

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  
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NOTES:

Connie,

Here is the MSDS sheet for BFG Code 710033.

Bev.

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<br>91-01 | C.A.S. No.<br>See Section II | Date Revised<br>November 1, 1991 | Issued by<br>D.C. Gray | Telephone Number<br>(617) 342-6023 |
|---------------|------------------------------|----------------------------------|------------------------|------------------------------------|

**Section I - Material Identification and Use**

|                               |                           |                       |                        |
|-------------------------------|---------------------------|-----------------------|------------------------|
| Chemical Name<br>Carbon Black | Chemical Family<br>Carbon | Chemical Formula<br>C | Molecular Weight<br>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<br>Cabot Corporation | Street Address<br>75 State Street                                                     |
| City<br>Boston                         | State<br>Massachusetts                                                                |
| Postal Zip Code<br>02109-1806          | Emergency Telephone Number<br>(617)342-6023 (Days)/<br>(304)665-2442 (Nights/Weekend) |

**Section II - Ingredients**

|                            |                         |                |                                   |                                    |
|----------------------------|-------------------------|----------------|-----------------------------------|------------------------------------|
| Ingredient<br>Carbon Black | C.A.S. No.<br>1333-86-4 | Percent<br>100 | OSHA PEL<br>3.5 mg/m <sup>3</sup> | ACGIH TLV<br>3.5 mg/m <sup>3</sup> |
|----------------------------|-------------------------|----------------|-----------------------------------|------------------------------------|

**Section III - Physical Data**

|                                      |                                                         |                                                        |                                              |
|--------------------------------------|---------------------------------------------------------|--------------------------------------------------------|----------------------------------------------|
| Boiling Point (°F)<br>Not Applicable | Specific Gravity<br>(H <sub>2</sub> O = 1)<br>1.7 - 1.9 | Vapor Pressure<br>(mm Hg)<br>Not Applicable            | Vapor Density<br>(Air = 1)<br>Not Applicable |
| Solubility in Water<br>Insoluble     | % Volatile by Volume<br>Not Applicable                  | Appearance & Odor<br>Amorphous black solid,<br>no odor | Evaporation Rate<br>Not Applicable           |

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## Section IV – Fire and Explosion Hazard Data

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                  |                                                                                                                                                                        |  |                                            |                                            |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--------------------------------------------|--------------------------------------------|
| <b>Flammability</b><br>Ignition in air above 600°F or 315°C.                                                                                                                                                                                                                                                                                                                                                                                                                           | <b>Flash Point</b><br>Closed Cup >500°C<br>Method:Pensky-Martens | <b>Flammable Explosive Limits:</b><br><table><tr><td><b>Lower Expl. Limit</b><br/>Not Applicable</td><td><b>Upper Expl. Limit</b><br/>Not applicable</td></tr></table> |  | <b>Lower Expl. Limit</b><br>Not Applicable | <b>Upper Expl. Limit</b><br>Not applicable |
| <b>Lower Expl. Limit</b><br>Not Applicable                                                                                                                                                                                                                                                                                                                                                                                                                                             | <b>Upper Expl. Limit</b><br>Not applicable                       |                                                                                                                                                                        |  |                                            |                                            |
| <b>Special Fire Fighting Procedures</b><br>Normal fog or nozzle-jet application and/or exclusion of air                                                                                                                                                                                                                                                                                                                                                                                |                                                                  | <b>Extinguishing Media</b><br>Copious Water                                                                                                                            |  |                                            |                                            |
| <b>Unusual Fire and Explosion Hazards</b><br>Carbon monoxide and carbon dioxide are products of combustion. Use appropriate respirator for protection against possible exposure to CO or CO <sub>2</sub> . It may not be obvious that the carbon black is burning unless the material is stirred and sparks are apparent.                                                                                                                                                              |                                                                  |                                                                                                                                                                        |  |                                            |                                            |
| <b>Explosion Data</b><br>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, CO<sub>2</sub>, 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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