



**SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION**

<b>PRODUCT NAME:</b> FLYASH (Untreated/Uncompressed)	<b>SUPPLIER/MANUFACTURER:</b> Alberta Power (2000) Ltd.
<b>Synonyms:</b> Flyash, bottom ash, flue ash <b>Product Description:</b> Flyash is a byproduct of the combustion of coal. <b>Product Use:</b> A byproduct; not generated for specific use. <b>Preparation Date:</b> June 12, 2016	Alberta Power (2000) Ltd. Box 498, Forestburg, Alberta T0B 1N0  INFO. TELEPHONE #: 780-582-8152 EMER. TELEPHONE #: 780-582-8152

**SECTION 2 - HAZARDS IDENTIFICATION**

**DANGER**

**Acute**

May cause nose, throat and respiratory irritation by mechanical abrasion.

May cause skin irritation by mechanical abrasion.

May cause eye irritation by mechanical abrasion.

May cause gastrointestinal irritation and blockage by ingesting of large amounts.

**Chronic**

May cause cancer

May cause damage to organs (lung) through prolonged or repeated exposure.

**Prevention Statements**

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood.

Avoid breathing dust.

Wear appropriate protective equipment to prevent skin exposure. In the case of inadequate ventilation, or where expected dust levels are likely to exceed exposure criteria, wear an appropriate NIOSH approved respirator.

Wash any exposed body parts.

Heavily contaminated clothing should be removed and washed before reuse.

**Response Statements**

If inhaled and breathing becomes difficult, remove person to fresh air and keep comfortable for breathing.

If experiencing respiratory symptoms following removal to fresh air, call a doctor or other qualified medical personnel.

If skin irritation or rash occurs, get medical advice/attention.

Wash contaminated clothing before reuse.

If on skin, wash with plenty of water.

If in eyes, rinse cautiously for several minutes. Remove contact lenses, if present and easy to do so.

**SECTION 3 - COMPOSITION AND INFORMATION ON INGREDIENTS**

Name	CAS#	%
Silicon Dioxide	99439-28-8	48-62
Aluminum Oxide	90669-62-8	17-22
Sodium Oxide	1315-59-3	3-16
Calcium Oxide	1305-78-8	4-7
Iron Oxide	1317-61-9	2-5
Sulfur Trioxide	7446-11-9	<1-6

Titanium Dioxide	13463-67-7	<1
Barium Oxide	1304-28-5	<1
Strontium Oxide	1314-11-0	<1
Magnesium Oxide	1309-48-4	<1
Potassium Oxide	12136-45-7	<1
Phosphate Oxide	1314-56-3	<1
Carbon	1333-86-4	<1 – 5

Any concentration shown as a range is due to natural variation in product. There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, that would be classified as hazardous to health or environment and would require reporting in this section. These materials are mined from the earth. Trace amounts of naturally occurring elements might be detected during chemical analysis of these materials.

Occupational exposure limits are listed in Section 8.

#### SECTION 4 - FIRST AID MEASURES

**Inhalation:** Move worker at once to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen and get medical attention.

**Skin Contact:** Wash skin with soap or mild detergent and water. If irritation persists, get medical attention.

**Eye Contact:** Immediately flush eyes with large amounts of water for at least 15 minutes, holding eyelids apart to ensure flushing of each entire eye. Remove contact lenses if present and easy to do so. If irritation persists, get medical attention immediately.

**Ingestion:** If worker is conscious, give large amounts of water and induce vomiting. Never attempt to make an unconscious person drink or vomit. Get immediate medical attention.

**Symptoms:** Inhalation of dust may cause discomfort in the chest, shortness of breath, and coughing. Prolonged inhalation may cause chronic health effects. See Section 11 for additional information on chronic effects.

**Notes to Physician:** Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.

**General:** Pre-existing medical conditions that may be aggravated by exposure include disorders of the eye, skin and lung (including asthma and other breathing disorders). If addicted to tobacco, smoking will impair the ability of the lungs to clear themselves of dust.

#### SECTION 5 - FIRE FIGHTING MEASURES

**Flash Point:** Not Flammable.

**Auto-ignition Temperature:** Not flammable.

**Flammable Limits:** Not flammable.

**Extinguishing Media:** None required.

**Hazardous Combustion Products:** None known

**Fire and Explosion Hazards:** None known

**Special Fire Fighting Procedures:** Use protective equipment appropriate for surrounding materials. No specific precautions. Contact with powerful oxidizing agents may cause fire and /or explosion. No unusual fire or explosion hazards.

#### SECTION 6 - ACCIDENTAL RELEASE MEASURES

##### Spill/Leak Procedures:

Spilled material, where dust is generated, may overexpose cleanup personnel to respirable crystalline silica-containing dust. Do not dry sweep or use compressed air for clean-up. Wetting of spilled material and/or use of respiratory protective equipment may be necessary.

