

SAFETY DATA SHEET

Carbon Black

Date of Preparation: 06/05/2014

SDS #: 004-16107-00MSDS

SECTION 1: IDENTIFICATION

Product Identification: Carbon Black, Granulated Activated

CAS Number: 1333-86-4

Volumes: 410 MESH

Other Designations: Not Applicable

Recommended Use: Additive for plastic and rubber, Pigment, Chemical reagent, Batteries, Refractories

Restrictions: For laboratory use only.

Supplier Information:

Micromeritics Instrument Corp.
4356 Communications Drive
Norcross, GA 30093-2901 USA

Contact: Human Resources
Phone: (770) 662-3620
Fax: (770) 662-3696

Manufacturer: Micromeritics Instrument Corp., 4356 Communications Drive, Norcross, GA 30093-1877
USA, Phone: (770) 662-3678 Cabot Corporation, 75 State Street, Boston, MA 02109-1806 Phone
(617)342-6023 (days), (304)665-2442 (nights/weekends)

SECTION 2: HAZARDS IDENTIFICATION

GHS Classification: Not Applicable

Signal word: Not Applicable

Hazard Statement:

H228: Flammable solid

H303: May be harmful if swallowed

H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled

Pictograms: Not Applicable

Precautionary Statements:

P304+340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing

Potential Health Effects

Primary Entry Routes: Inhalation

Target Organs: Not Applicable

Acute Effects

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

Eye: Not Applicable

Skin: Not Applicable

Ingestion: Not Applicable

Carcinogenicity: Not Applicable

Medical Conditions Aggravated by Long-Term Exposure: Not Applicable

Chronic Effects:

Inhalation: 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 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. 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 articles. 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.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Ingredient Name	CAS Number	% wt
Carbon Black	1333-86-4	100.0

Trace Impurities:

Ingredient	OSHA PEL		ACGIH TLV		NIOSH REL		NIOSH
	TWA	STEL	TWA	STEL	TWA	STEL	IDLH
Carbon Black	3.5 mg/m ³	none estab.	3.5 mg/m ³	none estab.	none estab.	none estab.	none estab.

SECTION 4: FIRST-AID MEASURES

Inhalation: Move victim to fresh air.

Eye Contact: Flush eyes immediately with large amounts of water for 15 minutes. Seek medical attention if symptoms develop.

Skin Contact:

Acute: None significant.

Chronic: None significant.

Ingestion: Do not induce vomiting. If conscious, give several glasses of water. Never give anything by mouth to an unconscious person.

Note to Physicians: Not Applicable

Special Precautions/Procedures: Not Applicable

SECTION 5: FIRE-FIGHTING MEASURES

Flammability Classification: Not Applicable

Extinguishing Media: Copious water

Unusual Fire or Explosion Hazards: Carbon monoxide and carbon dioxide are products of combustion. Use appropriate respirator for protection against possible exposure to CO or CO₂. It may not be obvious that the carbon black is burning unless the material is stirred and sparks are apparent.

Hazardous Combustion Products: Not Applicable

Fire-Fighting Instructions: Normal fog or nozzle jet application and/or exclusion of air.

Fire-Fighting Equipment: Not Applicable

SECTION 6: ACCIDENTAL RELEASE MEASURES

Spill /Leak Procedures: Carbon black is not a hazardous waste under US 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.

Small Spills: Not Applicable

Large Spills

Containment: Not Applicable

Cleanup: Not Applicable

Regulatory Requirements: Not Applicable

SECTION 7: HANDLING AND STORAGE

Handling Precautions: 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. Avoid contact with skin and eyes. Do not breathe dust. Provide appropriate exhaust ventilation at machinery and at places where dust can be generated. Do not create a dust cloud by using a brush or compressed air. Fine dust is capable of penetrating electrical equipment and may cause electrical shorts. Take precautionary measures against static discharge. If hot work (welding, torch cutting, etc.) is required the immediate work area must be cleared of carbon black product and dust.

Storage Requirements: Keep in a dry, cool and well-ventilated place. Keep away from heat and sources of ignition. Do not store together with strong oxidizing agents. Do not store together with volatile chemicals as they may be adsorbed onto product. Keep in properly labeled containers.

Regulatory Requirements: Not Applicable

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls: Ensure adequate ventilation to maintain exposures below occupational limits. Provide appropriate exhaust ventilation at machinery and at places where dust can be generated.

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

Administrative Controls: Not Applicable

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

Protective Clothing/Equipment: Gloves: None required. Eye Protection: None required.

