

FLX-1001/ FLX-1002 - cement

Version number: 2.0
Replaces version of: 2020-09-29 (1)

Revision: 2020-09-30
First version: 2020-09-29

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Trade name	<u>FLX-1001/ FLX-1002 - cement</u>
Registration number (REACH)	Not relevant (mixture).
CAS number	not relevant (mixture)

1.2 Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses	Construction industry Hydraulic binders
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1.3 Details of the supplier of the safety data sheet

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1.4 Emergency telephone number

As above or nearest toxicological information centre.

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 (CLP)

Classification				
Section	Hazard class	Category	Hazard class and category	Hazard statement
3.2	skin corrosion/irritation	2	Skin Irrit. 2	H315
3.3	serious eye damage/eye irritation	1	Eye Dam. 1	H318
3.8R	specific target organ toxicity - single exposure (respiratory tract irritation)	3	STOT SE 3	H335

For full text of abbreviations: see SECTION 16

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008 (CLP)

Signal word	Danger
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Pictograms

GHS05, GHS07



Hazard statements

- H315** Causes skin irritation.
H318 Causes serious eye damage.
H335 May cause respiratory irritation.

Precautionary statements

- P261** Avoid breathing dust.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P302+P352 IF ON SKIN: Wash with plenty of soap and water.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
P342+P311 If experiencing respiratory symptoms: Call a POISON CENTER/doctor.

Hazardous ingredients for labelling

cement, portland, chemicals
flue dust, portland cement

2.3 Other hazards

There is no additional information.

Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

Remarks

The product contains chromate reducer, which results in a content of water-soluble chrome (VI) of less than 0.0002 %. In case of improper storage (moisture ingress) or storage exceeding the recommended storage time, however, the contained chromate reducer may lose its effect prematurely and a sensitising effect of the cement/binder can occur upon skin contact (H317 and EUH203).

The preparation is low in chromium. The content of soluble chromium (VI) compounds has been lowered with agent to below 2 ppm in the cement portion. Proper storage and compliance with the expiration date is a prerequisite for the effectiveness of the chromate reduction.

SECTION 3: Composition/information on ingredients

3.1 Substances

Not relevant (mixture).

3.2 Mixtures

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Description of the mixture

Hazardous ingredients				
Name of substance	Identifier	Wt%	Classification acc. to GHS	Pictograms
cement, portland, chemicals	CAS No 65997-15-1 EC No 266-043-4	≥ 5	Skin Irrit. 2 / H315 Eye Dam. 1 / H318 Skin Sens. 1B / H317 STOT SE 3 / H335	
flue dust, portland cement	CAS No 68475-76-3 EC No 270-659-9 REACH Reg. No 01-2119486767-17- xxxx	0.1 – 5	Skin Irrit. 2 / H315 Eye Dam. 1 / H318 Skin Sens. 1 / H317 STOT SE 3 / H335	

SECTION 4: First aid measures

4.1 Description of first aid measures

General notes

Take off immediately all contaminated clothing.
In all cases of doubt, or when symptoms persist, seek medical advice.

Following inhalation

Provide fresh air.
If breathing is irregular or stopped, immediately seek medical assistance and start first aid actions.
In case of respiratory tract irritation, consult a physician.

Following skin contact

After contact with skin, take off immediately all contaminated clothing, and wash immediately with plenty of water and soap.
If skin irritation occurs: Get medical advice/attention.

Following eye contact

Rinse cautiously with water for several minutes.
In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
Remove contact lenses, if present and easy to do. Continue rinsing.

Following ingestion

Let water be drunk in little sips (dilution effect).
Rinse mouth. Do not induce vomiting.
Get medical advice/attention.

Notes for the doctor

None.

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4.2 Most important symptoms and effects, both acute and delayed

Cough, pain, choking, and breathing difficulties.
Irritating to skin.
Causes serious eye damage.

4.3 Indication of any immediate medical attention and special treatment needed

None.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

co-ordinate firefighting measures to the fire surroundings

5.2 Special hazards arising from the substance or mixture

Hazardous decomposition products: Section 10.

5.3 Advice for firefighters

Non-combustible.

In case of fire and/or explosion do not breathe fumes.

Co-ordinate firefighting measures to the fire surroundings.