Avoid discharge of particulate matter into drains or water courses.

## SECTION 7 - HANDLING AND STORAGE

### Handling Procedures:

Do not handle until all safety precautions have been read and understood. Keep formation of airborne dusts to a minimum. Provide appropriate exhaust ventilation at places where dust is formed. Do not breathe dust. Avoid prolonged exposure. Provide adequate ventilation. Wear appropriate personal protective equipment.

### General Occupational Hygiene:

Observe good industrial hygiene practices. Promptly remove dusty clothing and launder before reuse.

### Storage Requirements:

Avoid dust formation and accumulation.

## SECTION 8 - EXPOSURE CONTROLS/PERSONAL PROTECTIVE EQUIPMENT

### Exposure Limits/Guidelines

Ingredient Name	Agency	Exposure Limit (TWA)	Comments
Silicon Dioxide	ACGIH*	0.025 mg/m <sup>3</sup>	As respirable quartz
Aluminum Oxide	ACGIH	0.025 mg/m <sup>3</sup>	As aluminum
Sodium Oxide	ACGIH	10 mg/m <sup>3</sup>	As total particulate
Calcium Oxide	ACGIH	10 mg/m <sup>3</sup>	As total particulate
Iron Oxide	ACGIH	5 mg/m <sup>3</sup>	Respirable
Sulfur Trioxide	ACGIH	STEL 0.25 ppm	As sulfur dioxide
Titanium Dioxide	ACGIH	10 mg/m <sup>3</sup>	As total particulate
Barium Oxide	ACGIH	10 mg/m <sup>3</sup>	As total particulate
Strontium Oxide	ACGIH	10 mg/m <sup>3</sup>	As total particulate
Magnesium Oxide	ACGIH	10 mg/m <sup>3</sup>	As total particulate
Potassium Oxide	ACGIH	10 mg/m <sup>3</sup>	As total particulate
Phosphate Oxide	ACGIH	10 mg/m <sup>3</sup>	As total particulate
Carbon	ACGIH	3 mg/m <sup>3</sup>	As carbon black

Note: ACGIH: American Conference of Governmental Industrial Hygienists

### Engineering Controls:

Enclose processes where possible to prevent dust dispersion into the workplace. Provide general or local ventilation systems to maintain airborne concentrations of crystalline silica, respirable particulate and inhalable particulate below applicable provincial or federal standards. Local exhaust ventilation is preferred because it prevents contaminant dispersion into the work area by controlling it at its source.

**Administrative Controls:** Regular monitoring should be undertaken to identify where people may be exposed to crystalline silica, respirable particulate and inhalable particulate so that further measures can be implemented to reduce exposure.

**Respiratory Protection:** Suitable respiratory protection should be used to protect against inhalation of dust, and to ensure exposure is below the Workplace Exposure Levels given at the start of this section.

**Protective Clothing/Equipment:** Wear protective gloves, boots, coveralls, aprons and gauntlets to prevent prolonged or repeated skin contact. Use suitable eye protection in dusty environments. When handling or performing work expected to generate levels near or above listed exposure limits, wear an appropriate NIOSH approved respirator that is properly fitted and in good condition.

**Work Practices:** Keep areas free of accumulations of sand and gravel. Avoid use of compressed air or other practices that disperse dust.

## SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

<b>Typical State:</b>	Solid, particles of granular mixture
<b>Boiling Point:</b>	N/A
<b>Specific Gravity:</b>	2-2.9
<b>Vapor Pressure:</b>	0
<b>Melting Point:</b>	N/A
<b>Vapor Density:</b>	N/A
<b>Solubility in H<sub>2</sub>O:(% By Wt.)</b>	Slight (<5%)
<b>Evaporation Rate:(Butyl Acetate=1)</b>	0
<b>% Volatiles By Vol.:</b>	0%
<b>pH:</b>	10-12
<b>LEL:</b>	N/A
<b>Relative Density:</b>	Above 2.0
<b>Autoignition Temperature:</b>	N/A
<b>Decomposition Temperature:</b>	N/A
<b>Viscosity:</b>	N/A

**Appearance and Odor:** Light to dark colored granular solid. Color and odor are dependent on source product used to generate flyash.

## SECTION 10 - STABILITY AND REACTIVITY

**Chemical Stability:** Stable. Keep dry until used. Avoid contact with incompatible materials.

**Incompatibility:** Avoid contact with acids, ammonium salts and aluminum metal. Flyash dissolves in hydrofluoric acid, producing corrosive silicon tetrafluoride gas. Reacts with water to form silicates and calcium hydroxide. Silicates react with powerful oxidizers such as fluorine, boron trifluoride, chlorine trifluoride, manganese trifluoride and oxygen difluoride.

