

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### Mining Binder

Revision date: 27.03.2017

Page 1 of 11

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

##### 1.1. Product identifier

Mining Binder, 90/10 Blend

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

###### Use of the substance/mixture

Mining, Industrial Uses, Products containing cement, low in chromate

###### Uses advised against

any non-intended use.

##### 1.3. Details of the supplier of the safety data sheet

Company name:	Ecocem Ireland Ltd.	
Street:	Unit F1, East Point Office Park	
Place:	Dublin 3, Ireland	
Telephone:	+353 (0)1 678 1800	Telefax: +353 (0) 1 678 1816
e-mail:	<a href="mailto:info@ecocem.ie">info@ecocem.ie</a>	
Contact:	Technical Department	

##### 1.4. Emergency Telephone Number:

National Poison Centre +353 1809 2166 (Mon – Fri 08.00 – 22.00) +353 1809 2566 (24 Hours)

##### Further Information

The product develops an alkaline pH value with moisture and can cause irritation.

#### SECTION 2: Hazards identification

##### 2.1. Classification of the substance or mixture

###### Regulation (EC) No. 1272/2008

Hazard categories:

Skin corrosion/irritation: Skin Irrit. 2

Serious eye damage/eye irritation: Eye Dam. 1

Respiratory or skin sensitisation: Skin Sens. 1

Hazard Statements:

Causes skin irritation.

Causes serious eye damage.

May cause an allergic skin reaction.

##### 2.2. Label elements

###### Regulation (EC) No. 1272/2008

###### Hazard components for labelling

Portland cement

Flue dust, portland cement

**Signal word:** Danger

**Pictograms:**



###### Hazard statements

H315

Causes skin irritation.

H317

May cause an allergic skin reaction.

H318

Causes serious eye damage.

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### Mining Binder

Revision date: 27.03.2017

Page 2 of 11

#### Precautionary statements

- P261 Avoid breathing dust/fume/gas/mist/vapours/spray.  
 P280 Wear protective gloves/protective clothing/eye protection/face protection.  
 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/doctor.  
 P333+P313 If skin irritation or rash occurs: Get medical advice/attention.  
 P501 Dispose of contents/container to local/regional/national/international regulations.

#### 2.3. Other hazards

The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.

### SECTION 3: Composition/information on ingredients

#### 3.2. Mixtures

##### Hazardous components

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification according to Regulation (EC) No. 1272/2008 [CLP]			
65996-69-2	Slags, ferrous metal, blast furnace			90 - < 95 %
	266-002-0		01-2119487456-25	
65997-15-1	Portland cement			10 - < 15 %
	266-043-4			
	Skin Irrit. 2, Eye Dam. 1, Skin Sens. 1, STOT SE 3; H315 H318 H317 H335			
68475-76-3	Flue dust, portland cement			< 1 %
	270-659-9		01-2119486767-17	
	Skin Irrit. 2, Eye Dam. 1, Skin Sens. 1, STOT SE 3; H315 H318 H317 H335			

Full text of H and EUH statements: see section 16.

#### Further Information

- low chromate cement composition according to 2003/53/EC  
 Cement product for which the amount of chromium VI was decreased to < 0,0002 % by a reduction agent (related to the total dry weight).  
 Proper storage and compliance with the expiration date is a prerequisite for the effectiveness of the chromate reduction  
 Product does not contain listed SVHC substances > 0,1 % according to Regulation (EC) No. 1907/2006 Article 59 (REACH)

### SECTION 4: First aid measures

#### 4.1. Description of first aid measures

##### General information

In case of accident or illness, seek medical advice immediately.

##### After inhalation

In case of accident by inhalation: remove casualty to fresh air and keep at rest. In case of respiratory tract irritation, consult a physician.

##### After contact with skin

Gently wash with plenty of soap and water. In case of skin irritation, seek medical treatment.

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### Mining Binder

Revision date: 27.03.2017

Page 3 of 11

#### **After contact with eyes**

Rinse cautiously with water for several minutes. If symptoms persist consult an ophthalmologist.

