



Information about Working Safely with Concrete

Thank you for ordering your concrete from Kuhlman Concrete.

We want your project to be safe and successful, so we are going to inform you about the hazards of working with fresh concrete. We describe some work practices that can help keep you safe. Important safety information will also be provided to you at the job site by our driver.

Unhardened or fresh ready mix concrete is caustic and can cause skin irritation, severe chemical burns or serious eye damage. You must warn anyone that may come into contact with wet concrete of these hazards, and require them to protect their eyes and skin from direct contact with concrete to avoid serious injuries.

To protect eyes and skin, always wear personal protective equipment. Wear tight-fitting eye protection, snug waterproof gloves, tight waterproof boots of sufficient height, a fully buttoned long-sleeved shirt with the sleeves tucked into the gloves, full-length trousers tucked into the boots, and knee pads.

Immediately remove clothing or PPE that becomes saturated with wet concrete. Do not work in contaminated clothing, boots or gloves. In the event of skin contact, immediately wash contaminated skin with large amounts of clean water. If concrete gets in the eyes, immediately flush with plenty of cool, clean water for at least 15 minutes and seek medical attention.

If you need personal protective equipment such as safety glasses, goggles, gloves, boots and knee pads, they are available for purchase from us. If you wish to order such items from us, or if you have any questions regarding safe work practices, please call us. If you feel uncomfortable working with concrete, we can also recommend a professional contractor to you.

Your safety is important to us. Therefore, please note that our drivers will not discharge concrete if they see unsafe work practices on your job site.

For more information on working safely with concrete, please call our Company Safety Director at 419-343-3119 or visit our website at www.kuhlman-corp.com.

Thank you for ordering your concrete from Kuhlman Concrete.



Suggested Best Practices for Working Safely with Concrete

- Wear snug, waterproof gloves. Wear tight waterproof boots of sufficient height.
- Wear a fully buttoned long-sleeved shirt with the sleeves tucked into the gloves.
- Wear overalls or long pants. Tuck them into the boots. Never wear shorts.
- Wear tight-fitting eye protection.
- Wear knee pads to keep knees dry.
- In the event of skin contact, immediately wash contaminated skin with large amounts of clean water.
- Immediately remove clothing or PPE that becomes saturated with wet concrete. Do not work in contaminated clothing, boots or gloves.
- If concrete gets in the eyes, immediately flush with plenty of cool, clean water and seek medical attention.

CONCRETE WARNING

- **INJURIOUS TO EYES**
- **CAUSES SKIN IRRITATION**
- **READ THIS WARNING BEFORE USING**
- **CONTAINS PORTLAND CEMENT**

May contain trace amounts of hexavalent chromium.

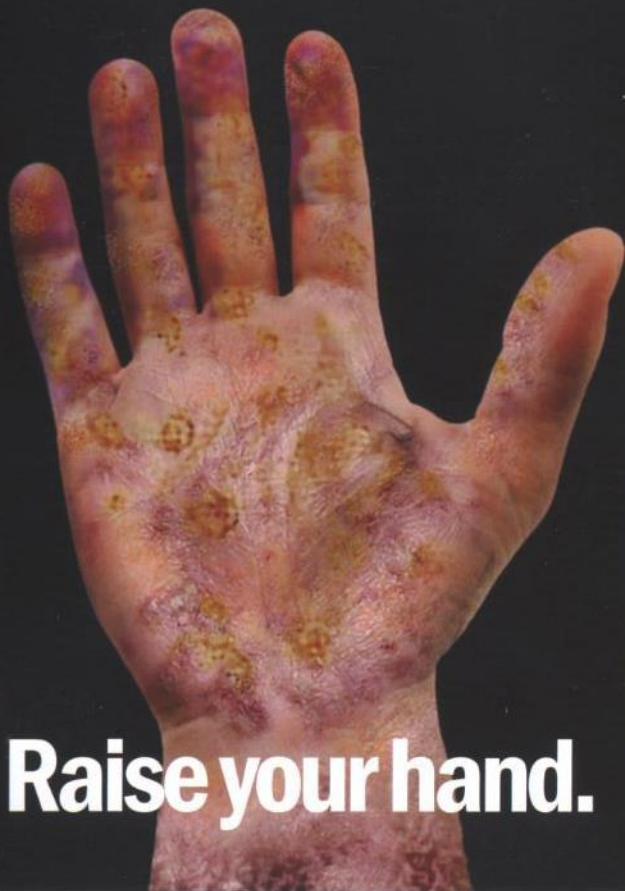
Contact with wet (unhardened) concrete, mortar, cement or cement mixtures can cause skin irritation, severe chemical burns or serious eye damage. Avoid contact with eyes and skin. Wear trousers and tight fitting eye protection when working with these materials. If you have to stand in wet concrete, use waterproof boots that are tight at tops and high enough to keep concrete from flowing into them. If you are finishing concrete, wear knee pads to protect knees. Wash wet concrete, mortar, cement or cement mixtures from your skin with fresh, clean water immediately after contact. Indirect contact through clothing can be as serious as direct contact, so promptly rinse out wet concrete, mortar, cement or cement mixtures from clothing. Seek immediate medical attention if you have persistent or severe discomfort. In case of eye contact, flush with plenty of water for at least 15 minutes. Consult a physician immediately. **KEEP OUT OF THE REACH OF CHILDREN.**

