

1. Identification

Product Identifier

Product Name	Coal Fly Ash
Synonyms	Fly Ash
Relevant identified uses of the substance or mixture and uses advised against	
Recommended Use	Ingredient of portland cement
Details of the supplier of the Safety Data Sheet	
<u>Manufacturer</u>	Arizona Public Service 4801 Frontage Road Joseph City, AZ 86032 United States csafety@aps.com
Telephone (General)	602-250-1000
Emergency telephone number	928-288-1661

2: Hazard Identification

United States (US)

According to: OSHA 29 CFR 1910.1200 HCS

Classification of the substance or mixture

OSHA HCS 2012

Skin Corrosion 1
Serious Eye Damage 1
Carcinogenicity 1A
Specific Target Organ Toxicity Repeated Exposure 1

Label Elements

OSHA HCS 2012

DANGER



Hazard Statements

Causes severe skin burns and eye damage.
Causes serious eye damage.
May cause cancer.
Causes damage to organs through prolonged or repeated exposure.

Precautionary Statements

Prevention

Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Do not breathe dust.
Wash thoroughly after handling.
Do not eat, drink or smoke when using this product.
Wear protective gloves/protective clothing/eye protection/face protection

Response

IF INHALED:
Remove victim to fresh air and keep at rest in a position comfortable for breathing.

Immediately call a POISON CENTER or doctor/physician.
 IF ON SKIN:
 Take off immediately all contaminated clothing.
 Rinse skin with water/shower.
 Wash contaminated clothing before reuse.
 Specific treatment, see supplemental first aid information.
 IF IN EYES:
 Rinse cautiously with water for 15 minutes.
 Remove contact lenses, if present and easy to do.
 Continue rinsing.
 IF SWALLOWED:
 Rinse mouth.
 Do NOT induce vomiting.
 IF EXPOSED OR CONCERNED:
 Get medical advice/attention if you feel unwell.
 Store locked up.
 Dispose of content and/or container in accordance with local, regional, national and/or international regulations.

Storage/Disposal

Other Hazards
OSHA HCS 2012

Under United States Regulations (29 CFR 1910.1200 – Hazard Communication Standard), this product is considered hazardous.

3. Composition / Information on Ingredients

Substances

The material does not meet the criteria of a substance.

Mixtures

Chemical Name	CAS Number	%	LD50/LC50	Classifications	Comments
Quartz	14808-60-7	58.9 – 60.5	NDA	OSHA HCS 2012: Carc. 1A; STOT RE 1 (lungs, inhl)	NDA
Aluminum oxide	1344-28-1	25.1 – 25.6	Inhalation-RAT LC50 0.2mg/L 5 Hour(s) 28 Week(s)	OSHA HCS 2012: STOT RE 2 (lungs, inhl)	NDA
Iron Oxide	1309-37-1	5.2 – 5.8	NDA	OSHA HCS 2012: Not classified	NDA
Calcium Oxide	1305-78-8	3.5 – 3.2	NDA	OSHA HCS 2012: Skin Corr. 1C, Eye Dam. 1	NDA
Sodium Oxide	1313-59-3	1.5 – 1.8	NDA	OSHA HCS 2012: Skin Corr. 1B; Eye Dam. 1	NDA
Magnesium Oxide	1309-48-4	1.2 – 1.6	NDA	OSHA HCS 2012: Not classified	NDA
Potassium Oxide	12136-45-7	1.2 – 1.5	NDA	OSHA HCS 2012: Not classified	NDA

4. First Aid measures

General Information	If practicing good industrial hygiene practices, no special health hazards are anticipated.
Inhalation	Remove person to fresh air. Consult a physician if there is discomfort or difficulty breathing.
Eye Contact	Do not rub eyes, flush eyes with water for at least 15 minutes. Consult a physician if there is persistent irritation.
Skin Contact	Wash off with soap and water. Consult a physician if there is persistent irritation.
Ingestion	Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.
Most important symptoms and effects, both acute and delayed	Dusts may irritate the respiratory tract, eyes, and skin. Frequent inhalation of dust over a long period of time increases the risk of developing lung disease. Section 11 provides for more detailed information on health effects from individual components of the aluminosilicate structure.
Indication of any immediate medical attention and special treatment needed	None known.
Protection of first aid personnel	No action should be taken involving any personal risk or without suitable training in first aid and CPR.
Notes to physician	No specific treatment. Treat symptomatically.

