



Safety Data Sheet

*** Section 1 - Product and Company Identification ***

Material Name: Flyash

Synonyms: Class F Flyash, Class C Flyash, Class N, Natural Pozzolan

Manufacturer Information

CALPORTLAND COMPANY

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Glendora, CA 91741

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*** Section 2 - Hazards Identification ***

GHS Classification:

Acute Toxicity Oral - Category 4

Acute Toxicity Inhalation - Category 4

Skin Corrosion/Irritation - Category 2

Eye Damage - Category 2A

Carcinogenicity - Category 1A

Specific Target Organ Toxicity Repeat Exposure - Category 1

Hazardous to the Aquatic Environment Chronic - Category 4

GHS LABEL ELEMENTS

Symbol(s)



Signal Word

Danger

Hazard Statements

Harmful if swallowed or inhaled.

Causes skin irritation.

Causes serious eye irritation.

May cause cancer.

Causes damage to organs (respiratory system) through prolonged or repeated exposure.

May cause long lasting harmful effects to aquatic life.

Precautionary Statements

Prevention

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Wash thoroughly after handling.
Do not eat, drink or smoke when using this product.
Do not breathe dust.
Use only outdoors or in a well-ventilated area.
Wear protective gloves/protective clothing/eye protection/face protection
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Avoid release to the environment.

Response

If swallowed: Call a poison center/doctor if you feel unwell. Rinse mouth.
If inhaled: Remove person to fresh air and keep comfortable for breathing. Call a poison center/doctor if you feel unwell.
If on skin: Wash with plenty of water. If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash it before reuse.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

Storage

Store in an appropriate container or containment structure.

Disposal

Dispose of contents/container in accordance with local/regional/national/international regulations.

* * * Section 3 - Composition / Information on Ingredients * * *

CAS #	Component	Percent
68131-74-8	Ashes, residues	
7631-86-9	Silica, amorphous	55-65
1344-28-1	Aluminum oxide	20-25
1309-37-1	Iron oxide (Fe ₂ O ₃)	4-7
1305-78-8	Calcium oxide	3-6

Component Information/Information on Non-Hazardous Components

General Product Information

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.

* * * Section 4 - First Aid Measures * * *

First Aid: 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.

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First Aid: 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.

First Aid: 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.

First Aid: Inhalation

Remove to fresh air. Seek medical help if coughing and other symptoms do not subside.

* * * Section 5 - Fire Fighting Measures * * *

General Fire Hazards

See Section 9 for Flammability Properties.
Not flammable.

Hazardous Combustion Products

None.

Extinguishing Media

Use water.

Unsuitable Extinguishing Media

None

Fire Fighting Equipment/Instructions

Firefighters should wear full protective gear.

* * * Section 6 - Accidental Release Measures * * *

Recovery and Neutralization

None.

Materials and Methods for Clean-Up

Contain the spill or leak. Avoid generating dust. Do not touch the spilled material.

Emergency Measures

Isolate area. Keep unnecessary personnel away.

Personal Precautions and Protective Equipment

Wear appropriate protective equipment and clothing during clean-up.

Environmental Precautions

This material is a water pollutant: prevent material from entering drains, sewers, ditches or waterways.

Prevention of Secondary Hazards

None.

* * * Section 7 - Handling and Storage * * *

Handling Procedures

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.

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Storage Procedures

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.

Incompatibilities

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

*** Section 8 - Exposure Controls / Personal Protection ***
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Component Exposure Limits

Silica, amorphous (7631-86-9)

- OSHA 6 mg/m³ TWA (<1% Crystalline silica)
- (Vacated):
- NIOSH: 6 mg/m³ TWA
- NW Territories: 2 mg/m³ TWA (respirable mass); 5 mg/m³ TWA (total mass); 0.05 mg/m³ TWA (regulated under Silica flour, respirable mass); 0.15 mg/m³ TWA (total mass, regulated under Silica flour)
- Nunavut: 2 mg/m³ TWA (respirable mass); 5 mg/m³ TWA (total mass); 0.05 mg/m³ TWA (regulated under Silica flour, respirable mass); 0.15 mg/m³ TWA (regulated under Silica flour, total mass)
- Yukon: 300 particle/mL TWA (as measured by Konimeter instrumentation, listed under Silica); 20 mppcf TWA (as measured by Impinger instrumentation, listed under Silica); 2 mg/m³ TWA (respirable mass, listed under Silica)

