

SAFETY DATA SHEET

READY-MIXED CONCRETE

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Product identification

Ready-Mixed Concrete is a high grade construction material.

Identified uses of the substance or mixture

Used as a construction material in public and private infrastructure or construction projects.

Company Identification

Aggregate Industries UK Ltd
Bardon Hall
Copt Oak Road
Markfield
Leicestershire
LE67 9PJ
UNITED KINGDOM

Emergency Contact Details

Telephone: 01530 510066
(Mon. to Fri. 8 am to 5 pm) ask for H&S Team
Email: health.safety.team@aggregate.com

2. HAZARDS IDENTIFICATION

Classification of the substance or mixture

Classification according to Regulation EC 1272/2008:



Signal Word: **Danger**

Warning – Wet concrete can cause serious alkali burns if in direct contact with skin or eyes.

Wet Concrete

Contact between wet concrete and the skin or eyes may cause severe irritation and alkali burns.

Skin contact may result in ulceration due to the combination of wetness, alkalinity and abrasiveness of the cement mixture. This may not be readily apparent till after exposure, due to potential nerve damage on contact.

Skin contact may also trigger contact or allergic dermatitis reaction caused by an individual's sensitivity to chromium compounds present in cement.

Dry Concrete

Inhalation of silica particles in dust caused by cutting/surface treatment of hardened concrete may cause respiratory damage.

This product has the potential for generation of respirable dust if the product is drilled, cut, sawn, crushed or broken up. This dust may contain respirable crystalline silica. Prolonged inhalation of respirable dust can constitute a long term health hazard such as lung fibrosis. Repeated inhalation of excessive amounts of respirable silica may cause silicosis.

Label elements

The product does not need to be labelled in accordance with EC directives or respective national laws.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Mixtures

Ready-Mixed concrete is made from a mix of raw materials, including:

- Sand
- Aggregates
- Portland Cement

- Water
- Pulverised fuel ash (PFA)
- Ground Granulated Blast-furnace Slag (GGBS)
- Admixtures

The latter ingredients are added in small quantities to alter

	Portland Cement	Respirable Crystalline Silica (Quartz)
CAS No	65997-15-1	14808-60-7
EC No	266-043-4	238-878-4
Index No	[-]	[-]
Classification	STOT SE3, H315, H317, H318, H335	STOT RE 2; H373i
Concentration	Variable depending on mix design	Variable dependent on mix design and source

4. FIRST AID MEASURES

Description of first aid measures

Skin Contact

For wet concrete - If wet concrete enters boots or gloves, or saturates clothing, remove the articles wash the affected skin area with soap/cleanser and rinse with plenty of water.

If irritation persists, obtain prompt medical attention.

Clothing that has become contaminated by fresh concrete should be thoroughly washed before re-use.

For set concrete - Remove any contaminated clothing and wash the affected skin area with soap/cleanser and rinse with plenty of water. If irritation persists, obtain prompt medical attention.

Eye Contact

For wet concrete - Do not rub eyes, as the material is abrasive and may scratch the surface of the eye. Immediately and thoroughly irrigate with clean water for at least 15 minutes. **DO NOT USE SALINE EYEWASH SOLUTION.** Seek medical attention if immediately.

For set concrete - Do not rub eyes, as the material is abrasive and may scratch the surface of the eye. Immediately and thoroughly irrigate with clean water or eyewash solution. Seek medical attention if irritation persists.

Ingestion

For wet concrete - If material enters the mouth, do not induce vomiting. Give plenty of water to drink. Seek medical attention immediately.

For set concrete - Give plenty of water to drink. Seek medical attention if feeling unwell.

Inhalation

For set concrete inhalation of dust - Remove to fresh air and allow person to rest. If recovery is not rapid obtain prompt medical attention.

5. FIREFIGHTING MEASURES

Suitable/Unsuitable extinguishing media

Material is not flammable or combustible. Use media suitable for other any other materials present that may be involved in a fire. There is no unsuitable fire extinguishing media.

Special hazards arising in a fire

None.

Special Advice for fire fighters

Fire water runoff from wet concrete may become alkaline and pollute watercourses.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Avoid contact with skin and eyes. Wear impervious clothing, gloves and boots. Wear eye protection. See Section 8 for guidance on personal protective equipment.

