SAFETY DATA SHEET

SDS ID NO.: 0109MAR019
Revision Date: 07/29/2015

1. IDENTIFICATION

Product Name: Marathon Petroleum Petroleum Coke

Synonym: Petroleum Coke; Calcined Coke
Chemical Family: Carbon

Recommended Use: Fuel.
Use Restrictions: All others.

Supplier Name and Address:

MARATHON PETROLEUM COMPANY LP
539 South Main Street
Findlay, OH 45840

SDS information: 1-419-421-3070

Emergency Telephone: 1-877-627-5463

2. HAZARD IDENTIFICATION

Classification

OSHA Regulatory Status
This chemical is considered hazardous according to the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Combustible dust	OSHA defined hazard***

Hazards Not Otherwise Classified (HNOC)
Not applicable

Label elements

EMERGENCY OVERVIEW

Warning

May form combustible dust concentrations in air (during processing)

Appearance Black Porous Chunks or Powder **Physical State** Solid **Odor** Slight Hydrocarbon

Precautionary Statements - Prevention
Minimize dust generation and accumulation
Keep away from all ignition sources including heat, sparks and flame. No Smoking
Clean as needed to prevent hazardous accumulation or dispersion of fugitive dust
Bond and ground containers, equipment and/or conducting surfaces to minimize and dissipate electrostatic charge
When necessary, employ explosive force dissipation design to vent away from other combustibles***

Precautionary Statements - Response
Avoid contact with eyes and breathing of dust.***
In case of fire: Use portable spray hose nozzles that are listed or approved for use on Class C fire for extinction***

Precautionary Statements - Storage
Store in a cool and well-ventilated area
Wetting will suppress dust release***

Precautionary Statements - Disposal
Dispose of contents/container at an approved waste disposal plant

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%).

Composition Information:

Name	CAS Number	Weight %
Petroleum Coke	64741-79-3	100
Sulfur Compounds	Mixture	1-6
Polycyclic Aromatic Hydrocarbons	Mixture	<0.1

4. FIRST AID MEASURES

First Aid Measures

General advice In case of accident or if you feel unwell, seek medical advice immediately (show directions for use or safety data sheet if possible).

Inhalation: Remove to fresh air. If not breathing, institute rescue breathing. If breathing is difficult, ensure airway is clear, give oxygen and continue to monitor. If heart has stopped, immediately begin cardiopulmonary resuscitation (CPR). If symptoms or irritation occur, call a physician.

Skin Contact: Wash skin with plenty of soap and water. Get medical attention if irritation persists. Wash contaminated clothing before re-use.

Eye Contact: Flush immediately with large amounts of water for at least 15 minutes. Eyelids should be held away from the eyeball to ensure thorough rinsing. Gently remove contacts while flushing. Get medical attention if irritation persists.

Ingestion: Rinse mouth out with water. If symptoms develop, seek medical attention.

Most important signs and symptoms, both short-term and delayed with overexposure

Adverse Effects: Dust may be a mechanical irritant.

Indication of any immediate medical attention and special treatment needed

Notes To Physician: Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media
Portable spray hose nozzles that are listed or approved for use on Class C fires shall be provided in areas that contain dust, to limit the potential for generating unnecessary airborne dust during fire-fighting operations. Personnel shall be trained to use portable extinguishers in a manner that minimizes the generation of dust clouds during discharge. Firefighting should be attempted only by those who are adequately trained and equipped with proper protective equipment.***

Unsuitable extinguishing media
Straight-stream nozzles shall not be used on fires in areas where dust clouds can be generated.***

Specific hazards arising from the chemical
May form combustible dust concentrations in the air. Fine dust dispersed in sufficient concentrations in the air, and in the presence of an ignition source is a potential dust explosion hazard. Non-sparking tools/equipment should be considered when a potentially combustible dust environment exists.

Hazardous combustion products
Smoke, carbon monoxide, and other products of incomplete combustion.

