

Safety Data Sheet

Material Name: METALLURGICAL COKE

SDS ID: 00232458

*** Section 1 - PRODUCT AND COMPANY IDENTIFICATION ***

Material Name: METALLURGICAL COKE

Manufacturer Information

CMC Cometals
CONTACT:
2050 Center Avenue, Suite 250
Ft. Lee, NJ 07024
Mfg Contact: CMC Cometals

EMERGENCY

Synonyms

*** Section 2 - HAZARDS IDENTIFICATION ***

EMERGENCY OVERVIEW

Color: gray to black

Physical Form: solid

Odor: odorless to slight odor

POTENTIAL HEALTH EFFECTS

Inhalation

Short Term: irritation

Long Term: difficulty breathing

Skin

Short Term: irritation

Long Term: irritation

Eye

Short Term: irritation

Long Term: irritation

Ingestion

Short Term: gastrointestinal irritation

Long Term: no information is available

*** Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS ***

CAS	Component	Percent	Symbol(s)	Risk Phrase(s)
65996-77-2	METALLURGICAL COKE 266-010-4	100	---	---
7440-44-0	CARBON 231-153-3	>=82	F	R:11
Not Available	ASH	<=10.5	---	---
7732-18-5	WATER 231-791-2	<=5	---	---
Not Available	VOLATILE MATTER	<=1.5	---	---
7704-34-9	SULFUR 231-722-6	<=0.6	Xi	R:38-36-37-38
7723-14-0	PHOSPHORUS, RED 231-768-7	<=0.035	F	R:11-16-52-53

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Component Related Regulatory Information

This product may be regulated, have exposure limits or other information identified as the following: Graphite, synthetic.

*** Section 4 - FIRST AID MEASURES ***

Inhalation

If adverse effects occur, remove to uncontaminated area. Give artificial respiration if not breathing. Get immediate medical attention.

Skin

Wash skin with soap and water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention, if needed. Thoroughly clean and dry contaminated clothing and shoes before reuse.

Eyes

Flush eyes with plenty of water for at least 15 minutes. Then get immediate medical attention.

Ingestion

If a large amount is swallowed, get medical attention.

*** Section 5 - FIRE FIGHTING MEASURES ***

See Section 9 for Flammability Properties

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

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

Flammable Properties

Slight fire hazard.

Extinguishing Media

carbon dioxide, regular dry chemical, regular foam, water

Fire Fighting Measures

Move material from fire area if it can be done without risk. Avoid inhalation of material or combustion by-products.

Stay upwind and keep out of low areas.

Thermal Decomposition Products

Combustion: carbon dioxide, carbon monoxide

*** Section 6 - ACCIDENTAL RELEASE MEASURES ***

Occupational spill/release

Collect spilled material in appropriate container for disposal. Keep out of water supplies and sewers. Notify Local Emergency Planning Committee and State Emergency Response Commission for release greater than or equal to RQ (U.S. SARA Section 304). If release occurs in the U.S. and is reportable under CERCLA Section 103, notify the National Response Center at (800)424-8802 (USA) or (202)426-2675 (USA).

*** Section 7 - HANDLING AND STORAGE ***

Handling Procedures

Avoid breathing dust. Avoid contact with eyes, skin and clothing. Use only with adequate ventilation.

Storage Procedures

Store and handle in accordance with all current regulations and standards. Avoid heat, flames, sparks and other sources of ignition. See original container for storage recommendations. Keep separated from incompatible substances.

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*** Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION ***

Component Exposure Limits

CARBON (7440-44-0)

OSHA (US): 15 mg/m³ TWA (total dust); 5 mg/m³ TWA (respirable fraction)

Mexico: 2 mg/m³ TWA (dust)

PHOSPHORUS, RED (7723-14-0)

NIOSH: 0.1 mg/m³ TWA

5 mg/m³ IDLH

OSHA (US): 0.1 mg/m³ TWA

Mexico: 0.1 mg/m³ TWA

0.3 mg/m³ STEL

Ventilation

Provide local exhaust ventilation system. Ensure compliance with applicable exposure limits.

