SECTION 1
CHEMICAL PRODUCT AND IDENTIFICATION

Progress Energy
410 S Wilmington St
Raleigh, NC 27601

Product Safety: (919) 546-7375
www.progress-energy.com
Version Date: April 26, 2012
Version: 4

PRODUCT: Bituminous Coal Fly Ash
CHEMICAL FAMILY: Coal Ash

SECTION 2
HAZARD IDENTIFICATION

INFORMATION FOR HANDLING AND IDENTIFICATION OF CHEMICAL HAZARDS

NFPA Ratings:	
Health:	1
Fire:	0
Reactivity:	0

HIMS Ratings:	
Health:	*1
Fire:	0
Reactivity:	0

0 = Minimal Hazard
1 = Slight Hazard
2 = Moderate Hazard
3 = Serious Hazard
4 = Severe Hazard

Personal Protection: Use eye and skin protection. Use NIOSH/MSHA-approved respiratory protection when necessary.
*Respirable crystalline silica can cause lung disease and/or cancer. E- Safety glasses, gloves and dust respirator

EMERGENCY OVERVIEW: This product is not expected to produce any unusual hazards during normal use. Exposure to high dust levels may irritate the skin, eyes, nose, throat, or upper respiratory tract.

POTENTIAL HEALTH EFFECTS

ACUTE:

Eyes: Airborne dust or direct contact can cause irritation of eyes. If burning, redness, itching, pain or other symptoms persist or develop, consult physician.

Skin: Direct, prolonged or repeated contact with the skin may cause irritation.

Inhalation: Dust exposures generated during the handling of the product may irritate eyes, skin, nose, throat, and upper respiratory tract. Labored breathing may occur after excessive inhalation. If respiratory symptoms persist, consult physician.

Ingestion: If ingested may cause temporary irritation to the gastrointestinal tract, especially the stomach. No known effects.

CHRONIC:

Eyes: None known.

Skin: None known.

Ingestion: No known effects.

Inhalation: Exposures to respirable crystalline silica are not expected during the normal use of this product; however, actual levels must be determined by workplace industrial hygiene monitoring.

Prolonged and repeated exposure to airborne free respirable crystalline silica can result in lung disease (i.e., silicosis) and/or lung cancer. The development of silicosis may increase the risks of additional health effects. The risk of developing silicosis is dependent upon the exposure levels and duration.

TARGET ORGANS: Eyes, skin and respiratory system.
PRIMARY ROUTES OF ENTRY: Inhalation, eyes and skin contact.

SECTION 3
COMPOSITION, INFORMATION ON INGREDIENTS

MATERIAL	WT%	TLV (mg/m^3)	PEL(mg/m^3)	CAS NUMBER
Silica (SiO_2)	40 – 70%	0.1 (R)	$\frac{80\ mg/m^3}{\%SiO_2+2}$	60676-86-0
Aluminum Oxide (Al_2O_3)	20 – 35%	10	5	1344-28-1
Ferric Oxide (Fe_2O_3)	5 – 25%	5	10	1309-37-1
Potassium Oxide (K_2O)	1.6 – 2%	NE	NE	12136-45-7
Titanium Dioxide (TiO_2)	1.2 – 1.5%	10	15	13463-67-7
Crystalline Silica	1 - 2%	0.05 (R)	$\frac{10\ mg/m^3}{\%SiO_2+2}$ (R)	14808-60-7
Lime (CaO)	0.8 – 5 %	2	5	1305-78-8
Magnesium Oxide (MgO)	0.1 – 0.7%	10	15	1309-48-4
Sodium Oxide (NaO)	0.1 – 0.5%	NE	NE	12401-86-4
Sulfur Trioxide (SO_3)	0.1 – 0.3%	NE	NE	7446-11-9
Phosphorous Pentoxide (P_2O_5)	0.1 – 0.2%	NE	NE	1314-56-3
Strontium Oxide (SrO)	0.06 – 0.12%	NE	NE	1314-11-0
Barium Oxide (BaO)	0 – 0.12%	NE	NE	1304-28-5
Chromium	0.0106 – 0.0180%	0.01 – 0.5	1	7440-47-3
Arsenic	0.0001 – 0.0025%	0.01	0.5	7440-38-2