USER AGREES TO CONVEY THIS WARNING TO ALL PERSONS WHO MAY PURCHASE, USE OR COME IN CONTACT WITH WET (UNHARDENED) CONCRETE, MORTAR, CEMENT OR CEMENT MIXTURES.

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Brought to you as a worker safety service by:

If you think you can handle
concrete without protection...



Raise your hand.

If you don't protect yourself, exposing skin and eyes to concrete can cause immediate serious harm, or harm from repeated exposure. **ALWAYS** use Gloves, Boots and Safety Eyewear.



**READ
MORE** →

Safety is everyone's business. From delivery to placement to finishing, handling concrete safely saves everyone pain, time and money. Don't be misled by some who don't practice safe procedures; **if you don't protect yourself, exposing skin and eyes to concrete can cause immediate serious harm or harm from repeated exposure.**

Use the following protective equipment:

1. Use rubber (waterproof) work gloves.
2. Wear long sleeve shirt and full length pants (keep shirt cuff inside glove and pant leg in boot).
3. Wear waterproof boots high enough so concrete does not soak through the material or flow inside the boots.
4. Wear eye protection.
5. Have plenty of fresh water available in case the skin or eyes are exposed to concrete.
6. Relying on barrier creams is not recommended.



Work safely by doing this:

1. When kneeling on fresh concrete, use a dry board or waterproof kneepads to protect knees from water that can soak through material. ➔ About half of concrete burn injuries are to the knee and lower leg.
2. Remove jewelry such as rings and watches because wet concrete can collect under them.
3. Clothing contaminated by wet concrete should be immediately removed. Skin in contact with wet concrete should be washed with water immediately.
4. Do not wash your hands with water from buckets used for cleaning.



A few more important reminders.

1. The hazards of wet concrete are due to its caustic, abrasive and drying properties.
2. Use caution, you may not feel the initial stages (pain) of concrete burns until it is too late.

3. Ironically, severe cases often occur when personal protective clothing is worn since your clothes can act as a sponge. How can this happen? ➔ Wet concrete or mortar is trapped against the skin — for instance, by flowing inside a worker's boots or gloves or by soaking through protective clothing — the results may be first, second or third degree burns or skin ulcers.



➔ Corrosive bleed water from the concrete is absorbed by the workers clothing and held against the skin for prolonged periods — causing burns.

4. Keep children away from the wet concrete.

Concrete is the most widely used building material in the world. For thousands of years, it has been used safely and responsibly to deliver unmatched strength and value. Be smart and be safe... take advantage of everything concrete has to offer.





National Ready Mixed Concrete Association
900 Spring Street, Silver Spring, MD 20910
888-84NRMCA ■ www.NRMCA.org



Material Name: Ready Mix Concrete, Freshly Mixed Unhardened Concrete

Section 1 - Identification	
Material Identity (Trade Names): Ready Mixed Concrete (Concrete)	
Manufacturer's Name: Kuhlman Corporation	Emergency Telephone Number: 419-897-6000
Address: 1845 Indian Wood Circle, Maumee, OH. 43537 Website: www.kuhlman-corp.com	Telephone Number for Information: 419-897-6000
Recommended Use: Concrete is widely used as a structural component in many construction applications. This SDS covers many types of Concrete. Individual composition of hazardous constituents may vary between types / different mix designs of Concrete.	Other means of Identification: Ready Mixed Concrete, Concrete Ready Mix, Portland Cement Concrete, Ready Mix Grout, Permeable Concrete, Shotcrete, Gunite, Colored Concrete, Flowable Fill, Roller-Compacted Concrete, Fiber Reinforced Concrete.

