



MATERIAL SAFETY DATA SHEET

Material: Fly Ash

Section I - Identification

Supplier: Name: Holcim (US) Inc. Address: 6211 N. Ann Arbor Road Dundee, MI 48131 Telephone: 800-854-4656	Emergency Contact Information: (CHEMTREC) Health 1-800-424-9300 Transportation 1-800-424-9300
Product Code: Fly Ash	Product Name: Fly ash
Chemical Family: 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 ³ (total dust) /(percent silica)	3 mg/m ³ (respirable dust) 10 mg/m ³ (total dust)
Calcium Oxide	1305-78-8	5 mg/m ³	2 mg/m ³
Aluminum Oxide	1344-28-1	15 mg/m ³ (total dust); 5 mg/m ³ (respirable dust)	10 mg/m ³ (total dust)
Iron Oxide	1309-37-1	10 mg/m ³	5 mg/m ³
Calcium Sulfate	13397-24-5	15 mg/m ³ (total dust); 5 mg/m ³ (respirable dust)	10 mg/m ³ (total dust)
Crystalline Silica (quartz) *	14808-60-7	30 mg/m ³ (total dust) /(percent silica + 2) 10 mg/m ³ (respirable dust) /(percent silica + 2)	0.1 mg/m ³ (respirable dust)
Magnesium Oxide	1309-48-4	15 mg/m ³ (total dust); 5 mg/m ³ (respirable dust)	10 mg/m ³ (total dust)
Titanium Oxide	13463-67-7	15 mg/m ³ (total dust); 5 mg/m ³ (respirable dust)	10 mg/m ³ (total dust)
Carbon	7440-44-0	15 mg/m ³ (total dust); 5 mg/m ³ (respirable dust)	10 mg/m ³ (total dust)
Tri-calcium silicate	12168-85-3	15 mg/m ³ (total dust); 5 mg/m ³ (respirable dust)	10 mg/m ³ (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 ₂ 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:	fluorine and chlorine trifluoride.
Hazardous decomposition:	None.
Hazardous polymerization:	Will not occur.

Section XI - Toxicological Information

For a description of available, more detailed toxicological information, contact Holcim (US) Inc. (in Section I).

Section XII - Ecological Information

Relevant physical and chemical properties: *See Sections IX & X*

Ecotoxicity: *No recognized unusual toxicity to plants or animals.*

Section XIII - Disposal

Dispose of waste material according to local, state, and federal regulations. (Since masonry cement & stucco is stable, uncontaminated material may be saved for future use.) Dispose of bags in an approved landfill or incinerator.

Section XIV - Transportation Data

Hazardous materials description/proper shipping name: *Special cement for masonry mortar & stucco are not hazardous under U.S. Department of Transportation (DOT) regulations*

Hazard class: *Not applicable*

Identification class: *Not applicable*

Required label text: *Not applicable*

Hazardous substances/reportable quantities (RQ): *Not applicable*

Section XV - Other Regulatory Information

Status under USDOL-OSHA Hazard Communication Rule, 29 CFR 1910.1200: *Some constituents of fly ash are considered "hazardous chemicals" under this regulation, and should be part of any hazard communication program.*

Status under CERCLA/Superfund, 40 CFR 117 and 302: *Not listed.*

Hazard Category under SARA (Title III), Sections 311 & 312: *Fly ash qualifies as a "hazardous substance" with delayed health effects. Not subject to reporting requirements under section 313.*

Status under SARA (Title III) Section 313: *Some substances in fly ash are on the TSCA inventory list.*

Status under TSCA (as of May 1997):

Status under the Federal Hazardous Substances Act: *Fly ash is a "hazardous substances" subject to statutes promulgated under the subject act.*

Status under California Proposition 65: **WARNING:** *This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm. California law requires the manufacturer to give the above warning in the absence of definitive testing to prove that the defined risks do not exist.*

Not listed.

Status under Canadian Environmental Protection Act:
Workplace Hazardous Material Information System (Canada): *Fly ash may contain compounds considered to be a hazardous material under the Hazardous Product Act as defined by the Controlled Products Regulations (Class E - Corrosive Material) and is therefore subject to the labeling and MSDS requirements of the Workplace Hazardous Materials Information System (WHMIS).*

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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