

**Material: Fly Ash**

## Section I - Identification

<b>Supplier:</b> <b>Name:</b> Holcim (US) Inc. <b>Address:</b> 6211 N. Ann Arbor Road Dundee, MI 48131 <b>Telephone:</b> 800-854-4656	<b>Emergency Contact Information: (CHEMTREC)</b> Health 1-800-424-9300 Transportation 1-800-424-9300
<b>Product Code:</b> Fly Ash	<b>Product Name:</b> Fly ash
<b>Chemical Family:</b> Fly ash produced from the combustion of coal is a mixture of alumina, silica, unburned carbon, and various metallic oxides	

## Section II - Components

### Hazardous Ingredients

Component	CAS No.	OSHA PEL (8-hour TWA)	ACGIH TLV-TWA (2002)
Amorphous Silica (hydrated)	7631-86-9	80 mg/m <sup>3</sup> (total dust) /(percent silica)	3 mg/m <sup>3</sup> (respirable dust) 10 mg/m <sup>3</sup> (total dust)
Calcium Oxide	1305-78-8	5 mg/m <sup>3</sup>	2 mg/m <sup>3</sup>
Aluminum Oxide	1344-28-1	15 mg/m <sup>3</sup> (total dust); 5 mg/m <sup>3</sup> (respirable dust)	10 mg/m <sup>3</sup> (total dust)
Iron Oxide	1309-37-1	10 mg/m <sup>3</sup>	5 mg/m <sup>3</sup>
Calcium Sulfate	13397-24-5	15 mg/m <sup>3</sup> (total dust); 5 mg/m <sup>3</sup> (respirable dust)	10 mg/m <sup>3</sup> (total dust)
Crystalline Silica (quartz) *	14808-60-7	30 mg/m <sup>3</sup> (total dust) /(percent silica + 2) 10 mg/m <sup>3</sup> (respirable dust) /(percent silica + 2)	0.1 mg/m <sup>3</sup> (respirable dust)
Magnesium Oxide	1309-48-4	15 mg/m <sup>3</sup> (total dust); 5 mg/m <sup>3</sup> (respirable dust)	10 mg/m <sup>3</sup> (total dust)
Titanium Oxide	13463-67-7	15 mg/m <sup>3</sup> (total dust); 5 mg/m <sup>3</sup> (respirable dust)	10 mg/m <sup>3</sup> (total dust)
Carbon	7440-44-0	15 mg/m <sup>3</sup> (total dust); 5 mg/m <sup>3</sup> (respirable dust)	10 mg/m <sup>3</sup> (total dust)
Tri-calcium silicate	12168-85-3	15 mg/m <sup>3</sup> (total dust); 5 mg/m <sup>3</sup> (respirable dust)	10 mg/m <sup>3</sup> (total dust)

*Trace constituents:* Fly ash from bituminous coal may also contain trace amounts of naturally occurring, potentially harmful compounds such as arsenic, cadmium, lead, titanium, and vanadium.

## Section III - Hazards Identification

### Emergency Overview

Fly ash will appear as a tan or light grey powder. A single short-term exposure to the dry powder is not likely to cause serious harm.

### Potential Health Effects

- *Relevant Routes of Exposure:* Eye contact, skin contact, inhalation, and ingestion
- *Effects resulting from eye contact:* Exposure to airborne dust may cause immediate or delayed irritation or inflammation. Prolonged contact may cause burns and damage to cornea.
- *Effects resulting from skin contact:* Exposure to fly ash may cause drying of the skin and redness with consequent mild irritation, discomfort or burns. Some individuals may exhibit an allergic response upon exposure to masonry mortar or stucco, possibly due to trace amounts of chromium.
- *Effects resulting from inhalation:* A single acute exposure to fly ash may cause lung, nose or throat irritation and/or choking. Prolonged exposure to fly ash can aggravate other lung conditions and cause silicosis (due to the presence of silica), a disabling and potentially fatal lung disease. The risk of injury or disease depends on the duration and degree of exposure.
- *Effects resulting from ingestion:* Although small quantities of dust are not known to be harmful, ill effects are possible if larger quantities are consumed.

