

Material Safety Data Sheet

1 Identification and Preparation of the Substance

1.1 Identification of the substance

Ecocem CEM III/A is a Blastfurnace cement containing a blend of Portland cement clinker and Ground Granulated Blastfurnace Slag.

1.2 Use of the substance/preparation

Ecocem CEM III/A is an odourless off white powder that is insoluble in water. Cement is used as a hydraulic binder when combined with water for the production of concrete, mortar and renders.

1.3 Company Identification

Ecocem Ireland Limited
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Ireland
Tel: 01 678 1800
Email: technical@ecocem.ie

1.4 Emergency Telephone

01 678 1890

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2.2 Primary routes of entry

- Inhalation: Yes
- Skin: Yes
- Eyes: Yes
- Ingestion: Only in accidental cases

2.3 Human Health

Inhalation: Frequent inhalation of large quantities of cement dust over a long period of time increases the risk of developing lung disease.

Eyes: Eye contact with wet or dry cement may cause serious and potentially irreversible injuries.

Skin: Repeated skin contact with wet cement may cause contact dermatitis. Prolonged skin contact with wet cement may cause serious burns.

2 Hazard Identification

When cement reacts with water a strong alkaline solution is produced.

2.1 Hazard Characterisation



Ecocem CEM III/A is classified as an Xi irritant.

Risk phrases:

- R37/38: Irritating to respiratory system and skin
- R41: Risk of serious damage to eyes
- R43: May cause sensitisation by skin contact

Safety phrases:


- S2 Keep out of reach of children.
- S22 Do not breathe dust.
- S24/25 Avoid contact with skin and eyes.
- S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
- S36/37/39 Wear suitable protective clothing, gloves and eye/face protection.
- S46 If swallowed, seek medical advice immediately and show the container or label.

3 Composition/Information on Ingredients

3.1 Chemical Description

Ecocem Cem III/A is classified as a common cement type according to Table 1 of the EN 197-1:2011. The GGBS contained in Ecocem CEM III/A comprises calcium, silica and magnesium oxides and is not classified as an irritant. The Portland cement clinker component of Ecocem CEM III/A contains small amounts of alkalis, lime and chlorides with trace amounts of chromium compounds and is classified as an irritant. Ecocem CEM III/A has low solubility in water, resulting in an alkaline solution, pH range 10-13.

3.2 Components presenting a health hazard

Substance	Portland Cement Clinker
Concentration range (by weight in cement)	35-64%
EINECS	266-043-4
CAS	65997-15-1
Symbol	
R	R37, R38, R41, R43

Substance	GGBS
Concentration range (by weight in cement)	36-65%
EINECS	266-002-0
CAS	65996-69-2
R	R36, R37, R38

4 First Aid Measures

When contacting a physician, take this safety datasheet with you.

4.1 Eye Contact

Remove any contact lenses and open the eyelid widely to flush eye immediately by thoroughly rinsing with plenty of clean water for at least 45 minutes to remove all particles. Contact a physician.

4.2 Skin Contact

Wash the affected area thoroughly with water and soap. If irritation or pain occurs, seek immediate medical advice. Clothing contaminated by wet concrete or mortar should be removed and washed thoroughly before reuse.

4.3 Ingestion

Do not induce vomiting. Firstly wash out mouth with water, and then give plenty of water to drink. If discomfort persists, seek medical advice.

4.4 Inhalation

If irritation occurs, leave the area and go to an area with plenty of fresh air. If irritation persists and nose or airways become inflamed or constricted, seek medical advice

5 Fire-Fighting Measures

5.1 Flashpoint

Cements are non-combustible and non explosive and will not facilitate nor support combustion of other materials.

6 Accidental Release Measures

6.1 Personal Precautions

Wear protective equipment as described in Section 8 and follow advice for safe handling and use given under Section 7. Refer to Section 4 for First aid measures in case of emergency.

