Flammable Limits: N/A	LEL: N/A	UEL: N/A
Extinguishing Media: N/A			
Special Fire Fighting Procedures: None			
Unusual Fire and Explosion Hazards: None			



Section V—Reactivity Data

Stability:	Unstable		Conditions to Avoid: Do not allow wet concrete to set on skin, tools or other surfaces. Product hardens quickly.
	Stable	X	

Incompatibility (Materials to Avoid): None

Hazardous Decomposition or Byproducts: None

Hazardous Polymerization:	May Occur		Conditions to Avoid: None
	Will Not Occur	X	

Section VI—Health Hazard Data

Route(s) of Entry	Inhalation? Yes	Skin? No	Ingestion? Unlikely
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Health Hazards (Acute and Chronic):

ACUTE:

Wet Unhardened Concrete:

- **Skin Contact:** can dry the skin and cause alkali burns (1st, 2nd or 3rd degree within 12 to 48 hours after the skin contact and after 1-6 hours of exposure).
- **Eye Contact:** may cause burning and possible corneal edema.

Dust: Dry sawing, grinding, crushing or drilling may result in the release of dust particles containing Silica-Quartz (30mg/m3 Total Dust):

- **Skin Contact:** Absorption is not expected to be a significant type of exposure, but direct contact can cause irritation by mechanical abrasion.
- **Eye Contact:** Direct contact can cause minor irritation by mechanical abrasion.
- **Ingestion:** Practically non-toxic, but may cause stomach and esophagus burns. Ingestion of large amounts can cause gastrointestinal irritation and blockage.
- **Inhalation:** Minor irritation of the nose, throat and respiratory tract by mechanical abrasion. Repeated overexposure to very high levels of respirable crystalline silica for periods as short as 6 months have caused acute silicosis (a rapidly progressive and incurable lung disease that is typically fatal). Some common symptoms include, but are not limited to: shortness of breath, coughs, fever, chest pain and weight loss.

CHRONIC:

Wet Unhardened Concrete:

- **Skin Contact:** May cause chronic dermatitis.

Dust: Dry sawing, grinding, crushing or drilling may result in the release of dust particles:

- **Inhalation (Primarily):** Long term exposure is likely to exceed the OSHA PEL and the current TLV. Wet sawing, grinding or drilling while using the recommended water volume is the most effective control method (not always feasible). Prolonged exposure to the Silica-Quartz dust may result in Silicosis, Tuberculosis, Chronic Obstructive Pulmonary Disease, Autoimmune Diseases, Immunologic Disorders, Chronic and Subclinical Renal Disease, Lung Cancer (depends on the duration and level of exposure) and Pneumoconiosis (Dusty Lung).

Carcinogenicity: See Below	NTP? No	IARC Monographs? Yes (Silica-Quartz)	OSHA Regulated? No
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Precast Concrete Products are not listed on the NTP, IARC, or OSHA list of carcinogens. However, in 1996, IARC classified respirable crystalline silica from occupational sources as carcinogenic (Group 1). The NTP states that respirable size crystalline silica is a known human carcinogen (Group 1). These classifications are based on sufficient evidence of carcinogenicity in certain experimental animals and on selected epidemiological studies of workers exposed to crystalline silica. Iron Oxide is listed by IARC as exhibiting evidence of carcinogenicity in experimental animals.

Signs and Symptoms of Exposure:

Wet Unhardened Concrete: Irritating to the eyes and skin. Dry the skin and may cause alkaline burns. Hypersensitive persons may develop an allergic dermatitis.



Section VI—Health Hazard Data Continued

Dust: Chronic exposure to respirable dust containing crystalline silica in excess of applicable OSHA PEL's, MSHA PEL's and ACGIH TLV's has caused Silicosis. Tobacco smoking may increase the risk of developing chronic lung issues. Symptoms vary and may include, but are not limited to shortness of breath, dry cough, lessened capacity for work, diminished chest expansion, reduction of lung volume, right heart enlargement and/or failure. Individuals with Silicosis have an increased risk of pulmonary tuberculosis infection.

