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

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.

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 or improve the properties of the concrete in either its plastic or hardened state and to meet customer requirements.

Portland Cement and Respirable Crystalline Silica has the following hazard information:

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

For the full text of the H-Statements mentioned in this Section, see Section 16.
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/PERSUAL PROTECTION

Control parameters

Components with workplace exposure limits (WELs)

<table>
<thead>
<tr>
<th>Component</th>
<th>WEL (8Hr TWA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Inhalable Dust</td>
<td>10mg/m³</td>
</tr>
<tr>
<td>Respirable Dust</td>
<td>4mg/m³</td>
</tr>
<tr>
<td>Respirable Crystalline Silica</td>
<td>0.1mg/m³</td>
</tr>
</tbody>
</table>

It is recommended that occupational monitoring be completed to determine exposure.

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:

<table>
<thead>
<tr>
<th>Property</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Grey Granular paste</td>
</tr>
<tr>
<td>Odour</td>
<td>Characteristic earthy odour</td>
</tr>
<tr>
<td>pH</td>
<td>Alkaline - pH 10 -14</td>
</tr>
<tr>
<td>Boiling Point / Range</td>
<td>Not Determined</td>
</tr>
<tr>
<td>Melting Point / Range</td>
<td>Not Determined</td>
</tr>
<tr>
<td>Flash Point</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Flammability</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Auto Flammability</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Explosive Properties</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Oxidizing Properties</td>
<td>Not Determined</td>
</tr>
<tr>
<td>Vapour Pressure</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Relative Density</td>
<td>Above 2.4</td>
</tr>
<tr>
<td>Water Solubility</td>
<td>Insoluble in water</td>
</tr>
<tr>
<td>Fat Solubility</td>
<td>Not Determined</td>
</tr>
</tbody>
</table>
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-code(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.