

MATERIAL SAFETY DATA SHEET

Prepared in accordance with ISO 11014-1/ ANSI standard
Z400.1-2004

Revision Date: 04/December/2012

Product Code: VXC72

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: CARBON BLACK

Synonyms: Carbon Black, Furnace Black

REACH Registration Number: 01-2119384822-32

This SDS is valid for the following grades: Carbon Black grade series: BLACK PEARLS®, ELFTEx®, MOGUL®, MONARCH®, REGAL®, SPHERON®, STERLING®, VULCAN®, CSX™, CRX™, IRX™, UNITED®, MACHEM®, SHOBLACK®, DL. Oxidized grades include: BLACK PEARLS® / MOGUL® L, BLACK PEARLS® / MOGUL® E, MOGUL® H, REGAL® 400/400R. The foregoing are trademarks of the Cabot Corporation.
***Excludes: BLACK PEARLS® / MONARCH® 1000, 1300, 1400, 1500; BLACK PEARLS® 1300B1; Monarch® 4750; Black Pearls® 4350/4750; and all oil pellet grades.**

Use of the Substance/Preparation: Additive for plastic and rubber, Pigment, Chemical reagent, Batteries, Refractories, Various

Emergency Telephone Number: US: CHEMTREC 1-800-424-9300 or 1-703-527-3887
Canada: CANUTEC 1-613-996-6666
Cabot (UK): (+44) 1446.736999
Cabot: 03-3431-1721

2. HAZARDS IDENTIFICATION

Pictogram: Not applicable

Signal Word: Not applicable

Indication of danger: Not a hazardous substance or mixture according to the Globally Harmonized System (GHS)

EMERGENCY OVERVIEW - CAUTION: Black powder or pellets. Dust may be irritating to eyes and respiratory tract. Do not expose to temperatures above 300°C. Hazardous products of combustion can include carbon monoxide, carbon dioxide, oxides of sulfur, and organic products. Take precautionary measures against static discharges.

Principle Routes of Exposure: Inhalation, Eye contact, Skin contact

POTENTIAL HEALTH EFFECTS

Eye Contact: May cause mechanical irritation. Irritating, but will not permanently injure eye tissue. Low hazard for usual industrial or commercial handling.

Skin Contact:	May cause mechanical irritation, soiling, and skin drying. No cases of sensitization in humans have been reported.
Inhalation:	Dust may be irritating to respiratory tract. Provide appropriate exhaust ventilation at machinery and at places where dust can be generated. See also Section 8.
Ingestion:	Health injuries are not known or expected under normal use. Low hazard for usual industrial or commercial handling.
Carcinogenic Effects:	Substance listed by IARC (International Agency for Research on Cancer). See also Section 11.
Target Organ Effects:	Lungs, See Section 11
Medical Conditions Aggravated by Exposure:	Asthma, Respiratory disorder
Potential Environmental Effects:	No special environmental precautions required. Not soluble in water. See also Section 12.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS Number	EINECS/ELINCS Number	Weight %	EU Classification
Carbon Black	1333-86-4	215-609-9	>99	None

4. FIRST AID MEASURES

Skin Contact:	Wash thoroughly with soap and water. Seek medical attention if symptoms develop.
Eye Contact:	Flush eyes immediately with large amounts of water for 15 minutes. Seek medical attention if symptoms develop.
Inhalation:	If cough, shortness of breath or other breathing problems occur, move to fresh air. Seek medical attention if symptoms persist. If necessary, restore normal breathing through standard first aid measures.
Ingestion:	Do not induce vomiting. If conscious, give several glasses of water. Never give anything by mouth to an unconscious person.
Notes to Physician:	Treat symptomatically.