#### **After ingestion**

Rinse mouth thoroughly with water. Drink water in little sips (dilution effect). Do NOT induce vomiting. In all cases of doubt, or when symptoms persist, seek medical advice.

#### **4.2. Most important symptoms and effects, both acute and delayed**

No information available.

#### **4.3. Indication of any immediate medical attention and special treatment needed**

Treat symptomatically.

### SECTION 5: Firefighting measures

#### **5.1. Extinguishing media**

##### **Suitable extinguishing media**

Carbon dioxide (CO<sub>2</sub>). Dry extinguishing powder. alcohol resistant foam. Water fog.

##### **Unsuitable extinguishing media**

High power water jet.

#### **5.2. Special hazards arising from the substance or mixture**

Can be released in case of fire: Carbon dioxide (CO<sub>2</sub>). Carbon monoxide.

#### **5.3. Advice for firefighters**

In case of fire: Wear self-contained breathing apparatus.

#### **Additional information**

Collect contaminated fire extinguishing water separately. Do not allow escape into drains or surface water.  
Co-ordinate fire-fighting measures to the fire surroundings.

### SECTION 6: Accidental release measures

#### **6.1. Personal precautions, protective equipment and emergency procedures**

Avoid dust formation.  
Do not breathe dust.  
Wear personal protection equipment (refer to section 8).

#### **6.2. Environmental precautions**

Discharge into the environment must be avoided.

#### **6.3. Methods and material for containment and cleaning up**

Take up mechanically.  
Treat the recovered material as prescribed in the section on waste disposal.  
Clean contaminated objects and areas thoroughly observing environmental regulations.

#### **6.4. Reference to other sections**

Safe handling: see section 7  
Personal protection equipment: see section 8  
Disposal: see section 13

### SECTION 7: Handling and storage

#### **7.1. Precautions for safe handling**

##### **Advice on safe handling**

Wear personal protection equipment (refer to section 8).

##### **Advice on protection against fire and explosion**

Usual measures for fire prevention.

##### **Further information on handling**

Avoid generation of dust.

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### Mining Binder

Revision date: 27.03.2017

Page 4 of 11

General protection and hygiene measures: refer to chapter 8

#### **7.2. Conditions for safe storage, including any incompatibilities**

##### **Requirements for storage rooms and vessels**

Keep container tightly closed in a cool, well-ventilated place.

##### **Advice on storage compatibility**

Do not store together with: Explosives. Oxidizing solids. Oxidizing liquids. Radioactive substances. Infectious substances. Food and animal feeding stuff.

##### **Further information on storage conditions**

Keep the packing dry and well sealed to prevent contamination and absorption of humidity.

Protect against: moisture.

When not stored properly (moisture ingress or Shelf-life expiration), the chromate reduction will lose its effectiveness, and sensitization by skin contact cannot be excluded.

#### **7.3. Specific end use(s)**

refer to chapter 1.

### **SECTION 8: Exposure controls/personal protection**

#### **8.1. Control parameters**

##### **Occupational exposure limits**

CAS No	Substance	ppm	mg/m <sup>3</sup>	fib/cm <sup>3</sup>	Category	Origin
65997-15-1	Cement (Portland) (Respirable Fraction)	-	1		TWA (8 h)	
		-	-		STEL (15 min)	
-	Dust non-specific, respirable	-	4		TWA (8 h)	
		-	-		STEL (15 min)	
-	Dust non-specific, total inhalable	-	10		TWA (8 h)	
		-	-		STEL (15 min)	

##### **PNEC values**

CAS No	Substance	Value
Environmental compartment		
65996-69-2	Slags, ferrous metal, blast furnace	
Freshwater		5000 mg/l
Marine water		500 mg/l
Micro-organisms in sewage treatment plants (STP)		10000 mg/l
Soil		1000 mg/kg

#### **8.2. Exposure controls**

##### **Appropriate engineering controls**

Dust should be exhausted directly at the point of origin.

##### **Protective and hygiene measures**

Always close containers tightly after the removal of product. When using do not eat, drink or smoke. Wash hands before breaks and after work.