5. Fire-fighting measures

Suitable extinguishing media	Product is noncombustible. Use extinguishing media for surrounding materials.
Extinguishing media which should not be used	None known. Consider surrounding materials.
Special exposure hazards	None known. No anticipated thermal decomposition products
Special protective equipment for firefighters.	None known. Consider surrounding materials.

6. Accidental release measures

Personal precautions	No action should be taken involving any personal risk or without suitable training. Don appropriate personal protective equipment (if ventilation is inadequate utilize appropriate respiratory protection). Avoid airborne dust generation.
Environmental precautions	Prevent further leaking or spillage if safe to do so. Avoid conditions which result in generating airborne dust.
Methods for cleaning up	Water spray or vacuum cleaner are preferable to dry sweeping for removing spilled material. Minimize generation of airborne dust during clean up activities. If necessary, wear personal protective equipment in accordance with regulatory standards.

7. Handling and storage

Advice on safe handling	Handling Avoid airborne dust generation. Use ventilation controls if provided. In case of insufficient ventilation,
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Technical measures

wear suitable respiratory protective equipment. Minimize airborne dust generation. Provide appropriate exhaust ventilation at places where airborne dust is generated. Keep containers closed.

Technical measures and storage conditions

Storage

Containers need to be protected from physical damage that will lead to spillage and airborne dust generation. Use packaging that minimizes the generation of airborne dust when emptying, filling, transporting, or storing packaged FLY ASH.

Packaging materials

Specific uses

FLY ASH is intended to be incorporated into solid materials, or blended with other materials in preparation for incorporation into solid materials.

8. Exposure controls/ personal protection

Occupational Exposure Limits:

Ingredient	ACGIH TLV-TWA	ACGIH TLV-STEL	OSHA PEL-TWA	Comments
Inert or nuisance dust (total)	Not established	Not established	15 mg/m3	OSHA Table Z-3
Inert or nuisance dust (respirable)	Not established	Not established	5 mg/m3	OSHA Table Z-3
Quartz (total)	Not established	Not established	<u>30 mg/m3</u> %SiO2+2	OSHA Table Z-3
Quartz (respirable)	0.025 mg/m3	Not established	<u>10 mg/m3</u> %SiO2+2	OSHA Table Z-3
Aluminum oxide	Not established	Not established	Not established	
Calcium oxide	2 mg/m3	Not established	5 mg/m3	
Iron oxide (total)	Not established	Not established	10 mg/m3	
Iron oxide (respirable)	5 mg/m3	Not established	Not established	
Magnesium oxide	10 mg/m3	Not established	15 mg/m3	
Potassium oxide	Not established	2 mg/m3 (as KOH)	Not established	
Sodium oxide	Not established	2 mg/m3 (as NaOH)	2 mg/m3 (as NaOH)	

DNEL/DMEL Values

Not available

PNEC Values

Not available

Exposure Controls

General

Practice good personal hygiene procedures. General room ventilation is normally adequate.

Respiratory Protection

If there is inadequate ventilation or risk of inhalation of particulates, use suitable respiratory protective equipment in accordance with regulations or professional recommendations.

Eye Protection

Safety glasses with sideshields, goggles, or face shield with safety glasses or goggles.

Skin Protection

Wear nitrile gloves and work clothing to minimize skin

contact.

Environmental Controls

Contain spills, prevent migration and observe appropriate regulations for disposal, water and air emissions.

9. Physical and Chemical Properties

	<u>Material Description</u>
Physical Form	Solid
Appearance/Description	Gray powder with no odor
Color	Gray
Odor	Odorless
Odor Threshold	No data available
	<u>General Properties</u>
Boiling Point	No data available
Melting Point	No data available
Decomposition Temperature	No data available
pH	No data available
Specific Gravity/Relative Density	No data available
Water Solubility	Slightly Soluble: 0.1 – 1%
Viscosity	No data available
	<u>Volatility</u>
Vapor Pressure	No data available
Vapor Density	No data available
Evaporation Rate	No data available
	<u>Flammability</u>
Flash Point	No data available
UEL	No data available
LEL	No data available
Autoignition	No data available
Flammability (solid, gas)	No data available
	<u>Environmental</u>
Octanol/Water Partition coefficient	No data available

10. Stability and reactivity

Conditions to avoid	None known
Materials to avoid	Strong acids, strong oxidizers
Hazardous decomposition products	None known

11. Toxicological information

General information FLY ASH as a mixture has not been evaluated for toxicological effects. Toxicological information for major components is included below.