Aluminum oxide (1344-28-1)

- OSHA (Final): 15 mg/m³ TWA (total dust); 5 mg/m³ TWA (respirable fraction)
- OSHA 10 mg/m³ TWA (total dust); 5 mg/m³ TWA (respirable fraction)
- (Vacated):
- Alberta: 10 mg/m³ TWA
- New Brunswick: 10 mg/m³ TWA (particulate matter containing no Asbestos and <1% Crystalline silica)
- NW Territories: 10 mg/m³ TWA; 5 mg/m³ TWA (respirable mass); 10 mg/m³ TWA (total mass)
20 mg/m³ STEL
- Nunavut: 10 mg/m³ TWA; 5 mg/m³ TWA (respirable mass); 10 mg/m³ TWA (total mass)
20 mg/m³ STEL
- Quebec: 10 mg/m³ TWAEV (containing no Asbestos and <1% Crystalline silica, total dust, as Al)
- Saskatchewan: 10 mg/m³ TWA
20 mg/m³ STEL
- Yukon: 30 mppcf TWA (Al₂O₃); 10 mg/m³ TWA (Al₂O₃)
20 mg/m³ STEL (Al₂O₃)

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Iron oxide (Fe₂O₃) (1309-37-1)

- ACGIH: 5 mg/m³ TWA (respirable fraction)
- OSHA (Final): 10 mg/m³ TWA (fume)
- OSHA (Vacated): 10 mg/m³ TWA (fume and total dust); 5 mg/m³ TWA (regulated under Rouge, respirable fraction)
- NIOSH: 5 mg/m³ TWA (dust and fume, as Fe)
- Alberta: 5 mg/m³ TWA (respirable)
- British Columbia: 10 mg/m³ TWA (total particulate matter containing no Asbestos and <1% Crystalline silica, total particulate, listed under Rouge); 3 mg/m³ TWA (particulate matter containing no Asbestos and <1% Crystalline silica, respirable particulate, listed under Rouge); 5 mg/m³ TWA (dust and fume, as Fe)
- Manitoba: 10 mg/m³ STEL (fume, as Fe)
- New Brunswick: 5 mg/m³ TWA (respirable fraction)
- Nova Scotia: 5 mg/m³ TWA (particulate matter containing no Asbestos and <1% Crystalline silica, dust and fume, as Fe); 10 mg/m³ TWA (regulated under Rouge, particulate matter containing no Asbestos and <1% Crystalline silica)
- NW Territories: 5 mg/m³ TWA (respirable mass); 10 mg/m³ TWA (total mass)
- Nunavut: 5 mg/m³ TWA (respirable mass); 10 mg/m³ TWA (total mass)
- Ontario: 5 mg/m³ TWA (respirable)
- Quebec: 5 mg/m³ TWAEV (dust and fume, as Fe); 10 mg/m³ TWAEV (containing no Asbestos and <1% Crystalline silica, regulated under Rouge, total dust)
- Saskatchewan: 5 mg/m³ TWA (dust and fume, as Fe); 10 mg/m³ TWA (regulated under Rouge)
- Yukon: 10 mg/m³ STEL (dust and fume, as Fe); 20 mg/m³ STEL (regulated under Rouge)
- Yukon: 5 mg/m³ TWA (fume, as Fe₂O₃); 30 mppcf TWA (regulated under Rouge); 10 mg/m³ TWA (regulated under Rouge)
- Yukon: 10 mg/m³ STEL (fume); 20 mg/m³ STEL (regulated under Rouge)

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Calcium oxide (1305-78-8)