5. FIRE AND IGNITION INFORMATION

Flash Point:	Not determined
Explosion Limits in Air - Lower (g/m³):	50 g/m ³ (dust)
OSHA Flammability Classification:	Not applicable
Autoignition Temperature:	>140°C (transport)
Method:	IMDG-Code
Minimum Ignition Temperature:	> 500°C (BAM Furnace) VDI 2263 > 315°C (Godberg-Greenwald Furnace) VDI 2263
Dust Explosion Classification:	ST 1 (VDI 2263)
Minimum Ignition Energy:	> 10,000 mJ
Method:	VDI 2263

Maximum Absolute Explosion Pressure:	10 bar at an initial starting pressure of 1 bar. Higher starting initial pressures will yield higher explosion pressures.
Method:	VDI 2263
Ignition Energy:	> 1 kJ
Method:	VDI 2263
Burn Velocity:	> 45 seconds (not classifiable as "Highly Flammable", or "Easily Ignitable")
Maximum Rate of Pressure Rise:	30 - 400 bar/sec
Method:	VDI 2263 and ASTM E1226-88
Extinguishing Media:	Use foam, carbon dioxide (CO ₂), nitrogen (N ₂), dry chemical or water spray. A fog spray is recommended if water is used. DO NOT USE a solid water stream as it may scatter and spread fire.
Special Protective Equipment for Firefighters:	Wear suitable protective equipment. In the event of fire, wear self-contained breathing apparatus. Wet carbon black produces very slippery walking surfaces.
Specific Hazards:	It may not be obvious that carbon black is burning unless the material is stirred and sparks are apparent. Carbon black that has been on fire should be observed closely for at least 48 hours to ensure no smoldering material is present. Burning produces irritant fumes. The product is insoluble and floats on water. If possible, try to contain floating material. This material creates a fire hazard because it floats on water.
Hazardous Decomposition and/or Combustion Products:	Carbon monoxide, Carbon dioxide, Sulphur oxides, Organic products of combustion.
Risk of Dust Explosion:	Do not create a dust cloud by using a brush or compressed air.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions:	CAUTION: Wet carbon black produces slippery walking surfaces. Avoid dust formation. Ensure adequate ventilation. Use personal protective equipment. See also Section 8.
Methods for Cleaning Up:	Clean up promptly by vacuum. Use of a vacuum with high efficiency particulate air (HEPA) filtration is recommended. Do not create a dust cloud by using a brush or compressed air. Pick up and transfer to properly labelled containers. See Section 13.
Environmental Precautions:	Do not allow material to contaminate ground water system. The product is insoluble and floats on water. If possible, try to contain floating material. Local authorities should be advised if significant spillages cannot be contained.

7. HANDLING AND STORAGE

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Handling: 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: 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.

Carbon black is not classifiable as a Division 4.2 self-heating substance under the UN test criteria. However, the UN criteria for determining if a substance is self-heating is volume dependent, i.e., the auto-ignition temperature decreases with increasing volume. This classification may not be appropriate for large volume storage containers.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE LIMITS

The table below is a summary. Please see the specific legislation for complete information.

Carbon Black, CAS RN 1333-86-4: Argentina: 3.5 mg/m³, TWA
Australia: 3.0 mg/m³, TWA inhalable
Belgium: 3.6 mg/m³, TWA
Brasil: 3.5 mg/m³, TWA
Canada (Ontario): 3.0 mg/m³, TWA inhalable
China: 4.0 mg/m³, TWA; 8.0 mg/m³, STEL
Colombia: 3.0 mg/m³, TWA inhalable
Czech Republic: 2.0 mg/m³, TWA
Finland: 3.5 mg/m³, TWA; 7.0 mg/m³, STEL
France - INRS: 3.5 mg/m³, TWA/VME inhalable
Germany - TRGS 900: 3.0 mg/m³, TWA respirable; 10.0 mg/m³, TWA inhalable
Germany - AGW: 1.5 mg/m³, TWA respirable; 4.0 mg/m³, TWA inhalable
Hong Kong: 3.5 mg/m³, TWA
Indonesia: 3.5 mg/m³, TWA/NABs
Ireland: 3.5 mg/m³, TWA; 7.0 mg/m³, STEL
Italy: 3.0 mg/m³, TWA inhalable
Japan MHLW: 3.0 mg/m³
Japan SOH: 4.0 mg/m³, TWA; 1.0 mg/m³, TWA respirable
Korea: 3.5 mg/m³, TWA
Malaysia: 3.5 mg/m³, TWA
Netherlands - MAC: 3.5 mg/m³, TWA inhalable
Norway: 3.5 mg/m³, TWA
Spain: 3.5 mg/m³, TWA (VLA-ED)
Sweden: 3.0 mg/m³, TWA
United Kingdom - WEL: 3.5 mg/m³, TWA inhalable; 7.0 mg/m³, STEL inhalable
US ACGIH - TLV: 3.0 mg/m³, TWA inhalable
US OSHA - PEL: 3.5 mg/m³, TWA

