

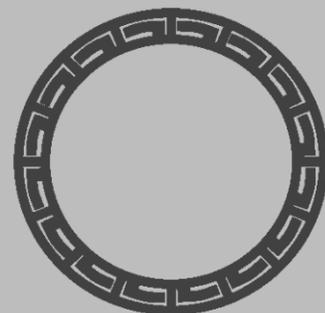
Material Safety Data Sheet

Carbon black

Product Code: PS-OR0095

Department: black dry pigments

C.A.S.: 1333-86-4



KAMA
PIGMENTS

Section: 1 Identification

Product name: Carbon Black, Solid.

company: KAMA pigments
7442 St-hubert montréal Québec, H2R 2N3
phone : 514 272 2173 fax : 514 948 5253
email : info@kamapigment.com

Chemical Family: Carbon Black.

Molecular Formula: C.

Product Use: Colourant.
WHMIS Classification / Symbol: D-2A: Very Toxic

Section: 2 Hazard Identification

Ingredient	CAS#	ACGIH TLV (TWA)	% Concentration
Carbon Black	1333-86-4	3.0 mg/m ³ *A4	95 - 100

*A4 = Not classifiable as a human carcinogen. (ACGIH-A4).



Section: 3 Composition / Information on Ingredients

EMERGENCY OVERVIEW:	Suspect cancer hazard. Mechanical hazard. Dust may cause mechanical irritation to skin, eyes and respiratory tract. See Section 11, "Toxicological Information". Powdered material may form explosive dust-air mixtures. Can decompose at high temperatures forming toxic gases.
POTENTIAL HEALTH EFFECTS	
Inhalation:	Product may be mildly irritating to the nose, throat and respiratory tract and may cause coughing and sneezing. Excessive contact with powder may cause drying of mucous membranes of nose and throat due to absorption of moisture and oils. See "Other Health Effects" Section. Long-term exposure below the current occupational exposure limit may result in a small loss in one aspect of lung function. (3)
Skin Contact:	Prolonged, confined (especially under the finger nails, under rings or watch bands) or repeated exposure may cause skin irritation. May cause defatting, drying and cracking of the skin. Prolonged and repeated contact may lead to dermatitis.
Skin Absorption:	Not applicable.
Eye Contact:	This product may cause irritation, redness and possible damage due to abrasiveness. Excessive contact with powder may cause drying of mucous membranes of the eyes due to absorption of moisture and oils.
Ingestion:	Ingestion is not a likely route of exposure. Ingestion of large amounts may cause intestinal obstruction. Ingestion of large amounts may cause nausea, gastrointestinal upset and abdominal pain.
Other Health Effects:	In general, long-term exposure to high concentrations of dust may cause increased mucous flow in the nose and respiratory system airways. This condition usually disappears after exposure stops. Controversy exists as to the role exposure to dust has in the development of chronic bronchitis (inflammation of the air passages into the lungs). Other factors such as smoking and general air pollution are more important, but dust exposure may contribute.

Section: 4 First-Aid Measures

Inhalation:	Move victim to fresh air. Give artificial respiration ONLY if breathing has stopped. Give cardiopulmonary resuscitation (CPR) if there is no breathing AND no pulse. Obtain medical attention IMMEDIATELY.
Skin Contact:	Start flushing while removing contaminated clothing. Wash affected areas thoroughly with soap and water. If irritation, redness, or a burning sensation develops and persists, obtain medical advice.
Eye Contact:	Immediately flush eyes thoroughly for 5 minutes with running water. Hold eyelids open during flushing. If irritation persists, repeat flushing.
Ingestion:	Ingestion is not a likely route of exposure. Do not attempt to give anything by mouth to an unconscious person.
Note to Physicians:	Treat symptomatically. Medical conditions that may be aggravated by exposure to this product include diseases of the skin, eyes or respiratory tract.

