

Material Safety Data Sheet

Section 1 | IDENTIFICATION

Supplier/Manufacturer

Federal White Cement
P.O. Box 1609
Woodstock, Ontario
Canada N4S 0A8

Emergency Contact Information

Main Offices: (519) 485-5410
Sales: (800) 265-1806
Fax: (519) 485-5892
Website: www.federalwhitecement.com

Chemical Name and Synonyms

White Portland Cement (CAS #65997-15-1)
(Also known as Hydraulic cement)

Product Name

Federal White Cement
Portland – Type I, Type GU

Chemical Family

Calcium salts

Formulas

3CaO.SiO₂ (CAS #12168-85-3)
2CaO.SiO₂ (CAS #1003~77-2)
3CaO.A1₂O₂ (CAS #12042-78-3)
4CaO.A1₂O₃Fe₂O₃ (CAS #12068-35-8) CaSO₂2H₂O (CAS #13397-24-5)

Other salts

Small amounts of MgO, CaO and trace amounts of K₂SO₄ and Na₂SO₄ may also be present.

Section 2 | COMPONENTS Hazardous

Portland cement clinker (CAS #65997-15-1) - approximately 92 -97% by weight

ACGIH TLV-TWA (1996) mg/m³ = 1 respirable
OSHA PEL (8-hour TWA) mg/m³ = 15 total dust
OSHA PEL (8-hour TWA) mg/m³ = 5 mg respirable dust
LD50(mouse,intraperitoneal) = NA
LC₅₀ = NA

Gypsum (CAS #13397-24-5) - approximately 3.0--5.0% by weight

ACGIH TLV-TWA (1996) mg/m³ = 10 mg total dust/m³
OSHA PEL (8-hourTWA) mg/m³ = 15 mg total dust/m³
OSHA PEL (8-hour TWA) mg/m³ = 5 mg respirable dust/m³
LD50(mouse,intraperitoneal) = NA
LC50 = NA

Respirable quartz (CAS #14808-60-7) - approximately 0.01 --0.07% by weight

ACGIH TLV-TWA (1996) = 0.10 mg respirable dust/m³
OSHA PEL (8-hour TWA) = (10 mg respirable dust/m³{percent silica + 2})
NIOSH REL (8-hour TWA) = 0.05 mg respirable dust/m³

Chromates (CAS Various) - approximately 0--0.005% by weight

ACGIH TLV-TWA (1996) = 0.05 mg (Cr)/m³
OSHA PEL (8-hourTWA) = 0.1 mg (CrO₃)/m³

Nuisance dust

ACGIH TLV-TWA (1996) = 5 mg respirable dust/m³
ACGIH TLV-TWA (1996) = 10 mg total dust/m³
OSHA PEL (8-hour TWA) = 15 mg total dust/m³
OSHA PEL (8-hour TWA) = 5 mg respirable dust/m³

Trace Ingredients

Trace amounts of naturally occurring chemicals might be detected during chemical analysis. Trace constituents may include up to 0.75% insoluble residue, some of which may be free crystalline silica, calcium oxide (also known as lime or quick lime), magnesium oxide, sodium sulfate, chromium compounds, and nickel compounds.

Section 3 - HAZARD IDENTIFICATION

Emergency Overview

Portland cement is a white powder that poses immediate hazard. A single short-term exposure to the dry powder is not likely to cause serious harm. However, exposure of sufficient duration to wet Portland cement can cause serious, potentially irreversible tissue (skin or eye) destruction in the form of chemical (caustic) burns. The same type of tissue destruction can occur if wet or moist areas of the body are exposed for sufficient duration to dry Portland cement.

POTENTIAL HEALTH EFFECTS

Relevant Routes of Exposure:

Eye contact, skin contact, inhalation, and ingestion.

Effects Resulting from Eye Contact:

Exposure to airborne dust may cause immediate or delayed irritation or inflammation. Eye contact by large amounts of dry powder or splashes of wet Portland cement may cause effects ranging from moderate eye irritation to chemical burns or blindness. Such exposures require immediate first aid (See Section 4) and medical attention to prevent significant damage to the eye.