Environmental precautions

Fresh wet concrete should not be allowed to accidentally enter watercourses.

Methods and materials for containment and cleaning up

Clean up any spillage before the concrete hardens, do not dry sweep residues.

7. HANDLING AND STORAGE

Precautions for safe handling

- Avoid wet concrete coming into contact with skin and eyes. Do not sit, lean or kneel on wet concrete
- If it is necessary to operatives should thoroughly wash their hands before handling cigarettes, food or drink.
- Ensure set concrete material is handled so as to prevent the generation of dust.

Safe storage

- No special requirements.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Component	WEL (8Hr TWA)
Total Inhalable Dust	10mg/m ³
Respirable Dust	4mg/m ³

Exposure controls

Appropriate engineering controls

Use in well ventilated areas. Use mechanical ventilation in poorly ventilated areas.

Eye/face Protection

Wet Concrete - Eye Protection to EN166 in the form of safety glasses and/or goggles is required to protect against accidental splashes.

Dry Concrete - Eye Protection to EN166 in the form of safety glasses and/or goggles is required to protect against dust particles.

Hand Protection

Wet Concrete - Handle with imperious watertight, wear-and-alkali-resistant protective gloves/gauntlets according to EN345 class 3 (eg PVC Gauntlets). Gloves should be removed and hands thoroughly washed before handling or eating any food or drink.

Dry Concrete – Recommend use of heavy duty gloves to prevent mechanical abrasion.

Skin Protection

Wet Concrete - Impervious clothing, consisting of overalls or full length sleeved top and trousers together with water resistant safety boots and/or Wellington boots.

Dry Concrete - Overalls / Impervious clothing, selected according to the workplace conditions.

Respiratory Protection

Wet Concrete – No requirement.

Dry Concrete - Suitable dust masks should be worn where there is likely to be dust generated. The Chemical Agents Directive shows a requirement for respirators as a means of control should use a particulate filter type P3 or equivalent.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical and chemical properties will vary dependent source, but generic properties are as follows:

Property	
Appearance	Grey Granular paste
Odour	Characteristic earthy odour
pH	Alkaline - pH 10 -14
Boiling Point / Range	Not Determined
Melting Point / Range	Not Determined
Flash Point	Not Applicable
Flammability	Not Applicable
Auto Flammability	Not Applicable
Explosive Properties	Not Applicable
Oxidizing Properties	Not Determined
Vapour Pressure	Not Applicable
Relative Density	Above 2.4
Water Solubility	Insoluble in water

10. STABILITY AND REACTIVITY

Reactivity and Chemical stability

Stable at normal temperatures and under recommended storage conditions.

Conditions to avoid

None.

Incompatible materials

Strong mineral acids.

Hazardous decomposition products

None.

11. TOXICOLOGICAL INFORMATION

11.1 INFORMATION ON TOXICOLOGICAL EFFECTS

Acute toxicity

Wet Concrete – Can cause serious alkali burns to skin and eyes.

Set Concrete - None

Skin corrosion/irritation

Wet Concrete – Long term contact may result in alkali burns, skin sensitisation, skin disease and dermatitis, due to the alkali nature of cement and/or presence of Chromium.

Dry Concrete - Long term contact with skin may cause mechanical skin irritation and possible dermatitis.

Respiratory sensitisation

Wet Concrete – None

Dry Concrete - Chronic exposure by inhalation of concrete

dust may cause cough, breathlessness and lung fibrosis.

Specific target organ toxicity - repeated exposure

Prolonged exposure of Respirable Crystalline Silica fraction by inhalation may lead to silicosis in lungs.

Carcinogenicity

IARC classified respirable crystalline silica as a Group 1 carcinogen, therefore long term exposure may cause cancer.

Ingestion

Wet Concrete – In large quantities may causes irritation to the stomach and intestines.

Dry Concrete - Not likely to cause long term problems.

12. ECOLOGICAL INFORMATION

Environmental Assessment

When used and disposed of as intended, no adverse environmental effects are foreseen. However, material entry into drains and watercourses should not be permitted as it may cause pollution and or blockage.

Mobility

Set Ready-Mixed Concrete materials are immobile.

Persistence and Degradability

Set Ready-Mixed Concrete materials are resistant to degradation and will persist in the environment.