Section: 5 Fire-Fighting Measures

		Flammability Limits in Air (%):		
Flashpoint (°C)	Autolgnition Temperature (°C)	LEL	UEL	
Does not flash.	> 140 (3)	50 g/m ³ . (3)	Not available.	
Flammability Class (WHMIS):	Not regulated.			
Hazardous Combustion Products:	Thermal decomposition products are toxic and may include oxides of carbon and sulphur.			
Unusual Fire or Explosion Hazards:	Minimize air borne spreading of dust. Spilled material may cause floors and contact surfaces to become slippery.			
Sensitivity to Mechanical Impact:	Not expected to be sensitive to mechanical impact.			
Rate of Burning:	> 45 seconds.			
Explosive Power:	Not available.			
Sensitivity to Static Discharge:	High voltage static electricity build-up is possible when significant quantities of dust are present.			
Fire Extinguishing Media:	Foam. Dry chemical, carbon dioxide or water spray. Do not use high volume water jet. This material may produce a floating fire hazard in extreme fire conditions.			
Instructions to the Fire Fighters:	Isolate materials that are not involved in the fire and protect personnel. Cool containers with flooding quantities of water until well after the fire is out.			
Fire Fighting Protective Equipment:	Use self-contained breathing apparatus and protective clothing.			

Section: 6 Accidental Release Measures

Information in this section is for responding to spills, leaks or releases in order to prevent or minimize the adverse effects on persons, property and the environment. There may be specific reporting requirements associated with spills, leaks or releases, which change from region to region.

Containment and Clean-Up Procedures: Minimize air borne spreading of dust. Ventilate enclosed spaces. Take up by a mechanical means preferably by a vacuum cleaner equipped with a high efficiency filter. Avoid dry sweeping. Avoid air blowing. Eliminate all sources of ignition. Wear respirator, protective clothing and gloves.

Where a package (drum or bag) is damaged and / or leaking, repair it, or place it into an over-pack drum immediately so as to avoid or minimize material loss and contamination of surrounding environment. In order to prevent marine species and birds from ingesting pellets, emphasis should be placed on total containment of plastic pellets through their lifespan. Avoid contaminating soil or releasing this material into sewage and drainage systems and bodies of water. (3)

Section: 7 Handling And Storage

HANDLING

Handling Practices:

Post signs warning of high temperatures (i.e. molten materials and hot equipment). This product may be capable of forming flammable dust clouds in air. Minimize air borne spreading of dust. Ground and bond equipment and containers to prevent a static charge buildup. Eliminate all sources of ignition. Enforce NO SMOKING rules in area of use. Clean up immediately to eliminate slipping hazard.

Pneumatic conveying of this product can generate dust particles that can, under certain conditions, pose an explosion hazard. We recommend that the conveying system used be: 1 - equipped with filters of adequate size; 2 - operated and maintained in such a manner to ensure that no leaks develop; and 3 -adequately grounded. Static neutralisers may be added when the powders are pneumatically conveyed.

Ventilation Requirements:

The HVAC (heating, ventilation and air conditioning system) must be regularly inspected and maintained to avoid contaminants build-up in air filters. This build-up reduces the effectiveness of the ventilation. See Section 8, "Engineering Controls".

Other Precautions:

Use only with adequate ventilation and avoid breathing dusts. Avoid contact with eyes, skin or clothing. Wash thoroughly with soap and water after handling. Wash contaminated clothing thoroughly before reuse.

STORAGE

Storage Temperature (°C):

Ideal storage temperature is 10-27 Deg. Celsius.

Ventilation Requirements:

General exhaust is acceptable.

Storage Requirements:

Store in a cool, well-ventilated area. Keep away from heat, sparks and flames. Keep containers closed. Protect against physical damage.

Special Materials to be Used for Packaging or Containers: Cardboard gaylords. fiber drum. Multi-layer bags or sacks.

Section: 8 Exposure Control/Personal Protection

Recommendations listed in this section indicate the type of equipment, which will provide protection against overexposure to this product.

Conditions of use, adequacy of engineering or other control measures, and actual exposures will dictate the need for specific protective devices at your workplace.

EXPOSURE GUIDELINES

SUBSTANCE

ACGIH TLV
(STEL)

OSHA PEL
(TWA) (STEL)

NIOSH REL
(TWA) (STEL)

Carbon Black

—

3.5 mg/m³ —

3.5 mg/m³ —

Engineering Controls:

Local exhaust ventilation required. Make up air should be supplied to balance air that is removed by local or general exhaust ventilation. Ventilate low lying areas such as sumps or pits where dense dust may collect. Enforce NO SMOKING rules in area of use.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Eye Protection:

Contact lenses should not be worn when working with this material. This product may be capable of forming flammable dust clouds in air.

Skin Protection:

Gloves and protective clothing made from cotton, canvas or rubber or plastic should be impervious under conditions of use.

