

MATERIAL SAFETY DATA SHEET

SECTION I. Product Name and Company Identification

Trade Name: Carbon Black CHEMICAL NAME: Carbon (Amorphous)

SECTION II. Composition/Information on Components

Component: Carbon Black (Amorphous Carbon)

CAS Number: 1333-86-4

Weight, % 100

SECTION III. Hazards for Man and Environment

POSSIBLE EFFECT ON HEALTH

EYE: Carbon black may produce eye irritation.

SKIN CONTACT: The product is not skin irritant.

INFILTRATION THROUGH SKIN: Infiltration is not probable, carbon black being a dry solid material.

INGESTION: Specific effect is not known.

INHALATION: At high concentrations of carbon black dust (above TLV) inhalation may produce irritation of lungs.

SECTION IV. First Aid

EYE Flush with water.

SKIN Wash with soap and water.

INGESTION Usually no hazardous effect is produced.

INHALATION Go out into open air.

SECTION V. Fire Fighting Procedures

COMBUSTIBILITY

FLASH POINT N/A

INFLAMMABILITY IN AIR May inflame at temperatures above 250 C.

LOWER EXPLOSIBILITY LIMIT (LEL) 60 mg/cu.m *

UPPER EXPLOSIBILITY LIMIT (UEL) N/A

EXTINGUISHING MEDIA Atomized jet of water.

UNUSUAL FIRE HAZARDS Carbon monoxide and carbon dioxide are generated during combustion of carbon black. The product burns (smolders) without flame, therefore in some cases combustion of carbon black cannot be detected, cases combustion of carbon black cannot be detected, unless the product is stirred and sparks are produced. HAZARDS OF DUST EXPLOSION Carbon black does not explode easily, so it is not considered hazardous in practical applications. However, in certain test conditions mixture of carbon black dust and air may explode.

* Reported data on LEL differ. We take the value from The Handbook of Powder Technology, ed. by P.Field, v.4, as being the lowest in literature.

SECTION VI. Procedures in Case Material is Released or Spilled

Collect with vacuum cleaner, sweep up or sprinkle with water and collect in refuse container.

SECTION VII. Handling and Storage

Store in containers and indoors. Not to expose to open fire or strong oxidizers. Check for carbon monoxide and oxygen content in air before entering container or workroom.

If carbon monoxide is present or oxygen is low use adequate gas masks. Produce less dust in air. Collect all spilled material immediately.

SECTION VIII. Limiting Exposure and Personal Protective Measures

INHALATION STANDARDS Maximum carbon black dust content in air by U.S.

standards is 3.5 mg/cu.m, by German standards 6 mg/cu.m, by Ukrainian standards 4 mg/cu.m, by U.K. standards 3,5 mg/cu.m.

BREATH PROTECTION Not required in normal conditions. If dust content in air is above recommended limit use protective mask that conforms to European, national, and local regulations.

SKIN PROTECTION Not required. Use of protective gloves is not necessary.

EYE PROTECTION Use protective glasses or goggles.

PROTECTIVE CLOTHING Not required.

TECHNICAL CONTROL Adequate ventilation is recommended that should keep dust content in air under the standard limit

SECTION IX. Physical Data

APPEARANCE Amorphous solid material in the form of 0.1 to 3.0 mm black-colored pellets.

ODOR Odorless

BOILING POINT N/A

VAPOR PRESSURE N/A

VAPOR DENSITY N/A

SOLUBILITY IN WATER Insoluble

RATE OF VAPORISATION N/A

SPECIFIC WEIGHT (Water=1) 1.7 to 1.9

POUR DENSITY 150 to 650 (ASTM D1518)

VISCOSITY N/A

SECTION X. Stability and Reactivity

STABILITY

Product is stabile

INCOMPATIBILITY (MATERIALS TO AVOID) Strong oxidizers such as liquid oxygen, chlorates, bromates, nitrates. **CONDITIONS TO AVOID** Excessive heating, exposure to open fire.

HAZARDOUS DECOMPOSITION PRODUCTS Carbon monoxide and dioxide are produced in combustion. **HAZARDOUS POLYMERIZATION** No polymerization occurs.

SECTION XI. Toxicological Data

EYE ACUTE Slight irritation

CHRONIC Slight irritation

SKIN ACUTE Not expected

CHRONIC Not expected

INGESTION ACUTE Not expected

CHRONIC Not expected

INHALATION ACUTE

Dust in concentrations above TLV may cause transient irritation of upper respiratory tract.

CHRONIC Research in USSR showed high incidence of respiratory tract diseases, including pneumoconiosis, emphysema, rhinitis. It is to be noticed that dust concentrations were above TLV in that research. On the other hand, ACGIH Committee on TLV classified carbon black as dust that causes inconvenience with no proved pathological or harmful changes of structure or function of lungs. No carcinogenic effect of carbon black on animals or man was established. Research on humans in USA gave no evidence of carbon black dust concentrations equal to or below TLV in workrooms causing respiratory tract diseases.

OTHER Oral LD50 > 10000 mg/kg (rat).

CARCINOGENIC EFFECT

SECTION XII. Ecological Data

No negative effect on environment has been established.

SECTION XIII. Waste Disposal

Neither in Ukraine nor in Europe (Directive 78/319/EEC) carbon black is classified as toxic or hazardous waste. Waste may be incinerated or buried, observing all European, national, and local regulations.

SECTION XIV. Transportation

According to the rules of transportation established by Ukrainian Ministry of Railroad, carbon black is classified as self-igniting hazardous material, Class 4, Subclass 4.2, and is supplied with Emergency Card 47. It may be transported in bulk in special hopper cars or packed in containers. In most European countries and in the USA carbon black is not considered hazardous material and may be shipped by land, sea, or air transport without limitations.

DOT - GROUND TRANSPORTATION:

Proper Shipping Name: Carbon black

Hazard Class: Not regulated.

UN. NO#: Not regulated.

Packing Group #: Not regulated. / / Not regulated.

IATA/IMDG REGULATIONS:

Proper Shipping Name: Carbon black

Hazard Class: Not regulated.

UN. NO#: Not regulated.

Packing Group #: Not regulated. / / Not regulated.

IMDG EMS: Not regulated.

Shipping Options for this product include:

Transportation Notes: No

SECTION XV. Legal Information

Labeling Requirements

Carbon black, CAS No. 1333-86-4, is included in following inventories :

All-Union Classifier of Industrial and Agricultural Products (Ukraine);

U.S. Toxic Substances Control Act (TSCA);

European Inventory of Existing Chemical Substances (EINECS - No. 215-609-9);

SECTION XVI. Other Information

TEXT ON LABEL : Carbon Black

The preceding data are based on test results that we consider reliable. However, we cannot guarantee them or take responsibility for the consequences of their use. Users are to conduct their own research in order to determine whether the data or products are suitable for their specific applications. None of the data reported here are to be understood as permission, suggestion, or recommendation for infringement of any laws or application of any inventions protected by patents in force.