Do not allow firefighting water to enter drains or water courses.

Collect contaminated firefighting water separately.

Fight fire with normal precautions from a reasonable distance.

Special protective equipment for firefighters

use suitable breathing apparatus

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Remove persons to safety.

Ventilate affected area.

Do not get in eyes, on skin, or on clothing.

Do not breathe dust.

Control of dust.

Wearing of suitable protective equipment (including personal protective equipment referred to under Section 8 of the safety data sheet) to prevent any contamination of skin, eyes and personal clothing.

For emergency responders

Wear breathing apparatus if exposed to vapours/dust/spray/gases.

6.2 Environmental precautions

Keep away from drains, surface and ground water.

Retain contaminated washing water and dispose of it.

6.3 Methods and material for containment and cleaning up

Advice on how to contain a spill

Take up mechanically.

Advice on how to clean up a spill

Take up mechanically.

Collect spillage.

Wet clean or vacuum up solids.

Other information relating to spills and releases

Place in appropriate containers for disposal.

Ventilate affected area.

6.4 Reference to other sections

Personal protective equipment: see section 8.

Incompatible materials: see section 10.

Disposal considerations: see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Measures to prevent fire as well as aerosol and dust generation

Use local and general ventilation.

Removal of dust deposits.

Never add water to this product.

Specific notes/details

Dust deposits may accumulate on all deposition surfaces in a technical room.

Handling of incompatible substances or mixtures

Keep away from

oxidisers, acid, ammonium compounds, hydrogen fluoride (HF), light metals (e.g. aluminium and magnesium)

Measures to protect the environment

Avoid release to the environment.

Advice on general occupational hygiene

Do not eat, drink and smoke in work areas.

Wash hands after use.

Preventive skin protection (barrier creams/ointments) is recommended.

Remove contaminated clothing and protective equipment before entering eating areas.

Avoid contact with skin and eyes.

Do not breathe dust.

7.2 Conditions for safe storage, including any incompatibilities

Flammability hazards

None.

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Incompatible substances or mixtures

Incompatible materials: see section 10.
Observe hints for combined storage.

Protect against external exposure, such as

heat, humidity

Consideration of other advice

Keep away from food, drink and animal feeding stuffs.

Ventilation requirements

Provision of sufficient ventilation.

Specific designs for storage rooms or vessels

Keep container tightly closed and in a well-ventilated place.
Store in a dry place.

Maximum storage period 90 d

Packaging compatibilities

Keep only in original container.

7.3 Specific end use(s)

No information available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limit values (Workplace Exposure Limits)					
Country	Name of agent	Identifier	TWA [mg/m ³]	Notation	Source
GB	dust	WEL	10	i	EH40/2005
GB	dust	WEL	4	r	EH40/2005
GB	portland cement	WEL	10	i	EH40/2005
GB	portland cement	WEL	4	r	EH40/2005

Notation

i inhalable fraction

r respirable fraction

TWA time-weighted average (long-term exposure limit): measured or calculated in relation to a reference period of 8 hours time-weighted average (unless otherwise specified)

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Relevant DNELs of components of the mixture						
Name of substance	CAS No	End-point	Threshold level	Protection goal, route of exposure	Used in	Exposure time
flue dust, portland cement	68475-76-3	DNEL	0.84 mg/m ³	human, inhalatory	worker (industry)	chronic - local effects
flue dust, portland cement	68475-76-3	DNEL	0.84 mg/m ³	human, inhalatory	consumer (private households)	chronic - local effects

Relevant PNECs of components of the mixture				
Name of substance	CAS No	Endpoint	Threshold level	Environmental compartment
flue dust, portland cement	68475-76-3	PNEC	282 µg/l	freshwater
flue dust, portland cement	68475-76-3	PNEC	28 µg/l	marine water
flue dust, portland cement	68475-76-3	PNEC	6 mg/l	sewage treatment plant (STP)
flue dust, portland cement	68475-76-3	PNEC	875 µg/kg	freshwater sediment
flue dust, portland cement	68475-76-3	PNEC	88 µg/kg	marine sediment
flue dust, portland cement	68475-76-3	PNEC	5 mg/kg	sediments

8.2 Exposure controls

Appropriate engineering controls

General ventilation.

