

OMAHA PUBLIC POWER DISTRICT
MATERIAL SAFETY DATA SHEET
SUBBITUMINOUS FLYASH AND BOTTOM ASH, ALL FACILITIES

I. DISTRIBUTOR

Manufacturer: OPPO coal-fired steam electric plants

For more information contact: Industrial Hygienist, Employee Relations Division, Safety Department, 444 So. 16th St. Mall, Omaha, Nebraska 68102, 402.636-3063

II. CONSTITUENTS

CONSTITUENT	APPROXIMATE CONCENTRATION RANGE
Amorphous Silica (SiO ₂)	15.45%
Crystalline Silica (Quartz) (SiO ₂)	0-10%
Alumina (Al ₂ O ₃)	5.40%
Titania (TiO ₃)	0.3%
Ferric Oxide (Fe ₂ O ₃)	1-15%
Calcium Oxide (CaO)	10.35%
Magnesia (MgO)	1-15%
Potassium Oxide (K ₂ O)	0-5%
Sodium Oxide (Na ₂ O)	0-5%
Sulfur Trioxide (SO ₃)	1-30%
Phosphorous Pentoxide (P ₂ O ₅)	0.5%

III. OSHA PERMISSIBLE EXPOSURE LEVELS(PEL) AND ACGIH THRESHOLD LIMIT VALUES(TLV)

CONSTITUENT	ACM TLV (m9/M ³)	OSHA PEL (m9/M ³)
Amorphous Silica(SiO ₂)	10	80 %SiO ₂
Crystalline Silica (Quartz) (SiO ₂)	<u>10</u> %SiO ₂ + 2	<u>10</u> %SiO ₂ + 2
Alumina (Al ₂ O ₃)	10	15
Titania (TiO ₃)	5	(Note 1)
Ferric Oxide (Fe ₂ O ₃)	5	10
Calcium Oxide (CaO)	5	5
Magnesia (MgO)	5	5
Potassium Oxide (K ₂ O)	(Note 2)	(Note 1)
Sodium Oxide (Na ₂ O)	(Note 2)	(Note 1)
Sulfur Trioxide (SO ₃)	(Note 2)	(Note 1)
Phosphorous Pentoxide (P ₂ O ₅)	(Note 2)	(Note 1)

Note 1: The PEL for this constituent does not exist.

Note 2: The TLV for this constituent does not exist.

IV. PHYSICAL AND CHEMICAL CHARACTERISTICS

Fly Ash is a odorless finely divided powder, ranging in color from light tan or light gray to dark brown or dark gray. Bottom ash is an odorless coarse, granular powder, ranging in color from medium brown or medium gray to almost black.

Both ashes are primarily composed of inorganic oxides and are slightly soluble in water.

Boiling point, vapor pressure, vapor density, percent volatile, and evaporation rate are not applicable to these solid materials.

V. FIRE AND EXPLOSION HAZARD

Fly Ash and Bottom Ash are nonflammable and nonexplosive. Flashpoint, flammable limits, extinguishing methods, special fire fighting procedures and unusual fires and explosion hazards are not applicable to these materials.

VI. HEALTH HAZARD DATA

Fly Ash and Bottom Ash are primarily composed of inert dusts (irritants to mucous membranes) with low concentrations of crystalline silica (a pneumoconiosis producing dust) and calcium oxide (an irritant to mucous membranes and wet skin).

Primary route of entry: Respiratory system, eyes, skin

Effects of over exposure: Irritation of eyes and mucous membranes of respiratory system. Silicosis with prolonged, excessive inhalation of dust. Some potential for irritation of skin.

Medical conditions aggravated by exposure: Obstructive and restrictive pulmonary diseases.

VII. REACTIVITY DATA

Both ashes are stable; hazardous polymerization will not occur. There are no chemical incompatibilities or hazardous decomposition products.

VIII. SPILL OR LEAK PROCEDURE

Minimize inhalation of dust, Wetting with water will reduce airborne dust levels. Not defined as a hazardous waste under the Resource Recovery and Conservation Act. Disposal in sanitary landfills is allowed.

IX. SPECIAL PROTECTION INFORMATION

When exposure approaches the TLV or PEL, use NIOSH approved respirators for pneumoconiosis-producing dusts or inert dusts depending on the measured concentration and type of air contaminants.

Work gloves or chemical resistant gloves may be needed to reduce skin irritation of the dust experienced by some workers who directly handle the ashes.

X. SPECIAL PRECAUTIONS

Minimize inhalation of dust and direct skin contact. Industrial hygiene surveys of worker exposure in specific ash handling operations are needed to determine the need for engineering controls of airborne dust levels, respiratory protection equipment, and other measures.

XI. PREPARATION

Production Operations Technical Services
Omaha Public Power District
444 So. 16th St. Mall
Omaha, Nebraska 68102
402-636.2501