(T) – Total (R) – Respirable (NE) – Not Established
Respirable crystalline silica: IARC: Group 1 carcinogen, NTP: Known human carcinogen. The weight percent for silica represents total quartz and not the respirable fraction.
Arsenic: IARC: Group 1 carcinogen, NTP: Known human carcinogen.
Chromium VI: IARC: Group 1 carcinogen, NTP: Known human carcinogen.
All ingredients of this product are included in the U.S. Environmental Protection Agency's Toxic Substances Control Act Chemical Substance Inventory.

SECTION 4
FIRST AID MEASURES

FIRST AID PROCEDURES

Eyes: In case of contact, do not rub or scratch your eyes. Flush thoroughly with water for 15 minutes to remove particles. If irritation persists, consult physician.

Skin: Wash with mild soap and water. A commercially available hand lotion may be used to treat dry skin areas. If skin has become cracked, take appropriate action to prevent infection and promote healing. If irritation persists, consult physician.

Inhalation: Remove to fresh air. Leave the area of dust exposure and remain away until coughing and other symptoms subside. Other measures are usually not necessary, however if conditions warrant, contact physician.

Ingestion: This product is not intended to be ingested or eaten. No harmful effects expected. Drink plenty of water. If gastric disturbance occurs, call physician.

MEDICAL CONDITIONS WHICH MAY BE AGGRAVATED: Pre-existing upper respiratory and lung diseases such as, but not limited to, bronchitis, emphysema and asthma. Pre-existing skin diseases such as, but not limited to, rashes and dermatitis.

SECTION 5
FIRE FIGHTING MEASURES

General Fire Hazards:	Not expected to burn.
Extinguishing Media:	Water or use extinguishing media appropriate for surrounding fire.
Special Fire Fighting Procedures:	Wear appropriate personal protective equipment (See section 8).
Unusual Fire & Explosion Hazards:	None
Hazardous Combustion Products:	None

Flash Point:	Noncombustible	**Auto Ignition:**	Not Applicable
Method Used:	Not Applicable	**Flammability Classification:**	Not Applicable
Upper Flammable Limit (UFL):	Not Applicable		
Lower Flammable Limit (LFL):	Not Applicable	**Rate of Burning:**	Not Applicable

SECTION 6
ACCIDENTAL RELEASE MEASURES

CONTAINMENT:

No special precautions. Wear appropriate personal protection (See Section 8).

CLEAN-UP:

To minimize potential exposures, wear appropriate protective equipment. Ventilate area. Avoid dust generation. Avoid inhalation of dust and contact with eyes and skin. If vacuum is used to collect dust, use an industrial vacuum cleaner with a high efficiency air filter. If sweeping, use a dust suppressant and shovel or sweep up material from spillage and place collected material into a container for recovery or waste disposal. Do not use compressed air for clean up. If washed down, may plug drains.

DISPOSAL:

Fly ash is not classified as a RCRA hazardous waste. Material may be disposed of as inert solid in a permitted landfill. Follow all local, state, provincial and federal regulations. Never discharge large releases directly into sewers or surface waters. Trace amounts of residue can be flushed to a drain, using plenty of water.

SECTION 7
HANDLING AND STORAGE

HANDLING:

Use good safety and industrial hygiene practices. Minimize dust generation and accumulation. Avoid breathing dust. Wear appropriate respiratory protection against dust in poorly ventilated areas and if TLV is exceeded (see Sections 2 and 8). Wear appropriate eye protection against dust (See Section 8).

Employees handling ash should observe proper personal hygiene and wash hands before eating, smoking, applying cosmetics or using toilet facilities. Local exhaust ventilation should be used whenever possible. Other practices, such as wetting, should be used to control dust. Do not use compressed air to clean.

