

Material Safety Data Sheet

SECTION 1. PRODUCT INFORMATION

Product name :- Fly Ash

Chemical Description : Inorganic oxides (varying from fused or vitrified to fine granular solid)

Product class : Boiler slag, Bottom Ash, or Fly Ash from coal combustion

SECTION 2. INFORMATION ON INGREDIENTS.

Chemical Name	CAS Number	% Weight	OSHA PEL (mg/M ³)	ACGIH mg/M ³
Silicon dioxide, SiO ₂ fused amorphous	60676-86-0	40-60	10/(%SiO ₂ +2) resp. dust 30/(%SiO ₂ +2) total dust	0.1 (respirable)
Aluminum Oxide Al ₂ O ₃	1344-28-1	15-30	15 total dust 5 resp. dust	10
Iron Oxide Fe ₂ O ₃	1309-37-1	5-35	10	5
Titanium dioxide TiO ₂	12137-20-1	1-3	15 total dust	10
Calcium Oxide, CaO	1305-78-8	1-3	5	2
Potassium hydroxide, KOH	1310-58-3	1-3	Non established	2 (ceiling)
Sulfur trioxide, SO ₃	7446-11-9	0-1	Non established	Non established
Water	7732-18-5	<1-20	Non established	Non established

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SECTION 3. HAZARDS IDENTIFICATION



===== EMERGENCY

OVERVIEW=====

CAUTION! – contact with wet skin may cause severe irritation.
Eye contact can cause severe irritation or conjunctivitis.
Inhalation of dust may irritate the throat or lungs.
Long-term overexposure may reduce pulmonary function

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Primary routes of entry : inhalation of dust . Eye and skin contact. Ingestion of dust
Target organs: Eyes, skin, mucous membranes, lungs, kidney, liver and blood.
Medical conditions: individuals with pre-existing conditions of emphysema or asthma may experience respiratory irritation from breathing dust. Skin conditions or dermatitis may be aggravated by contact with this material.

Potential health effects:

Eye contact: contact with eyes may cause irritation resulting in conjunctivitis.
Skin contact: prolonged contact may result in minor irritation, rash depending on the sulfur trioxide content. SO₃ reacts vigorously with water to form hydrosulfurous acid.
Ingestion: ingestion of this product may cause diarrhea or irritation of the mucous membranes of the mouth, throat, esophagus and stomach.
Inhalation : Dust may cause respiratory irritation or fibrosingalveolitis.
Acute / Chronic: Short term exposure can produce dermatitis, horny growths on the skin, conjunctivas, and diarrhea. Long term exposure to fly ash in extremely dusty environments (above the OSHA PEL) may result in pathology of the nerves in the extremities, blood-forming effects such as anemia, gastrointestinal irritation and cancer of the skin , liver and lungs.

Carcinogenicity NTP: No IARC: Yes (SO₃) OSHA: No

SECTION 4 : FIRST AID MEASURES

Eye contact: in case of contact, flush eyes for 15 minutes. Seek medical aid to ensure foreign matter is removed.
Skin Contact : Avoid skin contact with fly ash. Wash skin thoroughly after exposure ceases.
Inhalation: Move victim to a dust-free environment. Support breathing as neccessary.
Ingestion: Do not induce vomiting. Consult a physician.

SECTION 5 : FIRE FIGHTING MEASURES.

Flash point : None
Lower flammable limit : none
Auto-ignition temperature ; none
Decomposition products : none
Extinguishingmedia : none required
Fire fightinginstructions : non required
Fire & explosion hazards : none
NFPA RATINGS: Health = 1 flammability = 0, reactivity=0 special hazard=none
Scale: 0=normal material 1=slightly hazardous 2=hazardous 3=extremely dangerous
4= deadly

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SECTION 6 : ACCIDENTAL RELEASE MEASURES

Steps to be taken if material is spilled or released: dispose of as conventional waste suitable for a municipal landfill.