	Symptoms	Target Organs
Aluminum oxide	Irritation eyes, skin, respiratory system	Eyes, skin, respiratory system
Calcium oxide	Irritation eyes, skin, upper respiratory tract; ulcer, perforation nasal septum; pneumonitis; dermatitis	Eyes, skin, respiratory system
Iron oxide	Benign pneumoconiosis with X-ray shadows indistinguishable for fibrotic pneumoconiosis (siderosis)	Respiratory system
Magnesium oxide	Irritation eyes, nose; metal fume	Eyes, respiratory system

fever: cough, chest pain, flu-like fever

Potassium oxide Irritation eyes, skin, respiratory system; cough, sneezing; eye, skin burns; vomiting, diarrhea (as KOH) Eyes, skin, respiratory system (as KOH)

Quartz (As free respirable crystalline silica) Cough, dyspnea (breathing difficulty), wheezing; decreased pulmonary function, progressive respiratory symptoms (silicosis); irritation eyes; [potential occupational carcinogen] Eyes, respiratory system

Sodium oxide Irritation eyes, skin, mucous membrane; pneumonitis; eye, skin burns; temporary loss of hair (as NaOH) Eyes, skin, respiratory system (as NaOH)

Skin contact FLY ASH as a mixture may irritate skin.

Inhalation FLY ASH as a mixture may irritate respiratory system. Prolonged exposure to crystalline silica may cause cancer.

Eye contact FLY ASH as a mixture may irritate eyes.

CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)
 FLY ASH as a mixture has not been tested for carcinogenic, mutagenicity, or toxicity for reproduction. One component of the alumino-silicate matrix are on the IARC list; quartz (14808-60-7) as Class 1, Carcinogenic to humans (2012). Neither FLY ASH as a mixture nor components of the alumino-silicate matrix are listed for mutagenicity or toxicity for reproduction.

12. Ecological information

Ecotoxicity No data available
Mobility No data available

13. Disposal Considerations

Waste Disposal Cover material to prevent airborne dust and dispose of in a landfill according to federal, state and local regulations for non-hazardous waste.

14. Transport

	UN number	UN proper shipping name	Transport hazard classes	Packing Group	Environmental Hazards
DOT	NDA	Not Regulated	NDA	NDA	NDA

Special precautions for user None specified
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code No data available

15. Regulatory information

US Regulations

SARA 302 EHS No components of FLY ASH are on the EHS list. (40 CFR 302).
SARA 311/312 Classification Chronic
SARA 313 Supplier Notification None

TSCA	All components of FLY ASH are on the TSCA list.
California Proposition 65	Titanium dioxide (Airborne, Unbound Particles of Respirable Size)
Massachusetts TURA	No constituents are present above de minimis thresholds.
New Jersey Right to Know	Aluminum Oxide Calcium Oxide (SHHSL – Special Health Hazard Substances List) Iron Oxide Magnesium Oxide Titanium Oxide
Pennsylvania Right to Know	Aluminum Oxide (E – Environmental Hazard) Calcium Oxide Iron Oxide Magnesium Oxide Titanium Oxide
	<u>International Regulations</u>
Canada DSL	All components of the alumino-silicate matrix are listed on the Domestic Substances List.
EINECS	All components of the alumino-silicate matrix are listed on the European Inventory of Existing Commercial Chemical Substances list.
REACH	No discrete chemical constituents are on the European Chemicals Agency Candidate List of Substances of Very High Concern for Authorization.

16. Other information

EU Classes and Risk Phrases	Xn Harmful R48/20 Harmful: Danger of serious damage to health by prolonged exposure by inhalation. S22 Do not breath dust S38 In case of insufficient ventilation, wear suitable respiratory equipment
Training instructions	There are no special training instructions for the use of FLY ASH. Follow company training instructions, particularly for housekeeping and personal protective equipment use.
Data sources	ACGIH® - American Conference of Governmental Industrial Hygienists TLVs® and BEIs® US OSHA, 29 CFR 1910, Tables Z-1, Z-2, Z-3