NOTE:

- (1) Unless otherwise indicated as "respirable" or "inhalable", the exposure limit represents a "total" value. The inhalable exposure limit has been demonstrated to be more restrictive than the total exposure limit, by a factor of approximately 3.
- (2) In its facilities globally, Cabot Corporation manages to the US ACGIH TLV of 3.0 mg/m³ TWA inhalable.
- (3) As required under the EU Registration, Evaluation and Authorization of Chemicals (REACH) regulation, the Carbon Black REACH Consortium (of which Cabot Corporation is a member) developed a Derived No Effect Level (DNEL) for carbon black of 2 mg/m³ inhalable based on human health studies.

AGW: Arbeitsplatzgrenzwert

INRS: Institut National de Recherche et de Securite (National Institute of Research and Security)

MAC: Maximaal Aanvaarde Concentraties (Maximum allowed concentration)

MHLW: Ministry of Health, Labor and Welfare

NABS: Nilai Ambang Batas (threshold limit value)

OEL: Occupational Exposure Limit

PEL: Permissible Exposure Limit

SOH: Society of Occupational Health

STEL: Short Term Exposure Limit

TLV: Threshold Limit Value

TRGS: Technische Regeln für Gefahrstoffe (Technical Rule for Hazardous Materials)

TWA: Time Weighted Average

US ACGIH: United States American Conference of Governmental Industrial Hygienists

US OSHA: United States Occupational Safety and Health Administration

VME: Valeur Moyenne d'Exposition (Average Level of Exposure)

WEL: Workplace Exposure Limit

VLA-ED: Valor límite ambiental de exposición diaria (environmental value of daily exposure limit)

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.

PERSONAL PROTECTIVE EQUIPMENT**Respiratory Protection:**

An approved air-purifying respirator (APR) for particulates may be permissible where airborne concentrations are expected to exceed occupational exposure limits. Protection provided by air-purifying respirators is limited. Use a positive-pressure, air supplied respirator if there is any potential for uncontrolled release, exposure levels are not known, or any circumstances where air-purifying respirators may not provide adequate protection. Use of respirators must include a complete respiratory protection program in accordance with national standards and current best practices.

The following agencies/organizations approve respirators and/or criteria for respirator programs:

US: NIOSH approval under 42 CFR 84 required.

OSHA (29 CFR 1910.134). ANSI Z88.2-1992 (Respiratory Protection).

EU: CR592 Guidelines for the Selection and Use of Respiratory Protection.

Germany: DIN/EN 143 Respiratory Protective Devices for Dusty Materials.

UK: BS 4275 Recommendations for the Selection, Use and Maintenance of Respiratory Protective Equipment. HSE Guidance Note HS (G)53 Respiratory Protective Equipment.

Hand Protection:

Wear protective gloves to prevent soiling of hands. Use protective barrier cream before handling the product. Wash hands and other exposed skin with mild soap and water.

Eye Protection:

Wear eye/face protection. Safety glasses with side-shields. Goggles.

Skin and Body Protection:	Wear suitable protective clothing. Wash clothing daily. Work clothing should not be allowed out of the workplace.
Other:	Handle in accordance with good industrial hygiene and safety practice. Emergency eyewash and safety shower should be located nearby.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Black Powder or Pellets
Odor:	None
Odor Threshold:	Not applicable
pH:	4 - 11 [50 g/l water, 68°F (20°C)] (non-oxidized carbon black) 2 - 4 (oxidized carbon black)
Vapor Pressure:	Not applicable
Vapor Density:	Not applicable
Boiling Point/Range:	Not applicable
Melting Point/Range:	Not applicable
Water Solubility:	Insoluble
Density:	1.7 - 1.9 g/cm ³ @ 20°C
Bulk Density:	200-680 kg/m ³ (Pellets) 20-380 kg/m ³ (Fluffy)
% Volatile (by Weight):	< 2.5% (950°C) (non-oxidized carbon black) 2 - 8% (oxidized carbon black)
Evaporation Rate:	Not applicable
Viscosity:	Not applicable
Partition Coefficient (n-octanol/water):	Not determined
Flash Point:	Not determined
Explosion Limits in Air - Lower (g/m³):	50 g/m ³ (dust)
Flammability classification	Not applicable
Autoignition Temperature:	>140°C (transport)
Method:	IMDG-Code
Decomposition Temperature:	Not determined.
Oxidizing Properties:	Not applicable