ACGIH:	2 mg/m3 TWA
OSHA (Final):	5 mg/m3 TWA
OSHA	5 mg/m3 TWA (not in effect as a result of reconsideration)
(Vacated):	
NIOSH:	2 mg/m3 TWA
Alberta:	2 mg/m3 TWA
British Columbia:	2 mg/m3 TWA
Manitoba:	2 mg/m3 TWA
New Brunswick:	2 mg/m3 TWA
NW Territories:	2 mg/m3 TWA 4 mg/m3 STEL
Nova Scotia:	2 mg/m3 TWA
Nunavut:	2 mg/m3 TWA 4 mg/m3 STEL
Ontario:	2 mg/m3 TWA
Quebec:	2 mg/m3 TWAEV
Saskatchewan:	2 mg/m3 TWA 4 mg/m3 STEL
Yukon:	2 mg/m3 TWA 4 mg/m3 STEL

Engineering Measures

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

Personal Protective Equipment: Respiratory

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.

Personal Protective Equipment: Hands

Where prolonged exposure to products might occur, wear impervious gloves to eliminate skin contact.

Personal Protective Equipment: Eyes

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.

Personal Protective Equipment: Skin and Body

Normal work clothing (long sleeved shirts and long pants) is recommended.

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*** Section 9 - Physical & Chemical Properties ***

Appearance:	Opaque fine powder	Odor:	None
Physical State:	Solid/Fine Powder	pH:	>11.5 (in water)
Vapor Pressure:	Not Applicable	Vapor Density:	Not Applicable
Boiling Point:	Not Applicable	Melting Point:	Not Applicable
Solubility (H2O):	Mostly insoluble	Specific Gravity:	2.8-3.4
Evaporation Rate:	Not Applicable	VOC:	Not Determined
Octanol/H2O Coeff.:	Not Determined	Flash Point:	Not Determined
Flash Point Method:	Not Determined	Upper Flammability Limit (UFL):	Not Determined
Lower Flammability Limit (LFL):	Not Determined	Burning Rate:	Not Determined
Auto Ignition:	Not Determined		

*** Section 10 - Chemical Stability & Reactivity Information ***

Chemical Stability

This is a stable material.

Hazardous Reaction Potential

Will not occur.

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.

Incompatible Products

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

Hazardous Decomposition Products

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

*** Section 11 - Toxicological Information ***

Acute Toxicity

Component Analysis - LD50/LC50

Silica, amorphous (7631-86-9)

Oral LD50 Rat >5000 mg/kg; Inhalation LC50 Rat >2.2 mg/L 1 h; Dermal LD50 Rabbit >2000 mg/kg

Aluminum oxide (1344-28-1)

Oral LD50 Rat >5000 mg/kg

Iron oxide (Fe2O3) (1309-37-1)

Oral LD50 Rat >10000 mg/kg

Calcium oxide (1305-78-8)

Oral LD50 Rat 500 mg/kg

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Ashes, residues (68131-74-8)

Oral LD50 Rat >2000 mg/kg

Potential Health Effects: Skin Corrosion Property/Stimulativeness

May cause skin irritation. May cause burns in the presence of moisture.

Potential Health Effects: Eye Critical Damage/ Stimulativeness

May cause chemical burns. Causes irritation (possibly severe).

Potential Health Effects: Ingestion

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

Potential Health Effects: Inhalation

Exposure to dust generated during the handling or use of the product may irritate eyes, skin, nose, throat and upper respiratory tract.

Respiratory Organs Sensitization/Skin Sensitization

This product is not reported to have any sensitization effects.

Generative Cell Mutagenicity

This product is not reported to have any mutagenic effects.

Carcinogenicity

A: General Product Information

May cause cancer. Prolonged or repeated exposure to airborne free crystalline silica can result in lung disease and/or lung cancer.

B: Component Carcinogenicity

Silica, amorphous (7631-86-9)

IARC: Monograph 68 [1997]; Supplement 7 [1987] (Group 3 (not classifiable))

Iron oxide (Fe₂O₃) (1309-37-1)

ACGIH: A4 - Not Classifiable as a Human Carcinogen

IARC: Supplement 7 [1987]; Monograph 1 [1972] (Group 3 (not classifiable))

Reproductive Toxicity

This product is not reported to have any reproductive toxicity effects.