Section 2 – Hazard Identification	
 WARNING Corrosive-causes severe burns. Toxic-Harmful by inhalation. (may contains crystalline silica)	
 Use proper engineering controls, work practices, and personal protective equipment (PPE) to prevent exposure to wet or dry product. Read SDS for details.	
HAZARD NOTES: Unhardened concrete is an odorless semi-fluid, flowable, granular paste of varying color and texture. It is not combustible or explosive. Exposure of sufficient duration to wet concrete can cause serious, potentially irreversible tissue (skin, eye, respiratory tract) damage due to chemical (caustic) burns, including third degree burns.	

Section 3 – Composition / Information on Ingredients					
Hazardous Components (Chemical Identity/Common Names)	CAS No.	OSHA PEL	ACGIH TLV	MSHA PEL	%
Portland Cement	65997-15-1	5mg/m ³ (Respirable) 15mg/m ³ (Total)	10mg/m ³ (Total)	10mg/m ³ (Total)	10-30%
Limestone (CaCO ₃) (Calcium carbonate, present, if limestone aggregates are used)	1317-65-3 (Total)	15mg/m ³ (Total)	10 mg/m ³ (Total)	10mg/m ³	0-65%
Crystalline Silica (Quartz) (Concrete aggregates may contain silica)	14808-60-7	10 mg/m ³ % SiO ₂ + 2 (respirable)	0.05 mg/m ³ (Total) (Respirable quartz)	30 (%SiO ₂ +2)mg/m ³ (Total)	0.5-80%

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		30 mg/m^3 $\% \text{ SiO}_2 + 2$ (total dust) $250 \text{ million part/ft}^3$ $\% \text{ SiO}_2 + 5$		$10/(\% \text{ SiO}_2 + 2) \text{ mg/m}^3$ ³ (Respirable particulate)	
Particulates not otherwise Classified		15 mg/m^3 (Total) 5 mg/m^3 (Respirable)	10 mg/m^3 (Inhalable) 3 mg/m^3 (Respirable)	10 mg/m^3 (Total)	0-100%
Water	7732-18-5	N/A	N/A	N/A	6-13%
Aluminum Oxide (Al ₂ O ₃)	1344-28-1	15 mg/m^3 (Total) 5 mg/m^3 (Respirable)	10 mg/m^3	10 mg/m^3	0.1-2%
Amorphous Silica	61790-53-2	$80 \text{ mg/m}^3 / (\% \text{ SiO}_2)$	10 mg/m^3 (Total) 3 mg/m^3 (Respirable)	20mppcf	0.01-3%
Ashes, residues	68131-74-8	2.4 mg/m^3 TWA	2 mg/m^3 TW A	2 mg/m^3 TWA	0-25%
Calcium Oxide (CaO)	1305-78-8	5 mg/m^3	2 mg/m^3	5 mg/m^3	0-1%
Iron Oxide (as Fe ₂ O ₃)	1309-37-1	10 mg/m^3	10 mg/m^3	10 mg/m^3	0.1-2%

Note: Chemical admixtures may be present in quantities less than 1%.

Trace Materials: Due to the use of substances from the earth's crust, trace amounts of naturally occurring, potentially harmful constituents may be detected during chemical analysis. Portland cement may contain trace (<0.05%) amounts of chromium salts or compounds (including hexavalent chromium) or other metals (including nickel compounds, lead and mercury) found to be hazardous or toxic in some other forms. Other trace constituents may include potassium and sodium sulfate compounds and others.

Section 4 – First Aid

Eye Contact: Rinse eyes thoroughly with water for at least 15 minutes, including under lids, to remove all particles. Seek medical attention for abrasions and burns.

Skin Contact: Wash with cool water and a pH neutral soap or a mild skin detergent. Seek medical attention for rash, burns, irritation, dermatitis, and prolonged unprotected exposures to wet concrete.

Inhalation: Move person to fresh air. Seek medical attention for discomfort or if coughing or other symptoms do not subside.

Ingestion: Do not induce vomiting. If conscious, have person drink plenty of water. Seek medical attention or contact poison control center immediately.

Section 5 – Firefighting Measures

Flash Point: Not Combustible	Flammable Limits: Not flammable	LEL: N/A	UEL: N/A
Extinguishing Media: This material is noncombustible. Use extinguishing media appropriate to surrounding fire.			
Unusual Fire and Explosion Hazards: None reported.			

