

HPD UNIQUE IDENTIFIER: 25058

CLASSIFICATION: 03 30 00 Cast-in-Place Concrete

PRODUCT DESCRIPTION: This HPD covers ELEMENT™ Blended Portland Cements which are found under different names depending on the place of use or its composition. For Canada: Type GUb-8SF, CompactCem™, GUb-SFI, ENERcem™, MHb-10F. For United States of America: Type GU SF, CompactCem™, ENERcem™, GU F. Further details about those blended cements can be found in the Section 5 General Notes.

Section 1: Summary

Basic Method / Product Threshold

Inventory Reporting Format	Threshold level	Residuals/Impurities	
☐ Nested Materials Method	☒ 100 ppm	☒ Considered	<i>All Substances Above the Threshold Indicated Are:</i>
☒ Basic Method	☐ 1,000 ppm	☐ Partially Considered	Characterized ☐ Yes Ex/SC ☒ Yes ☐ No
Threshold Disclosed Per	☐ Per GHS SDS	☐ Not Considered	% weight and role provided for all substances.
☐ Material	☐ Other	Explanation(s) provided for Residuals/Impurities?	Screened ☐ Yes Ex/SC ☒ Yes ☐ No
☒ Product		☒ Yes ☐ No	All substances screened using Priority Hazard Lists with results disclosed.
			Identified ☐ Yes Ex/SC ☒ Yes ☐ No
			All substances disclosed by Name (Specific or Generic) and Identifier.

CONTENT IN DESCENDING ORDER OF QUANTITY

Summary of product contents and results from screening individual chemical substances against HPD Priority Hazard Lists and the GreenScreen for Safer Chemicals®. The HPD does not assess whether using or handling this product will expose individuals to its chemical substances or any health risk. Refer to Section 2 for further details.

MATERIAL | SUBSTANCE | RESIDUAL OR IMPURITY

GREENSCREEN SCORE | HAZARD TYPE

ELEMENT™ BLENDED PORTLAND CEMENT [PORTLAND CEMENT LT-P1 | CAN | END SILICA FUME LT-P1 | CAN FLY ASH (PRIMARY CASRN IS 68131-74-8) LT-UNK]

Number of Greenscreen BM-4/BM3 contents ... 0

Contents highest concern GreenScreen Benchmark or List translator Score ... LT-P1

Nanomaterial ... No

INVENTORY AND SCREENING NOTES:

Portland Cement is made of clinker, limestone powder, gypsum and grinding aids. Blended cements incorporate cementitious supplementary materials such as: silica fume, fly ash and blast furnace slag. According to cement manufacturing standards (CSA A3001 and ASTM C1157), every component may vary of ± 1.5%. At Ciment Quebec, our laboratory controls raw material at each step in its transformation through continuous sampling, 24 hours a day, seven days a week allowing us to control the content of our cements at a very high quality level thus ensuring no residuals or impurities are present in the cement at or above the declared threshold.

VOLATILE ORGANIC COMPOUND (VOC) CONTENT

VOC Content data is not applicable for this product category.

CERTIFICATIONS AND COMPLIANCE See Section 3 for additional listings.

VOC emissions: Inherently non-emitting source per LEED Management: ISO 9001:2015 Quality management systems LCA: Environmental Product Declaration (EPD) by ASTM

CONSISTENCY WITH OTHER PROGRAMS

Pre-checked for LEED v4 Material Ingredients Option 1 and Option 2

Third Party Verified?	PREPARER: Self-Prepared	SCREENING DATE: 2021-06-09
☒ Yes	VERIFIER: Vertima	PUBLISHED DATE: 2021-06-09
☐ No	VERIFICATION #: Ute-12624	EXPIRY DATE: 2024-06-09

This section lists contents in a product based on specific threshold(s) and reports detailed health information including hazards. This HPD uses the inventory method indicated above, which is one of three possible methods:

- *Basic Inventory method with Product-level threshold.*
- *Nested Material Inventory method with Product-level threshold*
- *Nested Material Inventory method with individual Material-level thresholds*

Definitions and requirements for the three inventory methods and requirements for each data field can be found in the HPD Open Standard version 2.2, available on the HPDC website at: www.hpd-collaborative.org/hpd-2-2-standard

ELEMENT™ BLENDED PORTLAND CEMENT

PRODUCT THRESHOLD: 100 ppm	RESIDUALS AND IMPURITIES CONSIDERED: Yes
RESIDUALS AND IMPURITIES NOTES: At Ciment Quebec, our laboratory controls raw material at each step in its transformation through continuous sampling, 24 hours a day, seven days a week allowing us to control the content of our cements at a very high quality level thus ensuring no residuals or impurities are present in the cement at or above the declared threshold.	
OTHER PRODUCT NOTES: Blended cements with cementitious supplementary can contain up to 15% silica fumes or 50% fly ash. At Ciment Quebec, silica fume blended cements (Gub-8SF & CompactCem) contain 8% ± 1.5% silica fume and fly ash blended cement (ENERcem) contains 10% +/- 1.5% fly ash.	

PORTLAND CEMENT

ID: 65997-15-1

HAZARD SCREENING METHOD: Pharos Chemical and Materials Library HAZARD SCREENING DATE: 2021-06-09 8:13:06

%: 88.5000 - 93.5000 GS: LT-P1 RC: None NANO: No SUBSTANCE ROLE: Binder

HAZARD TYPE	AGENCY AND LIST TITLES	WARNINGS
CAN	MAK	Carcinogen Group 3B - Evidence of carcinogenic effects but not sufficient for classification
END	TEDX - Potential Endocrine Disruptors	Potential Endocrine Disruptor

SUBSTANCE NOTES: Portland Cement, as stated in ASTM C150/C150M- 18, shall only contain the following ingredients: portland cement clinker; water or calcium sulfate, or both; limestone; processing additions; and air-entraining addition for air-entraining portland cement. At Ciment Québec, Portland Cement is made of portland cement clinker, calcium sulfate (gypsum), limestone and processing additions (grinding aids).

SILICA FUME

ID: 69012-64-2

HAZARD SCREENING METHOD: Pharos Chemical and Materials Library HAZARD SCREENING DATE: 2021-06-09 8:13:06

%: 0.0000 - 9.5000 GS: LT-P1 RC: PreC NANO: No SUBSTANCE ROLE: Binder

HAZARD TYPE	AGENCY AND LIST TITLES	WARNINGS
CAN	GHS - Australia	H350i - May cause cancer by inhalation

SUBSTANCE NOTES: In our silica fume blended cements, silica fume is incorporated at a rate of 8% $\pm$ 1.5% and conform to cement manufacturing standards.

Silica fume is a byproduct of producing silicon metal or ferrosilicon alloys. One of the most beneficial uses for silica fume is in concrete. Because of its chemical and physical properties, it is a very reactive pozzolan. Concrete containing silica fume can have very high strength and can be very durable.

Silica fume consists primarily of amorphous (non-crystalline) silicon dioxide (SiO₂). The individual particles are extremely small, approximately 1/100th the size of an average cement particle. Because of its fine particles, large surface area, and the high SiO₂ content, silica fume is a very reactive pozzolan when used in concrete.

FLY ASH (PRIMARY CASRN IS 68131-74-8)

ID: 69012-84-6

HAZARD SCREENING METHOD: Pharos Chemical and Materials Library HAZARD SCREENING DATE: 2021-06-09 8:13:07

%: 0.0000 - 11.5000 GS: LT-UNK RC: PreC NANO: No SUBSTANCE ROLE: Binder

HAZARD TYPE	AGENCY AND LIST TITLES	WARNINGS
None found		No warnings found on HPD Priority Hazard Lists

SUBSTANCE NOTES: In ENERcem™ (MHb-10F) cement, Fly ash is incorporated at a rate of 10% $\pm$ 1.5% and conform to cement manufacturing standards.

