



SECTION I

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CHEMICAL NAME: Mixed Fullerenes, C₆₀, C₇₀, Higher-order fullerenes (C_{2n}, n>35)

SYNONYMS: Buckminsterfullerene, Buckyballs, Carbon-60, Carbon-70, fullerene soot extract.

SECTION II HAZARDOUS COMPONENTS/IDENTITY INFORMATION

C₆₀ and C₇₀ are newly discovered forms of carbon, which are similar to carbon black. Carbon black is listed in OSHA 29 CFR 1910.1000, Table Z-1.

HAZARDOUS COMPONENT	CAS#	% (wt)	ACGIH (TLV)	OSHA (PEL)
C ₆₀	99685-96-8	≅ 76	3.5 mg/m ³ (carbon black)	3.5 mg/m ³ (carbon black)
C ₇₀	115383-22-7	≅ 22	3.5 mg/m ³ (carbon black)	3.5 mg/m ³ (carbon black)
Higher-order fullerenes	not yet assigned	≅ 2	3.5 mg/m ³ (carbon black)	3.5 mg/m ³ (carbon black)

SECTION III PHYSICAL DATA

BOILING POINT:	sublimes	SPECIFIC GRAVITY:	≅ 1.7 g/cc
VAPOR PRESSURE:	8 X 10 ⁻⁴ torr (800° K)	MELTING POINT:	sublimes
VAPOR DENSITY:	N/A	EVAPORATION RATE:	N/A
SOLUBILITY IN WATER:	insoluble	ODOR:	odorless
APPEARANCE:	brown-black microcrystalline powder	EVAPORATION RATE:	N/A
RESISTIVITY:	1014 Ω/m		

SECTION IV FIRE AND EXPLOSION HAZARD DATA

FLASH POINT: N/A
LEL: N/A

FLAMMABLE LIMITS: Ignites in air above 600° C
UEL: N/A

EXTINGUISHING MEDIA: water

SPECIAL FIRE FIGHTING PROCEDURES: normal application of water and/or exclusion of air

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 CO₂

SECTION V REACTIVITY DATA

STABILITY: stable

CONDITIONS TO AVOID: excessive heat or flame in air

INCOMPATIBILITY: may react with strong oxidizers such as chlorate or strong acids

HAZARDOUS DECOMPOSITION PRODUCTS: carbon monoxide and carbon dioxide when heated in air above 600° C

HAZARDOUS POLYMERIZATION: will not occur

SECTION VI HEALTH HAZARD DATA

ROUTES OF ENTRY: Inhalation

HEALTH HAZARDS: None other than possible temporary discomfort due to inhalation of dust concentration above PEL.

CARCINOGENICITY: Carbon black is not considered a potential carcinogen by LARC or OSHA. Carbon black is not listed in NTP.

SIGNS AND SYMPTOMS OF OVEREXPOSURE: Epidemiological studies of workers in the carbon black producing industry have shown no significant health effects due to occupational exposure to carbon black.

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE: If the Threshold Limit Value is exceeded, mechanical overloading of the respiratory passages and eye irritation are possible.

EMERGENCY FIRST AID PROCEDURES: For inhalation discomfort, move victim to fresh air. If breathing stops, administer artificial respiration.

SECTION VII PRECAUTIONS FOR SAFE HANDLING AND USE

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: Wear a dust respirator and remove by sweeping or vacuuming; spray with water and sweep into a suitable container.

WASTE DISPOSAL METHOD: Burn or bury in accordance with Federal, State or Local regulations.

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING: Avoid accumulation of dust. Avoid sources of ignition from equipment. Prevent static discharge. Store in a cool, dry place. Check all confined spaces for carbon monoxide. Allow personnel to enter only if carbon monoxide is less than 50 ppm and oxygen is higher than 19.5% by volume.

OTHER PRECAUTIONS: none

SECTION VIII CONTROL MEASURES

RESPIRATORY PROTECTION: dust mask if TLV is exceeded

VENTILATION: not necessary, mechanical exhaust recommended.

PROTECTIVE GLOVES: as needed

EYE PROTECTION: as needed

OTHER PROTECTIVE CLOTHING OR EQUIPMENT: barrier cream to assist in removal from skin.

WORK/HYGIENIC PRACTICES: Utilize common hygienic procedures.