




# Health & Safety Information

## Cementitious Products



Rev 2, July 2006

### This data sheet applies to:

-  Trojan Cement Products
-  Trojan Grout Products
-  Masonry Cement
-  Envirocems

### Identification of Substance

ScotAsh Cementitious Products are a mixture of Portland Cement and Pulverised Fuel Ash and have the appearance of white to grey odourless powders mainly insoluble in water.

#### Composition/Information on Ingredients

##### Chemical Description

The principal constituents of these Cementitious Products are calcium silicates, aluminates, ferro-aluminates and sulfates. Small amounts of alkalis, lime and chlorides are also present together with trace amounts of chromium compounds. Additional constituents include pulverised fuel ash which is composed mainly of aluminosilicate amorphous spheres produced when pulverised coal is burnt in a coal fired power station.

##### Hazardous Ingredients

The lime, calcium silicates and alkalis within the cement are partially soluble and when mixed with water will give rise to a potentially hazardous alkaline solution. Hexavalent chromium salts in these cements are soluble and when mixed with water will give rise to a potentially hazardous solution.

### Hazard Identification

- When cement is mixed with water such as when making concrete or mortar, or when the cement becomes damp, a strong alkaline solution is produced. If this comes into contact with the eyes or skin it may cause serious burns and ulceration. The eyes are particularly vulnerable and damage will increase with contact time. Strong alkaline solutions in contact with the skin tend to damage the nerve endings first before damaging the skin, therefore chemical burns can develop without pain being felt at the time.
- Cement Mortar and concrete mixes may, until set, cause both irritant and allergic contact dermatitis:
  - Irritant contact dermatitis is caused by a combination of the wetness, alkalinity and abrasiveness of the constituent materials.
  - Allergic contact dermatitis is caused mainly by the sensitivity of an individual's skin to hexavalent chromium salts.

### Fire Fighting Measures

No risks of fire or explosion.

### Storage and Handling

#### Storage

Bags should be stacked in a safe and stable manner.

#### Handling

When handling cement bags, due regard should be paid to the risks outlined in the Manual Handling Operations Regulations 1992. Some bags may have a small amount of cement on the outer surface. Appropriate personal protective clothing (see Recommended Protective Equipment) should therefore be used whilst handling

#### Control of Hexavalent Chromium

From 17 January 2005, those cements which naturally contain more than 2ppm of soluble hexavalent chromium (chromium VI) by dry weight of cement, will be treated with a chemical reducing agent (such as ferrous sulfate) that maintains the level of hexavalent chromium in the cement to below 2ppm by dry weight of cement. The effectiveness of the reducing agent reduces with time, therefore cement bags and/or delivery documents will contain information on the period of time ('shelf life') for which the manufacturer has established that the reducing agent will continue to limit the level of hexavalent chromium to less than 2ppm by dry weight of cement. They will also indicate the appropriate storage conditions for maintaining the effectiveness of the reducing agent.

If cements are incorrectly stored, or used after the end of the declared 'shelf life' the level of hexavalent chromium may rise above 2ppm by dry weight of cement, with a consequent increase in the potential risk of allergic contact dermatitis.

### Exposure Controls

#### Occupational Exposure Standard (OES)

**Total Inhalable dust** .....10mg/m<sup>3</sup> .....8hr T.W.A.  
**Respirable dust** .....4mg/m<sup>3</sup> .....8hr T.W.A.

### First Aid Treatment

#### Skin Contact

Wash the affected area thoroughly with soap and water.

If skin irritation or pain continues, seek medical advice.

Clothing contaminated by wet cement, concrete or mortar should be removed and washed thoroughly before re-use.

#### Eye Contact

Wash eyes with clean water for at least 15 minutes and seek medical advice.

#### Inhalation

If irritation occurs, move patient to fresh air. If nose or airways become inflamed, seek medical advice.

#### Ingestion

Do not induce vomiting. Wash out mouth with water and give patient plenty of water to drink.

For further information telephone Technical Sales:

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### Stability & Reactivity

Conditions contributing to chemical instability – none.  
Hazardous decomposition products – none.  
Special Precautions – none.

