Portland Cement, Ready-Mix Concrete

Safety Data Sheet

According to the Hazardous Products Regulations (HPR) WHMIS 2022
Issue date: 03-03-2023 Revision date: 05-22-2025 Supersedes: 04-21-2023 Version: 3.0

SECTION 1 Identification

1.1. GHS Product identifier

Product form : Mixture
Product name : Portland Cement, Ready-Mix Concrete

1.2. Other means of identification

Other means of identification : Portland Cement Concrete, Freshly mixed

1.3. Recommended use of the chemical and restrictions on use

Recommended uses and restrictions : Industrial uses in construction of buildings, pavement and manufacture of concrete.
Restrictions on use : Product for industrial use only,Keep out of reach of children.

1.4. Supplier's details

Manufacturer
Add the name, address and tel. number
of the Canadian manufacturer or importer
who operates in Canada..

1.5. Emergency phone number

Emergency number : 1-613-996-6666 CANUTEC (Call Collect or *666 Cellular) 24-hours
Toll-free 1-888-CAN-UTEC (226-8832) or 613-992-462 (Canada and US only)
Add additional applicable Emergency Telephone Number and and any restriction on the use (e.g., days and hours of operation).

SECTION 2 Hazard identification

2.1. Classification of the substance or mixture

Classification (GHS CA)

Skin corrosion/irritation, Category 1	H314	Causes severe skin burns
Serious eye damage/eye irritation, Category 1	H318	Causes serious eye damage
Skin sensitization, Category 1B	H317	May cause an allergic skin reaction
Carcinogenicity, Category 1A	H350	May cause cancer (Inhalation).
Specific target organ toxicity – Single exposure, Category 3, Respiratory tract irritation	H335	May cause respiratory irritation
Specific target organ toxicity, Repeated exposure, Category 1	H372	Causes damage to organs (lungs) through prolonged or repeated exposure (Inhalation).
Health hazards not otherwise classified, Category 1		Causes severe damage to the respiratory tract

2.2. GHS label elements, including precautionary statements

GHS-CA labelling

Hazard pictograms (GHS-CA) :

Signal word (GHS CA) : Danger

Hazard statements (GHS-CA) : H314 - Causes severe skin burns and eye damage
H317 - May cause an allergic skin reaction
H335 - May cause respiratory irritation

		H350 - May cause cancer (Inhalation). H372 - Causes damage to organs (lungs) through prolonged or repeated exposure (Inhalation). HHNOC - Causes severe damage to the respiratory tract
Precautionary statements (GHS-CA)	:	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, spray, vapours. P264 - Wash hands, forearms and face thoroughly after handling. P270 - Do not eat, drink or smoke when using this product. 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, face protection, protective clothing, protective gloves. P308+P313 - IF exposed or concerned: Get medical advice or attention. P301+P330+P331 - IF SWALLOWED: rinse mouth. Do NOT induce vomiting. P303+P361+P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water . P363 - Wash contaminated clothing before reuse. P333+P313 - If skin irritation or rash occurs: Get medical advice or 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 a doctor. P304+P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing. P312 - Call a POISON CENTER or a doctor if you feel unwell.

2.3. Other hazards which do not result in classification

No additional information available

SECTION 3 Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Chemical name / Synonyms	Product identifier	%Weight
Calcium oxide	Lime / Quicklime / CALCIUM OXIDE / Quicklime (CaO) / Calcium oxide (CaO) / Lime (calcium oxide)	CAS-No.: 1305-78-8	5 – 30
Cement, portland, chemicals	Silicate, portland cement / Portland cement / Cement Portland / Cement kiln dust / Cement (Portland)	CAS-No.: 65997-15-1	10 – 30

Name	Chemical name / Synonyms	Product identifier	%Weight
Slags, ferrous metal, blast furnace	Slags, ferrous metal, blast furnace (The fused substance formed by the action of a flux upon the gangue of the iron-bearing materials charged to a blast furnace and upon the oxidized impurities in the iron produced. Depending upon the particular blast furnace operation, the slag is composed primarily of sulfur and oxides of aluminum, calcium, magnesium, and silicon.) / Slags (ferrous metal) blast furnace	CAS-No.: 65996-69-2	10 – 30
Ashes, residues	Ashes (residues) / Ceramic microspheres / Coal ash by-product / Furnace residues / Oil ash, by-product / Ashes / Ash / Ashes from fluidized bed combustion / Fly ash / Bottom ash / Coal fly ash / Ashes, residues (The residuum from the burning of a combination of carbonaceous materials. The following elements may be present as oxides: aluminum, calcium, iron, magnesium, nickel, phosphorus, potassium, silicon, sulfur, titanium, and vanadium.) / Coal ash / Ash coals Podmoskovny, Pechorsky, Kuznetsky, Donetsk, Ekibastuzsky, brand B1 of Babaevsky and Tyulgansky deposits / Ashes(residues),coal	CAS-No.: 68131-74-8	10 – 30
Limestone	Chalk / Limestone (A noncombustible solid characteristic of sedimentary rock. It consists primarily of calcium carbonate.) / Natural calcium carbonate / Marble / Calcium carbonate / Limestone (sedimentary rock) / Calcite / Limestone ground / Acetate, 4-methyl-2-propyl-2H-tetrahydropyran-4-yl / Ground limestone	CAS-No.: 1317-65-3	1 – 15