Section 6 – Accidental Release Measures

Steps to be taken in Case Material is Released or Spilled: Personnel involved with the handling of wet unhardened concrete should take steps to avoid contact with the eyes and skin, through the use of gloves and suitable clothing as described in Section 8. Wet unhardened concrete should be recycled or allowed to harden and disposed. Do not wash concrete down sewage and drainage systems or into bodies of water (e.g. lakes, streams, wetlands, etc.).

Waste Disposal Method: Place spilled material into a contained area and allow wet unhardened concrete to harden and dispose in a landfill as common solid waste. Follow applicable Federal, State, and local regulations for disposal. Uncontaminated ready mixed concrete is neither a listed nor a characteristic hazardous waste under designations by the USEPA or USDOT.

USDOT Class: Uncontaminated ready mixed concrete does not meet any hazardous material class definition found in Title 49 Code of Federal Regulations Part 173.

Precautions to Be Taken in Handling and Storing: Silica-containing respirable dust particles may be generated by crushing, cutting, grinding, or drilling hardened concrete or concrete products. Follow protective controls defined in Section 8 when handling these products.

Section 7 – Handling and Storage

Handling: When cutting, grinding, crushing or drilling hardened concrete, use local exhaust or general dilution ventilation or other suppression methods to maintain dust levels below exposure limits.

Engineering Controls:

Supplemental controls are not required when working with wet/unhardened concrete.

Section 8 – Exposure Controls / Personal Protection

Respiratory Protection: When exposed to dust from cutting, grinding, crushing, or drilling hardened concrete or concrete products above recommended limits, wear a suitable NIOSH –approved respirator with protection factor appropriate for the level of exposure. For emergency or non-routine operations (e.g., confined spaces), additional precautions or equipment may be required. Respirator use must comply with applicable MSHA or OSHA standards.

Local Exhaust Ventilation: When cutting, grinding, crushing, or drilling hardened concrete, provide general or local exhaust ventilation systems as needed to maintain airborne dust concentrations below the OSHA PELs, MSHA PELs, and ACGIH TLVs.

Other: Respirable dust and quartz levels from hardened concrete cutting, grinding, crushing or drilling operations should be monitored regularly. Dust and quartz levels in excess of applicable OSHA PELs, MSHA PELs, and ACGIH TLVs should be reduced by all feasible engineering controls.

Mechanical (General): See above recommendations. **Special:** None reported.

Protective Gloves: When handling wet unhardened concrete, wear water proof gloves to prevent skin contact. Wash thoroughly with water and a pH-neutral soap after handling.

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

Other Protective Clothing or Equipment: Wear suitable protective clothing, as needed, to prevent skin contact with unhardened concrete. This includes waterproof boots and NIOSH-approved respirators when exposure exceeds applicable limits.

Work/Hygienic Practices: Contact with wet unhardened concrete, mortar, cement or cement mixtures can cause skin irritation, severe chemical burns, or serious eye damage. Avoid contact with eyes and skin.

Wear waterproof gloves, a fully buttoned long-sleeved shirt, full-length trousers, and tight fitting eye protection when working with these materials. If you have to stand in wet concrete, use waterproof boots that are tight at tops and high enough to keep concrete from flowing into them. If you are finishing concrete, wear waterproof knee pads to protect knees. Wash wet concrete, mortar, cement, or cement mixtures from your skin with fresh, clean water and a pH-neutral soap immediately after contact. Indirect contact through clothing can be as serious as direct contact, so promptly rinse out wet concrete, mortar, cement or cement mixtures from clothing. Seek immediate medical attention if you have persistent or severe discomfort. In case of eye contact, flush with plenty of water for at least 15 minutes. Consult a physician immediately.

KEEP OUT OF REACH OF CHILDREN Avoid dust inhalation and direct contact with skin and eyes. Wash contaminated skin before eating, drinking, smoking, lavatory use and before applying cosmetics.

Section 9 – Physical and Chemical Properties

Boiling Point	Not Applicable	Specific Gravity (H₂O=1)	Wet Concrete 1.9 to 2.4
Vapor Pressure (mm Hg)	Not Applicable	Melting Point	Not Applicable
Vapor Density (Air = 1)	Not Applicable	Evaporation Rate (Butyl Acetate = 1)	Not Applicable

Solubility in Water: not soluble

Appearance and Odor: Hardened concrete products are odorless solid materials. Unhardened wet concrete is an odorless gray, plastic, flowable, granular mud of varying color and texture.

