



MATERIAL SAFETY DATA SHEET

Flyash

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: **Flyash**
Synonyms: Type F Flyash
Chemical Family: Non-Crystalline Alumina Silicate

Company Identification: CALPORTLAND COMPANY
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2. COMPOSITION / INFORMATION ON INGREDIENTS

CONTAINING: HAZARDOUS AND/OR REGULATED COMPONENTS

<u>Chemical Name</u>	<u>Amount</u>	<u>CAS Number</u>	<u>OSHA PEL (ppm) Total Dust</u>	<u>OSHA PEL (ppm) Respirable Dust</u>	<u>ACGIH TLV (ppm) Total Dust</u>
Flyash		68131-74-8	10 mg/m ³	5 mg/m ³	2 mg/m ³
Aluminum Oxide	20-25%	1344-28-1	15 mg/m ³	5 mg/m ³	10 mg/m ³
Silica, amorphous, fumed	55-65%	7631-86-9	10 mg/m ³	5 mg/m ³	10 mg/m ³
Iron Oxide	4-7%	1309-37-1	10 mg/m ³	5 mg/m ³	5 mg/m ³
Calcium Oxide	3-6%	1305-78-8	5 mg/m ³	5 mg/m ³	2 mg/m ³

COMPOSITION COMMENT: --

Trace amounts of various elements including arsenic, antimony, carbon, lead, nickel, manganese, chromium, boron, mercury, selenium, beryllium, cadmium and uranium may be detected in flyash as a result of their presence in the source.

Flyash is not listed by NTP, IARC, or OSHA as containing carcinogens.

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

DANGER! CORROSIVE MATERIAL – may cause burns, particularly in contact with moist tissues.
TOXIC – harmful by inhalation (contains crystalline silica, quartz).
IRRITANT – may cause eye, skin, and inhalation irritation.

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Routes of Exposure:

Eye Contact: May cause chemical burns. Causes irritation (possibly severe)

Skin Contact: May cause skin irritation. May cause burns in the presence of moisture.

Ingestion: May be harmful if swallowed. May cause stomach distress, nausea or vomiting. May cause burning of mouth, throat and esophagus.

Inhalation: Exposure to dust generated during the handling or use of the product may irritate eyes, skin, nose, throat and upper respiratory tract. Prolonged or repeated exposure to airborne free crystalline silica can result in lung disease and/or lung cancer.

Medical Conditions which May be Aggravated by Inhalation or Dermal Exposure: Pre-existing eye, skin or upper respiratory and lung diseases may be aggravated by exposure to this product.

Carcinogenic Potential: This product is not listed as a carcinogen by NTP, OSHA, or IARC. It may, however, contain trace amounts of substances listed as carcinogens by these organizations including but not limited to: crystalline silica, hexavalent chromium, lead compounds, mercury compounds, nickel compounds, and possibly other chemicals which may result in exposures which require the following warning pursuant to California Proposition 65:

WARNING: This product contains chemicals known to the State of California to cause cancer, birth defects, or other reproductive harm.

4. FIRST AID MEASURES

Eyes: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes, including under the lids. If easy to do, remove contact lenses, if worn. Get medical attention immediately.

Skin: If irritation occurs, flush skin with plenty of water. In some cases – e.g., large amounts of flyash still present on the skin – before wetting the product / skin, it may be advisable or appropriate to gently brush – AVOID the generation of dust – the bulk of the flyash from the skin. Call physician if irritation persists.

Ingestion: If swallowed, do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If conscious and capable of swallowing, rinse mouth thoroughly with water and then drink plenty of water to dilute the material in the stomach. Get medical attention immediately.

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

5. FIRE FIGHTING MEASURES

Flammability: Not flammable by WHMIS/OSHA criteria.

