

Coal Calibration Standard.

Product Code: AR2720.

CAS NO. 64741-79-3

Version 1.1

Effective Date: 14.01.2013.

Federal Regulation: 40 CFR 260-271

MATERIAL SAFETY DATA SHEET

1. INDITIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY UNDERTAKING :

Material Name : Coal Calibration Standard, CAS NO. 64741-79-3

% W : 100 %

Chemical Name : Coal

Pack : 50 gram.

Product Code : AR2720 : 4.34% : Weight percent Sulfur = 4.34% : Standard Deviation : 0.04

Manufacturer Contact Details :

Alpha Resources, Inc.

P.O. Box 199

Stevensville, MI 49127

Phone: 269-465-5559

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Web.: www.alpharesources.com

2. HAZARD IDENTIFICATION:

EMERGENCY OVERVIEW :

WARNING!

Causes respiratory tract irritation. May form combustible dust concentrations in air (during processing).

Petroleum Coke is a Chunky, Porous, Black, Carbon Material. When Calcined, It is Crushed and Pulverized into a Fine Black Powder. It is Neither a Flammable Nor Combustible Material But Could Burn If Heated To Extremely High Temperatures.

POTENTIAL HEALTH EFFECTS :

EYES: May cause eye irritation.

SKIN: May cause skin irritation.

INHALATION: Exposure may produce irritation to the nose, throat and respiratory tract; prolonged exposure may produce lung damage.

INGESTION: Not available.

CHRONIC OVEREXPOSURE: Not available.

ACUTE OVEREXPOSURE: Symptoms of lung damage (scarring, bronchitis, emphysema) include shortness of breath (especially on exertion), and may be accompanied by chronic cough.

MEDICAL CONDITIONS AGGRAVATED: Pre-existing eye, skin and respiratory disorders may be aggravated by exposure to this product. Impaired lung functions from pre-existing disorders may be aggravated by exposure to this product.

CARCINOGENICITY: None.

NOTES: The International Agency for Research on Cancer (IARC) has not evaluated this product

SIGNS AND SYMPTOMS : Irritation of nose and throat. Respiratory tract irritation. Persons with pre-existing respiratory tract, skin and lung (such as asthma) disorders may be aggravated by exposure to this product.

POTENTIAL ENVIRONMENTAL EFFECTS : Not expected to be harmful to aquatic organisms.

LABEL CODE : USA DOT: Not regulated

HAZARD SYMBOLS : None.

3. COMPOSITION/INFORMATION ON INGREDIENTS :

Petroleum Coke is a solid carbon material produced from high temperature treatment of heavy petroleum fractions. Composition varies depending on source of final product. Polycyclic aromatic hydrocarbons (3-7 ring), such as benzo(a)pyrene, are present in trace concentrations (<0.1%).

CAS NO.	%W	CHEMICAL NAMES	OSHA PEL (mg/m3)	ACGIH TLV (mg/m3)
64741-79-3	100	Coal	2	2

4. FIRST AID MEASURES :

Eye Contact:

Flush eyes with large amounts of tepid water for at least 15 minutes. If symptoms or irritation occur, call a physician.

Skin Contact:

Wash with soap and large amounts of water. If symptoms or irritation occur, call a physician.

Ingestion:

Ingestion not likely. If large amounts are swallowed, immediately call a physician.

Inhalation:

If affected, move person to fresh air. If breathing is difficult, administer oxygen. If not breathing or if no heartbeat, give artificial respiration or cardiopulmonary resuscitation (CPR). Immediately call a physician. If symptoms or irritation occur with any exposure, call a physician.

Notes To Physician: In case of shortness of breath, give oxygen. Keep victim warm. Keep victim under observation.

General advice : If exposed or concerned: get medical attention/advice. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance. Wash contaminated clothing before re-use.

