

# SAFETY DATA SHEET

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

### GeoRoc<sup>®</sup> Geopolymer Mortar

**Product identifier:**

Product name: GeoRoc<sup>®</sup> Geopolymer Mortar

**Relevant identified uses of the substance or mixture and uses advised against:**

**Identified uses:**

GeoRoc is a geopolymer cement mortar used in the construction, mining and other industrial applications

**Uses advised against:** None

**Details of the supplier of the safety data sheet:**

**Company Identification:**

Milliken Infrastructure Solutions, LLC.  
1733 Majestic Drive  
Suite 101  
Lafayette, CO 80026 USA  
(720)-921-8810 (8:00 - 17:00 M-F)  
sds@milliken.com

**Emergency telephone number:**

Chemtrec:  
1-800-424-9300 (Chemtrec - US)  
1-703-527-3887 (International)

## SECTION 2: Hazards identification

**Classification of the substance or mixture:**



**Signal Word:**

Danger

**Hazard Statements:**

H314 – Causes severe skin burns and eye damage  
H315 – Causes skin irritation  
H317 – May cause an allergic skin reaction  
H318 – Causes serious eye damage  
H335 – May cause respiratory irritation  
H350 – May cause cancer (Inhalation)  
H372 – Causes damage to organs (lung/respiratory system) through prolonged or repeated exposure (inhalation)  
Carc. 1A – Carcinogenicity Category A  
STOT RE1 – Specific target organ toxicity (repeated exposure) Category 1  
STOT RE3 – Specific target organ toxicity (single exposure) Category 3

**Precautionary Statements:**

P102 – Keep out of reach of children  
P261, P304, P340, P312 – Avoid breathing dust/fume/gas/mist/vapors/spray. IF INHALED<sup>\*\*\*</sup> Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor/physician.  
P305, 351, 338, 310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician  
P301, P310: IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician  
P314 – Get medical advice and attention if you feel unwell  
P264 – Wash hands and forearms thoroughly after handling  
P270 – Do not eat, drink or smoke when using this product  
P201 – Obtain special instructions before use  
P202 – Do not handle until all safety precautions have been read and understood  
P260 – Do not breathe dust  
P271 – Use only outdoors or in a well-ventilated area  
P272: Contaminated work clothing should not be allowed out of the workplace  
P280 – Wear eye protection, protective clothing, protective gloves  
P403, P233 – Store in a well-ventilated place. Keep container tightly closed  
P405 – Store locked up  
P501 – Dispose of Contents/container according to local, regional, national and international regulations

**Hazard summary:**

**Physical hazards:**

No data available.

**Health hazards:**

**Inhalation:**

Crystalline silica: Overexposure to the respirable dust of crystalline silica (quartz or cristobalite, less than or equal to 5 microns in size) may lead to silicosis in humans, which is a progressive and irreversible lung disease. Dust in high concentrations may irritate the respiratory system.

<b>Eye contact:</b>	Dust may be irritating to the eyes and respiratory tract and may cause a low level inflammatory response in the lungs. Not known to cause permanent injury to eye tissue.
<b>Skin contact:</b>	Severely irritating to skin. Frequent or prolonged contact may defat and dry the skin, leading to discomfort and dermatitis. Prolonged or repeated skin contact may cause drying, cracking, or irritation.
<b>Ingestion:</b>	Ingestion may cause severe irritation of the mouth, the esophagus and the gastrointestinal tract.
<b>Other Health Effects:</b>	No data available.
<b>Environmental hazards:</b>	No data available.
<b>Label elements:</b>	Not applicable
<b>Other hazards:</b>	No data available.

### SECTION 3: Composition/information on ingredients

#### Mixtures

##### General information:

Chemical name	Concentration	CAS-No.	EC No.	REACH Registration No.	Notes
Crushed stone or gravel	0 to 60 %	Not available.	Not available.	Not available.	
Sand		Not available.	Not available.	Not available.	
Portland Cement			Not available.	Not available.	
Fly Ash		Not available.	Not available.	Not available.	
Crystalline Silica		14808-60-7	Not available.	Not available.	
Proprietary Ingredients		Not available.	Not available.	Not available.	

### SECTION 4: First aid measures

##### Description of first aid measures:

**Inhalation:** Dust irritates the respiratory system, and may cause coughing and difficulties in breathing. If breathing is difficult, give oxygen. Get medical attention if any discomfort continues.

**Eye contact:** In the event of contact with the eyes, rinse thoroughly with clean water. Continue to rinse for at least 15 minutes and seek medical attention.