10. STABILITY AND REACTIVITY

Stability:	Stable.
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Incompatible Materials:	Strong oxidizers such as chlorates, bromates, and nitrates.
Reactivity:	May react exothermically upon contact with strong oxidizers.
Hazardous Polymerization:	Hazardous polymerization does not occur.
Mechanical Sensitivity (shock):	Not sensitive to mechanical impact.
Conditions to Avoid:	Do not expose to temperatures above 300°C. Keep away from oxidizing agents in order to avoid exothermic reactions.
Hazardous Decomposition and/or Combustion Products:	Carbon monoxide, Carbon dioxide, Oxides of sulphur, Organic products of combustion.
Static Discharge Effects:	Take precautionary measures against static discharges. Avoid dust formation. All metal parts of the mixing and processing equipment must be earthed/grounded. Ensure all equipment is electrically earthed/grounded before beginning transfer operations.

11. TOXICOLOGICAL INFORMATION

ACUTE TOXICITY

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

SUBCHRONIC TOXICITY

Rat, inhalation, duration 90 days
NOAEL = 1.0 mg/m³
Target organ: lungs
Effect: inflammation, hyperplasia, fibrosis.

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

STOT - Repeated Exposure: These effects are the result of exposure under overload conditions, and the effect on rats is specific to species. The information discussed below under the item of "additional information relating to hazard to human" is also relevant to prove the non-classification of carbon black concerning "specific target organs systemic toxicity" (STOT, repeated exposure), Group 1 (lung)

CHRONIC TOXICITY

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.

Mutagenic Effects:

In Vitro

Carbon black is not suitable to be tested in bacterial (Ames test) and other in vitro systems because of its insolubility. When tested, however, results for carbon black showed no mutagenic effects. Organic solvent extracts of carbon black can, however, contain traces of polycyclic aromatic hydrocarbons (PAHs). A study to examine the bioavailability of these PAHs showed that PAHs are very tightly bound to carbon black and not bioavailable. (6)

In Vivo

In an experimental investigation, mutational changes in the hprt gene were reported in alveolar epithelial cells in the rat following inhalation exposure to carbon black. This observation is believed to be rat specific and a consequence of "lung overload" which led to chronic inflammation and release of oxygen species. (see Chronic toxicity above). This is considered to be a secondary genotoxic effect and, thus, carbon black itself would not be considered to be mutagenic.

Reproductive Toxicity: Did not show effects in animal experiments.

Sensitization: Contains no known sensitizers.

Respiratory Sensitization: No data.

Synergistic Materials: None reasonably foreseeable.

Carcinogenic Effects: Carcinogenicity Assessment: Tumor development in rats caused by lung overload, no epidemiological evidence for lung tumors in humans

Carbon Black is listed by IARC (International Agency for Research on Cancer)
ACGIH listed carbon black as A3 "confirmed animal carcinogen with unknown relevance to humans"

Does not contain any substances listed by NTP (National Toxicology Program), OSHA (Occupational Safety and Health Administration), or EU (European Union)

Carbon Black IARC Statement: In 2006 IARC re-affirmed its 1995 classification of carbon black as, Group 2B (possibly carcinogenic to humans).

In 1995 International Agency for Research on Cancer (IARC) concluded, "There is inadequate evidence in humans for the carcinogenicity of carbon black." Based on rat inhalation studies, IARC concluded that there is "sufficient evidence in experimental animals for the carcinogenicity of carbon black", resulting in their classifying carbon black as "possibly carcinogenic to humans (Group 2B)".