Effects Resulting from Skin Contact:

BURNS:

Discomfort or pain cannot be relied upon to alert a person to hazardous skin exposure. Consequently, the only effective means of avoiding skin injury or illness involves minimizing skin contact, particularly with wet cement. Exposed persons may note discomfort until hours after the exposure has ended and significant injury has occurred.

Dry Portland cement contacting wet skin or exposure to moist or wet masonry cement may cause more severe skin effects including: thickening, cracking or fissuring of the skin. Prolonged exposure can cause severe damage in the form of (alkali) chemical burns.

DERMATITIS:

Some individuals may exhibit an allergic response upon exposure to Portland cement, possibly due to trace elements of chromium. The response may appear in a variety of forms ranging from a mild rash to severe skin ulcers. Persons already sensitized may react to their first contact with the product. Other persons may first experience this effect after years of contact with Portland cement products.

Effects Resulting from Inhalation:

CHRONIC:

Portland cement may contain trace amounts of free crystalline silica. Prolonged exposure to respirable free silica can aggravate other lung conditions and cause *silicosis*, a disabling and potentially fatal lung disease.

ACUTE:

Silicosis: Exposure to Portland cement may cause irritation to the moist mucous membranes of the nose, throat, and upper respiratory system. It may also leave unpleasant deposits in the nose.

Carcinogenic potential:

Portland cement is not listed as a carcinogen by NTP, OSHA, or IARC. It may however, contain trace amounts of substances listed as carcinogens by these organizations.

Tuberculosis:

Silicosis increases the risk of tuberculosis.

Renal Disease:

Studies show increased incident of chronic kidney disease and end-stage renal disease in people exposed to respirable crystalline silica.



Crystalline silica, a contaminate in Portland cement, is now classified by IARC as a known human carcinogen (Group I). NIP has characterized respirable silica as "reasonably anticipated to be a] carcinogen".

Effects Resulting from Ingestion:

Although small quantities of dust are not known to be harmful, ill effects are possible if larger quantities are consumed. Portland cement should not be eaten.

Medical conditions which may be aggravated by inhalation or dermal exposure:

- Pre-existing upper respiratory and lung diseases.
- Unusual (hyper) sensitivity to hexavalent (chromium+6) salts.

WARNING			
 	<p>Corrosive - Causes severe burns. Toxic - Harmful by inhalation. (Contains crystalline silica)</p> <p>Use proper engineering controls, work practices, and personal protective equipment to prevent exposure to wet or dry product. Read MSDS for details.</p>	 Respiratory Protection	 Eye Protection
		 Waterproof Gloves	 Waterproof Boots

Section 4 | FIRST AID

Eyes:

Immediately flush eyes thoroughly with water. Continue flushing for at least 15 minutes, including under lids, to remove all particles. Call physician immediately.

Skin:

Wash skin with cool water and pH-neutral soap or mild detergent. Seek medical treatment in all cases of prolonged exposure to wet cement, cement mixtures, or liquids from fresh cement products, or prolonged wet skin exposure to dry cement.

Inhalation of Airborne Dust:

Remove to fresh air. Seek medical help if coughing and other symptoms do not subside.

Ingestion:

Do not induce vomiting. If conscious, have the victim drink plenty of water, and call a physician immediately.

Section 5 | FIRE AND EXPLOSION DATA

Flash point	None	Lower explosive limit	None
Upper explosive limit	None	Auto ignition temperature	Not Combustible
Extinguishing media	Not Combustible	Special Fire-fighting procedures	None
Hazardous combustion products	None	Unusual fire & explosion hazards	None

Section 6 | ACCIDENTAL RELEASE MEASURES

Collect dry material using a scoop. Avoid actions that cause dust to become airborne. Avoid inhalation of dust and contact with skin.

Wear appropriate protective equipment as described in **Section 8**.

Scrape up wet material and place in an appropriate container. Allow material to "dry" before disposal. Do not attempt to wash masonry cement down drains.

Dispose of waste material according to local, state and federal regulations.

Section 7 | HANDLING AND STORAGE

Keep Portland cement dry until used. Normal temperatures and pressure do not affect the material.

