

BFGOODRICH
GEON VINYL DIVISION

Avon Lake Technical Center
P.O. Box 122
Moore & Walker Roads
Avon Lake, OH 44012

Recipe & Raw Material Control
C.V. Purks

DATE: March 18, 1992

TO: Connie Dillon

FAX NO.: X6459
FROM: Beverly Zallar
PHONE: (216) 933-1606
FAX NO.: (216) 933-1678

NOTES:

Connie,

Here is the MSDS sheet for BFG Code 710033.

Bey.

TOTAL NUMBER OF PAGES 6 INCLUDING THIS COVER LETTER.

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HMIS Index:

0 - Minimal
1 - Slight
2 - Moderate
3 - Serious
4 - Severe

Cabot Corporation

DEC 23 1991
Billerica Technical Center
157 Concord Road, Billerica, MA 01821

HMIS Rating:

0 - Health
1 - Flammability
0 - Reactivity

MATERIAL SAFETY DATA SHEET

Monarch 880

710033

922

Code
91-01

C.A.S. No.
See Section II

Date Revised
November 1, 1991

Issued by
D.C. Gray

Telephone Number
(617) 342-6023

Section I - Material Identification and Use

Chemical Name
Carbon Black

Chemical Family
Carbon

Chemical Formula
C

Molecular Weight
12

Trade Name and Synonyms:

BLACK PEARLS®, ELFTEx®, MOGUL®, CSX, MONARCH®, REGAL®, STERLING®, VULCAN®, and CRX carbon blacks. The foregoing are registered trade names of Cabot Corporation.

Manufacturer Name
Cabot Corporation

Street Address
75 State Street

City
Boston

State
Massachusetts

Postal Zip Code
02109-1806

Emergency Telephone Number
(617) 342-6023 (Days)/
(304) 665-2442 (Nights/Weekend)

Section II - Ingredients

Ingredient
Carbon Black

C.A.S. No.
1333-86-4

Percent
100

OSHA PEL
3.5 mg/m³

ACGIH TLV
3.5 mg/m³

Section III - Physical Data

Boiling Point (°F)
Not Applicable

Specific Gravity
(H₂O = 1)
1.7 - 1.9

Vapor Pressure
(mm Hg)
Not Applicable

Vapor Density
(Air = 1)
Not Applicable

Solubility in Water
Insoluble

% Volatile by Volume
Not Applicable

Appearance & Odor
Amorphous black solid,
no odor

Evaporation Rate
Not Applicable

BFG15104

PAGE 91-01-2

Section IV – Fire and Explosion Hazard Data

Flammability Ignition in air above 600°F or 315°C.	Flash Point Closed Cup >500°C Method: Pensky-Martens	Flammable Explosive Limits: <table><tr><td>Lower Expl. Limit Not Applicable</td><td>Upper Expl. Limit Not applicable</td></tr></table>		Lower Expl. Limit Not Applicable	Upper Expl. Limit Not applicable
Lower Expl. Limit Not Applicable	Upper Expl. Limit Not applicable				
Special Fire Fighting Procedures Normal fog or nozzle-jet application and/or exclusion of air		Extinguishing Media Copious Water			
Unusual Fire and Explosion Hazards Carbon monoxide and carbon dioxide are products of combustion. Use appropriate respirator for protection against possible exposure to CO or CO ₂ . It may not be obvious that the carbon black is burning unless the material is stirred and sparks are apparent.					
Explosion Data The National Electrical Code (NEC) is derived from NFPA Standard 70, and is referenced in the OSHA regulations. Under the NEC, Chapter 5, Article 500-3, carbon black dusts are included under FPN No. 14, Group F dusts if they contain "more than 8% total volatile matter". Carbon black dusts containing less than 8% total volatile matter are not considered to present explosion hazards. CABOT carbon blacks are well below 8% total volatile matter.					

Section V – Health Hazard Data**Effects of Exposure: Inhalation****Acute**

None expected. Temporary discomfort to the upper respiratory tract may occur due to inhalation of dust concentrations above the Threshold Limit Value (TLV).

Chronic

Carbon black contains less than 0.1% of adsorbed polynuclear aromatic compounds (PNA). In non-adsorbed form, some PNA's have been found to be carcinogens in certain studies. No carcinogenic effect, however, has been found in humans due to exposure to carbon black. Carbon black is not considered a carcinogen by the International Agency for Research on Cancer (IARC), the Occupational Safety and Health Administration (OSHA), or the National Toxicology Program (NTP). Epidemiologic studies of workers in the carbon black producing industry in the U.S. and W. Europe show no significant adverse health effects due to occupational exposure to carbon black.

Some studies in the USSR and E. Europe report respiratory diseases, including: bronchitis, pneumoconiosis, emphysema and rhinitis among some workers. Such studies are of questionable validity due to inadequate study design and methodology, lack of appropriate controls for cigarette smoking and other confounding factors, such as carbon monoxide, coal oil and petroleum vapors. Moreover, review of these studies indicates that the concentration of carbon black was substantially greater than OSHA recommended levels.

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Section V (Continued)

Chronic inflammation, lung fibrosis, and lung tumors have been found in preliminary studies in rats experimentally exposed, for long periods of time, to excessive concentrations of carbon black and other insoluble dust particles which overwhelm the lung clearance mechanisms. The researchers who conducted these tests believe that these conditions most likely result from the massive accumulation of small dust particles in the lung, the "dust overload phenomenon", rather than from a specific chemical effect of the dust particles. Such effects occur only when the lungs are overloaded with an excess of small particles. They are unlikely to result from workplace exposures to carbon black at or below the TLV. Human studies have not found that workplace exposures to carbon black at or below the TLV cause these effects.

