



Chemical Village Co.,Ltd.
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MATERIAL SAFETY DATA SHEET

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: CARBON BLACK

Synonyms: Carbon Black, Pigment Carbon Black, Furnace Black, Channel Black

This MSDS is valid for following grades: Carbon Black grade series: N219, N220, N234, N326L, N330, N330-W, N351, N375, N550, N600, RCF300-1, RCF300-2, RCF300-3, SB1#, C111, C300, C311, C312, C500, C611, C611-2, C655, H1, H2, H3, H4, H5, H6, H7, H8, H9, H10, GB110, GB120, GB130, GB140, GB150 and soon.

2. HAZARDS IDENTIFICATION

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 decomposition and/or combustion can include carbon monoxide, carbon dioxide, oxides of sulfur, and organic products of decomposition. 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: No adverse effects expected.

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

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 | Number | Weight % | EU |
|----------------|------------|-----------|--------|----------|------|
| Classification | | | | | |
| Carbon Black | 1333-86-4 | 215-609-9 | 100 | | None |



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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

Extinguishing Media: Use foam, carbon dioxide (CO₂), dry chemical or water spray. A fog 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.

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 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.

Products: Carbon monoxide, Carbon dioxide, Oxides of sulphur, Organic products of decomposition. 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 labeled 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 be advised if significant spillages cannot be contained.



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7. HANDLING AND STORAGE

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.

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.

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: | China: | 4.0 mg/m ³ , TWA |
| | | 8.0 mg/m ³ , STEL |
| | Australia: | 3.0 mg/m ³ , TWA |
| | Belgium - OEL: | 3.6 mg/m ³ , TWA |
| | Canada: | 3.5 mg/m ³ , TWA |
| | Finland: | 3.5 mg/m ³ , TWA |
| | | 7.0 mg/m ³ , STEL |

STEL: Short Term Exposure Limit

TWA: Time Weighted Average

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.

Hand Protection: Wear protective gloves to prevent soiling of hands.

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.



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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: | odorless |
| PH: | 6-9(Furnace Black); 2-4(Channel Black) |
| Vapor Pressure: | Not determined |
| 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: | 20 - 550 kg/m ³ |
| Specific Gravity: | Not determined |
| % Volatile (by Weight): | < 2.5% @ 950°C (non-oxidized carbon black) 2 - 11% (oxidized carbon black) |
| Evaporation Rate: | Not applicable |
| Viscosity: | Not determined |
| Partition Coefficient (n-octanol/water): | Not determined |

10. STABILITY AND REACTIVITY

| | |
|--|---|
| Stability: | Stable. |
| Reactivity: | May react exothermically upon contact with strong oxidizers. |
| Incompatible Materials: | Strong oxidizers such as chlorates, bromated, and nitrates. |
| 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 decomposition. |
| 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. |



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11. TOXICOLOGICAL INFORMATION

ACUTE TOXICITY

Oral LD50: LD50/oral/rat = > 8000 mg/kg.
Eye Irritation: Rabbit. Draize score 10-17/110 @ 24 hr. Non-irritating.
Skin Irritation: Rabbit. 0.6/8. Slight irritation.

SUBCHRONIC TOXICITY

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

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
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.

Carcinogenic Effects: Substance listed by IARC (International Agency for Research Cancer). Does not contain any substances listed by NTP (National Toxicology Program), OSHA (Occupational Safety and Health Administration), ACGIH (American Conference for Governmental Industrial Hygienists) or EU (European Union).

Carbon Black IARC Statement: There is inadequate evidence in humans for the carcinogenicity of carbon black.

Reproductive Toxicity: Did not show effects in animal experiments.
Sensitizing Effects: Contains no known sensitizers.
Synergistic Materials: None reasonably foreseeable.

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).



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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.

13. DISPOSAL CONSIDERATIONS

Disclaimer: Information in this section pertains to the product as shipped in its intended composition as described in Section 2 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.

14. TRANSPORT INFORMATION

- 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

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 MSDS contains all the information required by the Controlled Products Regulations.

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)



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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

16. OTHER INFORMATION

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.

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.