Specified Target Organ General Toxicity: Single Exposure

This product is not reported to have any single exposure specific target organ toxicity effects.

Specified Target Organ General Toxicity: Repeated Exposure

Causes damage to organs (respiratory system) through prolonged or repeated exposure.

Aspiration Respiratory Organs Hazard

This product is not reported to have any aspiration hazard effects.

Other Toxicological Information

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.

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*** Section 12 - Ecological Information ***

Ecotoxicity

A: General Product Information

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

B: Component Analysis - Ecotoxicity - Aquatic Toxicity

Silica, amorphous (7631-86-9)

Test & Species

96 Hr LC50 Brachydanio rerio	5000 mg/L [static]
72 Hr EC50 Pseudokirchneriella subcapitata	440 mg/L
48 Hr EC50 Ceriodaphnia dubia	7600 mg/L

Conditions

Calcium oxide (1305-78-8)

Test & Species

96 Hr LC50 Cyprinus carpio	1070 mg/L [static]
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Conditions

Ashes, residues (68131-74-8)

Test & Species

24 Hr EC50 Daphnia magna	140 - 2000 mg/L
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Conditions

Persistence/Degradability

No information available for the product.

Bioaccumulation

No information available for the product.

Mobility in Soil

No information available for the product.

*** Section 13 - Disposal Considerations ***

Waste Disposal Instructions

See Section 7 for Handling Procedures. See Section 8 for Personal Protective Equipment recommendations.

Disposal of Contaminated Containers or Packaging

Dispose of contents/container in accordance with local/regional/national/international regulations.

*** Section 14 - Transportation Information ***

DOT/TDG Information

Shipping Name: Not Regulated

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*** Section 15 - Regulatory Information ***

Regulatory Information

US Federal Regulations

Component Analysis

This material contains one or more of the following chemicals required to be identified under SARA Section 302 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65) and/or CERCLA (40 CFR 302.4).

Aluminum oxide (1344-28-1)

SARA 313: 1.0 % de minimis concentration (fibrous forms)

State Regulations

Component Analysis - State

The following components appear on one or more of the following state hazardous substances lists:

Component	CAS	CA	MA	MN	NJ	PA	RI
Silica, amorphous	7631-86-9	Yes	Yes	Yes	Yes	Yes	No
Aluminum oxide	1344-28-1	Yes	Yes	Yes	Yes	Yes	No
Iron oxide (Fe ₂ O ₃)	1309-37-1	Yes	Yes	Yes	Yes	Yes	No
Calcium oxide	1305-78-8	Yes	Yes	Yes	Yes	Yes	No

The following statement(s) are provided under the California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65):

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

Component Analysis - WHMIS IDL

The following components are identified under the Canadian Hazardous Products Act Ingredient Disclosure List:

Component	CAS #	Minimum Concentration
Silica, amorphous	7631-86-9	1 %
Aluminum oxide	1344-28-1	1 %
Iron oxide (Fe ₂ O ₃)	1309-37-1	1 %
Calcium oxide	1305-78-8	1 %

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).

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Additional Regulatory Information

Component Analysis - Inventory

Component	CAS #	TSCA	CAN	EEC
Silica, amorphous	7631-86-9	Yes	DSL	EINECS
Aluminum oxide	1344-28-1	Yes	DSL	EINECS
Iron oxide (Fe2O3)	1309-37-1	Yes	DSL	EINECS
Calcium oxide	1305-78-8	Yes	DSL	EINECS
Ashes, residues	68131-74-8	Yes	DSL	EINECS

*** Section 16 - Other Information ***

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

Key/Legend

EPA = Environmental Protection Agency; TSCA = Toxic Substance Control Act; ACGIH = American Conference of Governmental Industrial Hygienists; IARC = International Agency for Research on Cancer; NIOSH = National Institute for Occupational Safety and Health; NTP = National Toxicology Program; OSHA = Occupational Safety and Health Administration., NJTSR = New Jersey Trade Secret Registry.

Literature References

None

Other Information

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