

# FLY ASH

## Material Safety Data Sheet

**Hazardous Nature:** This product is potentially classified as hazardous depending on jurisdiction and use.

**Product Identification:** Pozzolan, Fly Ash, Class F Fly Ash, Class C Fly Ash

**Use:** Supplementary cementitious material for concrete and concrete products. Also used in soil stabilization and as a fine filler in asphalt and other products.

**Hazardous Chem Code:** Not Applicable

**Poisons Schedule:** Not Scheduled

**Dangerous Goods Class:** Not Applicable

**Physical Description/Properties:**

- Appearance: Fine powder - light to dark grey or shades of brown or buff in color.
- Boiling/Melting Point: Melting point > 1400 o C
- Vapour Pressure: Not Applicable
- Percent Volatiles: Not Applicable
- Specific Gravity: 2.05 to 2.8
- Flash Point: Not Applicable
- Flammability Limits: Not Applicable
- Auto Ignition Temp: Not Applicable
- Solubility In Water: Essentially insoluble. Some Class C fly ashes may have soluble sodium sulfate (1-8%).
- Respirable Fraction: Approximately 20% - 40% of particles are below 7 micron in diameter (i.e. in the respirable range).
- Other Properties: Not Applicable

**Ingredients:** Chemical Entity Proportions

- Silica-Crystalline, as Quartz 1-5%
- Mullite 1 - 5%

*Note: Fly ash is a byproduct of coal combustion. The material is composed primarily of complex aluminosilicate glass, mullite, hematite, magnetite spinel and quartz. The proportion of quartz (crystalline silica) in the fly ash varies depending on the quartz content of the coal. Class C fly ash may have 1-7% free CaO and calcium sulfate as well as calcium aluminosilicate glass.*

**Health Hazard Information:** Short Term Exposure

- Swallowed: Unlikely under normal conditions of use. Swallowing fly ash may cause abdominal discomfort.
- Eyes: Irritating to eyes causing watering and redness.
- Skin: Irritating to skin - can cause irritant/contact dermatitis from mechanical abrasion or alkaline composition(Class C fly ash).
- Inhaled: Irritating to the nose, throat and respiratory tract causing coughing and sneezing.
- Long Term Exposure
- Swallowed: Not Applicable
- Eyes: Not Applicable
- Skin: Not Applicable
- Inhaled: Repeated inhalation of dust containing crystalline silica can cause bronchitis, silicosis (scarring of the lung) and lung cancer. It may also increase the risk of scleroderma (a disease affecting the connective tissue of the skin, joints, blood vessels and internal organs). Studies have shown that smoking increases the risk of bronchitis, silicosis and lung cancer in persons exposed to crystalline silica. It is recommended that all storage and work areas should be smoke free zones. Inhalation of high levels of fly ash dust may result in severe inflammation of the small airways of the lung and asthma-like symptoms.

**First Aid:**

- Swallowed: Give plenty of water to drink. If any acute gastrointestinal distress, seek medical attention.
- Eyes: Flush thoroughly with flowing water for 15 minutes. If symptoms or irritation persist, seek medical attention.
- Skin: Wash thoroughly with mild soap and water. Some Class C fly ashes are quite hydraulic and alkaline; contact with wet skin may result in burns.
- Inhaled: Remove to fresh air, away from dusty area. If symptoms persist, seek medical attention.

**Exposure Limits**

- Crystalline Silica (Quartz): 0.2 mg/m<sup>3</sup> TWA (time-weighted average) as respirable dust.
- Dust (NOS - not otherwise specified): 10 mg/m<sup>3</sup> TWA as inspirable dust. However, where a state, territory or local authority prescribes a lower exposure standard, the lower standard applies.
- Recommendations: Keep exposure to dust as low as practicable. Respirable crystalline silica levels should be kept below 0.1 mg/m<sup>3</sup> TWA, and respirable dust below 5 mg/m<sup>3</sup> TWA.

**Engineering Controls:** Avoid generating dust. When handling fly ash, use local mechanical ventilation or extraction in areas where dust could escape into the work environment. For bulk deliveries, closed pumping systems are recommended. For handling of individual bags, follow instructions below if no local exhaust ventilation is available. Work areas should be cleaned regularly by wet sweeping or vacuuming. If generating dust cannot be avoided, follow personal protection recommendations below.

**Personal Protection:**

- Skin: Wear loose comfortable clothing. Wash work clothes regularly. Apply barrier cream to hands or wear cotton or light duty leather gloves or equivalent.
- Eyes: Safety spectacles with side shields or safety goggles should be worn if dust likely to be generated.
- Respiratory: None required if engineering and handling controls are adequate. If dust is generated wear a suitable particulate respirator. Use only respirators which bear the standards mark and are fitted correctly. Note that persons with facial hair will have difficulty in obtaining a satisfactory face seal.

**Ventilation:** Refer to Engineering Controls

**Flammability:** Non-flammable

**Storage and Transport:** Keep in a dry place. When handled pneumatically use standard dust filters on vehicles and silos.  
**Spills and Disposal:** Follow above safety requirements under "Precautions for Use" and wet sweep or vacuum dust with industrial vacuum cleaner. A fine water spray should be used to suppress dust when sweeping. Collect in containers and dispose of as trade waste in accordance with local authority guidelines. Keep out of stormwater and sewer drains.  
**Fire/Explosion Hazard:** Not flammable. Does not decompose on heating.

*Note: The provision of this information should not be construed as a recommendation to use this product in violation of any patent rights or in breach of any statute or regulation. Users are advised to make their own determination as to the suitability of this information in relation to their particular purposes and specific circumstances. Each user should read this MSDS and consider the information in the context of how the product will be handled and used in the workplace and in conjunction with other substances or products. Individual responsibility must be taken as to proper use and handling of product.*