**Skin contact:** Wash the skin immediately with soap and water. Take off immediately all contaminated clothing. If skin irritation or an allergic skin reaction develops, get medical attention.

**Ingestion:** If swallowed, rinse mouth with water (only if the person is conscious). Get medical attention if any discomfort continues.

**Most important symptoms and effects, both acute and delayed:** No data available.

##### Indication of any immediate medical attention and special treatment needed:

**Hazards:** No data available.

**Treatment:** No data available.

## SECTION 5: Firefighting measures

<b>General fire hazards:</b>	Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.
<b>Extinguishing media:</b>	
<b>Suitable extinguishing media:</b>	Water fog. Alcohol resistant foam. Dry chemical. Carbon dioxide or dry powder.
<b>Unsuitable extinguishing media:</b>	No data available.
<b>Special hazards arising from the substance or mixture:</b>	Material reacts with water.
<b>Advice for firefighters:</b>	
<b>Special fire fighting procedures:</b>	No data available.

## SECTION 6: Accidental release measures

<b>Personal precautions, protective equipment and emergency procedures:</b>	Wear appropriate personal protective equipment. The risk of inhalation of dust must be minimized as much as possible.
<b>Environmental precautions:</b>	Do not release into the environment.
<b>Methods and material for containment and cleaning up:</b>	Dam and absorb spillages with sand, earth or other non-combustible material. Ensure that waste and contaminated materials are collected and removed from the work area as soon as possible in a suitably labeled container. All waste materials should be packaged, labeled and transported in accordance with all national, state/provincial, and local requirements.
<b>Reference to other sections:</b>	No data available.

## SECTION 7: Handling and storage:

<b>Precautions for safe handling:</b>	No specific hygiene procedures noted, but good personal hygiene practices are always advisable, especially when working with chemicals. Wash promptly with soap and water if skin becomes contaminated. Practice good housekeeping. Avoid conditions which create dust.
<b>Conditions for safe storage, including any incompatibilities:</b>	Keep containers tightly closed. Store in a cool, dry place with adequate ventilation. Keep away from incompatible materials, open flames, and high temperatures.
<b>Specific end use(s):</b>	No data available.

## SECTION 8: Exposure controls/personal protection

### Control parameters

#### Occupational exposure limits:

Chemical name	Type	Exposure Limit values	Source
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No data available.

### Exposure controls

**Appropriate engineering controls:** No specific recommendation made, but protection against nuisance dust must be used when the general level exceeds 10 mg/m<sup>3</sup>.

**Individual protection measures, such as personal protective equipment:**

<b>General information:</b>	No data available.
<b>Eye/face protection:</b>	Wear necessary protective equipment. Avoid contact with eyes and prolonged skin contact. Chemical goggles are recommended.
<b>Skin protection:</b>	
<b>Hand protection:</b>	Wear suitable protective clothing as protection against splashing or contamination. Wash promptly with soap and water if skin becomes contaminated. Protective gloves should be used if there is a risk of direct contact or splash. Chemical resistant gloves are recommended. If contact with forearms is likely wear gauntlet style gloves.
<b>Other:</b>	Wear rubber boots. Wear appropriate clothing to prevent repeated or prolonged skin contact.
<b>Respiratory Protection:</b>	Wear dust masks in dusty areas. If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn.
<b>Hygiene measures:</b>	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.
<b>Environmental Controls:</b>	No data available.

**SECTION 9: Physical and chemical properties**

**Information on basic physical and chemical properties:**

**Appearance:**

<b>Physical State:</b>	powder
<b>Form:</b>	powder
<b>Color:</b>	Grey
<b>Odor:</b>	No data available.
<b>Odor Threshold:</b>	No data available.
<b>pH:</b>	10 - 13 Aqueous suspensions
<b>Melting point/freezing point</b>	No data available.
<b>Boiling Point:</b>	No data available.
<b>Flash Point:</b>	No data available.
<b>Evaporation Rate:</b>	No data available.
<b>Flammability (solid, gas):</b>	No data available.
<b>Flammability Limit - Upper (%)-:</b>	No data available.
<b>Flammability Limit - Lower (%)-:</b>	No data available.
<b>Vapor pressure:</b>	No data available.
<b>Vapor density (air=1):</b>	No data available.
<b>Relative density:</b>	3,15
<b>Solubility(ies):</b>	
<b>Solubility in Water:</b>	No data available.
<b>Solubility (other):</b>	No data available.
<b>Partition coefficient (n-octanol/water):</b>	No data available.
<b>Autoignition Temperature:</b>	No data available.
<b>Decomposition Temperature:</b>	No data available.

