



Safety Data Sheet

According to OSHA Communication Standard, 29 CFR 1910.1200

Rapid Set UHPC Mortar

SECTION 1: Identification

Product identifier

Product name: UHPC Mortar

Product code:

Recommended use of the product and restriction on use

Relevant identified uses: Use for UHPC applications

Uses advised against: Not determined or not applicable.

Reasons why uses advised against: Not determined or not applicable.

Manufacturer or supplier details

Manufacturer:

United States

CTS Cement Manufacturing Corporation

12442 Knott St.

Garden Grove, CA 92841

800-929-3030

info@ctscement.com

Emergency telephone number:

United States

INFOTRAC 1-800-535-5053

International

INFOTRAC 1-352-323-3500

SECTION 2: Hazard(s) identification

GHS classification:

Skin irritation, category 2

Serious eye damage, category 1

Carcinogenicity, category 1A

Specific target organ toxicity - single exposure, category 3, respiratory irritation

Specific target organ toxicity - repeated exposure, category 1

Label elements

Hazard

Pictograms:



Signal word: Danger

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Rapid Set UHPC Mortar**Hazard statements:**

- H315 Causes skin irritation.
- H318 Causes serious eye damage.
- H335 May cause respiratory irritation.
- H350 May cause cancer.
- H372 Causes damage to lungs through prolonged or repeated exposure.

Precautionary statements:

- P201 Obtain special instructions before use.
- P202 Do not handle until all safety precautions have been read and understood.
- P260 Do not breathe dust/fume/gas/mist/vapors/spray.
- P264 Wash hands/eyes/mouth/skin/clothing thoroughly after handling.
- P270 Do not eat, drink or smoke when using this product.
- P271 Use only outdoors or in a well-ventilated area.
- P280 Wear protective gloves/protective clothing/eye protection/face protection.
- P233 Keep container tightly closed.
- P281 Use personal protective equipment as required.
- P321 Specific treatment (see supplemental first aid instructions on this label).
- P362 Take off contaminated clothing and wash before reuse
- P302+P352 IF ON SKIN: Wash with plenty of soap and water.
- P332+P313 If skin irritation occurs: Get medical advice/attention.
- P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P310 Immediately call a POISON CENTER or doctor/physician.
- P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
- P312 Call a POISON CENTER or doctor/physician if you feel unwell.
- P308+P313 If exposed or concerned: Get medical advice/attention.
- P405 Store locked up.
- P403+P233 Store in a well-ventilated place. Keep container tightly closed.
- P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazards not otherwise classified: None.**SECTION 3: Composition/information on ingredients**

Identification	Name	Weight %
CAS number: 12004-14-7	Aluminum calcium oxide sulfate	10-25
CAS number: 10034-77-2	Dicalcium silicate	10-30
CAS number: 7778-18-9	Calcium sulfate	1-15
CAS number: 14808-60-7	Silica, crystalline quartz	40-70



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Additional Information:

The specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret in accordance with paragraph (i) of the OSHA Hazard Communication Standard (29 CFR §1910.1200).

*Cement is primarily comprised of calcium compounds with oxides of aluminum, iron, sulfur, and silica. Trace amounts of naturally occurring, potentially harmful chemicals might be detected during chemical analysis. Trace constituents may include, but are not limited to, magnesium, potassium, sodium oxides, and hexavalent chromium.

SECTION 4: First aid measures

Description of first aid measures

General notes:

Not determined or not applicable.

After inhalation:

Loosen clothing as necessary and position individual in a comfortable position. Maintain an unobstructed airway. Get medical advice/attention if you feel unwell. Take precautions to ensure your own safety. Remove source of exposure or move person to fresh air. Get medical advice if you feel unwell or concerned.

After skin contact:

Rinse affected area with soap and water. If symptoms develop or persist, seek medical attention. Take off all contaminated clothing. Gently blot or brush away excess product. Wash with plenty of lukewarm, gently flowing water. Get medical advice if skin irritation occurs or you feel unwell.

After eye contact:

Rinse/flush exposed eye(s) gently using water for 15-20 minutes. If symptoms develop or persist, seek medical attention. Avoid direct contact and wear chemical protective gloves, if necessary. Rinse eyes cautiously with lukewarm, gently flowing water for several minutes, while holding the eyelids open. Remove contact lenses, if present and easy to do so. Continue rinsing until medical aid is available. Immediately call a POISON CONTROL CENTER or seek medical attention.