## Section IV - First Aid

**Eyes:** Immediately flush eyes thoroughly with water. Continue flushing eye for at least 15 minutes, including under lids, to remove all particles. Call physician immediately.

**Skin:** Wash skin with cool water and pH-neutral soap or a mild detergent.

**Inhalation of Airborne Dust:** Remove to fresh air. Seek medical help if coughing or other symptoms do not subside.

**Ingestion:** Do not induce vomiting. If conscious, have the victim drink plenty of water and call a physician immediately.

## Section V - Fire & Explosion Data

Flash point:	None	Auto ignition temperature:	Not Combustible
Lower Explosive Limit:	None	Upper Explosive Limit:	None
Extinguishing media:	Not Combustible	Unusual fire & explosion hazards	None
Hazardous combustion products:	None		

Special fire fighting procedures: None. Fly ash is not a fire hazard.

## Section VI - Accidental Release Measures

Spilled fly ash should be removed in order to remove potential harm. Collect fly ash using a vacuum or scoop. Avoid actions that cause dust to become airborne. Avoid inhalation of dust and contact with skin. Wear appropriate personal protective equipment as described in Section VIII. Dispose of waste material according to local, state, and federal regulations.

## Section VII - Handling & Storage

Avoid the accidental release of fly ash. It should be stored away from water and kept dry. There are no special precautions for storage temperatures or pressures. Dispose containers in an approved landfill or incinerator.

## Section VIII - Exposure Control/Personal Protection

**Skin Protection:** Wear impervious gloves, shoes and protective clothing to prevent skin contact.

**Respiratory protection:** Avoid actions that cause dust to become airborne. Use local or general ventilation to control exposures below applicable exposure limits. Use NIOSH/MSHA-approved (under 30 CFR 11) or NIOSH-approved (under 42 CFR 84) respirators in poorly ventilated areas, if an applicable exposure limit is exceeded, or when dust causes discomfort or irritation. (Advisory: Respirators and filters purchased after July 10, 1998, must be certified under 42 CFR 84.)

**Ventilation:** Use local exhaust or general dilution ventilation to control exposure within applicable limits.

**Eye Protection:** In conditions where user may be exposed to excessive concentrations of fly ash, wear safety glasses with side shields or goggles. In extremely dusty or unpredictable environments, wear unvented or indirectly vented goggles.

## Section IX - Physical & Chemical Properties

Appearance:	Gray, tan, or beige	Vapor Pressure:	Not applicable
powder		Vapor density:	Not applicable
Odor:	No distinct odor	Boiling point:	Not applicable (i.e., > 1000 °C)
Physical state:	Solid (powder)	Melting point:	Not applicable
pH (in water):	10 to 13	Specific gravity (H <sub>2</sub> O = 1.0):	2.2-2.8
Solubility in water:	< 5%	Evaporation Rate:	Not applicable

## Section X - Stability & Reactivity

Stability:	Stable, but must be kept dry.
Incompatibility:	Must be kept dry. It dissolves in hydrofluoric acid producing corrosive silicon tetrafluoride gas. Silicates react with powerful oxidizers such as fluorine and chlorine trifluoride.
Conditions to avoid:	
Hazardous decomposition:	None.
Hazardous polymerization:	Will not occur.

## Section XVI - Other Information

Approved by: Susan Diehl, Vice President

Revision Date: February 9, 2005

**Other important information:** While the information provided in the material safety data sheet is believed to provide a useful summary of the hazards of fly ash, the sheet cannot anticipate and provide all of the information that might be needed in every situation. Inexperienced product users should obtain proper training before using this product.

The data furnished in this sheet do not address hazards that may be posed by other materials mixed with fly ash. Users should review other relevant material safety data sheets before working with this product.

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