Respiratory Protection:

A NIOSH/MSHA-approved air-purifying respirator equipped with high-efficiency particulate filters cartridges for concentrations up to 35 mg/m³ as carbon black. An air-supplied respirator if concentrations are higher or unknown.

Immediately Dangerous to Life and Health (IDLH) value: 1 750 mg/m³. The purpose of establishing an IDLH value is to ensure that the worker can escape from a given contaminated environment in the event of failure of the most protective respiratory equipment. In the event of failure of respiratory protective equipment, every effort should be made to exit immediately. (4)

Other Personal Protective Equipment:

Wear regular work clothing. The use of overalls is recommended. Locate safety shower and eyewash station close to chemical handling area. Take all precautions to avoid personal contact.

Section: 9 Physical and Chemical Properties

Physical State:	Solid.
Appearance:	Black powder.
Odour:	Odourless.
Odour Threshold (ppm):	Not applicable.
Boiling Range (°C):	Not applicable.
Melting/Freezing Point (°C):	Not available.
Vapour Pressure (mm Hg at 20° C):	Not applicable.
Vapour Density (Air = 1.0):	Not applicable.
Relative Density (g/cc):	1.7 - 2.0.
Bulk Density:	20 - 640 kg/m ³
Viscosity:	Not applicable.
Evaporation Rate (Butyl Acetate = 1.0):	Not applicable.
Solubility:	Not soluble in water.
% Volatile by Volume:	Not applicable.
pH:	Not applicable.
Coefficient of Water/Oil Distribution:	Not applicable.
Volatile Organic Compounds (VOC):	Not applicable.
Flashpoint (°C):	Does not flash.

Section: 10 Stability And Reactivity

Under Normal Conditions:	Stable.
Under Fire Conditions:	Not readily flammable, but will support combustion. This product may be capable of forming flammable dust clouds in air.
Hazardous Polymerization:	Will not occur.
Conditions to Avoid:	Decomposes at 300 °C. (3)
Materials to Avoid:	Strong oxidizers.
Decomposition or Combustion Products:	Thermal decomposition products are toxic and may include oxides of carbon and sulphur.

Section: 11 Toxicological Information

SUBSTANCE:	LD50 (Oral, Rat): (Inhalation, Rat, 4h)	LD50 (Dermal, Rabbit):	LC50
Carbon Black	> 15 400 mg/kg (1)	> 3 000 mg/kg (1)	6 750 mg/m ³ (4)
Carcinogenicity Data:	Carbon Black is classified as a suspected carcinogen by IARC (Group 2B). Four occupational exposure studies to Carbon Black have been evaluated by (IARC). Two produced statistically significant carcinogenic response. One produced carcinogenesis but was not statistically significant and one produced no carcinogenesis. IARC has determined that there is inadequate evidence for carcinogenicity to humans, but adequate carcinogenicity to animals and classed it as IARC-2B (possibly carcinogenic to humans). (4)		
Reproductive Data:	No adverse reproductive effects are anticipated.		
Mutagenicity Data:	Carbon Black: may cause mutagenic effects based on studies in laboratory animals.		
Teratogenicity Data:	No adverse teratogenic effects are anticipated.		
Respiratory / Skin Sensitization Data:	None known.		
Synergistic Materials:	None known.		
Other Relevant studies :	Carbon Black dust is extremely fine and light and can be breathed deeply into the lungs, where it can accumulate. Normally the dust is cleared gradually from the lungs and has no harmful effects. However, high concentrations of dust can overwhelm the clearance capacity of the lungs, obstruct the lungs, and interfere with lung function. Symptoms may include coughing, increased phlegm production, and shortness of breath. Non specific irritant effects including cough and changes in lung function, have been observed in workers occupationally exposed to carbon black. In one case, these effects were seen in workers exposed to airborne concentrations of up to 0.45 mg/M3 respirable dust to 1.60 mg/M3 total dust. Limited animal and human evidence suggests that significant and potentially irreversible lung effects may occur with exposures to high airborne concentrations (10 - 100 mg/M3). A number of studies have shown x-ray changes, reduced lung function, emphysema and/or chronic bronchitis in some carbon black workers. A few studies have shown evidence of fibrosis (scarring of the lungs) in the area surrounding carbon black deposits in the lungs. (4) A study of carbon black workers in the UK showed an elevated incidence of lung cancer but it was not considered to be related to carbon black exposure. A study of workers at a large German carbon black manufacturing facility found increased lung cancer mortality among German carbon black workers, but found no apparent dose-response relationship between lung cancer mortality and several indicators of occupational exposure, including years of employment and carbon black exposure. The study concluded that the high lung cancer mortality could not be fully explained by selection, smoking, or other occupational risk factors, but the results also provided little evidence for an effect from carbon black exposure. A recent mortality study of US carbon black workers found no association between employment in carbon black production and lung cancer or any other type of cancer. (3)		