Flash Point – Not Determined

Lower Explosive Limit – Not Determined

Upper Explosive Limit – Not Determined

Unusual Fire & Explosion Hazards – None Known

Extinguishing Media – Water

Special fire fighting Procedures – None

Hazardous Combustion Products – None

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6. ACCIDENTAL RELEASE MEASURES

Containment: Avoid generating dust. Wear appropriate personal protective equipment.

Method of Clean-up: Contain the spill or leak. Do not touch the spilled material. This material is a water pollutant: prevent material from entering drains, sewers, ditches or waterways.

Notify environmental authorities in the event of any reportable release of this product to the environment.

7. HANDLING AND STORAGE

Handling: Avoid contact with skin and eyes. Wear the appropriate eye protection against dust. Minimize dust generation and accumulation. Avoid breathing dust. Wear the appropriate respiratory protection against dust in poorly ventilated areas and if TLV is exceeded. Use good safety and industrial hygiene practices.

Storage: Store in dust-tight, dry, labeled containers. Keep containers closed when not in use. Store in ventilated area away from sources of heat, moisture and incompatible materials.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Eye Protection: When engaged in activities where ingredients could contact the eye, wear safety glasses with side shields or goggles. In extremely dusty environments and unpredictable environments, wear unvented or indirectly vented goggles to avoid eye irritation or injury. Contact lenses should not be worn when working with ingredients.

Skin Protection: Prevention is essential to avoiding potentially severe skin injury. Avoid contact products ingredients. Where prolonged exposure to products might occur, wear impervious clothing and gloves to eliminate skin contact.

Respiratory Protection: Avoid actions that cause dust exposure to occur. Use local or general ventilation to control exposures below applicable exposure limits. NIOSH or MSHA approved particulate filter respirators should be used in the context of respiratory protection program meeting the requirements of the OSHA respiratory protection standard [29 CFR 1910.134] to control exposures when ventilation or other controls are inadequate or discomfort or irritation is experienced. Respirator and/or filter cartridge selection should be based on American National Standards Institute (ANSI) Standards Z88.2 Practices for Respiratory Protection.

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

See Section 2 for exposure guidelines.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance – Opaque fine powder

Odor – No odor

Physical State – Solid/Fine Powder

Vapor Pressure – Not Applicable

Vapor Density – Not Applicable

Boiling Point – Not Applicable

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Specific Gravity (H₂O=1) – 2.8 – 3.4
pH (in water) (ASTM D 1293-95) – >11.5
Solubility in Water – Mostly insoluble

Melting Point – Not Applicable
Evaporation Rate – Not Applicable

10. STABILITY AND REACTIVITY

Stability: Stable under normal storage conditions.

Conditions to avoid: The flyash, itself – particularly if moist or wet – or solutions that are or have been in contact with flyash may be corrosive to metals.

Hazardous Polymerization: Hazardous polymerization will not occur.

Incompatibility with other materials: Moisture (reaction may generate heat). Strong acids, Boric oxide, Boron Trifluoride, Phosphorus pentoxide, Chlorates, Chlorine Trifluoride, Chlorine, Ammonium salts and Fluorine.

Hazardous Decomposition: Reacts with water to form calcium hydroxide. Calcium hydroxide and water solution can be irritating and corrosive to skin.

11. TOXICOLOGICAL INFORMATION

Acute Effects: None Available at this time.

Note: To some extent, burns may be thermal as well as caustic due to the heat released by the reaction of ash components (e.g., available calcium oxide) with moisture (e.g., eyes, mucus membranes, sweat).

Chronic Effects / Carcinogenicity: Repeated exposure to calcium oxide has shown to cause ulceration of the nasal septum, bronchitis and pneumonia. Chronic inhalation of silica quartz may cause autoimmune disease. Chronic exposure to an ingredient in this mixture has been reported to cause renal injury and adverse effects on visual acuity.

Crystalline Silica: Exposures to respirable crystalline silica are not expected during the normal use of this product. Prolonged and repeated exposure to airborne free respirable crystalline silica can result in lung disease and/or lung cancer. IACR states that crystalline silica in the form of quartz or cristobalite from occupational sources is carcinogenic to humans (Group 1).

