

READY MIX CONCRETE

Material Safety Data Sheet (MSDS)

1. Identification of Substance/Preparation & Company/Undertaking

Name of Substance: Ready Mix Concrete

This safety datasheet applies to cement-containing products

2. Hazard Identification

Classification according to directive 67/548/EEC

Hazardous – Irritant

R34, R38, R41, R43

Classification according to regulations EC 1272/2008

Signal word: Danger

STOT SE3, Eye damage1, Skin sensitisation 1, Skin irritant 2.

H315, H317, H318, H335, H372

Wet Concrete can cause serious alkali burns if in direct contact with skin or eyes.

Skin

Alkali burns, a form of skin ulceration, may result from contact with freshly mixed concrete.

Contact with strongly alkaline solutions such as concrete can initially cause nerve damage. Chemical burns may occur without the person being aware because they do not feel any pain.

Contact with wet cement mixes such as wet concrete can cause skin disease. Irritant contact dermatitis is caused by the combination of the wetness, alkalinity and abrasiveness of the ready-mixed concrete.

Allergic contact dermatitis may be caused by individual sensitivity to chromium compounds in cement.

Eyes

Wet concrete in contact with eyes can cause irritation, inflammation or serious alkali burns, which may lead to blindness

Ingestion

Swallowing small amounts of fresh concrete is unlikely to cause any significant reaction. Larger amounts can cause irritation of the stomach and intestines.

Inhalation

Wet concrete is not likely to create dust, but respirable dust may be released by the surface treatment and cutting or drilling of hardened concrete. If inhaled in excessive quantities over a prolonged period or extended period, respirable dust can constitute a long term health hazard.

Dusts containing respirable crystalline silica (quartz) present a greater hazard. Long term exposure to respirable dust can lead to respiratory system damage and disease. Respirable crystalline silica has been associated with the lung disease silicosis.

The quartz content of the product will vary, and is related to the type of aggregate used in the production of the concrete. Advice on the quartz content and other chemical information is available from Craven Concrete

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3. Composition/Information on Ingredients

Ready mix concrete is a mixture of:

- A cementitious material which may be cement or a mixture of cement with an addition
- Fine and coarse aggregate
- Water
- Admixtures or additives may be added to modify the properties of the fresh or hardened concrete. Pigments may be added to colour the product

Hazardous ingredients

Substance name	EC No.	%	DSD Classification	CLP Classification
Portland Cement	266-043-4	10-20	Xi, R34, R38, R41, R43	H315,317,318,335
Crystalline Silica	238-878-4	Variable	Xn;R48/20	H372

4. First Aid Measures

Inhalation:

If concrete dust is inhaled, remove to fresh air. If breathing difficulties or inflammation are experienced, seek medical attention

Skin Contact:

Where skin contact occurs with wet concrete, either directly or through saturated clothing, the concrete must be washed off immediately with soap and water.

If wet concrete enters boots or gloves, or saturates clothing, remove article immediately and wash before re-use.

Eye contact:

Immediately and thoroughly irrigate with copious amounts of eye wash solution or clean water. Seek medical attention immediately.

Ingestion:

Remove to fresh air. If person is conscious, rinse out mouth and give water to drink. Seek medical advice.

5. Firefighting measures

Concrete is non-flammable and is not combustible

Suitable extinguishing media: Not applicable

Unsuitable extinguisher media: Not applicable

Special Exposure Hazards in fire: None

Special Protective equipment for fire fighters: None

6. Accidental Release Measures

Personal Precautions:

Avoid contact with skin and eyes. Wear impervious clothing, gloves and boots

Wear eye protection. See section 8. For guidance on PPE

See section 7 for guidance on handling the product

Environmental Precautions:

Prevent wet concrete from entering water course, ditches and drains

Methods of cleaning:

Clean up any spillages before the concrete hardens, using suction or medical removal methods.

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7. Handling & Storage

Handling:

Avoid skin and eye contact. Wet concrete can cause serious alkali burns if in direct contact with skin or eyes. Contact with concrete may also cause skin disease by the combination of the wetness, alkalinity and abrasiveness of the ready mix concrete. Allergic contact dermatitis may be caused by individual sensitivity to chromium compounds which may occur in cement.

Do not sit or kneel on wet, unhardened concrete without wearing the correct PPE

Where concrete enters boots or gloves, or saturates clothing, the articles should be removed immediately and washed before further use.