Section: 12 Ecological Information

Ecotoxicity:	Aquatic toxicity: Acute fish toxicity: LC50 (96 h) > 1000 mg/l, Zebrafish, (OECD Guideline 203). (3) Acute water flea toxicity: EC50 (24 h) > 5600 mg/l, Waterflea, (OECD Guideline 202). (3)
Environmental Fate:	Not available. This material is not expected to bioaccumulate. (3) Do not contaminate domestic or irrigation water supplies, lakes, streams, ponds, or rivers.

Section: 13 Disposal Considerations

Deactivating Chemicals:	None required.
Waste Disposal Methods:	This information applies to the material as manufactured. Dispose of waste material at an approved (hazardous) waste treatment/disposal facility in accordance with applicable local, provincial and federal regulations. Do not dispose of waste with normal garbage, or to sewer systems.
Safe Handling of Residues:	See "Waste Disposal Methods".
Disposal of Packaging:	Recycling is encouraged. Treat package in the same manner as the product. Dispose of waste material at an approved landfill site

Section: 14 Transport Information

CANADIAN TDG ACT SHIPPING DESCRIPTION:

This product is not regulated by TDG.

Label(s): Not applicable.

Placard: Not applicable.

ERAP Index: -----.

Exemptions: None known.

US DOT CLASSIFICATION (49CFR 172.101, 172.102):

This product is not regulated by DOT.

Label(s): Not applicable.

Placard: Not applicable.

CERCLA-RQ: Not available.

Exemptions: None known.

Section: 15 Regulatory Information

CANADA

CEPA - NSNR:

All components of this product are included on the DSL.

CEPA - NPRI:

Not included.

Controlled Products Regulations Classification (WHMIS): D-2A: Very Toxic (carcinogen)

USA

Environmental Protection Act:

All components of this product are included on the TSCA inventory.

OSHA HCS (29CFR 1910.1200):

Carcinogenic.

NTEFxpT2A2:

0 Health, 1 Fire, 0 Reactivity (3)

THeMxltS22:

1 Health, 1 Fire, 0 Reactivity (3)

INTERNATIONAL

Not available.

Section: 16 Other Information

1. RTECS-Registry of Toxic Effects of Chemical Substances, Canadian Centre for Occupational Health and Safety RTECS database.
2. Clayton, G.D. and Clayton, F.E., Eds., Patty's Industrial Hygiene and Toxicology, 3rd ed., Vol. IIA,B,C, John Wiley and Sons, New York, 1981.
3. Supplier's Material Safety Data Sheet(s).
4. CHEMINFO chemical profile, Canadian Centre for Occupational Health and Safety, Hamilton, Ontario, Canada.
5. Guide to Occupational Exposure Values, 2011, American Conference of Governmental Industrial Hygienists, Cincinnati, 2011.
6. Regulatory Affairs Group, Brenntag Canada Inc.
7. The British Columbia Drug and Poison Information Centre, Poison Managements Manual, Canadian Pharmaceutical Association, Ottawa, 1981.

prepared by

Kama pigments

Disclaimer:

Kama pigments, expressly disclaims all express or implied warranties of merchantability and fitness for a particular purpose, with respect to the product or information provided herein, and shall under no circumstances be liable for incidental or consequential damages.

Do not use ingredient information and/or ingredient percentages in this MSDS as a product specification. For product specification information, refer to a Product Specification Sheet and/or a Certificate of Analysis. These can be obtained from your local Kama pigments Sales Office.

All information appearing herein is based upon data obtained from the manufacturer and/or recognized technical sources. While the information is believed to be accurate, Kama pigments makes no representations as to its accuracy or sufficiency. Conditions of use are beyond Kama pigments' control and therefore users are responsible to verify this data under their own operating conditions to determine whether the product is suitable for their particular purposes and they assume all risks of their use, handling, and disposal of the product, or from the publication or use of, or reliance upon, information contained herein. This information relates only to the product designated herein, and does not relate to its use in combination with any other material or in any other process.



KAMA
PIGMENTS

Last revision: 2015-06-25