Section 10 – Stability and Reactivity

Stability: Wet unhardened concrete sets and hardens in approximately 2-8 hours and is no longer hazardous.

Hardened concrete is stable. Conditions to avoid: Do not allow wet unhardened concrete to harden on tools or surfaces. Product hardens in approximately 2–8 hrs.

Incompatibility (Materials to avoid): Stable under expected conditions of use. Under unanticipated conditions of use, crystalline silica may react with hydrofluoric acid to produce a corrosive gas (silicon tetra fluoride). Aluminum powder and other alkali and alkaline earth metals will react in wet mortar or concrete, liberating hydrogen gas.

Hazardous Decomposition or Byproducts: Thermal oxidative decomposition of CaCO₃ (limestone) can produce lime (CaO). The lime does not add to the hazards associated with the use of the product. **Note: Hazardous Polymerization will not occur.**

Section 11 – Toxicological Information

Information on toxicological effects

Fresh concrete is abrasive and alkaline.

-If swallowed it can cause burns to the mouth, esophagus and stomach.

-If in contact with the skin it can cause burns and abrasions. Prolonged or frequent contact can cause irritation dermatitis.

-If in contact with the eyes, it can cause irritation to the eyelids, cornea (conjunctivitis) and lesions to the eyeball.

Section 12 – Ecological Information

Ecotoxicity: only relevant in accidental spillages of fresh concrete. If it reaches water, it can result in a slight rise in pH.

Hardened concrete is inert.

Persistence and degradability. Not applicable.

Bio accumulative potential Not applicable.

Mobility in soil Not applicable.

Results of PBT and vPvB assessment Not applicable.

Other adverse effects None.

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Section 13 – Disposal Considerations

Waste treatment methods

Fresh concrete: subject to local regulations.

Hardened concrete: can be recycled. Inert. Disposal subject to local regulations.

Section 14 – Transport Information

USDOT Class: Uncontaminated ready mixed concrete does not meet any hazardous material class definition found in Title 49 Code of Federal Regulations Part 173.

Section 15 – Regulatory Information

OSHA/MSHA Hazard Communication:

This product is considered by OSHA/MSHA to be a hazardous material and should be included in the employer's hazard communication program.

CERCLA/SUPERFUND: This product is not listed as a CERCLA hazardous substance.

EPCRA SARA Title III:

This product has been reviewed according to the EPA Hazard Categories promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 and is considered a hazardous and a delayed health hazard.

EPCRA SARA Section 313:

This product may contain substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

RCRA If discarded in its hardened form, this product would not be a hazardous waste either by listing characteristic. However, under RCRA, it is the responsibility of the product user to determine at the time of disposal, whether a material containing the product or derived from the product should be classified as a hazardous waste.

TSCA: Portland Cement and crystalline silica are exempt from reporting under the inventory update rule.

California Proposition 65:

Crystalline silica (airborne particulates of respirable size) and Chromium (hexavalent compounds) are substances known by the State of California to cause cancer.

WHMIS/DSL: Products containing crystalline silica and calcium carbonate are classified as D2A, E and are subject to WHMIS requirements.

Section 16 – Other Information

Hazardous Material	Health	1
Information System	Flammability	0
(HMIS):	Physical Hazard	0
	Personal Protection	B

HMIS Definitions: 0-Least, 1-Slight, 2-Moderate, 3-High, 4-Extreme

Key/Legend

CAS NO.= Chemical Abstracts Service Number
OSHA= Occupational Safety and Health Administration
PEL= Permissible Exposure Limits
ACGIH= American Conference of Governmental Industrial Hygienists
TLV= Threshold Limit Values
MSHA= Mine Safety and Health Administration
LEL= Lower Explosive Limit
UEL= Upper Explosive Limit
USEPA= United States Environmental Protection Agency
USDOT= United States Department of Transportation
NIOSH= National Institute for Occupational Safety and Health
pH= measurement to determine acidity or basicity of a aqueous solution
CERCLA= Comprehensive Environmental Response, Compensation, and Liability Act
EPCRA= Emergency Planning and Community Right-to-know Act
SARA= Superfund Amendments and Reauthorization Act
RCRA= Resource Conservation and Recovery Act
TSCA= Toxic Substance Control Act
WHMIS= Workplace Hazardous Materials Information System
DSL= Domestic Substances List

Other Information

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SDS Kuhlman Corporation 2/25/2014