Green Coke

Material Safety Data Sheet

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: Green Coke

MSDS Code: 724130

Synonyms:
Thermocracked Coke, Green
Conoco MSDS # COKC0020
Carson MS Green Coke, Lump, or Fines
CCC LS Green Coke
Green Anode Coke
Green Anode High Metal
Green Anode Purchased
Green Anode Shot
Green BP - Green Base Premium
Green Fines Coke
Green Fuel Purchased
Green High Sulfur Fuel Coke
Green HSR - Green High Sulfur Recarburizer
Green IP - Green Intermediate Premuim
Green ISR - Green Intermediate Sulfur Recarburizer
Green LSR - Green Low Sulfur Recarburizer
Green Lump Coke
Green MSR - Green Medium Sulfur Recarburizer
Green NP - Green Normal Premium
Green NSR - Green Normal Sulfur Recarburizer
Green Transition
Green XP - Green X-Coke
HS Green Coke
LIP Green Coke
LNP Green Coke
LXP Green Coke
LS Green Coke
LS Green Fines Coke
LS Green Coke - Poco Graphite
MS Green Coke
Petroleum Coke
SMRC HS Green Coke

Responsible Party:
ConocoPhillips
600 N. Dairy Ashford
Houston, Texas 77079-1175

MSDS Information:
Phone: 800-762-0942
Email: MSDS@conocophillips.com
Internet: http://w3.conocophillips.com/NetMSDS/

Emergency Telephone Numbers:
Chemtrec: 800-424-9300 (24 Hours)
California Poison Control System: 800-356-3219

2. HAZARDS IDENTIFICATION

Emergency Overview | **NFPA**

This material is not considered hazardous according to OSHA criteria.

2. HAZARDS IDENTIFICATION

Appearance: Black particles and / or lumps
Physical Form: Solid
Odor: Faint hydrocarbon

Potential Health Effects
Eye: Dusts may be abrasive and irritating to the eyes and cause stinging, watering, and redness.

Skin: Prolonged or repeated contact with dusts may be abrasive and mildly irritating to the skin. No harmful effects from skin absorption are expected.

Inhalation (Breathing): Low degree of toxicity by inhalation.

Ingestion (Swallowing): No harmful effects expected from ingestion.

Signs and Symptoms: Repeated overexposures to dusts may result in irritation of the respiratory tract, pneumoconiosis (dust congested lungs), pneumonitis (lung inflammation), coughing, and shortness of breath.

Other Comments: This material may contain varying concentrations of polycyclic aromatic hydrocarbons (PAHs) which have been known to produce a phototoxic reaction when contaminated skin is exposed to sunlight. The effect is similar in appearance to an exaggerated sunburn, and is temporary in duration if exposure is discontinued. Continued exposure to sunlight can result in more serious skin problems including pigmentation (discoloration), skin eruptions (pimples), and possible skin cancers.

Pre-Existing Medical Conditions: Conditions aggravated by exposure may include skin disorders, respiratory (asthma-like) disorders.

See Section 11 for additional Toxicity Information.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Component	CAS	Concentration (wt %)
Thermocracked Coke, Green	64741-79-3	100

4. FIRST AID MEASURES

Eye: If irritation or redness develops from exposure, flush eyes with clean water. If symptoms persist, seek medical attention.

Skin: First aid is not normally required. However, it is good practice to wash any chemical from the skin.

Inhalation (Breathing): First aid is not normally required. If breathing difficulties develop, move victim away from source of exposure and into fresh air. Seek immediate medical attention.

Ingestion (Swallowing): First aid is not normally required; however, if swallowed and symptoms develop, seek medical attention.

5. FIRE-FIGHTING MEASURES

NFPA 704 Hazard Class

Health: 0 **Flammability:** 1 **Instability:** 0 (0-Minimal, 1-Slight, 2-Moderate, 3-Serious, 4-Severe)

Unusual Fire & Explosion Hazards: This material may burn, but will not ignite readily.

Extinguishing Media: Dry chemical, carbon dioxide, foam, water, sand, or earth is recommended. Carbon dioxide can displace oxygen. Use caution when applying carbon dioxide in confined spaces. Carbon dioxide can displace oxygen. Use caution when applying carbon dioxide in confined spaces.

Fire Fighting Instructions: For fires beyond the incipient stage, emergency responders in the immediate hazard area should wear bunker gear. When the potential chemical hazard is unknown, in enclosed or confined spaces, or when explicitly required by DOT, a self contained breathing apparatus should be worn. In addition, wear other appropriate protective equipment as conditions warrant (see Section 8).

Isolate immediate hazard area, keep unauthorized personnel out. Contain spill if it can be done with minimal risk. Move undamaged containers from immediate hazard area if it can be done with minimal risk. Cool equipment exposed to fire with water, if it can be done with minimal risk.