Explosion data
Sensitivity to Mechanical Impact No.
Sensitivity to Static Discharge Yes.

Special protective equipment and precautions for firefighters
Firefighters should wear full protective clothing and positive-pressure self-contained breathing apparatus (SCBA) with a full face-piece, as appropriate. Avoid generation and accumulation of dust when handling this material. Refer to NFPA 654 Standard for Prevention of Fire & Dust Explosions. 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:	Health 1	Flammability 1	Instability 0	Special Hazards -

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions:	Keep people away from and upwind of spill/leak. Dust deposits dispersed into the atmosphere in sufficient concentration may form an explosive mixture. Eliminate all ignition sources. Ensure adequate ventilation.
Protective Equipment:	Use personal protection measures as recommended in Section 8.
Emergency Procedures:	Advise authorities and National Response Center (800-424-8802) if the product has entered a water course or sewer. Notify local health and pollution control agencies, if appropriate.
Environmental precautions:	Avoid release to the environment.***
Methods and materials for containment:	Prevent dust cloud. Cover powder spill with plastic sheet or tarp, or keep wetted to minimize dispersion of powder.***
Methods and materials for cleaning up:	Sweep up and shovel into suitable containers for disposal. If disturbed, dust on surfaces can be dispersed and form explosive mixtures in the air, e.g. compressed air cleaning. Ensure all equipment is bonded and grounded. Use only non-sparking tools.***

7. HANDLING AND STORAGE

Safe Handling Precautions: To avoid the combustible dust hazard, minimize dust generation and accumulation. 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 and cause an electrical spark. Provide adequate precautions, such as electrical grounding and bonding, or nonreactive atmospheres. Use non-sparking tools. Avoid contact with eyes. Avoid breathing dust. Refer to applicable EPA, OSHA, NFPA and consistent state and local requirements.

Storage Conditions: When stored indoors keep in a cool, well-ventilated area. Do not expose to heat, open flames, strong oxidizers or other sources of ignition. Petroleum Coke may be stored outdoors with proper provisions for containment. Wetting will suppress dust release.

Incompatible materials Strong oxidizing agents.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Name	ACGIH TLV	OSHA PELS:	OSHA - Vacated PELs	NIOSH IDLH
Petroleum Coke 64741-79-3	-	-	-	-
Sulfur Compounds Mixture	-	-	-	-
Polycyclic Aromatic Hydrocarbons Mixture	-	-	-	-

Notes: The manufacturer has voluntarily elected to provide exposure limits contained in OSHA's 1989 air contaminants standard in its SDSs, even though certain of those exposure limits were vacated in 1992.

Engineering measures: Local or general exhaust required in an enclosed area or when there is inadequate ventilation. Use mechanical ventilation equipment that is explosion-proof.

Personal protective equipment

Eye protection: Dust goggles if use produces excessive dust/fume concentrations.

Skin and body protection: Protective disposable gloves to prevent skin exposure.

Respiratory protection: Use a NIOSH approved air-purifying respirator equipped with P100 particulate filter or a supplied air respirator when there is the potential for airborne exposures to exceed permissible exposure limits or if excessive dust or fumes are generated.***

Hygiene measures: Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes and clothing.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical State	Solid
Appearance	Black Porous Chunks or Powder
Color	Black
Odor	Slight Hydrocarbon
Odor Threshold	No available data.

Property	Values (Method)
Melting Point / Freezing Point	No available data.
Initial Boiling Point / Boiling Range	No available data.
Flash Point	No available data.
Evaporation Rate	No available data.
Flammability (solid, gas)	No available data.
Flammability Limit in Air (%)	
Upper Flammability Limit:	No available data.