Fly ash is the fine ash powder produced and collected at coal-fired power plants. When coal is ground and injected into burning chambers, it ignites and produces two types of ash: bottom ash and fly ash. As the names suggest, bottom ash, with its larger and heavier particle sizes, falls to the bottom of the combustion chamber whereas fly ash “flies” up with the exhaust stream. Fly ash is then filtered out and collected prior to the exhaust being released to the atmosphere.

Fly ash develops cementitious properties when mixed with cement and water, making it the ideal supplementary cementitious material (SCM) for numerous concrete and cementing applications

Section 3: Certifications and Compliance

This section lists applicable certification and standards compliance information for VOC emissions and VOC content. Other types of health or environmental performance testing or certifications completed for the product may be provided.

VOC EMISSIONS		Inherently non-emitting source per LEED		
CERTIFYING PARTY: Self-declared		ISSUE DATE: 2021-05-	EXPIRY DATE:	CERTIFIER OR LAB: None
APPLICABLE FACILITIES: Ciment Québec inc. 145 du		31		
Centenaire Blvd Saint-Basile Qc G0A 3G0 Canada				
CERTIFICATE URL:				
CERTIFICATION AND COMPLIANCE NOTES: Blended Cement is a inorganic material, generally used in concrete, and not by itself. According to LEED v4., products that are inherently nonemitting sources of VOCs (stone, ceramic, powder-coated metals, plated or anodized metal, glass, concrete, clay brick, and unfinished or untreated solid wood) are considered fully compliant without any VOC emissions testing if they do not include integral organic-based surface coatings, binders, or sealants.				
MANAGEMENT		ISO 9001:2015 Quality management systems		
CERTIFYING PARTY: Third Party		ISSUE DATE: 2014-12-	EXPIRY DATE: 2023-	CERTIFIER OR LAB: National
APPLICABLE FACILITIES: Ciment Québec inc. 145 du		11	12-03	Quality Assurance
Centenaire Blvd Saint-Basile Qc G0A 3G0 Canada				
CERTIFICATE URL:				
CERTIFICATION AND COMPLIANCE NOTES: ISO 9001:2015 Certificate # 15640				
LCA		Environmental Product Declaration (EPD) by ASTM		
CERTIFYING PARTY: Third Party		ISSUE	EXPIRY	CERTIFIER
APPLICABLE FACILITIES: Ciment Québec inc. 145 du Centenaire Blvd Saint-Basile Qc G0A 3G0 Canada		DATE:	DATE:	OR LAB:
CERTIFICATE URL:		2021-	2026-	Vertima
https://www.astm.org/CERTIFICATION/DOCS/677.EPD_for_Ciment_Qu%C3%A9bec_ELEMENTTM_Portland.pdf		06-04	06-03	(preparer) /
				Athena
				Sustainable
				Materials
				Institute
				(3rd party
				verifier)
CERTIFICATION AND COMPLIANCE NOTES: The Program Operator is ASTM and the EPD registration number is 231.				

Section 4: Accessories

This section lists related products or materials that the manufacturer requires or recommends for installation (such as adhesives or fasteners), maintenance, cleaning, or operations. For information relating to the contents of these related products, refer to their applicable Health Product Declarations, if available.

No accessories are required for this product.

Section 5: General Notes

Type GUb-8SF (Type GU SF) is a cement blended with silica fume. It is generally used for bridges, overpass, high resistance structures, high durability structures and in concrete with high sulfate exposure.

CompactCem™ (GUb-SFI) is a silica fume blended cement carefully proportioned and mixed at the cement plant and site-proven for use in paving projects using roller-compacted concrete (RCC).

ENERcem™ (MHb-10F / GU F) is a fly ash blended engineering cement. It is used for massive concrete structures, wind tower bases, concrete with high resistance to sulphates, and to repair massive structures such as hydroelectric dams.

