



MATERIAL SAFETY DATASHEET

NATURAL AGGREGATES

It is important that you, or any persons working for you or to whom you have supplied natural aggregates, become familiar with the information given below on this datasheet before handling, using or disposing of the product(s).

Revision Date: February 2009

Hazard Information

1. Composition/information on ingredients.

Natural Aggregates

Natural aggregates are produced from naturally occurring rock or sand and gravel deposits. These products will contain a combination of various minerals including silica.

The silica content of different aggregates will vary depending upon the mineral deposit. The following figures are given as an indication of the level of free silica in different mineral sources, but it must be noted that these figures do vary.

Quartzite – greater than 95%

Flint – greater than 90%

Sandstone – greater than 90%

Granite – up to 30%

Dolerite – up to 15%

Basalt – up to 5%

Limestone – usually less than 1%

2. Hazards identification

The main health hazard from natural aggregates is airborne dust. Increased levels of dust are generated by mechanical treatment of natural aggregates or products containing natural aggregates i.e. cutting and surface treatment of hardened concrete. Inhalation of respirable dust over a prolonged period can be harmful to health. Where respirable dust contains high quantities of free silica in the form of quartz, there is a risk of developing silicosis. The main symptoms of this chronic disease are difficulty in breathing and coughing. Long-term prolonged exposure to high levels of respirable crystalline silica which can arise from a failure to implement adequate control measures can also lead to an increased risk of developing lung cancer.

Emergency action

3. First aid measures

- 3.1 **Eye Contact** – Immediately irrigate with eyewash solution or clean water. If symptoms develop obtain medical attention.
- 3.2 **Skin Contact** – Wash with soap and water. If irritation occurs seek medical attention.
- 3.3 **Ingestion** – If ingestion causes problems remove from exposure and seek medical attention if required.
- 3.4 **Inhalation** – Remove the affected person to fresh air and seek medical attention if required.

4. Accidental release measures

- 4.1 **Personal precautions** (see 6.1)
- 4.2 **Cleaning Up** – In the event of spillage avoid cleaning methods which generate airborne dust. Avoid breathing in dust by standing up-wind, damping down with water and wearing a suitable dust mask if required.
- 4.3 **Environmental Measures** – The release of aggregate dust into the environment does not constitute a significant environmental hazard. However where dust passes beyond site boundaries, this may be regarded as statutory nuisance under the Environmental Protection Act 1990.

Precautions

5. Storage and Handling

- 5.1 **Storage** – Natural aggregates should be handled and stored to minimise the creation of airborne dust.
- 5.2 **Handling** – Engineering control measures such as containment, enclosed silos/bins/hoppers, local exhaust ventilation spray suppression systems etc should be used where there is a risk of airborne dust creation.
Open conveyor handling systems should be provided with wind boards or other protection to prevent wind-whipping.
Manual handling of the product should be minimised through the use of mechanical aids etc. whenever possible. Account should be taken of the Manual Handling Regulations and care should be taken when lifting by hand.

6. Exposure controls/personal protection

Wear suitable personal protection equipment.

6.1 Personal protective equipment

- ◆ **Respiratory protection** – Suitable respiratory protection (HSE approved standard) should be worn to protect against inhalation of dust.
- ◆ **Hand and skin protection** – Overalls and gloves should be used to prevent contamination of the skin.
- ◆ **Eye protection** – Eye protection to BS EN 1664-4 should be used to prevent dust entering the eyes.

Product Information

7. Physical & Chemical Properties

Odourless particles of solid material in the form of crushed rock or sand and gravel. Other chemical properties and applicable under ambient conditions.

8. Stability and Reactivity

Conditions contributing to chemical instability: None

Special precautions: None

9. Toxicological Information

Short term effects:

- ◆ **Eye contact** – May cause transient irritation to the eyes.
- ◆ **Skin** – Prolonged or repeated contact with mineral dust may cause the skin to dry out giving rise to dermatitis.
- ◆ **Ingestion** – Extremely unlikely.
- ◆ **Inhalation** – Inhalation of mineral dusts over a prolonged period may give rise to a number of respiratory illnesses including, chronic bronchitis, pneumoconiosis and silicosis (if silica present). Long-term prolonged exposure to high levels of respirable crystalline silica which can arise from a failure to implement adequate control measures can also lead to an increased risk of developing lung cancer.