**Viscosity:** No data available.  
**Explosive properties:** No data available.  
**Oxidizing properties:** No data available.  
**Other information**

No data available.

## SECTION 10: Stability and reactivity

**Reactivity:** Material is stable under normal conditions.  
**Chemical stability:** No data available.  
**Possibility of hazardous reactions:** The product reacts with water and will generate heat.  
**Conditions to avoid:** No data available.  
**Incompatible materials:** No data available.  
**Hazardous decomposition products:** No data available.

## SECTION 11: Toxicological information

### Information on likely routes of exposure

**Inhalation:** No data available.  
**Ingestion:** No data available.  
**Skin contact:** No data available.  
**Eye contact:** No data available.

### Information on toxicological effects:

#### Acute Toxicity:

**Oral:**  
**Product:** No data available.  
**Dermal:**  
**Product:** No data available.  
**Inhalation:**  
**Product:** No data available.

**Repeated dose toxicity:**  
**Product:** No data available.

**Skin corrosion/irritation:**  
**Product:** No data available.

**Serious eye damage/eye irritation:**  
**Product:** No data available.

**Respiratory or skin sensitization:**  
**Product:** No data available.

**Germ cell mutagenicity:**

**In vitro:**  
**Product:** No data available.

**In vivo:**  
**Product:** No data available.

**Carcinogenicity:**  
**Product:** No data available.

**Reproductive toxicity:**  
**Product:** No data available.

**Specific target organ toxicity - single exposure:**  
**Product:** No data available.

**Specific target organ toxicity - repeated exposure:**  
**Product:** No data available.

**Aspiration hazard:**  
**Product:** No data available.

**Other adverse effects:** None

**SECTION 12: Ecological information**

**Toxicity**

**Acute toxicity**

**Fish:**  
**Product:** No data available.

**Aquatic invertebrates:**  
**Product:** No data available.

**Chronic Toxicity:**

**Fish:**  
**Product:** No data available.

**Aquatic invertebrates:**  
**Product:** No data available.

**Toxicity to Aquatic Plants:**  
**Product:** No data available.

**Persistence and degradability:**

**Biodegradation:**  
**Product:** No data available.

**BOD/COD ratio:**  
**Product:** No data available.

**Bioaccumulative potential:**  
**Product:** No data available.

**Mobility in soil:** No data available.

**Results of PBT and vPvB assessment:** No data available.

**Other adverse effects:** No data available.

## SECTION 13: Disposal considerations

### Waste treatment methods

**General information:** No data available.

### Disposal methods

**Product:** Dispose of waste at an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

**Contaminated packaging:** No data available.

**European Waste Codes:** None

## SECTION 14: Transport information

**Land (ADR/RID)**  
Not regulated.

**Sea (IMDG)**  
Not regulated.

**Air (ICAO/IATA)**  
Not regulated.

**Environmental hazards:** Not regulated.

**Special precautions for user:** No special precautions.

**Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code:** Not applicable.

## SECTION 15: Regulatory information

### Safety, health and environmental regulations/legislation specific for the substance or mixture

Ready mix concrete/cement/geopolymer is considered a hazardous chemical under USDOL-OSHA Hazard Communication Rule, 29 CFR 1910.1200 and should be part of any hazard communication program.

Ready mix concrete/cement/geopolymer qualifies as a hazardous substance with delayed health effects under SARA (Title III), Sections 311 and 312.

Some substances in Ready Mix Concrete/cement/geopolymer are on the TSCA inventory list.

Ready mix concrete/cement/geopolymer is a hazardous substance under the Federal Hazardous Substance Act (USA)

Under California Proposition 65, this product contains chemicals (trace metals) known to the State of California to cause cancer, birth defects, or other reproductive harm. California law requires the manufacturer to give the above warning in the absence of definitive testing to prove the defined risks do not exist.

Portland cement is considered to be a hazardous material under the Hazardous Products Act as defined by the Controlled Products Regulations and is therefore subject to the labeling and MSDS requirements of the Workplace Hazardous Materials Information System (WHMIS)



This product has been classified in accordance with the hazard criteria of the CPR and the SDS contains all the information required by the CPR.

**Chemical safety assessment:** No data available.

## SECTION 16: Other information

**Revision Information:** Not relevant.

**Key literature references and sources for data:** No data available.

**Wording of the R-phrases and H-statements in section 2 and 3:**

**Training information:** No data available.

**Issue date:** 08.29.2013

**SDS No.:**

**Disclaimer:** This information is provided without warranty. The information is believed to be correct. This information should be used to make an independent determination of the methods to safeguard workers and the environment.