

MATERIAL SAFETY DATA SHEET

Control No.: MSDS-DEB.Rev10SF031908

SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Identifier:	D-E Black™ (Recovered Carbon Black)	Synonyms:	D-E Black™, Phoenix Black®, Zephyr Black™
Chemical Family:	Carbon Black	Emergency Telephone:	888-375-5336 (Safety Kleen Corp)
Manufacturer/Supplier Name:	Delta-Energy, LLC	Date MSDS Prepared:	12/15/05
	350 Hochberg Rd	Date MSDS Revised:	03/19/08
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SECTION 2 - COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	%	Chemical Name	%
Carbon	78-82	Metals (Zn, Ca, Fe, Ti)	3-5
Inert Components	4-9	Sulfur (present as zinc sulfide)	0.5-2.5
Polyester and its Constituents	3-5	Other Organics	<1.0
Benzene	<0.1	Alpha Quartz	<0.2

SECTION 3 - HEALTH HAZARDS DATA

OSHA PEL: 3.5 mg/m ³ (carbon black)	CARBON BLACK
ACGIH TLV: 3.5 mg/m ³ (carbon black)	CASRN: 1333-86-4
ACGIH STEL: NOT ESTABLISHED	NIOSH Recommendations
IDLH: 1750 mg/m ³ (carbon black)	Recommended Exposure Limit: 10 Hr Time-Weighted Avg: 3.5 mg/m ³
LD50 LC50 Mixture: LD 50: (ORAL, RAT) >8,000 mg/kg	Recommended Exposure Limit: 10 Hr Time-Weighted Avg: 0.1 mg/m ³
	Carbon black in presence of polycyclic aromatic hydrocarbons

SECTION 4 - HAZARDS IDENTIFICATION

Routes of Entry: Absorption, Inhalation, Ingestion.

Emergency Overview: Avoid: oxidizers including chlorates, bromates, and nitrates. Reaction with Strong acids may produce hydrogen sulfide gas.

Hazardous fire products: carbon monoxide and carbon dioxide.

Effects of Exposure: ACUTE: dust concentrations above PEL may cause temporary upper respiratory tract discomfort.

Chronic Effects: Carbon black is suspected carcinogen.

SECTION 5 - FIRST AID MEASURES

Inhalation: Move patient to fresh air. If respiratory difficulty occurs seek immediate medical assistance.

Eye: Irrigate exposed eyes with copious amounts of room temperature water for at least 15 minutes. If irritation, pain, swelling, lacrimation, or photophobia persists seek immediate medical attention.

Skin: Remove contaminated clothing and wash exposed area thoroughly with soap and water. A physician should be consulted if irritation or pain persists.

Alkaline sulfides are strong local irritants to skin and mucous membranes.

Ingestion: Seek medical attention. Zinc sulfide may react with gastric acidity to form hydrogen sulfide in the stomach.

SECTION 6 - FIRE FIGHTING MEASURES

Fire and Explosion Hazard Information

Normal fog or nozzle jet application and/or exclusion of air. Fire fighting procedures: Wear NIOSH approved self-contained breathing apparatus and full protective equipment. Material may burn with an invisible flame. Water may spread fire by floating dust. Material (large quantity) that has been on fire should be watched closely for 48 hours to insure no smoldering material present.

SECTION 7 - ACCIDENTAL RELEASE MEASURES

Spill release procedures: wear appropriate NIOSH approved respiratory protection for the dust levels anticipated. In order to minimize dust, spills should be removed by vacuuming or by lightly spraying with water and sweeping mixture into a suitable container. Do not dry sweep.

SECTION 8 - HANDLING AND STORAGE

Handling and Storage Precautions: Keep in closed containers. *Waste Disposal Methods:* Dispose by land filling or by incineration in accordance with federal, state and local regulations. *Container Disposal:* Return reusable containers to manufacturer; incinerate or recycle bags. *Handling and Storage Precautions:* Prevent exposure to high temperature & flames. Prevent exposure to strong oxidizers. Store in clean, dry area. Keep container tightly sealed to prevent moisture/vapor absorption. *Other Precautions:* Test for carbon monoxide and oxygen before entry into confined spaces where materials are stored.

SECTION 9 - EXPOSURE CONTROL/PERSONAL PROTECTION

Respiratory Protection: NIOSH approved dust mask above TLV/PEL. *Protective Gloves:* Wear impervious gloves. Use barrier cream application prior to skin exposure. *Eye Protection:* ANSI approved chemical workers goggles. *Clothing:* Confine work clothing to the workplace & wash daily. Wash exposed skin before eating, drinking & smoking. Wash clothing daily. *Work Hygienic Practices:* Avoid creating dust. Clean up all spills promptly. Avoid skin contact, since material is difficult to remove from skin and is cosmetically unattractive. Wash exposed skin daily. Wash work clothes daily.