Lower Flammability Limit:	No available data.
Vapor Pressure	No available data.
Vapor Density	No available data.
Specific Gravity / Relative Density	0.8-1.0 @ 15.6°C (ASTM D70)
Water Solubility	Negligible
Solubility in other solvents	No available data.
Partition Coefficient	No available data.
Decomposition temperature:	No available data.
pH:	Not applicable.
Autoignition Temperature	No available data.
Kinematic Viscosity	Not applicable.***
Dynamic Viscosity	Not applicable.***
Explosive Properties	No available data.
Softening Point	No available data.
VOC Content (%)	No available data.
Density	No available data.
Bulk Density	Not applicable.
Kst	47 bar.m/s (explosion pressure build-up in meters/second) NFPA 68 2007 Table F.1b***

10. STABILITY AND REACTIVITY

Reactivity The product is non-reactive under normal conditions.

Chemical stability The material is stable at 70°F, 760 mmHg pressure.

Possibility of hazardous reactions None under normal processing.

Hazardous polymerization Will not occur.

Conditions to avoid Excessive heat, sources of ignition, open flame.

Incompatible materials Strong oxidizing agents.

Hazardous decomposition products None known under normal conditions of use.

11. TOXICOLOGICAL INFORMATION

Potential short-term adverse effects from overexposures

Inhalation Inhalation of dust may cause irritation of the respiratory system.

Eye contact Dust may cause mechanical irritation of the eye.

Skin contact No known hazard in contact with skin.

Ingestion May cause irritation of the mouth, throat and gastrointestinal tract.

Acute Toxicological data

Name	Oral LD50	Dermal LD50	Inhalation LC50
Petroleum Coke 64741-79-3	-	-	-
Sulfur Compounds Mixture	-	-	>5 mg/l (Rat) 4 h
Polycyclic Aromatic Hydrocarbons Mixture	-	-	-

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Petroleum coke was found not to be carcinogenic in monkeys and rats in a two-year inhalation study at concentrations up to 30 mg/m^3. 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.

Adverse effects related to the physical, chemical and toxicological characteristics

Signs & Symptoms Dust may be a mechanical irritant.

Sensitization Not expected to be a skin or respiratory sensitizer.

Mutagenic effects None known.

Carcinogenicity Cancer designations are listed in the table below

Name	ACGIH (Class)	IARC (Class)	NTP	OSHA
Petroleum Coke 64741-79-3	Not Listed	Not Listed	Not Listed	Not Listed
Sulfur Compounds Mixture	Not Listed	Not Listed	Not Listed	Not Listed
Polycyclic Aromatic Hydrocarbons Mixture	Suspected human carcinogen (A2)	Carcinogenic to humans (1)	Reasonably anticipated to be a human carcinogen	Not Listed

Reproductive toxicity None known.

Specific Target Organ Toxicity (STOT) - single exposure Not classified.

Specific Target Organ Toxicity (STOT) - repeated exposure Not classified.

Aspiration hazard Not classified.

12. ECOLOGICAL INFORMATION

Ecotoxicity This product is not expected to be harmful to aquatic organisms.

Name	Algae/aquatic plants	Fish	Toxicity to Microorganisms	Crustacea
Petroleum Coke 64741-79-3	72-hr EL50 >1000 mg/l Algae	96-hr LL50 >1000 mg/l Fathead minnow	-	48-hr EL50 >1000 mg/l Daphnia magna
Sulfur Compounds Mixture	-	-	-	-
Polycyclic Aromatic Hydrocarbons Mixture	-	-	-	-

Persistence and degradability No information available.

Bioaccummulation No information available.

Mobility in soil No information available.

Other adverse effects No information available.

13. DISPOSAL CONSIDERATIONS

Description of Waste Residues
No information available.

Safe Handling of Wastes
Handle in accordance with applicable local, state, and federal regulations.

Disposal of Wastes / Methods of Disposal
The user is responsible for determining if any discarded material is a hazardous waste (40 CFR 262.11). Dispose of in accordance with federal, state and local regulations.

Methods of Contaminated Packaging Disposal
Empty containers should be completely drained and then discarded or recycled, if possible. Dispose of in accordance with federal, state and local regulations.