Section 7: Handling and storage

Handling : No special requirements.

Storage : no special requirement, material is chemically and thermally stable.

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

Personal protective equipment:

Eye/face protection: use safety goggles if handling dry powder.

Skin protection : use coveralls and gloves to avoid skin contact with coal sh

Respiratory protection: use a NIOSH approved, high efficiency air purifying respirator for dusty environments that exceed 10 mg/m³ total dust.

Engineering controls : Local exhaust or general dilution ventilation.

Work practices: Do not blow down with compressed air or dry sweep. Use only a HEPA filtered vacuum. Use wet methods or sweeping compound to minimize dust generation.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Boiling point : not applicable

solubility in water: moderate

Vapor pressure: not applicable

specific gravity : 2.2-2.8g/cm³

Vapor density: not applicable

pH: varies from acidic to basic dependent upon coal source

% volatile by weight: 0

freezing point : not applicable

Appearance and odor: Fly ash consists of minute glass spheres with some crystalline matter and varying amounts of unburned carbon. It ranges in colour from light tan or light gray to almost black depending on the proportions of carbon and iron. Bottom ash is a granular material similar to the fine concrete. It ranges in colour from a medium brown or medium gray to almost black. No odor.

SECTION 10 STABILITY AND REACTIVITY

Condition to avoid : none

decomposition products : none

Incompatibility : none

hazardous polymerization : will not occur

Chemical stability : stable under normal temperature and pressures.

SECTION 11: TOXICOLOGICAL INFORMATION

On product : Minor skin irritation (prolonged contact), conjunctivitis and diarrhea.

On ingredients:

	Route of administration		
Chemical name	Oral	Dermal(LD50)	Inhalation (TCLo)
Crystalline silica fused	Not available	Not available	197 mg/m ³
Aluminum oxide	Not available	Not available	Not available
Iron oxide	Not available	Not available	500 ug/m ³ (rat)

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			PHENIX ENTERPRISE
Titanium dioxide	Not available	300 ug / 3D Mild	250 ug/m ³ (rat)
Calcium oxide	Not available	Not available	Not available
Potassium hydroxide	273 mg/kg	1 mg/ 24H rinse-Mod.	Not available
Sulfur trioxide	Not available	Not available	30 ug/m ³ (human)

SECTION 12 ECOLOGICAL INFORMATION

Aquatic Toxicity : testing on ash ponds consistently show the effluent to not be acutely toxic in 100% effluent for Ceriodaphniadubia (water flies) and Pimephalespromelas (fathead minnow).

Environmental fate : nearly all ash is inert upon release to the environment and would be deposited in the sediment. Less than 1% of ash would be dissolved in the water column.

Environmental Toxicity: when handled and disposed of properly, coal ash does not present an environmental threat.

SECTION 13 : DISPOSAL CONSIDERATIONS

RCRA status : This material is not a RCRA listed hazardous waste nor does it exhibit any hazardous waste characteristics.

DISPOSAL : Dispose of in a manner consistent with federal, state, or local laws and regulations.

SECTION 14: TRANSPORT INFORMATION

D.O.T. CLASSIFICATION: not applicable; not a D.O.T. hazardous material.

Section 15. Regulatory information

TSCA : not applicable

CERCLA : contains no known hazardous substances.

SARA TITLE III:

Section 302 extremely hazardous substances: none at or above de minimis concentrations.

Section 311/312 health and physical hazards: delayed (chronic) health hazard from long-term inhalation of dust.

Section 313 toxic chemicals: none at or above de minimis concentrations.

SECTION 16 . OTHER INFORMATION

HMIS ratings: health =1

flammanbility=0

reactivity=0

personal protection=B= Safety glasses + gloves

Hazard rating scale: 0=minimal

1=slight

2=moderate

3=serious

4= severe.

While this information and recommendations set forth herein are believed to be accurate as of the date hereof, Phenix Enterprise makes no warranty with respect hereto and disclaims all liability from reliance thereon.

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