After swallowing:

Rinse mouth thoroughly. Seek medical attention if irritation, discomfort, or vomiting persists.

Most important symptoms and effects, both acute and delayed

May cause eye irritation with redness and tearing. Exposure to dust may cause mucous membrane and respiratory irritation, cough, sore throat, nasal congestion, sneezing and shortness of breath. However, there may be no immediate signs or symptoms of exposure to hazardous concentrations of respirable crystalline silica (quartz).

Immediate medical attention and special treatment

Specific treatment:

Not determined or not applicable.

Notes for the doctor:

Not determined or not applicable.



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SECTION 5: Firefighting measures

Extinguishing media

Suitable extinguishing media:

Use appropriate fire suppression agents for adjacent combustible materials or sources of ignition.

Unsuitable extinguishing media:

Not determined or not applicable.

Specific hazards during fire-fighting:

Thermal decomposition can lead to release of irritating gases and vapors.

Special protective equipment for firefighters:

Use typical firefighting equipment, self-contained breathing apparatus, special tightly sealed suit.

Special precautions:

Carbon monoxide and carbon dioxide may form upon combustion. Heating causes a rise in pressure, risk of bursting and combustion.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures:

Ensure adequate ventilation. Ensure air handling systems are operational. Wear protective eyewear, gloves, and clothing.

Environmental precautions:

Should not be released into the environment. Prevent from reaching drains, sewer or waterway.

Methods and material for containment and cleaning up:

Wear protective eyewear, gloves and clothing. Sweep or scoop up solid material while minimizing dust generation. Dispose of contents / container in accordance with local regulations.

Reference to other sections:

Not determined or not applicable.

SECTION 7: Handling and storage

Precautions for safe handling:

Use only with adequate ventilation. Avoid breathing dust. Silica may be in the air without a visible dust cloud. Use normal precautions against bag breakage or spills of bulk material. Do not eat, drink, smoke or use personal products when handling chemical substances. Use good housekeeping in storage and use area to prevent accumulation of dust in the work area.

To reduce the risk of developing silicosis, lung cancer and other adverse health effects, the ACGIH recommends that the industrial hygienist use every means available to keep exposures below the recommended TLV. NIOSH recommends reducing airborne exposure levels as low as possible below NIOSH's recommended exposure limit, substituting less hazardous materials when feasible, using appropriate respiratory protection when source controls cannot keep exposures below the recommended limit and making medical examinations available to exposed workers.

Use adequate ventilation and dust collection. To minimize exposure, wear a respirator approved for silica dust when using, handling, storing or disposing of this product or bag. Refer to the most recent government and local regulations when selecting a respirator. Maintain, clean and fit test respirators in accordance with the most recent government and local regulations. Maintain and test ventilation and dust collection equipment. Launder clothing that has become dusty. Empty containers (bags, bulk containers,

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storage tanks, etc.) retain silica residue and must be handled in accordance with the provisions of this Safety Data Sheet. WARN and TRAIN employees in accordance with state and federal regulations. Refer to the OSHA Respirable Crystalline Silica standards; 29CFR1910.1053, 1915.1053 and 1926.1153 for specific requirements for use and handling.

Dust can accumulate electrostatic charges due to friction from transfer and mixing operations and cause an electrical spark (ignition source) which can ignite flammable liquids and atmospheres. Provide adequate precautions when adding this product to flammable and combustible mixtures like paints and coating, such as electrical grounding and bonding, inert atmosphere or non-sparking tools. However, bonding and grounds may not eliminate the hazard for static accumulation.

See also American Society for Testing and Materials (ASTM) Standard Practice E1132-99a, "Standard Practice for Health Requirements Relating to Occupational Exposure to Respirable Crystalline Silica."

Additional information on silica hazards and precautionary measures can be found at the following websites: NIOSH Joint Campaign on Silicosis Prevention
<http://www.cdc.gov/niosh/topics/silica/default.html> OSHA Crystalline Silica Website
<http://www.osha.gov/dsg/topics/silicacrystalline/index.html> MSHA Silicosis Prevention Website
<https://arlweb.msha.gov/S&HINFO/SILICO/SILICAX.pdf> NIOSH Hazard Review – Health Effects of Occupational Exposure to Respirable Crystalline Silica Website <http://www.cdc.gov/niosh/docs/2002-129/>

Conditions for safe storage, including any incompatibilities:

Keep container tightly sealed. Keep container dry. Store locked up. Store in a cool, well-ventilated area.