PERSONAL PROTECTIVE EQUIPMENT

Eyes/Face

Wear splash resistant safety goggles. Provide an emergency eye wash fountain and quick drench shower in the immediate work area.

Protective Clothing

Wear appropriate chemical resistant clothing.

Glove Recommendations

Wear appropriate chemical resistant gloves.

Respiratory Protection

Under conditions of frequent use or heavy exposure, respiratory protection may be needed.

Respiratory protection is ranked in order from minimum to maximum.

Consider warning properties before use.

Any particulate respirator equipped with an N95, R95, or P95 filter (including N95, R95, and P95 filtering facepieces) except quarter-mask respirators. The following filters may also be used: N99, R99, P99, N100, R100 or P100.

Any air-purifying full-facepiece respirator equipped with an N95, R95, or P95 filter. The following filters may also be used: N99, R99, P99, N100, R100 or P100.

Any powered, air-purifying respirator with a high-efficiency particulate filter.

Any powered, air-purifying respirator with a tight-fitting facepiece and a high-efficiency particulate filter.

Any supplied-air respirator with a full facepiece that is operated in a pressure-demand or other positive-pressure mode.

For Unknown Concentrations or Immediately Dangerous to Life or Health -

Any supplied-air respirator with a full facepiece that is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary self-contained breathing apparatus operated in pressure-demand or other positive-pressure mode.

Any self-contained breathing apparatus that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode.

*** Section 9 - PHYSICAL AND CHEMICAL PROPERTIES ***

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Physical State:	Solid	Appearance:	Not available
Color:	gray to black	Physical Form:	solid
Odor:	odorless to slight odor	Odor Threshold:	Not available
Melting Point:	Not available	Boiling Point:	Not applicable
Evaporation Rate:	>1 (butyl acetate=1)	Vapor Pressure:	Not applicable
Vapor Density (air = 1):	Not applicable	Density:	Not available
Specific Gravity (water = 1):	1.6 - 1.9	Water Solubility:	almost insoluble
Coeff. Water/Oil Dist:	Not available	Volatility by Volume:	<=1.5 %

*** Section 10 - STABILITY AND REACTIVITY ***

Chemical Stability

Stable at normal temperatures and pressure.

Conditions to Avoid

Avoid heat, flames, sparks and other sources of ignition. Avoid contact with incompatible materials.

Materials to Avoid

oxidizing materials

CARBON:

ALKALI METALS: Contact may result in an exothermic reaction with ignition or an explosion.

AMMONIUM NITRATE: Possible explosion when heated.

AMMONIUM PERCHLORATE: Possible explosion on heating.

BROMATES: Contact is likely to result in ignition or an explosion.

CALCIUM HYPOCHLORITE: Possible explosion on heating.

CHLORATES: Contact is likely to result in ignition or an explosion.

CHLORINE MONOXIDE: Explodes.

CHROMATES: Incompatible.

DICHLORINE OXIDE: Explosion reaction.

HALOGENS: Contact of carbon with any halogen is liable to result in ignition or an explosion.

INTERHALOGENS: Contact of carbon with any interhalogen is liable to result in ignition or an explosion.

IODATES: Contact is likely to result in ignition or an explosion.

IODINE PENTOXIDE: Explodes when warmed.

METAL NITRATES: Contact is likely to result in ignition or an explosion.

NITRIC ACID: Violent reaction.

NITROGEN OXIDE: Ignition with incandescence.

NITROGEN TRIFLUORIDE: Explosion at reduced temperatures.

OILS (UNSATURATED): Fire and explosion hazard.

OXIDES: Contact with many oxides is likely to result in ignition or an explosion.

OXIDIZERS (STRONG): Fire and explosion hazard.

OXOSALTS: Contact is likely to result in ignition or an explosion.

OXYGEN: May result in ignition or an explosion.

OXYGEN DIFLUORIDE: Possible explosion.

OZONE: Fire hazard.