Ecotoxicity

Set concrete is not expected to be toxic to aquatic organisms. Fresh wet concrete may cause damage to fish and aquatic organisms due to increased pH levels.

Bioaccumulative potential

Not applicable.

Results of PBT and vPvB assessment

Will not meet PBT or vPvB criteria.

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Product

Set Ready-Mixed Concrete is classified as an inert waste and can be disposed of as normal industrial waste in accordance with waste regulation.

Wet Concrete is hazardous waste and should be allowed to set before disposal.

It is recommended that it be disposed of via recycling or reuse.

Contaminated packaging

Not Applicable.

14. TRANSPORT INFORMATION

Special Carriage Information

None. This product is **NOT** classified as dangerous for transport.

15. REGULATORY INFORMATION

Classification: **Corrosive**

Text of H-code(s) and P-codes(s) mentioned in Section 3

Hazard Statement(s)

H314 – Causes severe skin burns and eye damage
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 (inhalation of respirable silica if hardened concrete is cut or drilled)

Precautionary Statement(s)

P102 – Keep out of reach of children
P261 – Avoid breathing dust
P262 – Do not get in eyes, on skin, or on clothing.
P281 – Use personal protective equipment as required

(see Section 8)

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

Health & Safety at Work etc. Act 1974
Control of Substances Hazardous to Health Regulations 2002 (as amended)
Classification, Labelling and Packaging of Substances and Mixtures Regulations 2008 (as amended)
EH40/2005 Workplace Exposure Limits (as amended)
HSE Crystalline Silica EH59

16. OTHER INFORMATION

Training and Advice

Wear and use appropriate PPE.

Recommended restrictions on use

Use in accordance with manufacturer's technical instructions.

Further Information

Contact the Aggregate Industries Health & Safety Team.

Key Data used to compile data sheet

Classification, Labelling and Packaging of Substances and Mixtures Regulations 2008 (as amended)
EH40/2005 Workplace Exposure Limits (as amended)
HSE Crystalline Silica EH59

The information in this Safety Data Sheet should be provided to all who will use, handle, store, transport or otherwise be exposed to this product. The information herein represents the best information currently available at the Revision Date. However, no warranty is expressed or implied with respect to such information and its use. Users should make their own investigations to determine the suitability of the information for their particular purposes and against all applicable legislation.

DANGER!

FRESH, WET READY-MIXED CONCRETE, SCREED AND MORTAR



HAZARD IRRITANT

Contact with eyes may cause severe irritation and/or alkali burns. Skin contact may result in irritant contact dermatitis and/or ulceration due to combination of wetness, alkalinity and abrasiveness of the cement mixture. Allergic Contact Dermatitis may be caused by individual sensitivity to chromium compounds, which occur in cement.



EYE PROTECTION:

Suitable eye protection is strongly recommended where there is a risk of accidental splashing.



SKIN PROTECTION:

Long sleeve clothing, full-length. Wear trousers and impervious safety boots.

SKIN CONTACT WITH FRESH, WET READY-MIXED CONCRETE, MORTAR OR SCREED MAY CAUSE:

- ▶ **Cement burns**
- ▶ **Irritant or allergic dermatitis**

Damage will increase within contact time. Chemical burns can develop without pain being felt.

The abrasive nature of the sands in the materials can aggravate the situation.

Fresh wet ready-mixed concrete, mortar or screed is heavy, (approx 2.5 tonnes per cubic metre). This may cause strains if you are not used to physical work. Have sufficient help so that you can place, compact and finish the concrete/mortar/screed without straining yourself and before it sets.



SKIN CONTACT:

Wash thoroughly with clean water as soon as contamination occurs. Note: this includes contact through contaminated clothing.



EYE CONTACT:

Irrigate eyes immediately with clean water for at least 10 minutes. Seek immediate medical attention.

▶ **LOOK** If concrete/mortar/screed gets in your boots, STOP, remove them, wash them and skin thoroughly with warm water.

▶ **LOOK** Clothes impregnated with fresh, wet concrete/mortar/screed, should be taken off, washed and the skin washed thoroughly to avoid any irritation.

▶ **LOOK** Clothes impregnated with fresh, wet concrete/mortar/screed, should be taken off, washed and the skin washed thoroughly to avoid any irritation.

USE APPROPRIATE TOOLS TO MANOEUVRE, PLACE AND FINISH THE CONCRETE.