SECTION 8: Exposure controls/personal protection

Only those substances with limit values have been included below.

Occupational Exposure limit values:

Country (Legal Basis)	Substance	Identifier	Permissible concentration
ACGIH	Silica, crystalline quartz (Respirable)	14808-60-7	ACGIH TLV TWA 0.025 mg/m ³ (Respirable fraction)
	Total Silica, crystalline quartz	14808-60-7	TWA 0.025000 mg/m ³ USA. ACGIH
United States (OSHA)	Silica, crystalline quartz (Respirable)	14808-60-7	OSHA 8-hour TWA PEL: 0.025 mg/m ³ (Respirable fraction, action level)
	Silica, crystalline quartz (Respirable)	14808-60-7	OSHA 8-hour TWA PEL: 0.05 mg/m ³ (Respirable fraction, exposure limit level)
	Total Silica, crystalline quartz	14808-60-7	TWA 30.000000 mg/m ³ / %SiO ₂ +2 USA. OSHA
	Total Silica, crystalline quartz	14808-60-7	TWA 0.050000 mg/m ³ USA. NIOSH

Country (Legal Basis)	Substance	Identifier	Permissible concentration
NIOSH	Silica, crystalline quartz (Respirable)	14808-60-7	NIOSH TWA 0.05 mg/m ³

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No biological exposure limits noted for the ingredient(s).

Information on monitoring procedures:

Monitoring of the concentration of substances in the breathing zone of workers or in the general workplace may be required to confirm compliance with an OEL and adequacy of exposure controls. Biological monitoring may also be appropriate for some substances.

Appropriate engineering controls:

Emergency eyewash fountains and safety showers should be available in the immediate vicinity of use or handling. Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapor and mists below the applicable workplace exposure limits (Occupational Exposure Limits-OELs) indicated above.

Personal protection equipment**Eye and face protection:**

Safety goggles or glasses, or appropriate eye protection.

Skin and body protection:

Select glove material impermeable and resistant to the substance. Wear appropriate clothing to prevent any possibility of skin contact.

Respiratory protection:

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.

General hygienic measures:

Avoid contact with skin, eyes and clothing. Wash hands before breaks and at the end of work. Wash contaminated clothing before reuse.

SECTION 9: Physical and chemical properties**Information on basic physical and chemical properties**

Appearance	Solid; tan powder
Odor	Low
Odor threshold	Not available
pH	11 - 12 when wet
Melting point/freezing point	Not available
Initial boiling point/range	Not applicable
Flash point (closed cup)	Not available
Evaporation rate	Not applicable
Flammability (solid, gas)	Not available
Upper flammability/explosive limit	Not available
Lower flammability/explosive limit	Not available
Vapor pressure	Not applicable
Vapor density	Not applicable

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Density	Not available
Relative density	Not available
Solubilities	Partially soluble
Partition coefficient (n-octanol/water)	Not available
Auto/Self-ignition temperature	Not available
Decomposition temperature	2460°F (1350°C)
Dynamic viscosity	Not applicable
Kinematic viscosity	Not applicable
Explosive properties	Not available
Oxidizing properties	Not available

Other information

VOC (Weight %)	0 g/l when mixed with water
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SECTION 10: Stability and reactivity**Reactivity:**

Does not react under normal conditions of use and storage.

Chemical stability:

Stable under normal conditions of use and storage.

Possibility of hazardous reactions:

None under normal conditions of use and storage.

Conditions to avoid:

None known.

Incompatible materials:

Powerful oxidizing agents such as fluorine, chlorine trifluoride, manganese trioxide, etc.

Hazardous decomposition products:

Silica will dissolve in hydrofluoric acid producing a corrosive gas, silicon tetrafluoride.

SECTION 11: Toxicological information**Information on toxicological effects:****Acute toxicity****Assessment:****Product data:** Oral rat >22,500 mg/kg.**Substance data:** Silica.**Skin corrosion/irritation****Assessment:** Causes skin irritation.**Product data:** No data is available.**Substance data:**

Name	Result
Dicalcium silicate	Causes skin irritation.