14. TRANSPORT INFORMATION

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

DOT (49 CFR 172.101):

UN Proper shipping name:	Not Regulated
UN/Identification No:	Not applicable
Transport Hazard Class(es):	Not applicable
Packing group:	Not applicable

TDG (Canada):

UN Proper shipping name:	Not Regulated
UN/Identification No:	Not applicable
Transport Hazard Class(es):	Not applicable
Packing group:	Not applicable

15. REGULATORY INFORMATION

US Federal Regulatory Information:

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

EPA Superfund Amendment & Reauthorization Act (SARA):

SARA Section 302: This product does not contain any component(s) included on EPA's Extremely Hazardous Substance (EHS) List.

Name	CERCLA/SARA - Section 302 Extremely Hazardous Substances and TPQs
Petroleum Coke	NA
Sulfur Compounds	NA
Polycyclic Aromatic Hydrocarbons	NA

SARA Section 304: This product may contain 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
Sulfur Compounds	NA
Polycyclic Aromatic Hydrocarbons	1 lb final RQ 0.454 kg final RQ

SARA: The following EPA hazard categories apply to this product:

Fire Hazard

SARA Section 313: This product may contain component(s), which if in exceedance of the de minimus threshold, may be subject to the reporting requirements of SARA Title III Section 313 Toxic Release Reporting (Form R).

Name	CERCLA/SARA 313 Emission reporting:
Petroleum Coke	None
Sulfur Compounds	None
Polycyclic Aromatic Hydrocarbons	0.1 % Supplier notification limit

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.

Sulfur Compounds

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.

Polycyclic Aromatic Hydrocarbons

Louisiana Right-To-Know:	Not Listed.
California Proposition 65:	Carcinogen
New Jersey Right-To-Know:	SN 3758
Pennsylvania Right-To-Know:	Environmental hazard; Special hazardous substance
Massachusetts Right-To Know:	Carcinogen; Extraordinarily hazardous
Florida Substance List:	Not Listed.
Rhode Island Right-To-Know:	Present
Michigan Critical Materials Register List:	10 lb Annual usage threshold
Massachusetts Extraordinarily Hazardous Substances:	Carcinogen; extraordinarily hazardous
California - Regulated Carcinogens:	Not Listed.

Pennsylvania RTK - Special Hazardous Substances:	Present
New Jersey - Special Hazardous Substances:	Carcinogen; mutagen; teratogen
New Jersey - Environmental Hazardous Substances List:	SN 3758 TPQ: 500 lb (If you have >500 lbs in combination of any of the listed chemicals, you are to report them under the category heading - N590 (that is, do not report the individual chemicals or their CAS numbers))
Illinois - Toxic Air Contaminants	Present
New York - Reporting of Releases Part 597 - List of Hazardous Substances:	1 lb RQ (air); 1 lb RQ (land/water)

Canada DSL/NDSL Inventory: This product and/or its components are listed either on the Domestic Substances List (DSL) or are exempt.

Canadian Regulatory Information: "This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the (M)SDS contains all the information required by the Controlled Products Regulations."

Name	Canada - WHMIS: Classifications of Substances:	Canada - WHMIS: Ingredient Disclosure:
Petroleum Coke	UP	
Sulfur Compounds	Uncontrolled product according to WHMIS classification criteria	-
Polycyclic Aromatic Hydrocarbons	D2A,D2B	0.1%

NOTE: Not Applicable.

16. OTHER INFORMATION

Prepared By Toxicology and Product Safety

Revision Date: 07/29/2015

Revision Note:
The following sections (§) have been updated:
§ 2. HAZARD IDENTIFICATION
§ 5. FIRE-FIGHTING MEASURES
§ 6. ACCIDENTAL RELEASE MEASURES
§ 8. EXPOSURE CONTROLS/PERSONAL PROTECTION
§ 9. PHYSICAL AND CHEMICAL PROPERTIES***

Disclaimer
The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information is intended as guidance for safe handling, use, processing, storage, transportation, accidental release, clean-up and disposal and is not considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.