1. Identification of the substance/mixture and of the company/undertaking

Product identification
High grade silica sand is a fine sand that has been processed by washing and cleaning of the grains, sizing to remove coarse and very fine fractions, and physical and chemical processes to remove iron, chromium and other deleterious minerals. After processing, the sand may be dried and some applications require it to be ground in ball mills to produce very fine material.

Identified uses of the substance or mixture
Uses in a variety or construction and non-construction applications such as:
- a raw material for glass and ceramic production, for use in foundry casting and
- water filtration and drainage media
- a range of specialist building applications.

Company Identification
Aggregate Industries UK Limited,
Bardon Hall,
Copt Oak Road,
Markfield,
Leicestershire LE67 9PJ
UNITED KINGDOM

Emergency contact details
Telephone: +44 (0) 1530 510006
(Mon. to Fri. 8 am to 5 pm) ask for H&S Team
e-mail: health.safety.team@aggregate.com

2. Hazards identification

Classification of the substance or mixture
Not classified as hazardous according to Regulation (EC) No. 1272/2008.
This product gives the potential for generation of respirable dust during handling and use. Dust may contain respirable crystalline silica. Prolonged inhalation of respirable dust can constitute a long term health hazard such as lung fibrosis. Occupational exposure to respirable dust and respirable crystalline silica should be monitored and controlled. 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
Silica sands are typically composed of a minimum of 97% quartz and due to their durability and resistance to heat and chemical attack they are a valuable raw ingredient for a range of industrial products. However, respirable crystalline silica (RCS) or free silica has been associated with the lung disease silicosis (see Hazards Identification).

Crystalline Silica has the following hazard information:

| CAS No  | 14808-60-7 |
| EC No   | 238-878-4 |
| Index No | [-]        |
| Classification | STOT RE 2; H373 |
| Concentration | Variable dependent on source |

For the full text of the H-Statements mentioned in this section, see section 16.

4. First aid measures

Description of first aid measures

Inhalation
Remove to fresh air and allow person to rest. If recovery is not rapid obtain prompt medical attention.

Skin contact
Remove any contaminated clothing. Wash with soap/cleanser and rinse with plenty of water. If irritation persists, obtain prompt medical attention.

Eye contact
Do not rub eyes, as the material is abrasive and may scratch the surface of the eye. Immediately and thoroughly irrigate with water. Seek medical attention if irritation persists.
Ingestion
Ingestion of significant quantities of sand that could cause harm is very unlikely. If material enters the mouth, do not induce vomiting. Give plenty of water to drink. Seek medical attention if feeling unwell.

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
None.

6. Accidental release measures
Personal precautions, protective equipment and emergency procedures
Avoid breathing dusts and excessive physical contamination.
Environmental precautions
Entry into watercourses should be avoided so far as is possible.
Methods and materials for containment and cleaning up
Spray with water to prevent the generation of dust. Do not dry sweep residues. Contain so as to avoid the generation of dust (i.e. cover or enclose).

7. Handling and storage
Precautions for safe handling
• Handle with care so as to prevent the generation of dust
• Use gloves to prevent mechanical irritation
• Consider manual handling when handling bagged product.
Safe storage
• Materials should be stored to minimise the generation of airborne dust from wind whipping and material movement
• Very fine dry product in bulk should be stored in enclosed silos
• Bulk aggregate containing fine material (<3mm) should not be stored in the open unless conditioned with water to avoid dust generation.

8. Exposure controls/personal 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
Eye Protection in the form of safety glasses and/or goggles is required.

Hand protection
Handle with gloves. Recommend use of impervious heavy duty gloves. Gloves should be removed and hands thoroughly washed before handling or eating any food or drink.

Skin protection
Overall/impervious clothing, selected according to the workplace conditions.

Respiratory protection
Suitable dust masks should be worn in enclosed spaces where adequate ventilation is not provided. 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>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Fine free flowing sand</td>
</tr>
<tr>
<td>Odour</td>
<td>None</td>
</tr>
<tr>
<td>pH</td>
<td>Various</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 2.65</td>
</tr>
<tr>
<td>Water solubility</td>
<td>Dependent on rock type</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 acids (limestone based aggregates).
Hazardous decomposition products
None.

11. Toxicological information
Information on toxicological effects
Acute toxicity
None.
Eye damage
Long term contact with eyes can cause eye irritation and damage.
Skin corrosion/irritation
Long term contact with skin may cause mechanical skin irritation and possible dermatitis.
Respiratory sensitisation
Chronic exposure by inhalation 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
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. Sand is a naturally occurring, inert mineral and does not pose a significant ecological hazard.

13. Disposal considerations
Waste treatment methods
Product
Sand is an inert waste and can be disposed of as normal industrial waste in accordance with waste regulation.
It is recommended that it be disposed of via recycling or reuse.
Contaminated packaging
Dispose of as industrial waste.

14. Transport information
Special carriage information
None. This product is NOT classified as dangerous for transport.
Dry bulk silica sand should be transported via tanker to avoid the generation of dust.
Open bulk vehicles used to carry the product should be sheeted to avoid the generation of dust.

15. Regulatory information
Classification: Not classified as dangerous.
However, consideration of the following Hazard & Precautionary Statements is recommended:
Text of H-code(s) and R-phrase(s) mentioned in Section 3
H373i May cause damage to organs through prolonged or repeated exposure by inhalation.

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.

The Company does NOT recommend the use of silica sand for 'dry' blasting.

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.

Legal notice: 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. This 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.