Name	Chemical name / Synonyms	Product identifier	%Weight
Quartz	Quartz (SiO2) / Silica, crystalline, quartz / Crystalline silica, quartz / .alpha.-Quartz / Silica, crystalline, .alpha.-quartz / QUARTZ / Crystalline silica in the form of quartz / Quartz, silica / Quartz (respirable fraction) / Silica dust / Silica, crystalline-.alpha.quartz / Silica, .alpha.-quartz / Silicon dioxide / Silica, quartz / Silica, crystalline / Quartz (crystalline silica) / Silica dust, crystalline / QUARTZ POWDER / Silica, crystalline (quartz)	CAS-No.: 14808-60-7	1 – 10

Comments : The concentrations listed represent actual ranges that result from batch variability.

SECTION 4 First-aid measures

4.1. Description of necessary first-aid measures

First-aid measures after inhalation : If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER/doctor if you feel unwell.

First-aid measures after skin contact : If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse. Immediately call a POISON CENTER/doctor.

First-aid measures after eye contact : 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/doctor.

First-aid measures after ingestion : IF SWALLOWED: rinse mouth. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Immediately call a POISON CENTER or doctor.

4.2. Most important symptoms/effects, acute and delayed

Symptoms/effects after inhalation : Causes severe damage to the respiratory tract. May cause respiratory tract irritation.

Symptoms/effects after skin contact : Causes severe skin burns. Symptoms may include redness, pain, blisters. May cause an allergic skin reaction.

Symptoms/effects after eye contact : Causes serious eye damage. Symptoms may include discomfort or pain, excess blinking and tear production, with marked redness and swelling of the conjunctiva. May cause burns.

Symptoms/effects after ingestion : May be harmful if swallowed. May cause gastrointestinal irritation, nausea, vomiting and diarrhea. May cause burns or irritation of the linings of the mouth, throat, and gastrointestinal tract.

Chronic symptoms : May cause cancer by inhalation. Causes damage to organs (lungs) through prolonged or repeated exposure (Inhalation).

4.3. Indication of immediate medical attention and special treatment needed, if necessary

Other medical advice or treatment : Symptoms may be delayed. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

SECTION 5 Fire-fighting measures

5.1. Suitable extinguishing media

Suitable extinguishing media : Use extinguishing media appropriate for surrounding fire.

Unsuitable extinguishing media : Do not use water.

5.2. Specific hazards arising from the chemical

Fire hazard : Products of combustion may include, and are not limited to: oxides of carbon. Aluminium oxides. Hydrogen gas. Fluoride compounds. Chromate compounds. Nickel Compounds.

5.3. Special protective actions for fire-fighters

Protection during firefighting : Keep upwind of fire. Wear full fire fighting turn-out gear (full Bunker gear) and respiratory protection (SCBA).

SECTION 6 Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Use personal protection recommended in Section 8. Isolate the hazard area and deny entry to unnecessary and unprotected personnel.

Personal Precautions, Protective Equipment and Emergency Procedures : Do not touch or walk on the spilled product.

Environmental precautions : Prevent entry to sewers and public waters.

6.2. Methods and materials for containment and cleaning up

For containment : Stop leak if safe to do so. Absorb and/or contain spill with inert material (sand, vermiculite or other appropriate material), then place in suitable container. Do not flush into surface water or sewer system. Wear recommended personal protective equipment.

Methods for cleaning up : Dike and contain spill. Sweep or shovel spills into appropriate container for disposal. Provide ventilation.

For further information refer to section 8: "Exposure controls/personal protection"

SECTION 7 Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get in eyes, on skin, or on clothing. Do not breathe dust/fume/gas/mist/vapours/spray. Do not swallow. Wear appropriate PPE (see Section 8). This product must only be handled by properly trained personnel. Handle and open container with care. When using do not eat, drink or smoke. Use only in well ventilated areas.