##### **Eye/face protection**

Dust protection goggles.

##### **Hand protection**

Wear suitable gloves.

Suitable material:



## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### Mining Binder

Revision date: 27.03.2017

Page 5 of 11

FKM (fluororubber). - Thickness of glove material: 0,4 mm

Breakthrough time:  $\geq$  8 h

Butyl rubber. - Thickness of glove material: 0,5 mm

Breakthrough time:  $\geq$  8 h

CR (polychloroprenes, Chloroprene rubber). - Thickness of glove material: 0,5 mm

Breakthrough time:  $\geq$  8 h

NBR (Nitrile rubber). - Thickness of glove material: 0,35 mm

Breakthrough time:  $\geq$  8 h

PVC (Polyvinyl chloride). - Thickness of glove material: 0,5 mm

Breakthrough time:  $\geq$  8 h

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

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.

#### Skin protection

Suitable protective clothing: Lab apron.

Minimum standard for preventive measures while handling with working materials are specified in the TRGS 500.

#### Respiratory protection

With correct and proper use, and under normal conditions, breathing protection is not required.

Respiratory protection necessary at:

-In the case of the formation of dust.

Suitable respiratory protective equipment: particulates filter device (DIN EN 143). type P1-3

The filter class must be suitable for the maximum contaminant concentration (gas/vapour/aerosol/particulates) that may arise when handling the product. If the concentration is exceeded, closed-circuit breathing apparatus must be used!

#### Environmental exposure controls

No special precautionary measures are necessary.

### SECTION 9: Physical and chemical properties

#### 9.1. Information on basic physical and chemical properties

Physical state: solid  
Colour: Light Grey  
Odour: characteristic

#### Test method

pH-Value:  $>11.5$  (in aqueous solution)

#### Changes in the physical state

Melting point: N/A  
Initial boiling point and boiling range:  $>1250^{\circ}$   
Sublimation point: N/A  
Softening point: N/A  
Pour point: N/A  
Flash point: N/A  
Sustaining combustion: Does not sustain combustion

#### Explosive properties

none

Lower explosion limits: N/A  
Upper explosion limits: N/A  
Ignition temperature: N/A



## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### Mining Binder

Revision date: 27.03.2017

Page 6 of 11

#### Auto-ignition temperature

Solid: N/A

Decomposition temperature: N/A

#### Oxidizing properties

none

Vapour pressure: N/A

Density: slightly soluble (< 2g/L) g/cm<sup>3</sup>

Bulk density: 0.90 – 1.2

Water solubility: <1.5 g/l

#### Solubility in other solvents

not determined

Partition coefficient: not determined

Viscosity / dynamic: not determined

Viscosity / kinematic: not determined

Flow time: not determined

Vapour density: not determined

Evaporation rate: not determined

Solvent separation test: not determined

Solvent content: not determined

#### 9.2. Other information

Solid content: not determined

### SECTION 10: Stability and reactivity

#### 10.1. Reactivity

No information available.

#### 10.2. Chemical stability

The product is chemically stable under recommended conditions of storage, use and temperature.

#### 10.3. Possibility of hazardous reactions

No information available.

#### 10.4. Conditions to avoid

Protect against: moisture.

#### 10.5. Incompatible materials

Oxidizing agents, strong. Reducing agents, strong. Strong acid. Fluorine.

#### 10.6. Hazardous decomposition products

Can be released in case of fire: Carbon dioxide (CO<sub>2</sub>). Carbon monoxide.

### SECTION 11: Toxicological information

#### 11.1. Information on toxicological effects

##### Toxicokinetic, metabolism and distribution

No data available.

##### Acute toxicity

Based on available data, the classification criteria are not met.



## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### Mining Binder

Revision date: 27.03.2017

Page 7 of 11

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
65996-69-2	Slags, ferrous metal, blast furnace				
	oral	LD50 >2000 mg/kg	Rat	ECHA Dossier	
	dermal	LD50 >4000 mg/kg	Rat	ECHA Dossier	
	inhalative (4 h) aerosol	LC50 >5,23 mg/l	Rat	ECHA Dossier	
65997-15-1	Portland cement				
	dermal	LD50 >2000 mg/kg	Rabbit.	Lit.(1)	
	inhalative (4 h) aerosol	LC50 5 mg/l	Rat.	Lit.(2)	

#### Irritation and corrosivity

Causes skin irritation.  
Causes serious eye damage.

#### Sensitising effects

May cause an allergic skin reaction.

#### Carcinogenic/mutagenic/toxic effects for reproduction

Based on available data, the classification criteria are not met.

#### STOT-single exposure

Based on available data, the classification criteria are not met.

#### STOT-repeated exposure

Based on available data, the classification criteria are not met.

#### Aspiration hazard

Based on available data, the classification criteria are not met.

#### Specific effects in experiment on an animal

No data available.

#### Further information

Lit. 1: Observations on the effects of skin irritation caused by cement, Kietzman et al, Dermatosen, 47, 5, 184-189 (1999).  
Lit. 2: TNO report V8801/02, An acute (4-hour) inhalation toxicity study with Portland Cement Clinker CLP/GHS 03-2010-fine in rats, August 2010.

### SECTION 12: Ecological information

#### 12.1. Toxicity

No data available.

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### Mining Binder

Revision date: 27.03.2017

Page 8 of 11

CAS No	Chemical name					
	Aquatic toxicity	Dose	[h]   [d]	Species	Source	Method
65996-69-2	Slags, ferrous metal, blast furnace					
	Acute fish toxicity	LC50 mg/l	>100000	96 h	Leuciscus idus	ECHA Dossier
	Acute algae toxicity	ErC50 mg/l	>100000	72 h	Desmodesmus subspicatus	ECHA Dossier
	Acute crustacea toxicity	EC50 mg/l	>100000	48 h	Daphnia magna	ECHA Dossier
	Crustacea toxicity	NOEC mg/l	>= 1563	21 d	Daphnia magna	ECHA Dossier

#### 12.2. Persistence and degradability

No data available.

#### 12.3. Bioaccumulative potential

No indication of bioaccumulation potential.

#### BCF

CAS No	Chemical name	BCF	Species	Source
65996-69-2	Slags, ferrous metal, blast furnace	10	algae	ECHA Dossier

#### 12.4. Mobility in soil

No data available.

#### 12.5. Results of PBT and vPvB assessment

The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.

#### 12.6. Other adverse effects

No data available.

#### Further information

Do not allow to enter into surface water or drains.

### SECTION 13: Disposal considerations

#### 13.1. Waste treatment methods

##### Advice on disposal

Observe in addition any national regulations! Consult the local waste disposal expert about waste disposal.

Non-contaminated packages may be recycled.

According to EAKV, allocation of waste identity numbers/waste descriptions must be carried out in a specific way for every industry and process.

Control report for waste code/ waste marking according to EAKV:

##### Waste disposal number of waste from residues/unused products

160303 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; off-specification batches and unused products; inorganic wastes containing hazardous substances  
Classified as hazardous waste.

##### Waste disposal number of used product

101314 WASTES FROM THERMAL PROCESSES; wastes from manufacture of cement, lime and plaster and articles and products made from them; waste concrete and concrete sludge

##### Waste disposal number of contaminated packaging

150110 WASTE PACKAGING; ABSORBENTS, WIPING CLOTHS, FILTER MATERIALS AND PROTECTIVE CLOTHING NOT OTHERWISE SPECIFIED; packaging (including separately collected municipal packaging waste); packaging containing residues of or contaminated by hazardous substances  
Classified as hazardous waste.



## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### Mining Binder

Revision date: 27.03.2017

Page 9 of 11

#### Contaminated packaging

Handle contaminated packages in the same way as the substance itself.