SECTION 10 - PHYSICAL AND CHEMICAL PROPERTIES

ODOR: Odorless to Oily	VAPOR PRESSURE: no data available	BULK DENSITY: 0.25-0.5 g/cc
APPEARANCE: Amorphous, Black Solid Powder	VAPOR DENSITY: no data available	FLASHPOINT: >500°C, 932°F
COLOR: Black	BOILING POINT: N/A	AUTOIGNITION TEMPERATURE: >260°C, 500°F
pH: Basic; pH of 8-9	SOLUBILITY IN WATER: <1.0%	LOWER EXPLOSIVE LIMIT (%): 122 g/m ³
PERCENT VOLATILE: 3-12% when heated to 950°C according to ISO 562	SPECIFIC GRAVITY: 1.7-1.8 (H ₂ O=1) @ (60°F)	UPPER EXPLOSIVE LIMIT (%): N/A

MINIMUM IGNITION TEMPERATURE (MIT) - Dust Cloud (ASTM E149): 530°C, 986°F
MINIMUM IGNITION ENERGY (MIE) - Dust cloud (ASTM E2019): >10 joules

SECTION 11 - STABILITY AND REACTIVITY

May react with acid to form hydrogen sulfide gas. Avoid temperatures above 315°C, excessive heat or flame. Avoid contact with: oxidizers.

SECTION 12 - TOXICOLOGICAL INFORMATION

Carcinogenicity

Evaluation: There is inadequate evidence in humans for the carcinogenicity of carbon black. There is sufficient evidence in experimental animals for the carcinogenicity of carbon black. There is sufficient evidence in experimental animals for the carcinogenicity of carbon black extracts. Overall evaluation: Carbon black is possibly carcinogenic to humans (Group 2B) [IARC. Monographs on the Evaluation of the Carcinogenic Risk of Chemicals to Man. Geneva: World Health Organization, International Agency for Research on Cancer, 1972-PRESENT. (Multivolume work)., p. 65-247 (1996)].

A4: Not classifiable as human carcinogen. [American Conference of Governmental Industrial Hygienists TLVs and BEIs. Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices. Cincinnati, OH, 2005, p.17].

NIOSH considers carbon black to be a potential occupational carcinogen. NIOSH usually recommends that occupational exposures to carcinogens be limited to the lowest feasible concentration.

Carbon black has not been listed as a carcinogen by the National Toxicology Program (NTP) or the Occupational Safety and Health Administration (OSHA). The National Institute of Occupational Safety & Health (NIOSH) criteria document on carbon black recommends that only carbon blacks with PAH levels greater than 0.1% be considered suspect carcinogens.

SECTION 13 - ECOLOGICAL INFORMATION

Ecotoxicity (carbon black)

Aquatic Toxicity: Acute fish toxicity: LC50 (96 h) >1000 mg/l, Brachydanio rerio (zebrafish), (OECD Guideline 203). *Acute Water Flea Toxicity:* EC50 (24 h) >5600 mg/l. Daphnia magna (waterflea), (OECD Guideline 202). *Acute Algae Toxicity:* EC 50 (72 h) >10,000 mg/l NOEC 50>10,000 mg/l (Scenedesmus subspicatus), (OECD Guideline 201). *Behavior in Water Treatment Plants:* Activated sludge, EC0 (3 h) >=800 mg/l. DEV L3 (TTC test). *Mobility:* Not soluble in water. *Bioaccumulation:* Potential bioaccumulation is not expected because of physio-chemical properties of the substance.

SECTION 14 - DISPOSAL CONSIDERATIONS

Dispose according to applicable regulations. May contain up to 1% sulfide by weight.

SECTION 15 - TRANSPORT INFORMATION

Special Shipping Information:

Carbon Black (mineral origin) is not listed in 49CFR Section 172.101 Table of Hazardous Materials for Transportation in Commerce.

SECTION 16 - REGULATORY INFORMATION

State Regulations: "Carbon black (airborne, unbound particles California Safe Drinking Water and Toxics Enforcement Act of 1986 (Proposition 65): of respirable size)" is a California Proposition 65 listed substance. All three listing qualifiers (airborne, unbound, and respirable size) must be met for this substance to be considered a Proposition 65 listed substance. This does not apply to pelletized product. Carbon black currently does not have a reportable quantity. Test for reactivity prior to disposal of spill wastes. *TSCA:* This material is listed in the TSCA Inventory List. *SARA:* This product contains "zinc compounds" that may be subject to reporting requirements under Section 313 Chemical Category N982. *Hazardous Chemicals Lists:* CA, IL, IN, KY, MA, MN, NC, NJ, OR, PA and RI.

SECTION 17 - OTHER INFORMATION

HAZCOM Label

Chronic Hazard IND: Y	Eye Protection IND: Y	Skin Protection IND: Y	Signal Word: WARNING	Respiratory Protection IND: Y
Health Hazard: Slight (1)	Skin Contact Hazard: Slight (1)	Fire Hazard: Moderate (2)	Reactivity Hazard: Moderate (2)	

Hazard and Precautions: Combustible black powder - fire may be invisible

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