See Section 9 for Flammable Properties including Flash Point and Flammable (Explosive) Limits

6. ACCIDENTAL RELEASE MEASURES

Personal precautions: This material may burn, but will not ignite readily. Keep all sources of ignition away from spill/release.

Spill precautions: Stay upwind and away from spill. Notify persons down wind of the spill/release, isolate immediate hazard area and keep unauthorized personnel out. Contain spill if it can be done with minimal risk. Wear appropriate protective equipment, including respiratory protection, as conditions warrant (see Section 8).

Environmental precautions: Prevent spilled material from entering sewers, storm drains, other unauthorized drainage systems, and natural waterways.

Methods for cleaning up: Cleanup under expert supervision is advised. Minimize dust generation. Sweep up and package appropriately for disposal.

7. HANDLING AND STORAGE

Handling: The use of appropriate respiratory protection is advised when concentrations exceed any established exposure limits (see Section 8).

Wash thoroughly after handling. Do not wear contaminated clothing or shoes. Use good personal hygiene practices.

Storage: Keep container(s) tightly closed. Use and store this material in cool, dry, well-ventilated areas away from heat and all sources of ignition. Store only in approved containers. Keep away from incompatible material (see section 10). Protect container(s) against physical damage.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Component	ACGIH	OSHA	Other:
Thermocracked Coke, Green	10 mg/m^3 TWA-Total 3 mg/m^3 TWA-Resp. as Nuisance Dust, if Generated 0.2 mg/m^3 TWA as Coal Tar Pitch Volatiles as Benzene Solubles	15 mg/m^3 TWA-Total 5 mg/m^3 TWA-Resp. as Nuisance Dust, if Generated 0.2 mg/m^3 TWA as Coal Tar Pitch Volatiles as Benzene Solubles	---

Note: State, local or other agencies or advisory groups may have established more stringent limits. Consult an industrial hygienist or similar professional, or your local agencies, for further information.

Engineering controls: If current ventilation practices are not adequate to maintain airborne concentrations below the established exposure limits additional engineering controls may be required.

Personal Protective Equipment (PPE):

Eye/Face: Approved eye protection to safeguard against potential eye contact, irritation, or injury is recommended. Depending on conditions of use, a face shield may be necessary.

Skin: The use of gloves impervious to the specific material handled, such as nitrile, is advised to prevent skin contact and possible irritation (see manufacturers literature for information on permeability).

Respiratory: A NIOSH certified air purifying respirator with a Type 95 (R or P) particulate filter may be used under conditions where airborne concentrations are expected to exceed exposure limits.

Protection provided by air purifying respirators is limited (see manufacturer's respirator selection guide). Use a NIOSH approved self-contained breathing apparatus (SCBA) or equivalent operated in a pressure demand or other positive pressure mode if there is potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air purifying respirators may not provide adequate protection.

A respiratory protection 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 Protective Equipment: A source of clean water should be available in the work area for flushing eyes and skin. Impervious clothing should be worn as needed.

Suggestions for the use of specific protective materials are based on readily available published data. Users should check with specific manufacturers to confirm the performance of their products.

9. PHYSICAL AND CHEMICAL PROPERTIES

Note: Unless otherwise stated, values are determined at 20°C (68°F) and 760 mm Hg (1 atm).

Appearance:	Black particles and / or lumps
Physical Form:	Solid
Odor:	Faint hydrocarbon
Odor Threshold:	No data
pH:	Not applicable
Vapor Density (air=1):	>1
Boiling Point/Range:	No data
Melting/Freezing Point:	No data
Solubility in Water:	0%
Partition Coefficient (n-octanol/water) (Kow):	No data
Specific Gravity:	1.00-1.80 @ 68ºF (20ºC)
Bulk Density:	40-65 lb/ft3
Percent Volatile:	10-12%
Evaporation Rate (nBuAc=1):	No data
Flash Point:	No data
LEL (vol % in air):	No data
UEL (vol % in air):	No data
Autoignition Temperature:	No data

10. STABILITY AND REACTIVITY

Stability: Stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

Conditions to Avoid: Avoid all possible sources of ignition (see Sections 5 and 7).

Materials to Avoid (Incompatible Materials): strong oxidizing agents.

Hazardous Decomposition Products: Combustion can yield carbon dioxide and possibly carbon monoxide, vanadium and nickel oxides and sulfur dioxide.

Hazardous Polymerization: Will not occur.

11. TOXICOLOGICAL INFORMATION

Chronic Data:

Thermocracked Coke, Green

Carcinogenicity: Lifetime skin painting studies in mice in which petroleum coke was applied as a 25% mineral oil solution were negative.