Individual protection measures (personal protective equipment)

Eye/face protection

Wear eye/face protection.

Hand protection

Protective gloves		
Material	Material thickness	Breakthrough times of the glove material
NBR: acrylonitrile-butadiene rubber	≥ 0,15 mm	>480 minutes (permeation: level 6)

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Wear suitable gloves.

Chemical protection gloves are suitable, which are tested according to EN 374.

Check leak-tightness/impermeability prior to use.

In the case of wanting to use the gloves again, clean them before taking off and air them well.

For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

Respiratory protection

In case of inadequate ventilation wear respiratory protection.

Particulate filter device (EN 143).

Environmental exposure controls

Use appropriate container to avoid environmental contamination.

Keep away from drains, surface and ground water.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance

Physical state	Solid
Form	Powder
Colour	Grey - White
Odour	Odourless
Odour threshold	These information are not available

Other safety parameters

pH (value)	11 – 13.5 (water: 2,000 g/l, 20 °C)
Melting point/freezing point	>1,250 °C
Initial boiling point and boiling range	These information are not available
Flash point	Not applicable
Evaporation rate	These information are not available
Flammability (solid, gas)	Non-combustible
Explosion limits of dust clouds	Not determined
Vapour pressure	These information are not available
Density	2.75 – 3.2 g/cm ³
Vapour density	These information are not available
Bulk density	0.9 – 1.5 g/cm ³
Relative density	These information are not available

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Solubility(ies)

Water solubility $\leq 1.5 \text{ g/l}$ at 20 °C
Not miscible in any proportion

Partition coefficient

n-octanol/water (log KOW) These information are not available
Auto-ignition temperature Not relevant
(Solid matter)
Relative self-ignition temperature for solids These information are not available
Decomposition temperature These information are not available

Viscosity

Kinematic viscosity Not relevant
(Solid matter)
Dynamic viscosity Not relevant
(Solid matter)
Explosive properties Not explosive
Oxidising properties Shall not be classified as oxidising

9.2 Other information

None

SECTION 10: Stability and reactivity

10.1 Reactivity

Concerning incompatibility: see below "Conditions to avoid" and "Incompatible materials".

10.2 Chemical stability

The material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.
See below "Conditions to avoid".

10.3 Possibility of hazardous reactions

In contact with water:
Strong exothermic reaction with acids.
Light metals (due to the release of hydrogen in an acid/alkaline medium).

10.4 Conditions to avoid

Protect from moisture.

10.5 Incompatible materials

acids, oxidisers, light metals (e.g. aluminium and magnesium), ammonium compounds, hydrogen fluoride (HF)

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10.6 Hazardous decomposition products

Reasonably anticipated hazardous decomposition products produced as a result of use, storage, spill and heating are not known.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Classification procedure

If not otherwise specified the classification is based on:
Ingredients of the mixture (additivity formula).

Classification according to GHS (1272/2008/EC, CLP)

Acute toxicity

Acute toxicity			
Exposure route	Endpoint	Value	Species
dermal	LD0	2,000 mg/kg	rabbit
inhalation: dust/mist	LD0	5 g/m ³ /4h	rat

Acute toxicity of components of the mixture							
Name of substance	CAS No	Exposure route	End-point	Value	Species	Method	Source
flue dust, portland cement	68475-76-3	oral	LD0	>1,848 mg/kg	rat	OECD Guideline 422	ECHA
flue dust, portland cement	68475-76-3	dermal	LD0	≥2,000 mg/kg	rat	OECD Guideline 402	ECHA
flue dust, portland cement	68475-76-3	inhalation: dust/mist	LC50	>6.04 mg/l/4h	rat	OECD Guideline 436	ECHA

Skin corrosion/irritation

Causes skin irritation.

Serious eye damage/eye irritation

Causes serious eye damage.

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Respiratory or skin sensitisation

Skin sensitisation

Classification could not be established because:

Data are lacking, inconclusive, or conclusive but not sufficient for classification.

Respiratory sensitisation

Classification could not be established because:

Data are lacking, inconclusive, or conclusive but not sufficient for classification.

Germ cell mutagenicity

Classification could not be established because:

Data are lacking, inconclusive, or conclusive but not sufficient for classification.