PEROXIDES: Contact is likely to result in ignition or an explosion.

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PEROXYFORMIC ACID: Violent oxidation.
PEROXYFUROIC ACID: Explosive decomposition.
POTASSIUM PERMANGANATE: Ignition on heating.
SODIUM SULFIDE: May undergo spontaneous heating.
TRIOXYGEN DIFLUORIDE: Ignition with possible explosion.

Thermal Decomposition Products

Combustion: carbon dioxide, carbon monoxide

Thermal decomposition products: oxides of carbon.

Possibility of Hazardous Reactions

Will not polymerize.

* * * Section 11 - TOXICOLOGICAL INFORMATION * * *

Component Analysis - LD50/LC50

The components of this material have been reviewed in various sources and the following selected endpoints are published:

CARBON (7440-44-0)

Oral LD50 Rat: >10000 mg/kg

WATER (7732-18-5)

Oral LD50 Rat: >90 mL/kg

SULFUR (7704-34-9)

Inhalation LC50 Rat: >9.23 mg/L/4H; Oral LD50 Rat: >3000 mg/kg; Dermal LD50 Rabbit: >2000 mg/kg

PHOSPHORUS, RED (7723-14-0)

Inhalation LC50 Rat: 4.3 mg/L/1H; Oral LD50 Rat: 3.03 mg/kg; Dermal LD50 Rat: 100 mg/kg

RTECS Acute Toxicity (selected)

The components of this material have been reviewed, and RTECS publishes the following endpoints:

WATER (7732-18-5)

Oral: >90 ml/kg oral rat LD50

SULFUR (7704-34-9)

Inhalation: 1660 mg/m³ inhalation mammal LC50

Acute Toxicity Level

SULFUR (7704-34-9)

Highly Toxic: inhalation.

PHOSPHORUS, RED (7723-14-0)

Highly Toxic: ingestion.

Component Carcinogenicity

None of this product's components are listed by ACGIH, IARC, NTP, DFG or OSHA.

RTECS Irritation

The components of this material have been reviewed, and RTECS publishes the following endpoints:

SULFUR (7704-34-9)

8 ppm eyes human

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Local Effects

SULFUR (7704-34-9)

Irritant: inhalation, skin, eye.

PHOSPHORUS, RED (7723-14-0)

Corrosive: inhalation, skin, eye, ingestion.

The potential for a chronic inhalation hazard exists due to the inherent presence of polynuclear aromatic hydrocarbons.

Medical Conditions Aggravated by Exposure

skin disorders, respiratory disorders

RTECS Reproductive Effects

The components of this material have been reviewed, and RTECS publishes the following endpoints:

CARBON (7440-44-0)

167 mg/kg subcutaneous rat TDLo (pregnant female 8 day(s), continuous)

HEALTH EFFECTS

Inhalation - Acute Exposure

COKE: May cause irritation. CARBON: Inhalation of dust may cause slight mucous membrane irritation.

Inhalation - Chronic Exposure

COKE: May cause chronic bronchitis. Under certain conditions this substance may release polynuclear aromatic hydrocarbons. Prolonged or repeated exposure to these vapors increases the risk of respiratory tract cancers.

CARBON: Repeated or prolonged exposure may cause irritation and pulmonary disorders. Lung damage may result if sufficient exposure occurs.

Skin Contact - Acute Exposure

COKE: May cause irritation. CARBON: Contact may cause irritation.

Skin Contact - Chronic Exposure

COKE: This substance contains polynuclear aromatic hydrocarbons. Repeated or prolonged contact may cause photosensitization. CARBON: Repeated or prolonged contact may cause mechanical irritation.

Eye Contact - Acute Exposure

COKE: May cause irritation. CARBON: Contact with dust may cause mechanical irritation. May also cause conjunctivitis.

Eye Contact - Chronic Exposure

COKE: This substance contains polynuclear aromatic hydrocarbons. Repeated or prolonged contact with dust may cause conjunctivitis. CARBON: Repeated or prolonged exposure may cause mechanical irritation.