Safety Stations: Not Applicable

Contaminated Equipment: Not Applicable

Comments: Not Applicable

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 wash up. A mild unscented soap should be used.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Flash Point: > 500°C

Flash Point Method: Closed cup

Burning Rate: Not Applicable

Autoignition Temperature: Not Applicable

LEL: Not Applicable

UEL: Not Applicable

Physical State: Not Applicable

Appearance and Odor: Amorphous black solid, no odor

Water Solubility: Insoluble

Other Solubilities: Not Applicable

Odor Threshold: Not Applicable

Vapor Pressure: Not Applicable

Vapor Density (Air=1): Not Applicable

Formula Weight: Not Applicable

Density: Not Applicable

Specific Gravity (H₂O=1): 1.7 - 1.9

pH: Not Applicable

Boiling Point: Not Applicable

Freezing/Melting Point: Not Applicable

Viscosity: Not Applicable

Refractive Index: Not Applicable

Surface Tension: Not Applicable

% Volatile: Not Applicable

Evaporation Rate: Not Applicable

SECTION 10: STABILITY AND REACTIVITY

Stability: Stable

Polymerization: Not Applicable

Chemical Incompatibilities: Not Applicable

Conditions to Avoid: Excessive heat or flame. Do not expose to temperatures above 300°C. May react upon contact with strong oxidizers such as chlorates, bromates and nitrates.

Hazardous Decomposition Products: Carbon monoxide, carbon dioxide and small amounts of sulfur containing gases when burning.

SECTION 11: TOXICOLOGICAL INFORMATION

Toxicity Data:

Acute Effects:

Oral LD50: LD50/oral/rat = > 8000 mg/kg.

Inhalation LC50: No data available.

Dermal LD50: No data available.

STOT - Single Exposure: None observed.

Eye Irritation: Rabbit. Draize score 10-17/110 @ 24 hr. Non-irritating.

Skin Irritation: Rabbit. 0.6/8. Slight irritation. @ 24 hr. Non-irritating. @ 48 hr.

Chronic Effects:

Rat, oral, duration: 2 years Effect: no tumors

Mouse, oral, duration: 2 years Effect: no tumors

Mouse, dermal, duration: 18 months Effect: no skin tumors

Mouse/Hamster, inhalation, duration 12-24 months. Effect: no lung tumors

Rat, inhalation, duration: 2 years Target organ: lungs Effect: inflammation, fibrosis, tumors

Note: Tumors in the rat lung are related to the fine particle overload phenomenon rather than to a specific chemical effect of the dust particles in the lung. These effects in rats have been reported in studies on other inorganic insoluble particles and appear to be species specific. Tumors have not been observed in other species (i.e., mouse and hamster) for other insoluble particles under similar circumstances and study conditions.

Carcinogenicity: Not Applicable

Mutagenicity: Not Applicable

Teratogenicity: Not Applicable

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicity: Not Available

Environmental Fate: Not Available

Environmental Degradation: Not Available

Soil Absorption/Mobility: Not Available

SECTION 13: DISPOSAL CONSIDERATIONS

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

Disposal Regulatory Requirements: Not Applicable

Container Cleaning and Disposal: Not Applicable

SECTION 14: TRANSPORT INFORMATION

DOT Transportation Data (49 CFR 172.101):

Shipping Name: Not regulated

Shipping Symbols: Not Applicable

Hazard Class: Not regulated

ID No.: Not regulated

Packing Group: Not Applicable

Label: Not Applicable

Special Provisions (172.102):

Not Applicable

Packaging Authorizations

a) **Exceptions:** Not Applicable

b) **Non-bulk Packaging:** Not Applicable

c) **Bulk Packaging:** Not Applicable

Quantity Limitations

a) **Passenger, Aircraft, or Railcar:** Not Applicable

b) **Cargo Aircraft Only:** Not Applicable

Vessel Stowage Requirements

a) **Vessel Stowage:** Not Applicable

b) **Other:** Not Applicable

Canadian TDG Hazard Class & PIN – Not regulated

SECTION 15: REGULATORY INFORMATION

EPA Regulations: Not Applicable

OSHA Regulations: Not Applicable

State Regulations: Not Applicable

SECTION 16: OTHER INFORMATION

Prepared By: Zuniga, A.

Revision Notes: Not Applicable

Additional Hazard Rating Systems: Not Applicable

Disclaimer: The information presented herein is believed to be accurate and was obtained from sources believed to be reliable. However, the information is provided without any representation or warranty, expressed or implied, with respect to its accuracy or completeness. It is the users' responsibility to determine the suitability of this product and the relevance of this information for their use.