The U.S. National Institute of Occupational Safety and Health (NIOSH) 1978 criteria document on carbon black recommends that only carbon blacks with polycyclic aromatic hydrocarbon (PAH) levels greater than 0.1% require the measurement of PAHs in air. As some PAHs are possible human carcinogens, NIOSH recommends an exposure limit of 0.1 mg/m³ for PAHs in air, measured as the cyclohexane-extractable fraction.

Epidemiology: Results of epidemiological studies of carbon black production workers suggest that cumulative exposure to carbon black may result in small decrements in lung function. A recent U.S. respiratory morbidity study suggested a 27 ml decline in FEV1 from a 1 mg/m³ (inhalable fraction) exposure over a 40-year period. An older European investigation suggested that exposure to 1 mg/m³ (inhalable fraction) of carbon black over a 40-year working lifetime would result in a 48 ml decline in FEV1. However, the estimates from both studies were only of borderline statistical significance. Normal age-related decline over a similar period of time would be approximately 1200 ml.

The relationship between other respiratory symptoms and exposure to carbon black is even less clear. In the U.S. study, 9% of the highest exposure group (in contrast to 5% of the unexposed group) reported symptoms consistent with chronic bronchitis. In the European study, methodological limitations in the administration of the questionnaire limit the conclusions that can be drawn about reported symptoms. This study, however, indicated a link between carbon black and small opacities on chest films, with negligible effects on lung function.

A study on carbon black production workers in the UK (Sorahan et al 2001) found an increased risk of lung cancer in two of the five plants studied; however, the increase was not related to the dose of carbon black. Thus, the authors did not consider the increased risk in lung cancer to be due to carbon black exposure. A German study of carbon black workers at one plant (Wellmann et al. 2006, Morfeld et al. 2006(a), Buechte et al. 2006, Morfeld et al. 2006(b)) found a similar increase in lung cancer risk but, like the 2001 UK study, found no association with carbon black exposure. In contrast, a large US study (Dell et al. 2006) of 18 plants showed a reduction in lung cancer risk in carbon black production workers. Based upon these studies, the February 2006 Working Group at IARC concluded that the human evidence for carcinogenicity was inadequate (Baan et al. 2006).

Since this IARC evaluation of carbon black, Sorahan and Harrington (2007) re-analyzed the UK study data using an alternative exposure hypothesis and found a positive association with carbon black exposure in two of the five plants. The same exposure hypothesis was applied by Morfeld and McCunney (2007) to the German cohort; in contrast, they found no association between carbon black exposure and lung cancer risk and, thus, no support for the alternative exposure hypothesis used by Sorahan and Harrington. Overall, as a result of these detailed investigations, no causative link between carbon black exposure and cancer risk in humans has been demonstrated. This view is consistent with the IARC evaluation in 2006.

Inhalation: Additional information relating to hazard to human:

The scientific discussion about the carcinogenic effect of inorganic low solubility particles (fine dusts) - such as carbon black - has not been concluded. In the view of many inhalation toxicologists tumour development resulted in experiments on rats through a type specific mechanism in overloading of the rat lung (overload phenomena).2)

Comparable findings have not yet occurred in the exposure of human beings. The IARC however, evaluated this rat study in the monograph 65 as being a sufficient indicator of the carcinogenic properties of carbon black in tests on animals. According to the IARC there are not sufficient indicators of the carcinogenic effect of carbon black on human beings. An overall evaluation of carbon black resulted from the IARC schematic evaluation as: "possibly carcinogenic for human beings" (Group 2B).

Applying the rules of the Globally Harmonized System of Classification and Labeling (GHS, e.g. UN "Purple Book", EU CLP Regulation) these results do not lead to classification of carbon black as a carcinogen. UN GHS says, that even if adverse effects are seen in animal studies or in-vitro tests, no classification is needed if the mechanism or mode of action is not relevant to humans.3) The European CLP Regulation also mentions, that no classification is indicated if the mechanism is not relevant to humans.4) Furthermore the CLP guidance on classification and labeling states, that "lung overload" in animals is listed under mechanisms not relevant to humans.5)

Aspiration Hazard: Not determined

12. ECOLOGICAL INFORMATION

Aquatic Toxicity: Fish (Brachydanio rerio): LC50 (96hr) > 1,000 mg/L. (Method: OECD 203).
Daphnia magna: EC50 (24hr) > 5,600 mg/L. (Method: OECD 202).
Algae (Scenedesmus subspicatus): EC50 (72hr) > 10,000 mg/L.
Algae (Scenedesmus subspicatus): NOEC >= 10,000 mg/L.
Activated sludge: EC0 (3hr) >= 800 mg/L. (Method: DEV L3 TTC test).