**Hazardous Decomposition Products:** None.

**Hazardous Polymerization:** None

## SECTION 11 - TOXICOLOGY INFORMATION

**Likely Route(s) of Exposure:** Inhalation

**LD50/LC50:** No data available. Not expected to be acutely fatally toxic.

**Pathogenicity:** Silicosis, a lung disease. Silicosis can be progressive, and symptoms can appear at any time, even years after exposure has ceased. Symptoms of silicosis may include, but are not limited to, the following: shortness of breath; difficulty breathing with or without exertion; coughing; diminished work capacity; diminished chest expansion; reduction of lung volume; right heart enlargement and/or failure. Smoking may increase the risk of developing lung disorders, including emphysema and lung cancer. Persons with silicosis have an increased risk of pulmonary tuberculosis infection.

There are reports in the literature suggesting that excessive crystalline silica exposure may be associated with adverse health effects involving the kidney, scleroderma (thickening of the skin caused by swelling and thickening of fibrous tissue) and other autoimmune disorders. However, this evidence has been obtained primarily from case reports involving individuals working in high exposure situations or those who have already developed silicosis; and therefore, this evidence does not conclusively prove a causal relationship between silica or silicosis and these adverse health effects.

**Carcinogenicity:** IARC and NTP: Category 1, Carcinogenic to humans; sufficient evidence of carcinogenicity. These classifications are based on sufficient evidence of carcinogenicity in certain experimental animals and on selected epidemiological studies of workers exposed to crystalline silica.

ACGIH: A2, suspected human carcinogen.

**Epidemiology:** No data available.

**Teratogenicity:** No data available. Not expected to be a reproductive hazard.

**Reproductive Effects:** No data available. Not expected to be a reproductive hazard.

**Neurotoxicity:** No data available.

**Mutagenicity:** No data available.

**SECTION 12 - ECOLOGICAL INFORMATION**

**Eco-toxicity:** NAV  
**Bio-persistence and Degradability:** N/A  
**Bio-accumulation:** Not expected to bio-accumulate.  
**Soil Mobility:** NAV  
**Aquatic toxicity:** NAV but do not release into aquatic environments due to potential caustic pH.  
**Other Adverse Affects:** N/A

**SECTION 13 - DISPOSAL CONSIDERATIONS**

**Waste Disposal:** Pick up and reuse clean materials. Do not allow particulate matter to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with fine particulates. Dispose of waste materials only in accordance with applicable federal, state, and local laws and regulations.

**SECTION 14 - TRANSPORT INFORMATION**

<b>US DOT:</b> N/A <b>CANADA TDG:</b> N/A <b>UN Shipping Name:</b> N/A <b>UN/NA ID Number:</b> N/A <b>Special Precautions:</b> N/A	<b>IATA, ICAO, IMO, SARA III:</b> N/A <b>Hazard Class:</b> N/A <b>Packing Group:</b> N/A <b>Environmental Hazards:</b> N/A
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**SECTION 15 - REGULATORY INFORMATION**

**WHMIS:** Flyash is exempt from WHMIS as per the Hazardous Products Act; however the dust may be considered a controlled product based on carcinogenicity (IARC Group 1).

**SECTION 16 - OTHER INFORMATION**

The information contained in this safety data sheet has been compiled from sources believed to be accurate and reliable and otherwise technically correct. It is the user's responsibility to determine if this information is suitable for their applications and to follow safety precautions as may be necessary in all circumstances. This safety data sheet does not create a warranty of any kind concerning the accuracy or completeness of the information contained herein and the issuer, hereof, will not be liable for claims relating to any party's use or reliance on this information however based. The user has the responsibility to ensure that this safety data sheet is the most up-to-date issue. It is the responsibility of the user to comply with any local, state and federal regulations concerning use of this product. It is the responsibility of the buyer to research and understand safe methods of storing, handling and disposing of this product.

**Date Prepared:** June 12, 2016  
**Date Revised:** N/A

<b>Common Abbreviations:</b> ACGIH.....American Conference of Governmental Industrial Hygienists CAS No.....Chemical Abstracts System Number IARC.....International Agency for Research on Cancer N/A.....Not Applicable NAV.....Not Available NIOSH.....National Institute for Occupational Safety and Health Mg/m <sup>3</sup> .....milligram per meter cubed	NTP.....National Toxicology Program OSHA.....Occupational Safety and Health Administration PEL.....Permissible Exposure Limit RCRA.....Resource Conservation and Recovery Act RTECS .....NIOSH Registry of Toxic Effects of Compounds and Substances STEL.....Short Term Exposure Limit (15 min.) TLV.....Threshold Limit Value TWA.....Time Weighted Average (8 hours)
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