

1. Product and Company Identification

Product Name Fly Ash			
Product Type	Class F Fly Ash	Revised	2/28/2018
Product Use	Industrial	Print Date	2/28/2018
Manufacturer	The SEFA Group, Inc. 217 Cedar Road Lexington, SC 29017	Telephone	(803) 520-9000
		Emergency Telephone	(803) 520-9000

2. Hazards Identification


Classification of the mixture:

This mixture as produced has not been assessed and/or tested for its physical, health, and environmental hazards, but hazards are inferred through similarity to other alumino-silicates and mineralogical materials of similar composition.

Hazard Summary

Physical hazards	Not classified for physical hazards.
Health hazards	Skin irritation, Category 3 Eye irritation, Category 2B Specific Target Organ Toxicant, Repeated Exposure, Category 2
Environmental hazards	Not classified for environmental hazards.
Specific hazards	Not classified for specific hazards.
Main symptoms	Upper respiratory tract irritation. Coughing. Irritation of eyes and mucous membranes. Skin irritation.

Label Elements

Signal Word	Danger	
Symbol	Danger	
Hazard statements	Causes Mild Skin Irritation Causes Eye Irritation May Cause Respiratory Irritation May Cause Damage to Lungs Through Prolonged Or Repeated Inhalation Exposure	

Precautionary Statements

Prevention	Keep container tightly closed. Avoid breathing dust. Wash thoroughly after handling. Use only outdoors or in a well ventilated area.
Response	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. IF INHALED Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER if you feel unwell. If skin irritation occurs: Get medical advice/attention.
Storage	Store in a well-ventilated place. Keep container tightly closed. Store locked up.

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2. Hazards Identification

Disposal Dispose of contents/container to reduce the opportunity for airborne exposure in accordance with applicable regulations.

3. Composition / information on ingredients

<u>Ingredient name</u>	<u>Formula/CAS #</u>	<u>ECS #</u>	<u>%</u>	<u>UN GHS (Rev 4) Classification</u>
Alumino-silicate glass				None
Silica, Amorphous	SiO ₂ 7631-86-9	231-545-4	41.0 - 58.0 %	None
Silica, Crystalline	SiO ₂ + 1 14808-60-7	--	May be present as a fraction of amorphous silica	Specific target organ toxicity – Repeated exposure, Hazard Category 2
Aluminum Oxide	Al ₂ O ₃ / 1344-28-1	215-691-6	18.1 - 28.6 %	
Iron Oxide	Fe ₂ O ₃ / 1309-37-1	215-168-2	3.9 - 26.0 %	
Calcium Oxide	CaO / 1305-78-8	215-138-9	0.8 - 6.0 %	
Magnesium Oxide	MgO / 1309-48-4	--	0.7 - 1.4 %	
Titanium Oxide	TiO ₂ / 13463-67-7	236-675-5	1.0 - 1.9 %	

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 alumino-silicate 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.

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5. Fire-fighting measures

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

Handling

Advice on safe handling Avoid airborne dust generation. Use ventilation controls if provided. In case of insufficient ventilation, wear suitable respiratory protective equipment.

Technical measures Minimize airborne dust generation. Provide appropriate exhaust ventilation at places where airborne dust is generated. Keep containers closed.

Storage

Technical measures and storage conditions Containers need to be protected from physical damage that will lead to spillage and airborne dust generation.

Packaging materials Use packaging that minimizes the generation of airborne dust when emptying, filling, transporting, or storing packaged FLY ASH.

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

Air Limit Values

<u>Ingredient name</u>	ACGIH 8 hr TLV® (mg/m³)	ACGIH STEL (15 min) (mg/m³)	US OSHA 8 Hr PEL (mg/m³)	Notes
Inert or nuisance dust				
total	10	-	15	US OSHA Table Z-3; ACGIH recommendation for particulate (Chemical substances Appendix B)
respirable	3	-	5	

Occupational exposure limits are as PNOR (Particulate Not Otherwise Regulated) [US OSHA] and Particulate (ACGIH). There are occupational exposure limits for individual oxides which are part of the alumino-silicate matrix of FLY ASH. These oxides are not expected to be present as discrete materials, but instead as part of an amorphous alumino-silicate matrix.

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8. Exposure controls/ personal protection				
Component name	ACGIH 8 hr TLV® (mg/m³)	ACGIH STEL (15 min) (mg/m³)	US OSHA 8 Hr PEL (mg/m³)	Notes
Aluminum Oxide	1	-	-	Respirable
Calcium Oxide	2	-	5	
Iron Oxide	5	-	10	ACGIH as respirable, OSHA as fume
Magnesium Oxide	10	-	15	
Titanium Oxide	10	-	15	
Silica, amorphous	10	-	80/(%SiO ₄)	
Silica, crystalline	0.025		0.05	Respirable fraction

Biological Limit Values There are no ACGIH Biological Exposure Indices (BEI®) for FLY ASH or components.

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 mists or fumes, 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 Exposure Controls

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

9. Physical and chemical properties
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Appearance

Physical state Solid (powder)
Color Tan
Odor None

Properties

Flash point Noncombustible	Vapor pressure Not available
Explosion limits	Odor threshold Not available
Lower: Not available	Viscosity Not available
Upper: Not available	Solubility (water) Not available
pH Not available	Partition coefficient n-octanol/water Not available
Melting point Not available	Evaporation rate Not available
Boiling point Not available	Vapor density Not available
Relative density 2.3 – 2.4	Typical % solids 100%

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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 are 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 fever: cough, chest pain, flu-like fever	Eyes, respiratory system
Silicon dioxide	(Silica, amorphous) Irritation eyes, pneumoconiosis	Eyes, respiratory system
Silica, crystalline	(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
Titanium oxide	Lung fibrosis; [potential occupational carcinogen]	Respiratory system
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. Two components of the alumino-silicate matrix are on the IARC list; Silica dust, crystalline, in the form of quartz or cristabolite (14808-60-7) as Class 1, Carcinogenic to humans (2012); and, Titanium dioxide (13463-67-7) as Class 2B, Possibly carcinogenic to humans (2010). 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.

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14. Transportation

DOT Shipping Name:	None	
DOT Hazard Class:	None	
DOT Label(s):	None	
UN/NA Number:	None	
Placards:	None	
IATA:	None	
Marine pollutant	No	No ingredients or components of FLY ASH are listed in 49 CFR Appendix B to 172.101

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

International Regulations

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.

Other

Ozone depleting substances No discrete chemical constituents are on a regulatory list for ozone depleting substances.

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
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16. Other information

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

Prepared by The SEFA Group, Inc.

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