ENVIRONMENTAL FATE

Mobility: Not expected to migrate. Insoluble.

Bioaccumulation: Not expected due to physicochemical properties of the substance.

Persistence / Degradability: Not expected to degrade

Distribution to Environmental Compartments: Insoluble. Expected to remain on soil surface.

PBT and vPvB Assessment: This substance does not fulfill the criteria for PBT or vPvB

Other adverse effects: No other data are available

13. DISPOSAL CONSIDERATIONS

Disclaimer: Disclaimer: Information in this section pertains to the product as shipped in its intended composition as described in Section 3 of this MSDS. Contamination or processing may change waste characteristics and requirements. Regulations may also apply to empty containers, liners or rinsate. State/provincial and local regulations may be different from federal regulations.

RCRA Classification (40 CFR 261): Not a hazardous waste.

Canadian Waste Classification: Canada: Not a hazardous waste under provincial regulations.

DISPOSAL CONSIDERATIONS

Product, as supplied, should be disposed of in accordance with the regulations issued by the appropriate federal, state and local authorities. Same consideration should be given to containers and packaging.

14. TRANSPORT INFORMATION

The following organizations do not classify carbon black as a "hazardous cargo" if it is "carbon, non-activated, mineral origin". Cabot carbon blacks meets this definition.

- Canadian Transport of Dangerous Goods Regulation
- European Transport of Dangerous Goods Regulation
- GGVS, GGVE, RID, ADR, IMDG Code, ICAO-TI
- United Nations (no UN number)
- US Department of Transportation

International Transportation Identification:	"Carbon black, non-activated, mineral origin". Not dangerous according to IMDG-Code. Not dangerous according to ICAO-TI.
UN Number:	None
UN Proper Shipping Name:	Not classified
UN Shipping Class:	Not classified
UN Packing Group:	Not classified
US Rail Regulations:	Not classified

Additional Information:

Seven (7) ASTM reference carbon blacks were tested according to the UN method, Self Heating Solids, and found to be "Not a self-heating substance of Division 4.2"; the same carbon blacks were tested according to the UN method, Readily Combustible Solids, and found to be "Not a readily combustible solid of Division 4.1"; under current UN Recommendations on the Transport of Dangerous Goods.

15. REGULATORY INFORMATION

Hazard Classification

United States - OSHA (29 CFR 1910.1200): Hazardous.

Mexico - NOM-018-STPS-2000: Refer to HMIS Rating in Section 16.

Canada - WHMIS Classification (CPR, SOR/88-66): Class D2A.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

Chemical Name	WHMIS Ingredient Disclosure List:
Carbon Black	1%

International Inventories

All components of this product are listed on or exempt from the following inventories:

- YES - Australian Inventory of Chemical Substances (AICS)
- YES - Canadian Domestic Substances List (DSL)
- YES - Chinese Inventory
- YES - European Inventory of Existing Commercial Chemical Substances (EINECS)
- YES - Japanese Existing and New Chemical Substances (ENCS)
- YES - Korean Existing Chemicals List (KECL)
- YES - New Zealand Hazardous Substances and New Organisms Act (HSNO)
- YES - Philippine Inventory of Chemicals and Chemical Substances (PICCS)
- YES - United States Toxic Substances Control Act (TSCA) Inventory

U.S. Federal Regulations

TSCA 12(b) Export Notification: This product does not contain any components that are subject to TSCA 12(b) Export Notification.

Clean Air Act Amendments of 1990 (CAA, Section 112, 40 CFR 82): This product does not contain any components listed as a Hazardous Air Pollutant, Flammable Substance, Toxic Substance, or Class 1 or 2 Ozone Depletor.