Refer to section 8 for guidance on PPE

Storage:

Ready mix concrete is normally used upon receipt. However the hardening process of ready mixed concrete can be delayed by the use of additional and/or admixtures, extending the period during which the precautions given in this data sheet should continue to be taken and during which time access by unauthorised persons should be prevented.

8. Exposure Controls/Personal Protection

Take measures to prevent:

Direct skin or eye contact with fresh concrete. It is also important not to kneel or sit on the fresh concrete as harmful contact can occur through saturated clothing

Inhalation of dust created by the surface treatment and cutting of hardened concrete which may contain quartz. If inhaled in excessive quantities over an extended period, respirable dust containing quartz can constitute a long term health hazard.

Exposure control limits/source

Total Dust	W.E.L	10mg/m3	8hrs	T.W.A
Respirable dust	W.E.L	4mg/m3	8hrs	T.W.A
Respirable Quartz	W.E.L	0.1mg/m3	8hrs	T.W.A

W.E.L = Workplace exposure limit

T.W.A = Time weighted average

Control Measures:

Dust caused by cutting or drilling hardened concrete should be controlled by containment, suppression and extraction

Inhalation:

S22 – Do not breathe Dust

Eyes, Skin and Hands:

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

9. Physical and Chemical Properties

Appearance: Grey, granular paste unless pigmented.

Odour: Slight, earthy odour

pH: Typically, 10-14

Boiling Point: Not determined

Melting point: Not determined

Flash Point: Not applicable

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Auto flammability: Not applicable
Flammability: Not applicable
Explosive properties: Not applicable
Oxidising properties: Not applicable
Vapour pressure: Not applicable
Relative density: above 2.0
Water Solubility: Dependant on aggregate type
Fat Solubility: Not determined

10. Stability and Reactivity

Conditions to avoid:

None

Materials to avoid:

None

Hazardous decomposition products:

None

11. Toxicological Information

Inhalation:

If inhaled over a prolonged or extended period, respirable dust from drilling or cutting hardened concrete can lead to respiratory system damage and disease. Respirable crystalline silica has been associated with the lung disease silicosis.

Skin Contact:

Skin contact with wet concrete could result in serious alkali burns. Contact with concrete may also cause skin disease by the contamination of the wetness, alkalinity and abrasiveness of the ready mix concrete. Allergic contact dermatitis may be caused by individual sensitivity to chromium compounds which may occur in cement.

Eye contact:

Wet concrete in contact with eyes can cause irritation, inflammation or serious alkali burns, which may lead to blindness

Ingestion:

Ingestion is very unlikely, ingestion of large amounts may cause irritation of the stomach and intestines. Seek medical advice

12. Ecological Information

Environmental Assessment:

When used and disposed of as intended, no adverse environmental effects are foreseen, and concrete should not pose a significant ecological hazard.
Prevent wet concrete entering water course, ditches and drains.

13. Disposal Consideration

Safe Handling or residue/waste products:

Hardened concrete is classed as non hazardous and inert but should be disposed of in accordance with local and national legal requirements.
Hardened concrete can be recycled.

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14. Transportation

Special carriage requirements:

None – Not classified as dangerous for transport

15. Regulatory Information

67/548/EEC:

Irritant risk phrases

R34 - May cause burns, R38 – Irritating to the skin

R41 – Risk of serious damage to the eyes

R43 – May cause sensitisation by skin contact

Safety phrases

S2 – Keep out of reach of children

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

EC 1272/2008: Danger

Eye Dam, 1 Skin Sens 1, Skin Irrit 2; STOT SE3 (inhalation of dust)

Hazard statements

H315 – Causes skin irritation

H317 – May cause allergic skin reaction

H318 – Causes serious eye damage

H335 – May cause respiratory irritation

H372 – Causes damage to organs through prolonged and repeated exposure

Precautionary Statements

P102 – Keep out of reach of Children

P261 – Avoid breathing dust

P262 – Do not get in eyes, on skin or on clothing

P281 – Use PPE as required (see section 8)

16. OTHER INFORMATION

Training Advice

Wear PPE

Recommended uses and Applications:

Industrial and Construction applications

Further Information

Contact: enquiries@cravenconcrete.co.uk

HSE Guidance note EH40/2007 PPE Reg.

COSHH Regulations, 2002 Environmental Protection act 1990

HSE Crystalline Silica EH59

Dangerous Substance directive (DSD) 67/548/EEC

Classification, labelling and packaging regulations (CLP) EC1272/2008