Hygiene measures : Contaminated work clothing should not be allowed out of the workplace. Take off immediately all contaminated clothing and wash it before reuse. Wash hands, forearms and face thoroughly after handling.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Keep out of the reach of children. Protect from moisture. Store in a secure location. Do not store in unlabelled containers. Keep away from incompatible materials.

Specific end uses : Industrial uses in construction of buildings, pavement and manufacture of concrete.

SECTION 8 Exposure controls/personal protection

8.1. Control parameters

Cement, portland, chemicals (65997-15-1)	
USA - ACGIH - Occupational Exposure Limits	
Local name	Portland cement

Cement, portland, chemicals (65997-15-1)	
ACGIH OEL TWA	1 mg/m³ (particulate matter containing no asbestos and <1% crystalline silica, respirable particulate matter)
Remark (ACGIH)	TLV® Basis: Pulm func; resp symptoms; asthma. Notations: A4 (Not classifiable as a Human Carcinogen)
ACGIH chemical category	Not Classifiable as a Human Carcinogen
Regulatory reference	ACGIH 2020
USA - OSHA - Occupational Exposure Limits	
OSHA PEL TWA	15 mg/m³ (total dust) 5 mg/m³ (respirable fraction)

Calcium oxide (1305-78-8)	
USA - ACGIH - Occupational Exposure Limits	
ACGIH OEL TWA	2 mg/m³
USA - OSHA - Occupational Exposure Limits	
OSHA PEL TWA	5 mg/m³

Quartz (14808-60-7)	
USA - ACGIH - Occupational Exposure Limits	
Local name	Silica crystaline - quartz
ACGIH OEL TWA	0.025 mg/m³ (respirable particulate matter)
Remark (ACGIH)	TLV® Basis: Pulm fibrosis; lung cancer. Notations: A2 (Suspected Human Carcinogen)
ACGIH chemical category	Suspected Human Carcinogen
Regulatory reference	ACGIH 2023
USA - OSHA - Occupational Exposure Limits	
Local name	Quartz (Total Dust) (Silica: Crystalline)
OSHA PEL TWA	50 µg/m³ (Respirable crystalline silica)
Remark (OSHA)	Table Z-3. For OSHA PEL (TWA) use formula: (30 mg/m3 / (%SiO2+2)) for mg/m3. CAS No. source: eCFR Table Z-1.
Regulatory reference (US-OSHA)	OSHA Annotated Table Z-3 Mineral Dusts

Limestone (1317-65-3)	
USA - OSHA - Occupational Exposure Limits	
Local name	Calcium Carbonate (Limestone; Marble)
OSHA PEL TWA	15 mg/m³ (total dust) 5 mg/m³ (respirable fraction)
Regulatory reference (US-OSHA)	OSHA Annotated Table Z-1

8.2. Appropriate engineering controls

Appropriate engineering controls : Ensure good ventilation of the work station. Provide readily accessible eye wash stations and safety showers.

Environmental exposure controls : Avoid release to the environment.

8.3. Individual protection measures, such as personal protective equipment (PPE)

Hand protection:
Wear suitable gloves resistant to chemical penetration. Consult glove manufacturer's product information on material suitability and material thickness.

Eye protection:
Wear eye/face protection

Skin and body protection:
Wear suitable protective clothing

Respiratory protection:
In case of insufficient ventilation, wear suitable respiratory equipment. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. SDSs cannot provide detailed and complete respiratory protection guidelines. Selection of respiratory protection must be done by a qualified person who has assessed the work environment.

Other information:

Handle in accordance with good industrial hygiene and safety procedures. Do not eat, drink or smoke when using this product.

SECTION 9 Physical and chemical properties

9.1. Basic physical and chemical properties

Physical state	:	Liquid
Appearance	:	Semi-solid. Granular paste.
Colour	:	Grey
Odour	:	Odourless
Odour threshold	:	No data available
pH	:	> 12
Relative evaporation rate (butylacetate=1)	:	No data available
Relative evaporation rate (ether=1)	:	No data available
Melting point	:	No data available
Freezing point	:	No data available
Boiling point	:	> 1000 °C
Flash point	:	No data available
Auto-ignition temperature	:	No data available
Decomposition temperature	:	No data available
Flammability (solid, gas)	:	Not flammable
Vapour pressure	:	No data available
Relative vapour density at 20°C	:	No data available
Relative density	:	1.5 – 2.9 (water=1)
Solubility	:	Slightly soluble in water. Water: < 1 %
Partition coefficient n-octanol/water	:	No data available
Viscosity, kinematic	:	No data available
Explosive limits	:	No data available
Particle characteristics	:	No data available