12. ECOLOGICAL INFORMATION

Ecotoxicity: This product may cause long-term adverse effects in the aquatic environment.

13. DISPOSAL CONSIDERATIONS

Waste Disposal: This product, if discarded as supplied, is not considered a hazardous waste under Federal Waste Regulations 40 CFR 261. If processing, use, or contamination alters the material, the waste must be tested using method described in 40 CFR 261 to determine if it meets the definition of hazardous waste. Dispose of waste material according to local, state and federal regulations. Never discharge directly into sewers or surface waters.

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14. TRANSPORTATION INFORMATION

Hazardous Materials Description/Proper Shipping Name: Ground shipment of this material is not regulated as a hazardous material / dangerous good under U.S. DOT or Canadian TDG regulations. This material IS REGULATED as a hazardous material / dangerous good, however, for the purpose of transport by aircraft.

Hazard Class: Not Applicable

Identification Number: Not Applicable

Required Label Text: Not Applicable

Hazardous Substances/Reportable Quantities: Not Applicable

IATA Classification: Corrosive Solid, Basis, Inorganic, n.o.s. (Calcium oxide); UN 3262; Class 8; PGIII

15. REGULATORY INFORMATION

FEDERAL REGULATORY STATUS:

Status under OSHA Hazard Communication Standard, 29 CFR 1910.1200: This product is considered a "hazardous chemical" (because of its health hazard) under this regulation, and should be included in the employer's hazard communication program.

Reportable Quantities Under the Clean Water Act, CERCLA, and EPCRA, 40 CFR 117, 302 and 355: Not listed.

Status Under the Toxic Substances Control Act, 40 CFR 710: All ingredients are listed.

Status under Workplace Hazardous Materials Information System (WHMIS), Canada: This product is considered to be a hazardous material under the Hazardous Products Act as defined by the Controlled Products Regulations and is therefore subject to the labeling and MSDS requirements of the Workplace Hazardous Materials Information System (WHMIS).

California Proposition 65: This product contains a chemical known to the state of California to cause cancer (Silica, crystalline, quartz).

16. OTHER INFORMATION

Label Requirements:

**DANGER! CORROSIVE MATERIAL – may cause burns, particularly in contact with moist tissues.
TOXIC – harmful by inhalation (contains crystalline silica, quartz).
IRRITANT – may cause eye, skin, and inhalation irritation.**

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Hazardous Material Information System (HMIS):	Health	1
	Flammability	0
	Physical Hazard	0
	Personal Protection	B

NFPA/HMIS Definitions: 0-Least, 1-Slight, 2-Moderate, 3-High, 4-Extreme

Protective Equipment: Safety glasses, gloves

NFPA Ratings: Health: **1** Flammability: **0** Reactivity: **1**

ADDITIONAL INFORMATION:

SELLER MAKES NO WARRANTY, EXPRESS OR IMPLIED, CONCERNING THE PRODUCT OR THE MERCHANTABILITY OR FITNESS THEREOF FOR ANY PURPOSE OR CONCERNING THE ACCURACY OF ANY INFORMATION PROVIDED BY CALPORTLAND , except that the product shall conform to contracted specifications. The information provided herein was believed by CalPortland Company to be accurate at the time of preparation or prepared from sources believed to be reliable, but it is the responsibility of the user to investigate and understand other pertinent sources of information to comply with all laws and procedures applicable to the safe handling and use of the product and to determine the suitability of the product for its intended use. Buyer's exclusive remedy shall be for damages and no claim of any kind, whether as to product delivered or for non-delivery of product, and whether based on contract, breach of warranty, negligence, or otherwise shall be greater in amount than the purchase price of the quantity of product in respect of which damages are claimed. In no event shall Seller be liable for incidental or consequential damages, whether Buyer's claim is based on contract, breach of warranty, negligence or otherwise.

END OF MSDS