5. FIRE FIGHTING MEASURES :

FLAMMABLE PROPERTIES	: Non-flammable
FLASH POINT	: >200 F
AUTOIGNITION TEMPERATURE	: No data available.
FLAMMABLE LIMITS IN AIR - LOWER (%)	: No data available.
FLAMMABLE LIMITS IN AIR - UPPER (%)	: No data available

HAZARDOUS COMBUSTION PRODUCTS: Carbon Monoxide, sulfur oxides and organics of unknown chemical composition and toxicity may be products of decomposition.

EXTINGUISHING MEDIA: For small fires, Class B fire extinguishing media such as CO₂, dry chemical, foam (AFFF/ATC) or water spray can be used. For large fires, water spray, fog or foam (AFFF/ATC) can be used. Fire fighting should be attempted only by those who are adequately trained and equipped with proper protective equipment. Do not use a solid water stream as it may scatter and spread fire.

SPECIFIC HAZARDS: This product is neither a flammable nor combustible material, but will burn when heated to extremely high temperatures.

PROTECTION OF FIREFIGHTERS :

Specific hazards arising from the chemical High concentrations of dust may form explosive mixture with air.

Protective equipment and precautions for firefighters Wear full protective clothing, including helmet, self-contained positive pressure or pressure demand breathing apparatus, protective clothing and face mask.

FIREFIGHTING INSTRUCTIONS: Remove from storage, spread in shallow layers and saturate with water. Wear a NIOSH approved air-supplied respirator including proper protective equipment when working with burning coal in confined spaces. Coal dust can ignite spontaneously under certain storage conditions. When present in high concentration, dry coal dust is a moderate explosion hazard.

PROTECTIVE EQUIPMENT AND PRECAUTIONS FOR FIREFIGHTERS :

Wear full protective clothing, including helmet, self-contained positive pressure or pressure demand breathing apparatus, protective clothing and face mask.

FIRE FIGHTING EQUIPMENT/INSTRUCTIONS :

Wear full protective clothing, including helmet, self-contained positive pressure or pressure demand breathing apparatus, protective clothing and face mask. Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Move containers from fire area if you can do it without risk. In the event of fire, cool tanks with water spray.

SPECIAL PROTECTIVE EQUIPMENT FOR FIREFIGHTERS: Avoid using straight water streams. Water spray and foam (AFFF/ATC) must be applied carefully to avoid frothing and from as far a distance as possible. Keep surrounding area cool with water spray from a distance and prevent further ignition of combustible material. Avoid excessive water spray application. Keep run-off water out of sewers and water sources.

NFPA RATING:

Health : 1

Flammability : 1

Instability : 1

6. ACCIDENTAL RELEASE MEASURES :

SMALL/LARGE SPILL: Shovel and seep up or use industrial vacuum cleaner. Avoid generating dust clouds. Put into containers for reclamation or disposal.

PERSONAL PRECAUTIONS : Keep unnecessary personnel away. Local authorities should be advised if significant spills cannot be contained. Keep upwind. Keep out of low areas. Ventilate closed spaces before entering. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.

ENVIRONMENTAL PRECAUTIONS : If facility or operation has an "oil or hazardous substance contingency plan", activate its procedures. Stay upwind and away from spill. Wear appropriate protective equipment including respiratory protection as conditions warrant. Do not enter or stay in area unless monitoring indicates that it is safe to do so. Isolate hazard area and restrict entry to emergency crew. Combustible dust. Review Firefighting Measures, Section 5, before proceeding with clean up. Keep all sources of ignition (flames , smoking, flares, etc.) and hot surfaces away from release. Contain spill in smallest possible area. Recover as much product as possible (e.g. by vacuuming). Stop leak if it can be done without risk. Spilled material may be absorbed by an appropriate absorbent, and then handled in accordance with environmental regulations. Prevent spilled material from entering sewers, storm drains, other unauthorized treatment or drainage systems and natural waterways. Contact fire authorities and appropriate federal, state and local agencies.

METHODS FOR CONTAINMENT : Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Dike the spilled material, where this is possible. Prevent entry into waterways, sewers, basements or confined areas.