Promptly remove dusty clothing or clothing which is wet with cement fluids and launder before reuse. Wash thoroughly after exposure to dust or wet cement mixtures or fluids.

Section 8 | EXPOSURE CONTROLS/PERSONAL PROTECTION

Skin Protection

Prevention is essential in avoiding potentially severe skin injury. Avoid contact with unhardened Portland cement. If contact occurs, properly wash affected area with soap and water. Where prolonged exposure to unhardened Portland cement products might occur, wear impervious clothing and gloves to eliminate skin contact. Wear sturdy boots that are impervious to eliminate foot and ankle exposure.

Do not rely on barrier creams. Barrier creams should not be used in place of gloves.

Periodically wash areas contacted by dry Portland cement, or by wet cement or concrete fluids, with a pH-neutral soap. Wash again at the end of work. If irritation occurs, immediately wash the affected area and seek treatment. If clothing becomes saturated with wet cement, it should be removed and replaced with clean, dry clothing.

Respiratory Protection:

Avoid actions that cause dust to become airborne. Use local or general ventilation to control exposures below applicable exposure limits.

Use NIOSH/MSHA-approved (under 30 CFR 11) or NIOSH-approved (under 42 CFR 84) respirators in poorly ventilated areas, if an applicable exposure limit has been exceeded, or when dust causes discomfort or irritation. (Advisory: Respirators and filters purchased after **June 10, 1998** must be certified under 42 CFR 84.)

Ventilation:

Use local exhaust or general dilution ventilation to control exposure within applicable limits.

(Section 8 | EXPOSURE CONTROLS/PERSONAL PROTECTION continued)

Eye Protection:

Where potentially subject to splashes or puffs of cement, wear safety glasses with side shields or goggles. In extremely dusty environments and unpredictable environments, wear unvented or indirectly vented goggles to avoid eye irritation or injury. Contact lenses should not be worn when working with Portland cement or fresh cement products.

Section 9 | PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	White powder	Odor:	No distinct odor
Physical State:	Solid (powder)	pH in water:	12 to 13
Solubility in water:	Slightly soluble (0.1 to 1.0%)	Vapor pressure:	Not applicable
Vapor density:	Not applicable	Boiling point:	Not applicable
Melting point:	Not applicable	Specific gravity:	(H ₂ O=1) 3.10–3.15
Evaporation point:	Not applicable		

Section 10 | STABILITY AND REACTIVITY

Stability:

Stable.

Conditions to Avoid:

Unintentional contact with water.

Incompatibility:

Wet Portland cement is alkaline. As such it is incompatible with acids, ammonium salts, and phosphorus.

Hazardous Decomposition:

Will not spontaneously occur. Adding water produces (caustic) calcium hydroxide.

Hazardous Polymerization:

Will not occur.

Section 11 | TOXICOLOGICAL INFORMATION

For a description of available, more detailed toxicological information, contact the supplier or manufacturer.

Section 12- ECOLOGICAL INFORMATION

Ecotoxicity:

No recognized unusual toxicity to plants or animals.

Relevant Physical and Chemical Properties:

(See Sections 9 and 10)

Section 13 | DISPOSAL

Dispose of waste material according to local, state and federal regulations. (Since Portland cement is stable, uncontaminated material may be saved for future use.)

Dispose of bags in an approved landfill or incinerator.

Section 14 | TRANSPORTATION DATA

Hazardous Materials Description/ Proper Shipping Name:

Portland cement is not hazardous under U.S. Department of Transportation (DOT) or Canadian TDG regulations.

Hazard Class:

Not applicable.

Identification Number:

Not applicable.

Required Label Text:

Not applicable.

Hazardous Substances/ Reportable Quantities(RQ):

Not applicable.

Section 15 | OTHER REGULATORY INFORMATION

Status under USDOL-OSHA & MSHA Hazard Communication Rule 29 CFR 1920.1200:

Portland cement is considered a hazardous chemical" under this regulation, and should be part of any hazard communication program.

Status under CERCLA/SUPERFUND 40 CFR 117 and 302:

Not listed.