Ciment Québec safety data sheets can be found at the following link:

<https://cimentquebec.com/en/about-us/safety-data-sheets/>

MANUFACTURER INFORMATION

MANUFACTURER: Ciment Quebec
ADDRESS: 145 Blvd du Centenaire
 Saint-Basile Quebec G0A3G0, Canada
WEBSITE: www.cimentquebec.com

CONTACT NAME: Guillaume Lemieux
TITLE: Cement Business Development and Technical Services Manager
PHONE: 438-863-9561
EMAIL: glemieux@cqi.ca

The listed contact is responsible for the validity of this HPD and attests that it is accurate and complete to the best of his or her knowledge.

KEY

Hazard Types

AQU Aquatic toxicity	LAN Land toxicity	PHY Physical hazard (flammable or reactive)
CAN Cancer	MAM Mammalian/systemic/organ toxicity	REP Reproductive
DEV Developmental toxicity	MUL Multiple	RES Respiratory sensitization
END Endocrine activity	NEU Neurotoxicity	SKI Skin sensitization/irritation/corrosivity
EYE Eye irritation/corrosivity	NF Not found on Priority Hazard Lists	UNK Unknown
GEN Gene mutation	OZO Ozone depletion	
GLO Global warming	PBT Persistent, bioaccumulative, and toxic	

GreenScreen (GS)

BM-4 Benchmark 4 (prefer-safer chemical)	LT-1 List Translator 1 (Likely Benchmark-1)
BM-3 Benchmark 3 (use but still opportunity for improvement)	LT-UNK List Translator Benchmark Unknown (the chemical is present on at least one GreenScreen Specified List, but the information contained within the list did not result in a clear mapping to a LT-1 or LTP1 score.)
BM-2 Benchmark 2 (use but search for safer substitutes)	
BM-1 Benchmark 1 (avoid - chemical of high concern)	
BM-U Benchmark Unspecified (due to insufficient data)	
LT-P1 List Translator Possible 1 (Possible Benchmark-1)	NoGS No GreenScreen.

Recycled Types

PreC Pre-consumer recycled content
PostC Post-consumer recycled content
UNK Inclusion of recycled content is unknown
None Does not include recycled content

Other Terms:

GHS SDS Globally Harmonized System of Classification and Labeling of Chemicals Safety Data Sheet

Inventory Methods:

Nested Method / Material Threshold Substances listed within each material per threshold indicated per material
Nested Method / Product Threshold Substances listed within each material per threshold indicated per product
Basic Method / Product Threshold Substances listed individually per threshold indicated per product

Nano Composed of nano scale particles or nanotechnology
Third Party Verified Verification by independent certifier approved by HPDC
Preparer Third party preparer, if not self-prepared by manufacturer
Applicable facilities Manufacturing sites to which testing applies

The Health Product Declaration (HPD) Open Standard provides for the disclosure of product contents and potential associated human and environmental health hazards. Hazard associations are based on the HPD Priority Hazard Lists, the GreenScreen List Translator™, and when available, full GreenScreen® assessments. The HPD Open Standard v2.1 is not:

- a method for the assessment of exposure or risk associated with product handling or use,
- a method for assessing potential health impacts of: (i) substances used or created during the manufacturing process or (ii) substances created after the product is delivered for end use.

Information about life cycle, exposure and/or risk assessments performed on the product may be reported by the manufacturer in appropriate Notes sections, and/or, where applicable, in the Certifications section.

The HPD Open Standard was created and is supported by the Health Product Declaration Collaborative (the HPD Collaborative), a customer-led organization composed of stakeholders throughout the building industry that is committed to the continuous improvement of building products through transparency, openness, and innovation throughout the product supply chain.

The product manufacturer and any applicable independent verifier are solely responsible for the accuracy of statements and claims made in this HPD and for compliance with the HPD standard noted.