STORAGE:

When storing coal ash in wet ponds, create the surface contours such that it allows the effluent to flow to the end of the pond and that it does not flow outside the bounds of the pond. When storing coal ash in landfills, the ash should be wetted to avoid wind erosion of ash particles. If the landfill is a permanent disposal site where ash is not intended to be reclaimed, then the ash should be wetted and covered with a permanent cap. Open trucks utilized in ash disposal or sales activities should be properly covered and the ash should be wetted to prevent fugitive emissions of the ash particles.

SECTION 8
EXPOSURE CONTROLS / PERSONAL PROTECTION

ENGINEERING CONTROLS:

If user operations generate airborne dust, use process enclosures, general dilution ventilation, local exhaust ventilation, or other engineering controls to keep dust concentrations below permissible exposure limits (See Section 2).

RESPIRATORY PROTECTION:

Wear a NIOSH/MSHA-approved respirator equipped with particulate cartridges when dusty in poorly ventilated areas, and if TLV is exceeded. A respiratory program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant a respirator's use.

OTHER PERSONAL PROTECTIVE EQUIPMENT:

Eye/Face: Wear eye protection (safety glasses or goggles) to avoid particulate irritation of the eye.
Skin: Gloves or protective clothing are usually not necessary but may be desirable in specific work situations. For brief contact, no precautions other than clean body-covering clothing should be needed. Wear gloves and protective clothing to prevent repeated or prolonged skin contact. Barrier creams or skin lotion may be applied to face, neck, wrist and hands when skin is exposed to help prevent drying of skin.

General: Selection of Personal Protective Equipment will depend on environmental working conditions and operations.

SECTION 9
PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Fine gray dust	**Solubility (H2O)**	Insoluble
Physical State	Solid (powder)	**Boiling Point**	Not Applicable
Odor	No odor	**Melting Point**	Not Applicable
Particle Size	Varies	**Vapor Density (Air = 1)**	Not Applicable
Specific Gravity (H_20 = 1)	2.0 – 3.0	**Vapor Pressure (mm Hg)**	Not Applicable
Percent Volatile	Zero	**Evaporation Rate (BuAc = 1)**	Not Applicable

SECTION 10
CHEMICAL STABILITY AND REACTIVITY

STABILITY:	Stable under normal conditions of storage and handling.
CONDITIONS TO AVOID:	None.
INCOMPATIBILITY:	None.
HAZARDOUS POLYMERIZATION:	Will not occur.
HAZARDOUS DECOMPOSITION:	None reported.

SECTION 11
TOXICOLOGICAL INFORMATION

CHRONIC EFFECTS / CARCINOGENICITY:

Crystalline silica: In June, 1997, IARC classified crystalline silica (quartz and cristobalite) as a human carcinogen. In making the overall evaluation, the IARC Working Group noted that carcinogenicity in humans was not detected in all industrial circumstances studied. Carcinogenicity may be dependent on inherent characteristics of the crystalline silica or on external factors affecting its biological activity or distribution of its polymorphs.

IARC states that crystalline silica inhaled in the form of quartz or cristobalite from occupational sources is carcinogenic to humans (Group 1).

SECTION 12
ECOLOGICAL INFORMATION

ENVIRONMENTAL TOXICITY: Effects on the ecology are not completely known. A large discharge directly into waterways may result in selenium buildup in fish tissue.

Ecotoxicity value: Not determined.

SECTION 13
DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD:

Dispose of material in accordance with Federal, State, Provincial, and Local regulations. Consult with environmental regulatory agencies for guidance on acceptable disposal practices. Never discharge directly into sewers or surface waters.

SECTION 14
TRANSPORT INFORMATION

U.S. DOT INFORMATION: Not a hazardous material per DOT shipping requirements. Not classified or regulated.

Shipping Name	Same as product name.
Hazard Class:	Not classified.
UN/NA #:	None. Not classified.
Packing Group:	None
Label (s) Required:	Not applicable.
GGVSec/MDG-Code:	Not classified.
ICAO/IATA-DGR:	Not applicable.
RID/ADR:	None
ADNR:	None

SECTION 15
REGULATORY INFORMATION

UNITED STATES REGULATIONS

All ingredients of this product are included in the U.S. EPA's Toxic Substances Control Act Chemical Substance Inventory.