Calcium oxide (1305-78-8)	
Boiling point	2850 °C Atm. press.: 101,325 kPa
Vapour pressure	0 hPa (at 20 °C)

Ashes, residues (68131-74-8)	
Boiling point	1800 – 2000 °C

Quartz (14808-60-7)	
Boiling point	2230 °C

9.2. Data relevant with regard to physical hazard classes (supplemental)

No additional information available

SECTION 10 Stability and reactivity

Reactivity : No dangerous reactions known under normal conditions of use. Reacts with water (moisture): release of heat.
Chemical stability : Stable under normal conditions.
Possibility of hazardous reactions : No dangerous reactions known under normal conditions of use.
Conditions to avoid : Heat. Moisture. Incompatible materials.
Incompatible materials : Strong acids. Ammonium salts. Aluminium. Metals. Fluoride compounds.
Hazardous decomposition products : May include, and are not limited to: oxides of carbon. Chromate compounds. Nickel Compounds.
Hardening time: : No additional information available

SECTION 11 Toxicological information

11.1. Likely routes of exposure

Acute toxicity (oral) : Not classified.
Acute toxicity (dermal) : Not classified.
Acute toxicity (inhalation) : Not classified.

Calcium oxide (1305-78-8)	
LD50 oral rat	500 mg/kg (Source: IUCLID)
LD50 dermal rat	> 2000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 402 (Acute Dermal Toxicity), Guideline: EU Method B.3 (Acute Toxicity (Dermal))
LC50 inhalation rat	> 6.04 mg/l/4h
ATE CA (oral)	500 mg/kg bodyweight

Slags, ferrous metal, blast furnace (65996-69-2)	
LD50 oral rat	> 2000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 401 (Acute Oral Toxicity)
LD50 dermal rat	> 4000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 402 (Acute Dermal Toxicity)
LC50 inhalation rat	> 5.235 mg/l air Animal: rat, Guideline: OECD Guideline 403 (Acute Inhalation Toxicity)

Ashes, residues (68131-74-8)	
LD50 oral rat	> 2000 mg/kg (Source: IUCLID)
LD50 dermal rat	> 2000 mg/kg bodyweight Animal: rat, Guideline: EU Method B.3 (Acute Toxicity (Dermal)), Guideline: OECD Guideline 402 (Acute Dermal Toxicity)
LC50 inhalation rat	> 1.4 mg/l air Animal: rat, Animal sex: male

Skin corrosion/irritation : Causes severe skin burns.
pH: > 12

Calcium oxide (1305-78-8)	
pH	12.5 (saturated solution)

Serious eye damage/irritation : Causes serious eye damage.
pH: > 12

Calcium oxide (1305-78-8)	
pH	12.5 (saturated solution)

Respiratory or skin sensitization : May cause an allergic skin reaction.

Germ cell mutagenicity : Not classified.

Carcinogenicity : May cause cancer (Inhalation).

Quartz (14808-60-7)	
IARC group	1 - Carcinogenic to humans
National Toxicology Program (NTP) Status	Known Human Carcinogens

Reproductive toxicity : Not classified.

STOT-single exposure : May cause respiratory irritation.

Cement, portland, chemicals (65997-15-1)	
STOT-single exposure	May cause respiratory irritation.

Calcium oxide (1305-78-8)	
STOT-single exposure	May cause respiratory irritation.

STOT-repeated exposure : Causes damage to organs (lungs) through prolonged or repeated exposure (Inhalation).

Calcium oxide (1305-78-8)	
NOAEL (oral, rat, 90 days)	1000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test)

Ashes, residues (68131-74-8)	
NOAEL (oral, rat, 90 days)	≥ 1000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 407 (Repeated Dose 28-Day Oral Toxicity Study in Rodents)
NOAEC (inhalation, rat, dust/mist/fume, 90 days)	0.0042 mg/l air Animal: rat, Animal sex: male

Quartz (14808-60-7)	
STOT-repeated exposure	Causes damage to organs (lungs) through prolonged or repeated exposure.
Additional information	Prolonged exposure to respirable crystalline silica has been known to cause silicosis, a scarring of the lungs. This disease may be disabling as it reduces lung capacity. The risk of contracting silicosis and the severity of the disease is related to the amount of dust exposure and the length of time (usually years) of exposure.

Aspiration hazard : Not classified.

Symptoms/effects after inhalation : Causes severe damage to the respiratory tract. May cause respiratory tract irritation.