Carcinogenicity

Shall not be classified as carcinogenic.

Reproductive toxicity

Classification could not be established because:

Data are lacking, inconclusive, or conclusive but not sufficient for classification.

Specific target organ toxicity - single exposure

May cause respiratory irritation.

Specific target organ toxicity - repeated exposure

Classification could not be established because:

Data are lacking, inconclusive, or conclusive but not sufficient for classification.

Aspiration hazard

Shall not be classified as presenting an aspiration hazard.

SECTION 12: Ecological information

12.1 Toxicity

Cement develops an alkaline pH with moisture and can therefore be toxic to aquatic life under special circumstances.

Aquatic toxicity (acute)

Test data are not available for the complete mixture.

Aquatic toxicity (acute) of components of the mixture

Name of substance	CAS No	Endpoint	Value	Species	Method	Source	Exposure time
flue dust, port-land cement	68475-76-3	ErC50	22.4 mg/l	algae (Desmod-esmus sub-spicatus)	OECD Guideline 201	ECHA	72 h
flue dust, port-land cement	68475-76-3	ErC50	28.2 mg/l	algae (Desmod-esmus sub-spicatus)	OECD Guideline 201	ECHA	72 h

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Aquatic toxicity (chronic)

Test data are not available for the complete mixture.

Aquatic toxicity (chronic) of components of the mixture

Name of substance	CAS No	Endpoint	Value	Species	Method	Source	Exposure time
flue dust, port-land cement	68475-76-3	EL10	68.2 mg/l	daphnia magna	OECD Guideline 211	ECHA	21 d

12.2 Persistence and degradability

Biodegradation

No data available.

Persistence

No data available.

12.3 Bioaccumulative potential

Test data are not available for the complete mixture.

12.4 Mobility in soil

No data available.

12.5 Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

12.6 Other adverse effects

Data are not available.

Remarks

Wassergefährdungsklasse, WGK (water hazard class): 1

SECTION 13: Disposal considerations

13.1 Waste treatment methods

This material and its container must be disposed of as hazardous waste.

Sewage disposal-relevant information

Do not empty into drains.

Waste treatment of containers/packagings

Completely emptied packages can be recycled.
Handle contaminated packages in the same way as the substance itself.

Remarks

Please consider the relevant national or regional provisions.

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SECTION 14: Transport information

14.1	UN number	Not subject to transport regulations
14.2	UN proper shipping name	-
14.3	Transport hazard class(es)	-
14.4	Packing group	-
14.5	Environmental hazards	-
14.6	Special precautions for user	-
14.7	Transport in bulk according to Annex II of MARPOL and the IBC Code	-

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

Relevant provisions of the European Union (EU)

Restrictions according to REACH, Annex XVII

Dangerous substances with restrictions (REACH, Annex XVII)		
Name of substance	Name acc. to inventory	Restriction
flue dust, portland cement	chromium(VI) compounds	R47

Legend

- R47
1. Cement and cement-containing mixtures shall not be placed on the market, or used, if they contain, when hydrated, more than 2 mg/kg (0,0002 %) soluble chromium VI of the total dry weight of the cement.
 2. If reducing agents are used, then without prejudice to the application of other Community provisions on the classification, packaging and labelling of substances and mixtures, suppliers shall ensure before the placing on the market that the packaging of cement or cement-containing mixtures is visibly, legibly and indelibly marked with information on the packing date, as well as on the storage conditions and the storage period appropriate to maintaining the activity of the reducing agent and to keeping the content of soluble chromium VI below the limit indicated in paragraph 1.
 3. By way of derogation, paragraphs 1 and 2 shall not apply to the placing on the market for, and use in, controlled closed and totally automated processes in which cement and cement-containing mixtures are handled solely by machines and in which there is no possibility of contact with the skin.
 4. The standard adopted by the European Committee for Standardization (CEN) for testing the water-soluble chromium (VI) content of cement and cement-containing mixtures shall be used as the test method for demonstrating conformity with paragraph 1.
 5. Leather articles coming into contact with the skin shall not be placed on the market where they contain chromium VI in concentrations equal to or greater than 3 mg/kg (0,0003 % by weight) of the total dry weight of the leather.
 6. Articles containing leather parts coming into contact with the skin shall not be placed on the market where any of those leather parts contains chromium VI in concentrations equal to or greater than 3 mg/kg (0,0003 % by weight) of the total dry weight of that leather part.
 7. Paragraphs 5 and 6 shall not apply to the placing on the market of second-hand articles which were in end-use in the Union before 1 May 2015.