MATERIAL	WT%	302	304	313	CERCLA	CAA Sec. 112	RCRA Code
Crystalline Silica	<1	NL	NL	NL	NL	NL	NL

Key : NL = Not Listed
SARA Title III Section 302 (EPCRA) Extremely Hazardous Substances: Threshold Planning Quantity (TPQ)
SARA Title III Section 304 (EPCRA) Extremely Hazardous Substances: Reportable Quantity (RQ)
SARA Title III Section 313 (EPCRA) Toxic Chemicals: X= Subject to reporting under section 313
CERCLA Hazardous Substances: Reportable Quantity (RQ)
CAA Section 112 (r) Regulated Chemicals for Accidental Release Prevention: Threshold Quantities(TQ)
RCRA Hazardous Waste: RCRA hazardous waste code

SECTION 15 FIRE REGULATORY INFORMATION (continued)

MATERIAL	WT%	WHMIS Classification:
Crystalline Silica	<1	D2A

WHMIS Classification: Workplace Hazardous Material Information System

CARCINOGENICITY CLASSIFICATION OF INGREDIENT(S)

All substances listed are associated with the nature of the raw materials used in the manufacture of this product and are not independent components of the product formulation. All substances, if present, are at levels well below regulatory limits. See Section 11 : Toxicology Information for detailed information

MATERIAL	IARC	NTP	ACGIH	CAL- 65
Respirable Crystalline Silica	1	1	A2	Listed

IARC – International Agency for Research on Cancer (World Health Organization)
1- Carcinogenic to humans
2A – Probably carcinogenic to humans
2B – Possibly carcinogenic to humans
3 - Not classifiable as a carcinogen
4 – Probably not a carcinogen

NTP – National Toxicology Program (Health and Human Services Dept., Public Health Service, NIH/NIEHS)
1- Known to be carcinogen
2- Anticipated to be carcinogens

ACGIH – American Conference of Governmental Industrial Hygienists
A1 – Confirmed human carcinogen
A2 – Suspected human carcinogen
A3 – Animal carcinogen
A4 - Not classifiable as a carcinogen
A5 – Not suspected as a human carcinogen

CAL-65 – California Proposition 65 "Chemicals known to the State of California to Cause Cancer"

SECTION 16
OTHER INFORMATION

Label Information

ΔWARNING!

Dust created from product may cause eye, skin, nose, throat or upper respiratory irritation. Avoid inhalation of dust and eye contact. Use in a well-ventilated area. Wear a NIOSH/MSHA-approved respirator when dusty. Use proper ventilation to reduce dust exposure. Wear eye protection. If eye contact occurs, flush thoroughly with water for 15 minutes. If irritation persists, call physician. Wash thoroughly with soap and water after use. Do not ingest. If ingested, call physician.
Product safety information: (919) 546-7375

KEEP OUT OF REACH OF CHILDREN.

Key/Legend

TLV	Threshold Limit Value
PEL	Permissible Exposure Limit
CAS	Chemical Abstracts Service (Registry Number)
NIOSH	National Institute for Occupational Safety and Health

SECTION 16 FIRE OTHER INFORMATION (continued)

MSHA	Mine Safety and Health Administration
OSHA	Occupational Health and Safety Administration
ACGIH	American Conference of Governmental Industrial Hygienists
IARC	International Agency for Research on Cancer
DOT	United States Department of Transportation
EPA	United States Environmental Protection Agency
NFPA	National Fire Protection Association
HMIS	Hazardous Materials Identification System
PPE	Personal Protection Equipment
TSCA	Toxic Substances Control Act
DSL	Canadian Domestic Substances List
NDSL	Canadian Non-Domestic Substances List
SARA	Superfund Amendments and Reauthorization Act of 1986
RCRA	Resource Conservation and Recovery Act
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act of 1980
UN/NA#	United Nations/North America number
CFR	Code of Federal Regulations
WHMIS	Workplace Hazardous Material Information System

Prepared by:
Progress Energy
410 S. Wilmington Street
Raleigh, NC 27601

END