#### Recommended Protective Equipment

Where reasonably practicable, dust exposures should be controlled by engineering methods.

#### Respiratory Protection

Suitable respiratory protection should be worn complying with BS EN 149.

#### Eye Protection

Dust-proof goggles should be worn which comply with BS EN 166/167/168.

#### Hand & Skin Protection

Protective clothing should be worn to ensure that cement, or any cement/water mixture e.g. concrete or mortar, does not come into contact with the skin. In some circumstances, such as when laying concrete, waterproof trousers and wellingtons may be necessary. Particular care should be taken to ensure that wet concrete does not enter the boots and persons do not kneel on the wet concrete so as to bring the wet concrete into contact with unprotected skin. Should wet mortar or wet concrete get inside boots, gloves or other protective clothing then this protective clothing should be immediately removed and the skin thoroughly washed as well as the protective clothing/footwear.

### Physical/Chemical Properties

#### Physical Data

Physical state . . . . . Particulate  
pH . . . . . pH wet cement 12-14

### Accidental Release Measures

#### Personal Precautions

See Recommended Protective Equipment.

#### Cleaning Up

Recover the spillage in a dry state if possible. Minimise generation of airborne dust. The product can be slurried by the addition of water but will subsequently set as a hard material. Keep children away from clean up operation.

### Ecological Information

#### Aquatic Toxicity Rating

LC50 aquatic toxicity rating not determined. The addition of cements to water will, however, cause the pH to rise and may therefore be toxic to aquatic life in some circumstances.

#### Biological Oxygen Demand (BOD)

Not applicable.

### Disposal Considerations

Dispose of empty bags or surplus cement to a place authorised to accept builder's waste. Keep out of the reach of children.

### Transport Information

Classification for conveyance – not required.

### Regulatory Information

#### Chemicals (Hazard Information and Packaging for Supply) (Amendment) Regulations 2005

Classification – irritant.

#### Risk Phrases

- Contact with wet cement, wet concrete or wet mortar may cause irritation, dermatitis or burns.
- Contact between cement powder and body fluids (e.g. Sweat and eye fluid) may also cause irritation, dermatitis or burns.
- There is a risk of serious damage to eyes.

#### Safety Phrases

- Wear suitable protective clothing, gloves and eye/face protection.
- In case of contact with eyes, rinse immediately with plenty of clean water and seek medical advice.
- After contact with skin, wash immediately with plenty of clean water.
- Keep out of reach of children.

### Legislation & Other Information

- CONIAC Health Hazard Information Sheet No 26 (CEMENT).
- Health and Safety at Work Act 1974.
- Control of Substances Hazardous to Health 2002.
- Portland Cement Dust – Criteria document for an occupational exposure limit. June 1994 (ISBN 0-7176-0763-1).
- Pulverised Fuel Ash: Criteria document for an occupational exposure limit. HSE 1992 (EH65/2) ISBN 0-11-8866391-6.
- HSE Guidance Note EH40 (Occupational Exposure Limits).
- Any authorised manual on First Aid by St John's/St Andrew's/Red Cross.
- Manual Handling Operations Regulations 1992(MHOR) (as amended 2002).

### Toxicological Information

#### Short Term Effects

##### Eye Contact

Cement is a severe eye irritant. Mild exposures can cause soreness. Gross exposures or untreated mild exposures can lead to chemical burning and ulceration of the eye.

##### Skin Contact

Cement powder or any cement/water mixture may cause irritant contact dermatitis allergic (chromium) dermatitis, and/or burns.

##### Ingestion

The swallowing of small amounts of cement or any cement/water mixtures is unlikely to cause any significant reaction. Larger doses may result in irritation to the gastrointestinal tract.

##### Inhalation

Cement powder may cause inflammation of mucous membranes.

#### Chronic Effects

Repeated exposures in excess of the OES have been linked with rhinitis and coughing. Skin exposure has been linked to allergic (chromium) dermatitis. Allergic dermatitis more commonly arises through contact with cement/water mixtures than dry cement.