Clean Water Act (CWA, 40 CFR 116) Priority Pollutants: This product does not contain any listed Priority Pollutants.

Comprehensive Environmental Response, Compensation and Liability Act (CERCLA, 40 CFR 302): This product does not contain any listed Hazardous Substances.

Superfund Amendments and Reauthorization Act, Title III (SARA):

SARA Section 302 (40 CFR 355) Extremely Hazardous Substances: No components are listed as extremely hazardous substances under SARA Section 302.

SARA Sections 311/312 (40 CFR 370) Hazard Category: CHRONIC/DELAYED HEALTH HAZARD. Reporting may be required if the material is present at any one time in amounts equal to or greater than 10,000 pounds.

SARA Section 313 (40 CFR 372) Toxics Release Inventory: Under EPA's Toxics Release Inventory (TRI) program the reporting threshold for 21 Polycyclic Aromatic Compounds (PACs) has been lowered to 100 pounds/year manufactured, processed, or otherwise used. The 100 pounds/year applies to the cumulative total of 21 specific PACs. In addition, the TRI reporting threshold for Benzo [g,h,i] perylene is 10 pounds/year manufactured, processed, or otherwise used. Carbon black may contain certain PACs and/or Benzo [g,h,i] perylene. The user is advised to evaluate their own TRI reporting responsibilities

Food and Drug Administration (FDA):

Carbon black is permitted for indirect contact with food when used as a filler in rubber articles intended for repeated use under 21 CFR (Code of Federal Regulations) 177.2600.

LIMITATIONS:

- Total carbon black (channel process and furnace process) in the rubber may not exceed 50% by weight of the rubber products. Cabot carbon blacks are furnace process blacks.

- Furnace process black content may not exceed 10% by weight of rubber product intended for use in contact with milk or edible oils.

Cosmetic Use: Cabot Corporation does not support the use of this product in any cosmetic application

Pharmaceutical Information: Not permitted

U.S. State Regulations

California Proposition 65: This product contains a component(s) that is listed on California Proposition 65.

"carbon black (airborne, unbound particles of respirable size)" is a California Proposition 65 listed substance. Please note that all three listing qualifiers (airborne, unbound (not bound within a matrix), and respirable size (10 micrometers or less in diameter)) must be met for this substance to be considered a Proposition 65 substance. Please contact your sales representative for additional information.

Massachusetts Right-to-Know Substances List: This product contains a listed component(s).

Louisiana: Right-to-know legislation requires inventory reporting through Community Right-to-Know when the quantity of carbon black exceeds 500 pounds on any given day. Spills or releases beyond the site of the facility of greater than 5,000 pounds are required to be immediately reported to the state Emergency Response Commission via the Office of the State Police, Transportation and Environmental Safety Section, Hazardous Material Hotline, (504) 925-6596 (collect calls accepted 24 hours a day).

US Coalition of NorthEastern Governors (CONEG) Metals List: This product meets the CONEG Source Reduction Council limits for the sum of the levels of lead, cadmium, mercury and hexavalent chromium of less than 100 parts per million by weight.

16. OTHER INFORMATION

HMIS Rating

HMIS Index: * - chronic, 0 - minimal, 1 - slight, 2 - moderate, 3 - serious, 4 - severe

Health: *1

Flammability: 1

Physical Hazard: 0

Carbon Black Extracts:

Manufactured carbon blacks generally contain less than 0.1% of solvent extractable polycyclic aromatic hydrocarbons (PAH). Solvent extractable PAH content depends on numerous factors including, but not limited to, the manufacturing process, desired product specifications, and the analytical procedure used to measure and identify solvent extractable materials. Questions concerning PAH content of carbon black and analytical procedures should be addressed to your carbon black supplier.

General Information:

The carbon black industry continues to sponsor research designed to identify adverse health effects from long term exposure to carbon black. This MSDS will be updated as new safety and health information may become available.

Prepared by: Cabot Corporation - Safety, Health and Environmental Affairs
Revision Date: 04/December/2012
Previous Revision Date: 11/July/2011
Reason for Revision: Revision to Section(s) 1,2,10,15

Disclaimer:

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