



SAFETY DATA SHEET

SDS ID NO.: 0109MAR019
Revision Date 10/07/2015

1. IDENTIFICATION

Product Name: Marathon Petroleum Petroleum Coke
Synonym: Petroleum Coke; Green Coke
Chemical Family: Carbon
Recommended Use: Fuel.
Restrictions on Use: All others.

Manufacturer, Importer, or Responsible Party 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 by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Combustible dust	OSHA defined hazard
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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
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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 Use portable spray hose nozzles that are listed or approved for use on Class C fire for extinction 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

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	% Concentration
Petroleum Coke	64741-79-3	100
Sulfur Compounds	Mixture	1-6
Polycyclic Aromatic Hydrocarbons	Mixture	<0.1

All concentrations are percent by weight unless material is a gas. Gas concentrations are in percent by volume.

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 air. Fine dust dispersed in air, in sufficient concentrations, 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.

Additional firefighting tactics

Not applicable.

NFPA

Health 1

Flammability 1

Instability 0

Special Hazard -

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 data available.

<u>Property</u>	<u>Values (Method)</u>
Melting Point / Freezing Point	No data available.
Initial Boiling Point / Boiling Range	No data available.
Flash Point	No data available.
Evaporation Rate	No data available.
Flammability (solid, gas)	Not applicable.
Flammability Limit in Air (%):	
Upper Flammability Limit:	No data available.
Lower Flammability Limit:	No data available.
Explosion limits:	No data available.
Vapor Pressure	No data available.
Vapor Density	No data available.
Specific Gravity / Relative Density	0.8-1.0
Water Solubility	Negligible

Solubility in other solvents	No data available.
Partition Coefficient	No data available.
Decomposition temperature	No data available.
pH:	Not applicable.
Autoignition Temperature	No data available.
Kinematic Viscosity	No data available.
Dynamic Viscosity	No data available.
Explosive Properties	No data available.
VOC Content (%)	No data available.
Density	No data available.
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

<u>Reactivity</u>	The product is non-reactive under normal conditions.
<u>Chemical stability</u>	The material is stable at 70°F, 760 mmHg pressure.
<u>Possibility of hazardous reactions</u>	None under normal processing.
<u>Hazardous polymerization</u>	Will not occur.
<u>Conditions to avoid</u>	Excessive heat, sources of ignition, open flame.
<u>Incompatible Materials</u>	Strong oxidizing agents.
<u>Hazardous decomposition products</u>	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/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.

Adverse effects related to the physical, chemical and toxicological characteristics

Signs and Symptoms	Dust may be a mechanical irritant.
Sensitization	Not expected to be a skin or respiratory sensitizer.
Mutagenic effects	None known.
Carcinogenicity	None known.

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.
Bioaccumulation	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

DOT (49 CFR 172.101):

UN Proper Shipping Name: Not Regulated
UN/Identification No: Not applicable
Class: 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	Hazardous Substances RQs
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 SDS contains all of the information required by those 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 Notes

Revision Date 10/07/2015

Revised Sections 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.