METHODS FOR CLEANING UP : Sweep or scoop up and remove. Dust deposits should not be allowed to accumulate on surfaces, as these may form an explosive mixture if they are released into the atmosphere in sufficient concentration. Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air). Nonsparking tools should be used. Clean surface thoroughly to remove residual contamination. This material and its container must be disposed of as hazardous waste. Large Spills: Prevent product from entering drains. Do not allow material to contaminate ground water system. Should not be released into the environment.

Other information Clean up in accordance with all applicable regulations.

7. HANDLING AND STORAGE :

HANDLING : Wear personal protective equipment. Do not breathe dust. Avoid contact with eyes, skin, and clothing. Do not taste or swallow. Avoid prolonged exposure. Use only with adequate ventilation. Wash thoroughly after handling. DO NOT handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. Take precautionary measures against static discharges. Spontaneous combustion may occur under storage conditions of elevated temperatures and a continuous supply of oxygen. Avoid accumulation of dust. When present in high concentrations, dry coal is a moderate explosion hazard. Wash with soap and water before eating, drinking, smoking or using toilet facilities. Launder contaminated clothing before reuse. Minimize repeated or prolonged skin contact by bathing or washing affected skin areas after each shift. When using, do not eat, drink or smoke. Avoid release to the environment.

STORAGE : Routine housekeeping should be instituted to ensure that dusts do not accumulate on surfaces. Dry powders can build static electricity charges when subjected to the friction of transfer and mixing operations. Provide adequate precautions, such as electrical grounding and bonding, or inert atmospheres. Refer to NFPA 654,

Standard for the Prevention of Fire and Dust Explosions from the Manufacturing, Processing, and Handling of Combustible Particulate Solids, for safe handling. Do not handle or store near an open flame, heat or other sources of ignition. Keep container tightly closed in a cool, well-ventilated place. Keep away from food, drink and animal feedingstuffs. Keep out of the reach of children..

8. EXPOSURE CONTROLS/PERSONAL PROTECTION :

OCCUPATIONAL EXPOSURE LIMITS : PETROLEUM COKE – FUEL AND FUEL GRADE, CAS 64741-79-3

ACGIH

Material	Type	Value	Form
Petroleum Coke (CAS 64741-79-3)	TWA	3 mg/m ³	Respirable particles.
		10 mg/m ³	Inhalable particles.

U.S. - OSHA

Material	Type	Value	Form
Petroleum Coke (CAS 64741-79-3)	TWA	5 mg/m ³	Respirable fraction.
		15 mg/m ³	Total dust.

Canada - Alberta

Material	Type	Value	Form
Petroleum Coke (CAS 64741-79-3)	TWA	3 mg/m ³	Respirable
		10 mg/m ³	Total

Canada - British Columbia

Material	Type	Value	Form
Petroleum Coke (CAS 64741-79-3)	TWA	3 mg/m ³	Respirable fraction.
		10 mg/m ³	Total dust.

Canada - Ontario

Material	Type	Value	Form
Petroleum Coke, (CAS 64741-79-3)	TWA	3 mg/m ³	Respirable.
		10 mg/m ³	Inhalable particulate.

Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents)

Components	Type	Value	Form
Coke (CAS 64741-79-3) TWA		3.5 mg/m ³	Total dust.
		141 mg/m ³	
		25 ppm	

Canada - Quebec

Material	Type	Value	Form
Petroleum Coke , (CAS 64741-79-3)	STEL	10 mg/m ³	Total dust.

Canada - Saskatchewan

Material	Type	Value	Form
Petroleum Coke (CAS 64741-79-3)	TWA	3 mg/m ³	Respirable fraction.
			10 mg/m ³ Inhalable fraction.

ENGINEERING CONTROLS :

Use explosion-proof ventilation as required to control particulate concentrations.

EYE/FACE PROTECTION :

Safety glasses or goggles as appropriate..