Symptoms/effects after skin contact : Causes severe skin burns. Symptoms may include redness, pain, blisters. May cause an allergic skin reaction.

Symptoms/effects after eye contact : Causes serious eye damage. Symptoms may include discomfort or pain, excess blinking and tear production, with marked redness and swelling of the conjunctiva. May cause burns.

Symptoms/effects after ingestion : May be harmful if swallowed. May cause gastrointestinal irritation, nausea, vomiting and diarrhea. May cause burns or irritation of the linings of the mouth, throat, and gastrointestinal tract.

Chronic symptoms : May cause cancer by inhalation. Causes damage to organs (lungs) through prolonged or repeated exposure (Inhalation).

Other information : Likely routes of exposure: ingestion, inhalation, skin and eye.

SECTION 12 Ecological information

12.1. Toxicity

Ecology - general : May cause long-term adverse effects in the aquatic environment.
Hazardous to the aquatic environment, short–term (acute) : Not classified.
Hazardous to the aquatic environment, long–term (chronic) : Not classified.

Calcium oxide (1305-78-8)	
LC50 - Fish [1]	1070 mg/l (Exposure time: 96 h - Species: Cyprinus carpio [static] Source: IUCLID)
EC50 - Crustacea [1]	49.1 mg/l Test organisms (species): Daphnia magna
EC50 72h - Algae [1]	184.57 mg/l Test organisms (species): Raphidocelis subcapitata (previous names: Pseudokirchneriella subcapitata, Selenastrum capricornutum)
NOEC (chronic)	32 mg/l Test organisms (species): Crangon septemspinosa Duration: '14 d'

Slags, ferrous metal, blast furnace (65996-69-2)	
LC50 - Fish [1]	> 100 g/l Test organisms (species): Leuciscus idus
LC50 - Fish [2]	> 1000 g/l Test organisms (species): Leuciscus idus
NOEC (chronic)	1563 mg/l Test organisms (species): Daphnia magna Duration: '21 d'
LOEC (chronic)	5000 mg/l Test organisms (species): Daphnia magna Duration: '21 d'

12.2. Persistence and degradability

Portland Cement, Ready-Mix Concrete	
Persistence and degradability	Not established.

Cement, portland, chemicals (65997-15-1)	
Persistence and degradability	Rapidly degradable

Calcium oxide (1305-78-8)	
Persistence and degradability	Rapidly degradable

Slags, ferrous metal, blast furnace (65996-69-2)	
Persistence and degradability	Rapidly degradable

Ashes, residues (68131-74-8)	
Persistence and degradability	Rapidly degradable

Quartz (14808-60-7)	
Persistence and degradability	Rapidly degradable

Limestone (1317-65-3)	
Persistence and degradability	Rapidly degradable

12.3. Bioaccumulative potential

Portland Cement, Ready-Mix Concrete	
Bioaccumulative potential	Not established.

Calcium oxide (1305-78-8)	
BCF - Fish [1]	(no bioaccumulation)

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

Ozone : Not classified.

Other information : No other effects known.

Fluorinated greenhouse gases : No

SECTION 13 Disposal considerations

Product/Packaging disposal recommendations : This material must be disposed of in accordance with all local, state, provincial, and federal regulations.

Additional information : Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14 Transport information

In accordance with TDG

14.1. UN Number

UN-No. (TDG) : Not regulated

14.2. UN Proper Shipping Name

Proper Shipping Name (TDG) : Not regulated

14.3. Transport hazard class(es)

TDG

Transport hazard class(es) (TDG) : Not regulated

14.4. Packing group, if applicable

Packing group (TDG) : Not regulated

14.5. Environmental hazards

Other information : No supplementary information available.

14.6. Special precautions for user

TDG

Not regulated

14.7. Transport in bulk according to Annex II of MARPOL 73/78[9] and the IBC Code[10]

Not applicable

SECTION 15 Regulatory information

All components of this product are listed, or excluded from listing, on the Canadian DSL (Domestic Substances List) and NDSL (Non-Domestic Substances List) inventories.

SECTION 16 Other Information

Issue date : 03-03-2023
Revision date : 05-22-2025
Supersedes : 04-21-2023

Other information : None.
Prepared by : Nexreg Compliance Inc.
www.Nexreg.com

Full text of hazard classes and H-statements:	
H314	Causes severe skin burns and eye damage
H317	May cause an allergic skin reaction
H318	Causes serious eye damage
H335	May cause respiratory irritation
H350	May cause cancer.
H372	Causes damage to organs through prolonged or repeated exposure.

Safety Data Sheet (SDS), Canada - Nexreg 2025