Hazard Category under SARA (Title III).Section.311 and 312:

Portland cement qualifies as a hazardous substance with delayed health effects.

Status under SARA (Title III).Section 313:

Not subject to reporting requirements under Section 313 of Title III of the Superfund Amendment and Reauthorization Act of 1986 and 40 CFR Part 372 in concentrations above de minimis levels.

Status under TSCA:

Portland cement and crystalline silica are exempt from reporting under the inventory update rules.

RCRA:

The product as purchased if discarded would not be a hazardous waste by either characteristic or listing. RECA does require the user to determine if a product made with Portland cement should be classified as a hazardous waste when disposed of.

Status under the Federal Hazardous Substances Act:

Portland cement is a "hazardous substance" subject to statutes promulgated under the subject act.

Status under California Proposition 65:

This product contains up to 0.05% (percent) of chemicals (trace elements) 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 that the defined risks do not exist.

Section 16 | OTHER INFORMATION

Status under Canadian Environmental Protection Act:

On DSL List.

Status under WHMIS:

Portland cement is considered a hazardous material under the Hazardous Products Act, as defined by the Controlled Products Regulations (Class E – Corrosive Materials) and is therefore subject to the labeling and MSDS requirements of the Worldwide Hazardous Materials Information System (WHMIS).

(Section 16 | OTHER INFORMATION continued)

ABBREVIATIONS

ACGIH	American Conference of Government Industrial Hygienists
CAS	Chemical Abstract Service
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CFR	Code of Federal Regulations
CL	Ceiling Limit
DOT	Department of Transportation
HMIS	Hazardous Materials Identification System
IARC	International Agency for Research on Cancer
LC50	Lethal Concentration
LD50	Lethal Dosage
m ³	Cubic Meter
mg	Milligrams
mm	Millimeter
MSHA	Mine Safety and Health Administration
NA	Not Applicable
NIOSH	National Institute for Occupational Safety and Health
NTP	National Toxicity Program
OSHA	Occupational Safety and Health Administration
PEL	Permissible Exposure Limit
SARA	Superfund Amendments and Reauthorization Act
TLV	Threshold Limit Value
TWA	Time Weighted Average
WHMIS	Workplace Hazardous Material Information System

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Approval Date or Revision Date:

April 2014.

Date of Previous MSDS:

April, 2013.

Other Important Information:

Portland cement should be used by knowledgeable persons. A key to using the product safely requires the user to recognize that Portland cement chemically reacts with water, and that some of the intermediate products of this reaction (that is, those present while a Portland cement product is setting) pose a more severe hazard than does dry Portland cement itself.

While the information provided in this material safety data sheet is believed to provide a useful summary of the hazards of Portland cement as it is commonly used, the sheet cannot anticipate and provide all of the information that might be needed in every situation. Inexperienced product users should obtain proper training before using this product.

SELLER MAKES NO WARRANTY, EXPRESSED OR IMPLIED, CONCERNING THE PRODUCT OR THE MERCHANTABILITY OR FITNESS THEREOF FOR ANY PURPOSE OR CONCERNING THE ACCURACY OF ANY INFORMATION PROVIDED BY Federal White Cement except that the product shall conform to contracted specifications. The information provided herein was believed by Federal White Cement to be accurate at the time of preparation or prepared from sources believed to be reliable, but it is the responsibility of the user to investigate and understand other pertinent sources of information to comply with all laws and procedures applicable to the safe handling and use of the product, and to determine the suitability of the product for its intended use. Buyer's exclusive remedy shall be for damages and no claim of any kind, whether as to product delivered or non-delivery of product, and whether based on contract, breach of warranty, negligence, or otherwise shall be greater in amount than the purchase price of the quantity of product in respect of which damages are claimed. In no event shall Seller be liable for incidental or consequential damages, whether Buyer's claim is based on contract, breach of warranty, negligence or otherwise.

In particular, the data furnished in this sheet do not address hazards that may be posed by other materials mixed with Portland cement to produce Portland cement products. Users should review other relevant material safety data sheets before working with this Portland cement or working with Portland cement products, for example, Portland cement concrete.