SKIN/HAND PROTECTION :

Wear gloves and other clothing to minimize contact.

RESPIRATORY PROTECTION :

Use NIOSH approved respirator as required to prevent overexposure. In accord with 29 CFR 1910.134, use either an atmosphere—supplying respirator or an air-purifying respirator for particulates.

9. PHYSICAL AND CHEMICAL PROPERTIES :

APPEARANCE	:	Gray/black solid.
BOILING RANGE (5-95%):	:	7600 F
FREEZE-MELT POINT	:	6300 F
VAPOR PRESSURE	:	N/A
VAPOR DENSITY	:	N/A
SOLUBILITY IN WATER	:	Insoluble.

SPECIFIC GRAVITY : Approx. 1
pH : Neutral
% VOLATILES BY Volume : N/A
ODOR : Slight Hydrocarbon
EVAORATION RATE : N/A
AUTO IGNITION TEMPERATURE : N/A

10. STABILITY AND REACTIVITY :

Chemical stability : The material is stable at 70 F, 760 mm pressure
Possibility of Hazardous Reactions : Hazardous polymerization will not occur under normal conditions of storage and use.
Conditions to Avoid : Dust can form flammable mixtures in air.
Incompatible Materials : Strong Avoid heat, sparks, flame and contact with acids.
Hazardous Decomposition Products : Will not occur.

11. TOXICOLOGICAL INFORMATION

Coal miner's pneumoconiosis (anthracosis) was recognized as one of the earliest forms of occupational disease. Pulmonary fibrosis does not occur unless the coal dust contains crystalline silica (SiO₂) which is strongly fibrogenic. This, the potency of the dust may vary as a result of the chemical composition. Therefore, the handling procedures and safety precautions in this MSDS should be followed to minimize employee exposure

ACUTE TOXICITY

COMPONENT	ORAL	DERMAL	INHALATION
Petroleum Coke (CAS 64741-79-3)	N/DA	N/DA	N/DA

SENSITIZATION : This product is not expected to cause skin sensitization.

ACUTE EFFECTS : Causes respiratory tract irritation. Dust may irritate the eyes.

CHRONIC EFFECTS : 24 months of exposure in monkeys and rats to either 10.2 or 30.7 mg/m³ of coke dust resulted in lung accumulation of dust. There was no associated tissue abnormality in monkeys. A low level inflammatory response developed in the rat lung at 10.2 mg/m³ and more significant inflammatory changes occurred in the rat lung at 30.7 mg/m³. There was no evidence of carcinogenicity in either species. Mouse skin painting bioassay negative.

CARCINOGENICITY : This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

MUTAGENICITY AMES TEST: Negative.

Toxicology Information:

Petroleum coke did not affect fertility or reproductive performance in pregnant female rats exposed to up to 300 mg/m³, 6 hours/day for 28 days although some portal of entry toxicity (inflammation, discolored lungs and increased lung weight) was observed. Petroleum coke was found not to be carcinogenic in monkeys and rats in a two-year inhalation study at concentrations up to 30 mg/m³. Chronic inflammatory changes similar to those produced by non-specific respiratory irritants were observed in some rats at the highest exposure level. Chronic skin painting studies of coke dust in mice did not produce evidence of carcinogenicity. Petroleum coke (delayed process and fluid process) was found not to be mutagenic in a rat in vivo bone marrow cytogenetic test, a mouse lymphoma assay and an Ames mutagenicity assay.

12. ECOLOGICAL INFORMATION :

MOBILITY : No data available.

ECOTOXICITY : Not expected to be harmful to aquatic organisms.

BIOACCUMMULATION : No data available.

PERSISTANCE/BIODEGRADATION: The 48 and 96 hour LL50s for a water accommodated fraction (WAF) of petroleum coke are >1000 mg/l in both daphnia and fathead minnows, respectively. Coke did not produce any adverse effects on fresh water algae at WAF concentrations of >1000 mg/l. Earthworms and seedlings (corn, radish & soybean) were unaffected by the presence of concentrations of 1000 mg/kg coke in the soil.