Ingestion - Acute Exposure

COKE: No data available. CARBON: Extremely large doses may produce gastrointestinal disturbances.

Ingestion - Chronic Exposure

COKE: No data available. CARBON: No data available.

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*** Section 12 - ECOLOGICAL INFORMATION ***

Component Analysis - Aquatic Toxicity

SULFUR (7704-34-9)

Fish: 96 Hr LC50 Brachydanio rerio: 866 mg/L [static]; 96 Hr LC50 Lepomis macrochirus: <14 mg/L [static]; 96 Hr LC50 Oncorhynchus mykiss: >180 mg/L [static]

PHOSPHORUS, RED (7723-14-0)

Fish: 96 Hr LC50 Lepomis macrochirus: 0.0017-0.0035 mg/L [flow-through]; 96 Hr LC50 Lepomis macrochirus: 0.001-0.004 mg/L [static]; 96 Hr LC50 Brachydanio rerio: >100 mg/L [static]; 96 Hr LC50 Oncorhynchus mykiss: 0.015-0.032 mg/L [static]; 96 Hr LC50 Pimephales promelas: 0.011-0.028 mg/L [static]

Invertebrate: 48 Hr EC50 Daphnia magna: 0.03 mg/L; 48 Hr EC50 Daphnia magna: 0.025 - 0.037 mg/L [Static]

*** Section 13 - DISPOSAL CONSIDERATIONS ***

Disposal Methods

Dispose in accordance with all applicable regulations.

Component Waste Numbers

The U.S. EPA has not published waste numbers for this product's components.

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*** Section 14 - TRANSPORT INFORMATION ***

US DOT Information

No Classification assigned.

TDG Information

No Classification assigned.

ADR Information

No Classification assigned.

ADR Tunnel Code Restrictions

This list contains tunnel restriction codes for those substances and/or chemically related entries which are found in chapter 3.2 of the ADR regulations.

CARBON (7440-44-0)

SULFUR (7704-34-9)

PHOSPHORUS, RED (7723-14-0)

RID Information

No Classification assigned.

IATA Information

No Classification assigned.

ICAO Information

No Classification assigned.

IMDG Information

No Classification assigned.

*** Section 15 - REGULATORY INFORMATION ***

U.S. Federal Regulations

This material contains one or more of the following chemicals required to be identified under SARA Section 302 (40 CFR 355 Appendix A), SARA Section 311/312 (40 CFR 370.21), SARA Section 313 (40 CFR 372.65), CERCLA (40 CFR 302.4), TSCA 12(b), and/or require an OSHA process safety plan.

PHOSPHORUS, RED (7723-14-0)

SARA 302: 100 lb TPQ (This material is a reactive solid. The TPQ does not default to 10000 pounds for non-powder, non-molten, non-solution form)

SARA 313: 1.0 % de minimis concentration (yellow or white)

CERCLA: 1 lb final RQ; 0.454 kg final RQ

SARA 304: 1 lb EPCRA RQ

SARA Section 311/312 (40 CFR 370 Subparts B and C)

Acute Health: No **Chronic Health:** No **Fire:** No **Pressure:** No **Reactive:** No

U.S. State Regulations

The following components appear on one or more of the following state hazardous substances lists:

Component	CAS	CA	MA	MN	NJ	PA	RI
CARBON (related to: Graphite, synthetic)	7440-44-0	No	Yes ¹	No	No	Yes ¹	Yes
SULFUR	7704-34-9	Yes	Yes	No	Yes	Yes	Yes
PHOSPHORUS, RED	7723-14-0	Yes	Yes	Yes	Yes	Yes	Yes

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Not regulated under California Proposition 65

Canada

Germany Water Classification

METALLURGICAL COKE (65996-77-2)

Number 801, not considered hazardous to water

CARBON (7440-44-0)

Number 801, not considered hazardous to water

SULFUR (7704-34-9)

Number 842, not considered hazardous to water

SULFUR (7704-34-9)