Target Organs: Repeated exposure of rats to 10 and 30 mg/m^3 petroleum coke dust for two years resulted in signs of lung injury including fibrosis (scarring of lung tissue). Similar exposures in monkeys caused no significant lung effects.

12. ECOLOGICAL INFORMATION

Petroleum coke is a solid material which is composed of carbon and other high molecular weight and water insoluble materials. Some metals are present but usually at very low concentrations. The concentrations of these metals can be quite variable depending upon the source of the coke. Because both green and calcined cokes are relatively inert, they would not be expected to interact with the environment in an adverse manner.

A series of aquatic toxicity tests were conducted for a milled petroleum coke sample using a single WAF loading rate of 1000 mg/L. Toxicity was found to be low in fathead minnows. Daphnia magna, and algae with the NOEL for all three tests exceeding 1000 mg/L, Studies in earthworms also demonstrated low toxicity with the 14-day LC50 estimation from exposure to petroleum coke in an artificial soil substrate reported as greater than 1000 mg/kg dry soil.

In studies on seedling emergence and growth of terrestrial plants, incorporation of petroleum coke in soil resulted in no adverse effects on the three species tested. The nominal test concentration of 1000 mg/kg was determined to be a NOEC for corn, radish, and soybean.

13. DISPOSAL CONSIDERATIONS

The generator of a waste is always responsible for making proper hazardous waste determinations and needs to consider state and local requirements in addition to federal regulations.

This material, if discarded as produced, would not be a federally regulated RCRA "listed" hazardous waste and is not believed to exhibit characteristics of hazardous waste. See Sections 7 and 8 for information on handling, storage and personal protection and Section 9 for physical/chemical properties. It is possible that the material as produced contains constituents which are not required to be listed in the MSDS but could affect the hazardous waste determination. Additionally, use which results in chemical or physical change of this material could subject it to regulation as a hazardous waste.

Container contents should be completely used and containers should be emptied prior to discard.

14. TRANSPORTATION INFORMATION

U.S. Department of Transportation (DOT)
Shipping Description: Not regulated

International Maritime Dangerous Goods (IMDG)
Shipping Description: Not regulated

International Civil Aviation Org. / International Air Transport Assoc. (ICAO/IATA)
UN/ID #: Not regulated

	LTD. QTY	Passenger Aircraft	Cargo Aircraft Only
Packaging Instruction #:	---	---	---
Max. Net Qty. Per Package:	---	---	---

15. REGULATORY INFORMATION

CERCLA/SARA - Section 302 Extremely Hazardous Substances and TPQs (in pounds):
This material does not contain any chemicals subject to the reporting requirements of SARA 302 and 40 CFR 372.

CERCLA/SARA - Section 311/312 (Title III Hazard Categories)
Acute Health: No

Chronic Health:	No
Fire Hazard:	No
Pressure Hazard:	No
Reactive Hazard:	No

CERCLA/SARA - Section 313 and 40 CFR 372:
This material does not contain any chemicals subject to the reporting requirements of SARA 313 and 40 CFR 372.

EPA (CERCLA) Reportable Quantity (in pounds):
EPA's Petroleum Exclusion applies to this material - (CERCLA 101(14)).

California Proposition 65:
This material does not contain any chemicals which are known to the State of California to cause cancer, birth defects or other reproductive harm.

Canadian Regulations:
This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

WHMIS Hazard Class
B4 - Flammable Solids

National Chemical Inventories:
All components are either listed on the US TSCA Inventory, or are not regulated under TSCA.
All components are listed on the Canadian DSL.

U.S. Export Control Classification Number: EAR99

16. OTHER INFORMATION

Issue Date:	06-Mar-2007
Status:	Final
Product Code:	Multiple
Revised Sections or Basis for Revision:	Format change Responsible party (Section 1) Product Name / Synonyms (Section 1)
MSDS Code:	724130

MSDS Legend:
ACGIH = American Conference of Governmental Industrial Hygienists; CAS = Chemical Abstracts Service Registry; CEILING = Ceiling Limit (15 minutes); CERCLA = The Comprehensive Environmental Response, Compensation, and Liability Act; EPA = Environmental Protection Agency; IARC = International Agency for Research on Cancer; LEL = Lower Explosive Limit; NE = Not Established; NFPA = National Fire Protection Association; NTP = National Toxicology Program; OSHA = Occupational Safety and Health Administration; PEL = Permissible Exposure Limit (OSHA); SARA = Superfund Amendments and Reauthorization Act; STEL = Short Term Exposure Limit (15 minutes); TLV = Threshold Limit Value (ACGIH); TWA = Time Weighted Average (8 hours); UEL = Upper Explosive Limit; WHMIS = Worker Hazardous Materials Information System (Canada)

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