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Rapid Set UHPC Mortar**Serious eye damage/irritation****Assessment:** Causes serious eye damage.**Product data:** No data is available.**Substance data:**

Name	Result
Dicalcium silicate	Causes serious eye damage.

Respiratory or skin sensitization

Assessment: Breathing silica dust may not cause noticeable injury or illness even though permanent lung damage may be occurring. Inhalation of dust may have a serious chronic health effects (see below Repeat Dose Toxicity). Excessive inhalation of respirable crystalline silica dust may cause a progressive, disabling and sometimes fatal lung disease called silicosis. Symptoms include cough, shortness of breath, wheezing, non-specific chest illness and reduced pulmonary function. This disease is exacerbated by smoking. Individuals with silicosis are predisposed to develop mycobacterial infections (tuberculous and non-tuberculous) and fungal infections. Inhalation of air with a very high concentration of respirable silica dust can cause the most serious forms of silicosis in a matter of months or a few years. Some epidemiologic studies have concluded that there is significant risk of developing silicosis even at airborne exposure levels that are equal to the recommended NIOSH REL, and ACGIH TLV. There is some evidence that breathing respirable crystalline silica or the disease silicosis is associated with an increased incidence of significant disease endpoints such as scleroderma (an immune system disorder manifested by fibrosis of the lungs, skin and other internal organs) rheumatoid arthritis, systemic lupus, erythematosus, sarcoidosis, chronic bronchitis, chronic obstructive pulmonary disease (COPD), emphysema, chronic kidney disease and end-stage renal disease.

Product data: Oral rat > 22,500 mg/kg**Substance data:** Silica**Carcinogenicity**

Assessment: May cause cancer. The International Agency for Research on Cancer has determined that crystalline silica is carcinogenic to humans (Group 1 - carcinogenic to humans). Refer to IARC Monograph 100C, A Review of Human Carcinogens: Arsenic, Fibres, and Dusts (published in 2011) in conjunction with the use of these materials. The National Toxicology Program classifies respirable crystalline silica as "known to be a human carcinogen". Refer to the Twelfth Report on Carcinogens (2011). The American Conference of Governmental Industrial Hygienists (ACGIH) classifies crystalline silica, quartz, as a suspected human carcinogen (A2).

Substance data:

Name	Species	Result
Silica, crystalline quartz (Respirable)	Not applicable	Component may cause cancer.
Total Silica, crystalline quartz		1 - Group 1: Carcinogenic to humans (Quartz)

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Rapid Set UHPC Mortar**International Agency for Research on Cancer (IARC):**

Name	Classification
Silica, crystalline quartz (Respirable)	Group 1 - Carcinogenic to humans

National Toxicology Program (NTP):

Name	Classification
Silica, crystalline quartz (Respirable)	Known to be human carcinogens

Germ cell mutagenicity**Assessment:** Based on available data, the classification criteria are not met.**Product data:** No data is available.**Substance data:** No data is available.**Reproductive toxicity****Assessment:** Based on available data, the classification criteria are not met.**Product data:** No data is available.**Substance data:** No data is available.**Specific target organ toxicity (single exposure)****Assessment:** May cause respiratory irritation**Product data:** No data is available.**Substance data:**

Name	Result
Dicalcium silicate and Calcium Sulfate	May cause respiratory irritation.

Aspiration toxicity**Assessment:** Based on available data, the classification criteria are not met.**Product data:** No data is available.**Substance data:** No data is available.**Information on likely routes of exposure:**

No data is available.

Symptoms related to the physical, chemical and toxicological characteristics:

No data is available.

Other information:

No data is available.

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Rapid Set UHPC Mortar**SECTION 12: Ecological information****Acute (short-term) toxicity****Assessment:** Non-toxic to aquatic organisms**Product data:** LC50 carp > 10,000 mg/L/72 hr.**Substance data:** Silica**Chronic (long-term) toxicity****Assessment:** Non-toxic to aquatic organisms**Product data:** LC50 carp > 10,000 mg/L/72 hr.**Substance data:** Silica**Persistence and degradability****Product data:** No data available.**Substance data:** No data available.**Bioaccumulative potential****Product data:** No data available.**Substance data:** No data available.**Mobility in soil****Product data:** No data available.**Substance data:** No data available.**Other adverse effects:** No data available.**SECTION 13: Disposal considerations****Disposal methods:**

It is the responsibility of the waste generator to properly characterize all waste materials according to applicable regulatory entities.