Number 753, hazard class 1 - low hazard to waters

EU Marking and Labelling

This material is not classified

Component Analysis - Inventory

Component	CAS	US	CA	EU	AU	PH	JP	KR	CN	NZ
METALLURGICAL COKE	65996-77-2	Yes	DSL	EIN	Yes	Yes	No	Yes	Yes	No
CARBON	7440-44-0	Yes	DSL	EIN	Yes	Yes	No	Yes	Yes	Yes
WATER	7732-18-5	Yes	DSL	EIN	Yes	Yes	No	Yes	Yes	Yes
SULFUR	7704-34-9	Yes	DSL	EIN	Yes	Yes	No	Yes	Yes	Yes
PHOSPHORUS, RED	7723-14-0	Yes	DSL	EIN	Yes	Yes	No	Yes	Yes	Yes

* * * Section 16 - OTHER INFORMATION * * *

Key / Legend

ACGIH - American Conference of Governmental Industrial Hygienists; ADR - European Road Transport; AU - Australia; BOD - Biochemical Oxygen Demand; C - Celsius; CA - Canada; CAS - Chemical Abstracts Service; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CN - China; CPR - Controlled Products Regulations; DFG - Deutsche Forschungsgemeinschaft; DOT - Department of Transportation; DSL - Domestic Substances List; EEC - European Economic Community; EINECS - European Inventory of Existing Commercial Chemical Substances; EPA - Environmental Protection Agency; EU - European Union; F - Fahrenheit; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; ICAO - International Civil Aviation Organization; IDL - Ingredient Disclosure List; IDLH - Immediately Dangerous to Life and Health; IMDG - International Maritime Dangerous Goods; JP - Japan; Kow - Octanol/water partition coefficient; KR - Korea; LEL - Lower Explosive Limit; LOLI - List Of Lists™ - ChemADVISOR's Regulatory Database; MAK - Maximum Concentration Value in the Workplace; MEL - Maximum Exposure Limits; NFPA - National Fire Protection Agency; NIOSH - National Institute for Occupational Safety and Health; NJTSR - New Jersey Trade Secret Registry; NTP - National Toxicology Program; NZ - New Zealand; OSHA - Occupational Safety and Health Administration; PH - Philippines; RCRA - Resource Conservation and Recovery Act; RID - European Rail Transport; RTECS - Registry of Toxic Effects of Chemical Substances®; SARA - Superfund Amendments and Reauthorization Act; STEL - Short-term Exposure Limit; TDG - Transportation of Dangerous Goods; TSCA - Toxic Substances Control Act; TWA - Time Weighted Average; UEL - Upper Explosive Limit; US - United States

Full text of R phrases in Section 3

R11 Highly flammable.

R16 Explosive when mixed with oxidising substances.

R36 Irritating to eyes.

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R37 Irritating to respiratory system.

R38 Irritating to skin.

R52 Harmful to aquatic organisms.

R53 May cause long-term adverse effects in the aquatic environment.

Other Information

Reasonable care has been taken in the preparation of this information, but the manufacturer makes no warranty of merchantability or any other warranty, expressed or implied, with respect to this information. The manufacturer makes no representations and assumes no liability for any direct, incidental or consequential damages resulting from its use. **Disclaimer:** Supplier gives no warranty of merchantability or of fitness for a particular purpose. Any product purchased is sold on the assumption the purchaser will make his own tests to determine the quality and suitability of the product. Supplier expressly disclaims any and all liability for incidental and/or consequential property damage arising out of the use of this product. No information provided shall be deemed to be a recommendation to use any product in conflict with any existing patent rights. THIS MSDS IS TO BE UTILIZED SOLEY AS A REFERENCE DOCUMENT AND IT IS NOT TO BE USED TO SATISFY THE DISTRIBUTION REQUIREMENTS OF OSHA'S HAZARD COMMUNICATION STANDARD (HCS) NOR CANADA'S CONTROLLED PRODUCT REGULATION (CPR). Read the Material Safety Data Sheet before handling product.

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