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List of substances subject to authorisation (REACH, Annex XIV) / SVHC - candidate list

None of the ingredients are listed.

Seveso Directive

Not assigned.

Directive 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS) - Annex II

None of the ingredients are listed.

Regulation 166/2006/EC concerning the establishment of a European Pollutant Release and Transfer Register (PRTR)

None of the ingredients are listed.

Water Framework Directive (WFD)

None of the ingredients are listed.

Regulation 98/2013/EU on the marketing and use of explosives precursors

None of the ingredients are listed.

Regulation 1005/2009/EC on substances that deplete the ozone layer (ODS)

None of the ingredients are listed.

Regulation 649/2012/EU concerning the export and import of hazardous chemicals (PIC)

None of the ingredients are listed.

15.2 Chemical Safety Assessment

No Chemical Safety Assessment has been carried out for this mixture by the supplier.

SECTION 16: Other information

Indication of changes (revised safety data sheet)

Section	Former entry (text/value)	Actual entry (text/value)
1.1	Trade name: FLX-1001/ FLX-1002	Trade name: FLX-1001/ FLX-1002 - cement

Abbreviations and acronyms

Abbr.	Descriptions of used abbreviations
ADN	Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures (European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways)
ADR	Accord européen relatif au transport international des marchandises dangereuses par route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
CLP	Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures

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Abbr.	Descriptions of used abbreviations
DGR	Dangerous Goods Regulations (see IATA/DGR)
DNEL	Derived No-Effect Level
EC No	The EC Inventory (EINECS, ELINCS and the NLP-list) is the source for the seven-digit EC number, an identifier of substances commercially available within the EU (European Union)
EH40/2005	EH40/2005 Workplace exposure limits (http://www.nationalarchives.gov.uk/doc/open-government-licence/)
EINECS	European Inventory of Existing Commercial Chemical Substances
ELINCS	European List of Notified Chemical Substances
ErC50	≡ EC50: in this method, that concentration of test substance which results in a 50 % reduction in either growth (EbC50) or growth rate (ErC50) relative to the control
Eye Dam.	Seriously damaging to the eye
Eye Irrit.	Irritant to the eye
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
IATA	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
IMDG	International Maritime Dangerous Goods Code
index No	The Index number is the identification code given to the substance in Part 3 of Annex VI to Regulation (EC) No 1272/2008
LC50	Lethal Concentration 50%: the LC50 corresponds to the concentration of a tested substance causing 50 % lethality during a specified time interval
MARPOL	International Convention for the Prevention of Pollution from Ships (abbr. of "Marine Pollutant")
NLP	No-Longer Polymer
PBT	Persistent, Bioaccumulative and Toxic
PNEC	Predicted No-Effect Concentration
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regulations concerning the International carriage of Dangerous goods by Rail)
Skin Corr.	Corrosive to skin
Skin Irrit.	Irritant to skin
Skin Sens.	Skin sensitisation
STOT SE	Specific target organ toxicity - single exposure
SVHC	Substance of Very High Concern
TWA	Time-weighted average
vPvB	Very Persistent and very Bioaccumulative

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Abbr.	Descriptions of used abbreviations
WEL	Workplace exposure limit

Key literature references and sources for data

Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures.
Regulation (EC) No. 1907/2006 (REACH), amended by 2015/830/EU.

Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN).

International Maritime Dangerous Goods Code (IMDG).

Dangerous Goods Regulations (DGR) for the air transport (IATA).

Classification procedure

Physical and chemical properties.

Health hazards.

Environmental hazards.

The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

List of relevant phrases (code and full text as stated in chapter 2 and 3)

Code	Text
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H335	May cause respiratory irritation.

Responsible for the safety data sheet

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Disclaimer

This information is based upon the present state of our knowledge.

This SDS has been compiled and is solely intended for this product.