13. DISPOSAL CONSIDERATION :

DISPOSAL INSTRUCTIONS : Dispose in accordance with all applicable regulations. Incinerate the material under controlled conditions in an approved incinerator. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container.

CLEANUP CONSIDERATION : This product as produced is not specifically listed as an EPA RCRA hazardous waste according to federal regulations (40 CFR 260-271). However, when discarded, spilled or disposed of, it can become an EPA RCRA hazardous waste. It is the responsibility of the user to determine if disposal material is hazardous according to federal, state and local regulations.

14. TRANSPORTATION INFORMATION :

49 CFR 172.101:

DOT:

Transport Information : This material when transported via US commerce is NOT REGULATED by DOT regulations.

Packing group : Not applicable.

DOT reportable quantity (lbs) : Not applicable.

15. REGULATORY INFORMATION :

U.S. FEDERAL, STATE, and LOCAL REGULATORY INFORMATION :

US TSCA Chemical Inventory Section 8(b) : This product and/or its components are listed on the TSCA Chemical Inventory.

OSHA Hazard Communication Standard : This product has been evaluated and determined not to be hazardous as defined in OSHA's Hazard Communication Standard.

EPA Superfund Amendment & Reauthorization Act (SARA):

SARA Section 302 : This product contains the following component(s) that have been listed on EPA's Extremely Hazardous Substance (EHS) List:

Name	CERCLA/SARA - Section 302 Extremely Hazardous Substances and TPQs
Petroleum Coke	NA

SARA Section 304 : This product contains the following component(s) identified either as an EHS or a CERCLA Hazardous substance which in case of a spill or release may be subject to SARA reporting requirements:

Name	CERCLA/SARA - Hazardous Substances and their Reportable Quantities
Petroleum Coke	NA

SARA 311 CATEGORIES : The Following EPA Hazard Categories apply to this product:
NONE.

SARA Section 313 : This product contains the following component(s) that may be subject to reporting on the Toxic Release Inventory (TRI) From R:

Name	CERCLA/SARA - 313 Emission reporting:
Petroleum Coke	NONE

State and Community Right-To-Know Regulations:

The following component(s) of this material are identified on the regulatory lists below:

Petroleum Coke :

Louisiana Right-To-Know : Not Listed.

California Proposition 65 : Not Listed.

New Jersey Right-To-Know : Not Listed.

Pennsylvania Right-To-Know : Not Listed.

Massachusetts Right-To Know : Not Listed.

Florida substance List	:	Not Listed.
Rhode Island Right-To-Know	:	Not Listed.
Michigan critical materials register list	:	Not Listed.
Massachusetts Extraordinarily Hazardous Substances	:	Not Listed.
California - Regulated Carcinogens	:	Not Listed.
Pennsylvania RTK - Special Hazardous Substances	:	Not Listed.
New Jersey - Special Hazardous Substances	:	Not Listed.
New Jersey - Environmental Hazardous Substances List	:	Not Listed.
Illinois - Toxic Air Contaminants	:	Not Listed.
New York - Reporting of Releases Part 597 – List of Hazardous Substances	:	Not Listed.

Canadian Regulatory Information:

Canada DSL/NDSL Inventory	:	This product and/or its components are listed either on the Domestic Substances List (DSL) or are exempt.
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NOTE	:	Not Applicable.
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16. OTHER INFORMATION :

Hazard Index	:	(0-4, 4= Extreme)
Health	:	2
Fire	:	2
Reactivity	:	0

SUPPLEMENTAL INFORMATION :

The data and information as stated was furnished by the manufacturer/vendor &/or supplier of this product. Alpha Resources, Inc. cannot warrant the accuracy of this information and shall not be responsible or liable for any damage that may result, should any of the information be erroneous.

Date Prepared: January 14, 2013

Prepared by : Greg Molter