### SECTION 14: Transport information

#### Land transport (ADR/RID)

<b>14.1. UN number:</b>	Not restricted
<b>14.2. UN proper shipping name:</b>	Not restricted
<b>14.3. Transport hazard class(es):</b>	Not restricted
<b>14.4. Packing group:</b>	Not restricted

#### Inland waterways transport (ADN)

<b>14.1. UN number:</b>	Not restricted
<b>14.2. UN proper shipping name:</b>	Not restricted
<b>14.3. Transport hazard class(es):</b>	Not restricted
<b>14.4. Packing group:</b>	Not restricted

#### Marine transport (IMDG)

<b>14.1. UN number:</b>	Not restricted
<b>14.2. UN proper shipping name:</b>	Not restricted
<b>14.3. Transport hazard class(es):</b>	Not restricted
<b>14.4. Packing group:</b>	Not restricted

#### Air transport (ICAO-TI/IATA-DGR)

<b>14.1. UN number:</b>	Not restricted
<b>14.2. UN proper shipping name:</b>	Not restricted
<b>14.3. Transport hazard class(es):</b>	Not restricted
<b>14.4. Packing group:</b>	Not restricted

#### 14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: no

#### 14.6. Special precautions for user

refer to chapter 6-8

#### 14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

not relevant

### SECTION 15: Regulatory information

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

##### EU regulatory information

2010/75/EU (VOC):	0% ( calculated. )
2004/42/EC (VOC):	0g/L ( calculated. )
Information according to 2012/18/EU (SEVESO III):	Not subject to 2012/18/EU (SEVESO III)

##### Additional information

The mixture is classified as hazardous according to regulation (EC) No 1272/2008 [CLP].  
REACH 1907/2006 Appendix XVII, No (mixture): 3, 47

##### National regulatory information

Employment restrictions:	Observe restrictions to employment for juvenils according to the 'juvenile work protection guideline' (94/33/EC).
Water contaminating class (D):	1 - slightly water contaminating

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### Mining Binder

Revision date: 27.03.2017

Page 10 of 11

#### **15.2. Chemical safety assessment**

For the following substances of this mixture a chemical safety assessment has been carried out:  
Slags, ferrous metal, blast furnace

#### **SECTION 16: Other information**

##### **Changes**

Rev. 1.0; Initial release 27.03.2017

##### **Abbreviations and acronyms**

ADR: Accord européen sur le transport des marchandises dangereuses par Route  
CAS Chemical Abstracts Service  
DNEL: Derived No Effect Level  
IARC: INTERNATIONAL AGENCY FOR RESEARCH ON CANCER  
IMDG: International Maritime Code for Dangerous Goods  
IATA: International Air Transport Association  
IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)  
ICAO: International Civil Aviation Organization  
ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO)  
GHS: Globally Harmonized System of Classification and Labelling of Chemicals  
GefStoffV: Gefahrstoffverordnung (Ordinance on Hazardous Substances, Germany)  
LOAEL: Lowest observed adverse effect level  
LOAEC: Lowest observed adverse effect concentration  
LC50: Lethal concentration, 50 percent  
LD50: Lethal dose, 50 percent  
NOAEL: No observed adverse effect level  
NOAEC: No observed adverse effect level  
NTP: National Toxicology Program  
N/A: not applicable  
OSHA: Occupational Safety and Health Administration  
PNEC: predicted no effect concentration  
PBT: Persistent bioaccumulative toxic  
RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail )  
SARA: Superfund Amendments and Reauthorization Act  
SVHC: substance of very high concern  
TRGS Technische Regeln für Gefahrstoffe  
TSCA: Toxic Substances Control Act  
VOC: Volatile Organic Compounds  
VwVwS: Verwaltungsvorschrift wassergefährdender Stoffe  
WGK: Wassergefährdungsklasse

##### **Relevant H and EUH statements (number and full text)**

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

##### **Further Information**

Classification according EC regulation 1272/2008 (CLP): - Classification procedure:  
Health hazards: Calculation method.  
Environmental hazards: Calculation method.  
Physical hazards: On basis of test data. and / or calculated. and / or estimated.

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### Mining Binder

Revision date: 27.03.2017

Page 11 of 11

transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.

*(The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)*