SECTION 14: Transport information**United States Transportation of dangerous goods (49 CFR DOT)**

UN number	Not regulated
UN proper shipping name	Not regulated
UN transport hazard class(es)	None
Packing group	None
Environmental hazards	None
Special precautions for user	None

International Maritime Dangerous Goods (IMDG)

UN number	Not regulated
UN proper shipping name	Not regulated

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UN transport hazard class(es)	None
Packing group	None
Environmental hazards	None
Special precautions for user	None

International Air Transport Association Dangerous Goods Regulations (IATA-DGR)

UN number	Not regulated
UN proper shipping name	Not regulated
UN transport hazard class(es)	None
Packing group	None
Environmental hazards	None
Special precautions for user	None

SECTION 15: Regulatory information**United States regulations Inventory listing (TSCA):**

12004-14-7	Aluminum calcium oxide sulfate	Listed
10034-77-2	Dicalcium silicate	Listed
7778-18-9	Calcium sulfate	Listed
14808-60-7	Silica, crystalline quartz	Listed

Significant New Use Rule (TSCA Section 5): None of the ingredients are listed.

Export notification under TSCA Section 12(b): None of the ingredients are listed.

SARA Section 302 extremely hazardous substances: None of the ingredients are listed.

SARA Section 313 toxic chemicals: None of the ingredients are listed.

CERCLA: None of the ingredients are listed.

RCRA: None of the ingredients are listed.

Section 112(r) of the Clean Air Act (CAA): None of the ingredients are listed.

Massachusetts Right to Know:

14808-60-7	Silica, crystalline quartz (Respirable)	Listed
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New Jersey Right to Know:

14808-60-7	Silica, crystalline quartz (Respirable)	Listed
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New York Right to Know:

14808-60-7	Silica, crystalline quartz (Respirable)	Listed
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14808-60-7	Silica, crystalline quartz (Respirable)	Listed
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California Proposition 65:

⚠ WARNING: Cancer and Reproductive Harm – www.P65Warning.ca.gov.

SECTION 16: Other information**Abbreviations and Acronyms:**

ACGIH: American Conference of Governmental Industrial Hygienists
ADR: European Road Transport
AU: Australia
CA: Canada
CAS: Chemical Abstracts Service
CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act
CN: China
CPR: Controlled Products Regulations
DFG: Deutsche Forschungsgemeinschaft
DOT: Department of Transportation
DSL: Domestic Substances List
EEC: European Economic Community
ECHA: European Chemicals Agency
EINECS: European Inventory of Existing Commercial Chemical Substances
EPA: Environmental Protection Agency
EU: European Association
IARC: International Agency for Reach on Cancer
IMDG: International maritime dangerous goods code
IATA: International Air Transport Association
ICAO: International Civil Aviation Organization
JP: Japan
COD: Chemical Oxygen Demand
BOD5: 5-day biochemical oxygen demand
BCF: Bioconcentration factor
LD50: Lethal Dose 50
CL50: Lethal Concentration 50
EC50: Effective concentration 50
Log-POW: Octanol-water partition coefficient
Koc: Partition coefficient of organic carbon
Kow: Octanol/water partition coefficient
KR: Korea
LEL: Lower Explosive Limit
UEL: Upper Explosive Limit
NIOSH: National Institute for Occupational Safety and Health Administration
PH: Philippines
RCRA: Resource Conservation and Recovery Act
OSHA: Occupational Safety and Health Administration
RID: European Rail Transport
SARA: Superfund Amendments and Reauthorization Act



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STEL: Short Term Exposure Limit
TDG: Transportation of Dangerous Goods
TSCA: Toxic Substances Control Act
TWA: Time Weighted Average
US: United States

Disclaimer:

This product has been classified in accordance with OSHA HCS 2012 guidelines. The information provided in this SDS is correct, to the best of our knowledge, based on information available. The information given is designed only as a guidance for safe handling, use, storage, transportation and disposal and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials, unless specified in the text. The responsibility to provide a safe workplace remains with the user.

NFPA: 3-0-0

HMIS: 3*-0-0

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End of Safety Data Sheet