Effects of Exposure: Skin**Acute**

None significant. See Section VIII-Hygienic Practices.

Chronic

None significant

Primary Route of Entry

Inhalation

First Aid Procedures

For inhalation discomfort, move victim to fresh air.

Medical Conditions Prone to Aggravation by Exposure

None expected. Carbon black, like any nuisance dust, may aggravate certain pre-existing upper respiratory disorders, such as bronchitis or asthma.

Section VI – Reactivity Data**Stability**

Stable

Hazardous Polymerization

Not Applicable

Hazardous Decomposition Products

Carbon monoxide, carbon dioxide and small amounts of sulfur containing gases when burning.

Conditions to Avoid

Excessive heat or flame. May react upon contact with strong oxidizers such as chlorates, bromates and nitrates.

Section VII –Spill or Leak Procedures**Steps to be Taken In Case Material is Released or Spilled**

Carbon black is not a hazardous waste under U.S. Federal RCRA Regulation. Wear NIOSH approved Dust Protection Respirator, if needed. Spills should be removed by vacuuming, or spraying with water and sweeping mixture into a suitable container.

Waste Disposal Method

Burn or bury in accordance with Federal, State and local laws and regulations.

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Section VIII – Safe Handling and Use Information**Respiratory Protection**

None in normal handling. Wear NIOSH approved respirator for nuisance dust when dust levels exceed TLV.

Ventilation

Sufficient ventilation, in volume and pattern, to maintain exposure below TLV.

Protective Gloves

None required.

Eye Protection

None required.

Hygienic Practices

Wash exposed skin for hygienic purposes. Most skin irritation attributed to carbon black has been found to be due to the soap used for washup. A mild unscented soap should be used.

Section IX – Special Precautions**Precautions to be Taken in Handling and Storing**

Before entering closed vessels and confined spaces, test for possible elevated levels of CO. Wear appropriate respirator to guard against possible exposure to CO, CO₂, or lack of adequate oxygen supply.

Section X – Regulatory Information

The trade name substances BLACK PEARLS®, ELFTEx®, MOGUL®, CSX, MONARCH®, REGAL®, STERLING®, VULCAN®, and CRX are names for CABOT carbon blacks, and are registered trade names of Cabot Corporation.

Carbon black, CAS No. 1333-86-4 appears on the TSCA inventory (U.S.), EINECS (Europe), AICS (Australia), CEPA (Canada), and MITI (Japan) as a chemical of commerce in these jurisdictions.

Carbon black does not contain substances identified under SARA, Title III, Section 302, as extremely hazardous, or under Section 313 as a toxic chemical. Carbon black must be reported as a hazardous chemical on Tier I and Tier II reports, under SARA Sections 311/312, if the threshold quantity of 10,000 lbs is exceeded annually.

SPECIAL SHIPPING INFORMATION

The Intergovernmental Maritime Consultative Organization (IMCO) does classify carbon black as a "hazardous cargo" for the purposes of shipping, unless the shipment is accompanied by a statement that the carbon blacks contained in it are not subject to the IMCO code provisions for hazard class 4.2 because they pass the test for non-activated carbons described on page 4082-1. All CABOT carbon blacks pass this IMCO test and may be shipped with this disclaimer.

The Bureau of Explosives of the Association of American Railroads has ruled it is unnecessary to classify carbon black as hazardous under DOT regulations. Carbon black is moved as a non-hazardous material by rail.

The information set forth above is based on information which Cabot Corporation believes to be accurate. No warranty, express or implied, is intended. The information is provided solely for your information and consideration and CABOT assumes no legal responsibility for use or reliance thereon.

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CABOT

DEC 23 1991

December 9, 1991

To: CABOT CUSTOMERS USING CARBON BLACK

The Environmental Health Association of the Carbon Black Industry has learned that two research laboratories, The Lovelace Inhalation Toxicology Research Institute in Albuquerque, New Mexico, and the Fraunhofer Institute in Hannover, Germany, has obtained preliminary results from laboratory studies on rats which link inhalation of high concentrations of various insoluble dusts, such as carbon black and titanium dioxide, for prolonged periods of time with a variety of lung abnormalities.

In these studies, each rat was exposed to high concentrations of a particular airborne dust for 12 - 19 hours daily for periods of up to two years, which resulted in an impaired ability of the lungs to cleanse themselves of deposited particles. Preliminary results show that all of these dusts produced a group of effects on the lung labelled by the researchers as the "Long Overload Phenomenon". These effects include chronic inflammation, fibrosis, and benign and malignant tumors.

Final assessment of the relevance of these preliminary findings must await interpretation, publication, and review of the data. However, the researchers who conducted the tests believe that the effects observed in the rats most likely resulted from chronic inflammation caused by heavy dust accumulations in the deep lung, rather than from a specific chemical effect. Furthermore, epidemiological studies have not found that workplace exposure to carbon black at or below the Threshold Limit Value (TLV) causes these effects in humans. Consequently, it would be inappropriate to conclude from the findings that carbon black will produce disabling pneumoconiosis under conditions of occupational exposure, or that it is a carcinogen.

Cabot is committed to communicating information relevant to the health and safety of its customers and employees. This letter reflects that commitment. In addition, Cabot has modified Section V of its Material Safety Data Sheet (MSDS) for carbon black, in which the studies discussed above are described. A copy of the revised MSDS is attached. If you have any questions or would like further information, please contact your Cabot representative.



P. Fred Gridley
North American Business Manager

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