6.2 Environmental Precautions

Do not wash cement into sewage or drainage systems or water courses.

6.3 Cleaning up

Recover the spillage in a dry state if possible by vacuuming to minimise airborne dispersion. If dry recovery is not possible the product can be slurried by mopping, wet brushing or water sprays. Prevent any runoff water from entering drains, sewers or water courses.

7 First Aid Measures

7.1 Handling

Follow the recommendations as given under Section 8 (Exposure Controls). Carrying cement bags may cause sprains and strains to the back, arms, shoulders and legs. Handling must be carried out under the instruction of the Manual Handling Regulations as outlined in the European Directive 2007/30/EEC. Personal Protective Equipment must be worn when working in close proximity to cement to protect against inhalation and contact.

7.2 Storage

The performance of Ecocem CEM III/A can be adversely affected by unsuitable storage conditions. Bags should be stored in dry conditions raised off the ground to protect against water damage or contamination. Bags should be packed in a stable configuration.

7.3 Control of soluble Chromium (Cr) (VI)

The Portland cement clinker component of Ecocem CEM III/A is treated with a Cr (VI) reducing agent according to the regulations given in Section 15. The reducing agent ensures the level of soluble Cr (VI) is maintained below the imposed limit of 0.0002%, according to European Directive 2005/53/EC. As the effectiveness of the reduction agent diminishes with time, Ecocem CEM III/A packaging and delivery documents will contain information on the product shelf life.

8 Exposure Controls/Personal Protection

8.1 Exposure limit values

(Workplace exposure Limits (WEL))

The Occupational Exposure Standard (OES) on an eight hour Time Weighted Average (TWA) is: Total inhalable dust 10mg/m³; Respirable dust 4mg/m³.

8.2 Exposure controls

Where practicable, dust exposure should be prevented by engineering measures.

8.2.1 Occupational exposure controls

8.2.1(a) Respiratory Protection

Suitable respiratory protection must be worn if the dust exposure level exceeds the limit of the occupational Exposure Standard (see 8.1).

8.2.1(b) Hand Protection

Impervious, abrasion and alkali resistant protective gloves should be worn to prevent hands coming into contact with dry or wet cement.

8.2.1(c) Eye protection

Wear approved glasses or safety goggles according to the EN 166 when handling dry or wet cement to prevent contact with eyes.

8.2.1(d) Skin Protection

Protective boots and closed long sleeved protective clothing should be worn. Additionally skin care products (including barrier creams) can be worn to protect the skin from prolonged contact with wet cement. Particular care should be taken to ensure that wet cement does not enter the boots. In some circumstances such as when laying concrete or screed, waterproof trousers or kneepads are necessary.

8.2.2 Environmental Exposure controls

Ecocem CEM III/A forms an alkali solution when mixed with water. Discharge to watercourses, lakes or ponds should be avoided. As the GGBS contained in Ecocem CEM III/A is classed as a nuisance dust, its entry into the atmosphere should be avoided

9 Physical and Chemical Properties

9.1 General Information

Appearance	Off white powder
Mean Particle Size	5 -30 μm
Relative Density	2.75 – 3.20 (g/cm ³)

9.2 Important Health, Safety and Environmental Information

pH	11 – 13.5
Odour	Odourless
Boiling Point	1250°C
Melting Point	n/a
Flash Point	n/a
Flammability	n/a
Explosive Properties	None
Oxidising Properties	None
Solubility in Water	T=20°C: slight (0.1 -1.5g/l)

10 Stability and Reactivity

Conditions contributing to chemical reactivity	Elevated pH + water
Hazardous decomposition products	None
Special precautions	None
Combination with alumina powder	Hydrogen gas
Combination with ammonia containing products	Ammonia gas

10.1 Conditions to avoid

Humidity during storage may cause lump formation and loss of product quality.