Medical Conditions:

Generally Aggravated by Exposure. Persons with preexisting lung disease such as Emphysema or Asthma should minimize the inhalation of dust caused by dry sawing, grinding, crushing or drilling. Increased susceptibility to Tuberculosis. Individuals with skin diseases should minimize skin contact with wet unhardened concrete or the dust caused by dry sawing, grinding, crushing or drilling.

Physicians Note: While unlikely, if ingestion of large amounts of wet unhardened concrete occur, do not induce emesis or perform gastric lavage. Immediate dilution may prevent esophageal burns, but for severe burns, consider esophagoscopy within the 1st 24 hours. Neutralization with acidic agents is not advised because of increased risk of exothermic burns. Washing with soap and water or water-mineral oil soaks may aid in removing hardened concrete from the skin.

Emergency and First Aid Procedures:

Wet Unhardened Concrete:

- **Eyes:** Flush immediately and continuously with flooding amounts of water for a minimum of 15 minutes. Consult a physician immediately if irritation later develops or persists.
- **Skin:** Remove contaminated clothing quickly. Wash affected areas with soap and water; consult a physician immediately if irritation persists.

Hardened Concrete:

- **Eyes:** Same procedure as Wet Unhardened Concrete above.

Dust Inhalation: Remove exposed individual to a fresh air location and support breathing if necessary. Encourage coughing, spitting and/or blowing nose to remove dust. Consult a physician immediately if irritation later develops or persists.

Ingestion of wet hardened concrete or concrete dust: Never give anything by mouth to an unconscious or convulsing person. See physicians note above. Consult a physician immediately.

Section VII—Precautions for Safe Handling and Use

Steps to Be Taken in Case Material Is Released or Spilled:

Wet Unhardened Concrete: Avoid contact with skin and clothing and recycle or allow the concrete to harden.

Hardened Concrete or Dust: Sweep up and discard. Use clean-up methods which do not disperse dust into the air.

Waste Disposal Method: Dispose of as common waste while following applicable Federal, State, and local regulations.

Precautions to Be Taken in Handling and Storing: Follow controls defined in Section VIII below when handling these products.

Section VII—Control Measures

Respiratory Protection (Specify Type): When exposed to dust from dry sawing, grinding, crushing or drilling hardened concrete products, wear a suitable NIOSH-approved respirator with a protection factor appropriate for the level of exposure. For nonroutine situations such as confined spaces, additional precautions or equipment may be required. The respirator must comply with all 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: Provide general or local ventilation systems as needed when dry sawing, grinding, crushing or drilling hardened concrete products in order to maintain dust concentrations below the OSHA PEL's, MSHA PEL's and ACGIH TLV. The preferred type of ventilation is local exhaust, since it prevents the release of dust into the work area by controlling it at the source.	Other: Respirable dust and crystalline quartz levels from dry sawing, grinding, crushing or drilling hardened concrete products should be monitored regularly and should be reduced using all feasible controls including, but not limited to, wet suppression, ventilation, enclosed employee work areas and process enclosure.
	Mechanical (General) See above recommendations	Special: None

Protective Gloves: When handling wet unhardened concrete.

Eye Protection: When dry sawing, grinding, crushing or drilling hardened concrete or when there is a splash hazard while working with wet unhardened concrete; wear safety glasses with side shields. Wear dust goggles in dusty environments.



Section VII—Control Measures Continued

Other Protective Clothing or Equipment: Suitable clothing to be worn in order to prevent skin contact with wet unhardened concrete. Make an eyewash station and suitable washing stations available, if necessary.

Work/Hygienic Practices: To prevent ingestion and skin contact, practice good personal hygiene such as washing contaminated skin before eating, drinking, smoking, lavatory use and before applying cosmetics. Avoid dust inhalation. Avoid direct contact with skin and eyes when pouring wet unhardened concrete.

DISCLAIMER:

This Material Safety Data Sheet is based on information and technical data the Company believes to be accurate and is intended for use by persons having technical skill and at their own discretion and risk. The information contained relates to the specific material designated herein and does not relate to use in combination with any other material or in any other process. The Company makes no warranties, expressed or implied, and assumes no liability in connection with any use of this information, since conditions of use are outside the Company's control.