10.2 Materials to avoid

Uncontrolled use of aluminium powder in wet cement should be avoided as hydrogen can be produced

11 Toxicological Information

11.1 Acute effects

11.1.1 Eye contact

Mild exposure to dry cement can cause soreness. Gross exposure or untreated mild exposure can lead to burning and/or ulceration of the eye.

11.1.2 Skin Contact

Dry cement in contact with wet skin or exposure to mist or wet cement may cause thickening, cracking or fissuring of the skin. Prolonged contact in combination with abrasion can cause severe burns

11.1.3 Ingestion

Swallowing large quantities may cause irritation to the gastrointestinal tract.

11.1.4 Inhalation

Inhalation may irritate the throat and respiratory tract. Coughing, sneezing and shortness of breath may occur following exposures in excess of occupational exposure limits.

11.2 Chronic effects

Repeated high exposures in excess of the OES (Section 8.1) can be linked to rhinitis (the release of histamine causing inflammation and fluid production in the nasal passages, sinuses and eyelids) and coughing.

11.2.1 Contact dermatitis/Sensitising effects

Some individuals may exhibit eczema upon exposure to wet cement, caused either by the high pH which induces "irritant contact dermatitis", or by an immunological reaction to

soluble Cr (VI) which elicits “allergic contact dermatitis”. The response may appear in a variety of forms ranging from a mild rash to severe dermatitis and is a combination of those two mechanisms.

Ecological Information

The addition of large amounts of Ecocem CEM III/A to water may cause a rise in pH and may therefore be toxic to aquatic life under certain circumstances.

Disposal Considerations

13.1 Cement that has exceeded its shelf life

When demonstrated that it contains more than 0.0002% soluble Cr (VI), Ecocem CEM III/A should be recycled or disposed of according to local legislation or treated again with a reducing agent.

13.2 Packaging

Completely empty the packaging and process it according to local legislation.

Transport Information

Cement is not covered by the international regulation on the transport of dangerous goods (IMDG, IATA, ADR/RID) and therefore no classification is needed.

Exposure Controls and Personal Protection guidelines under Section 8 should be adhered to. Packed products should be stacked in a stable manner and in dry conditions to protect against water damage or contamination.

Regulatory Information

15.1 Classification and labelling of cement according to 1999/45/EC



Risk Phrases

- ▶ R37/38: Irritating to respiratory system and skin
- ▶ R41: Risk of serious damage to eyes
- ▶ R43: May cause sensitisation by skin contact

Safety phrases:

- ▶ S2 Keep out of reach of children.
- ▶ S22 Do not breathe dust.

- ▶ S24/25 Avoid contact with skin and eyes.
- ▶ S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
- ▶ S36/37/39 Wear suitable protective clothing, gloves and eye/face protection.
- ▶ S46 If swallowed, seek medical advice immediately and show the container or label.

15.2 The marketing and use of cement is subject to a restriction on the content of soluble Chromium (Cr) (VI)

Since the 17th of January 2005, according to the I.S.EN 196-10; those cements which naturally contain more than 2 ppm of soluble hexavalent chromium (Cr (VI)) by dry weight of cement, are required to be treated with a chemical reducing agent that maintains the level of hexavalent chromium in the cement to below 2ppm by dry weight of cement.

16.1 Other Information

See EC (Classification, Packaging, Labelling and Notification of Dangerous Substances) Regulations, 2003 S.I No. 116 of 2003

Material Safety Data Sheet in accordance with REACH Regulation (EC) No. 1907/2006 Annex II.

For further information contact:

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050 - CPR - 0097



ENVIRONMENT
ISO 14001:2004
NSAI Certified



CEMENT
I.S. 197-1:2001
NSAI Certified



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Dublin 3,
Ireland.

South Bank Quay Works
12
050-CPR-097



QUALITY
ISO 9001:2008
NSAI Certified



BES 6001
Responsible Sourcing
www.greenbooklive.com

I.S. EN 197-1:2011
CEM III/A 52.5L Blastfurnace