SAFETY DATA SHEET  
Carbon Black

1. Identification

Product identifier
Product name Carbon Black
Product number LB1011,8405,C391

Recommended use of the chemical and restrictions on use
Application Industrial color

Details of the supplier of the safety data sheet
Supplier Huntsman Pigments Americas LLC
P.O. Box 4980
The Woodlands, TX 77387
+1 301 210 3400 / +1 323 269 7311
MSDS@huntsman.com

Emergency telephone number
Emergency telephone CHEMTREC: (800) 424-9300 (Contract No: 191118)

2. Hazard(s) identification

Classification of the substance or mixture
Physical hazards Not Classified
Health hazards Not Classified
Environmental hazards Not Classified

Human health May be slightly irritating to eyes.
Environmental The product is not expected to be hazardous to the environment.

Label elements
Hazard statements NC Not Classified

3. Composition/Information on ingredients

Mixtures
CARBON BLACK > 99
CAS number: 1333-86-4  REACH registration number: Proprietary

Classification Not Classified

The Full Text for all Hazard Statements are Displayed in Section 16.

Composition comments Carbon Black
Carbon Black

4. First-aid measures

Description of first aid measures

Inhalation  Move affected person to fresh air at once. Get medical attention if any discomfort continues.

Ingestion  Do not induce vomiting. Rinse mouth thoroughly with water. Give plenty of water to drink. Keep affected person under observation. Get medical attention if any discomfort continues. Show this Safety Data Sheet to the medical personnel. Never give anything by mouth to an unconscious person.

Skin Contact  Wash skin thoroughly with soap and water. Get medical attention if irritation persists after washing.

Eye contact  Rinse with water. Get medical attention if any discomfort continues.

Most important symptoms and effects, both acute and delayed

Inhalation  Frequent inhalation of dust over a long period of time increases the risk of developing lung diseases.

Ingestion  Due to the physical nature of this material it is unlikely that swallowing will occur.

Skin contact  Prolonged contact may cause redness, irritation and dry skin.

Eye contact  May cause temporary eye irritation.

Indication of immediate medical attention and special treatment needed

Notes for the doctor  Treat symptomatically.

5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media  Extinguish with the following media: Water spray, fog or mist. Foam. Dry chemicals, sand, dolomite etc. Carbon dioxide (CO2).

Special hazards arising from the substance or mixture

Specific hazards  Fire or high temperatures create: Carbon dioxide (CO2). Carbon monoxide (CO). Sulfurous gases (SOx). 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 smouldering 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. May ignite other combustible materials.

Advice for firefighters

Protective actions during firefighting  No specific firefighting precautions known.

Special protective equipment for firefighters  Wear self-contained breathing apparatus if this product is involved in a fire.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Personal precautions  In case of spills, beware of slippery floors and surfaces. Wear protective clothing as described in Section 8 of this safety data sheet.

Environmental precautions
Carbon Black

Environmental precautions
Avoid washing into water courses. Avoid contaminating public drains or water supply. This material creates a fire hazard because it floats on water. If possible, try to contain floating material.

Methods and material for containment and cleaning up

Methods for cleaning up
Wet carbon black produces dangerously slippery walking surfaces. Small spills should be vacuumed when possible. Dry sweeping is not recommended. A vacuum equipped with HEPA (high efficiency particulate air) filtration is recommended. If necessary, light water spray will reduce dust for dry sweeping. Large spills may be shoveled into containers. (See Section 13)

Reference to other sections
For personal protection, see Section 8.

7. Handling and storage

Precautions for safe handling
Usage precautions
Keep away from heat, sparks and open flame. Avoid handling which leads to dust formation. Take precautionary measures against static discharges.

Conditions for safe storage, including any incompatibilities
Storage precautions
Keep away from heat, sparks and open flame. Store in tightly-closed, original container in a dry, cool and well-ventilated place.

Storage class
Unspecified storage.

Specific end uses(s)

Specific end use(s)
The identified uses for this product are detailed in Section 1.2.

8. Exposure Controls/personal protection

Control parameters
Occupational exposure limits
CARBON BLACK
Long-term exposure limit (8-hour TWA): ACGIH 3 mg/m³
Short-term exposure limit (15-minute): ACGIH

ACGIH = American Conference of Governmental Industrial Hygienists.

Ingredient comments
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

Exposure controls
Protective equipment
Appropriate engineering controls
Provide adequate general and local exhaust ventilation. An eye wash station and safety shower should be readily available where this material is used or handled.

Eye/face protection
Eyewear complying with an approved standard should be worn if a risk assessment indicates eye contact is possible. The following protection should be worn: Chemical splash goggles.

Hand protection
Chemical-resistant, impervious gloves complying with an approved standard should be worn if a risk assessment indicates skin contact is possible.
Carbon Black

Other skin and body protection
Use engineering controls to reduce air contamination to permissible exposure level. Wear appropriate clothing to prevent any possibility of skin contact.

Hygiene measures
Use engineering controls to reduce air contamination to permissible exposure level. No specific hygiene procedures recommended but good personal hygiene practices should always be observed when working with chemical products. Change work clothing daily before leaving workplace.

Respiratory protection
An approved air-purifying respirator (APR) may be used where airborne concentrations are expected to exceed occupational exposure limits. Protection provided by APRs 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. A complete respiratory protection program in accordance with national standards and current best practices must accompany use of any respirator.

9. Physical and Chemical Properties

Information on basic physical and chemical properties

Appearance
Dusty powder.

Color
Black.

Odor
Odorless.

pH
pH (diluted solution): 7 50g/L@68F

Initial boiling point and range
Not relevant.

Relative density
1.7 - 1.9 @ °C

Solubility(ies)
Insoluble in water.

Other information
No information required.

Volatile organic compound
This product contains a maximum VOC content of None.

10. Stability and reactivity

Reactivity
There are no known reactivity hazards associated with this product.

Stability
No particular stability concerns.

Possibility of hazardous reactions
Not relevant.

Conditions to avoid
Avoid contact with the following materials: Strong oxidising agents.

Materials to avoid
Strong oxidizing agents.

Hazardous decomposition products
Depending on the amount of carbon black present, ignition in air may occur above 315°C. Carbon monoxide and carbon dioxide are emitted. Sulfurous gases (SOx).

11. Toxicological information

Information on toxicological effects

Toxicological effects
From literature surveys undertaken on carbon black: LD50 (oral): >8000 mg/kg (Rat) Eyes (24hr): Non-irritating (Rabbit) Skin (24 hr): Non-irritating (Rabbit)

Germ cell mutagenicity
Carbon Black

Genotoxicity - 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.

Genotoxicity - in vivo
In an experimental investigation, mutational changes in the hppt 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.

Carcinogenicity
Carbon Black

Carcinogenicity

Tumor development in Rats caused by lung overload, no epidemiological evidence for lung tumors in Humans.

Lung tumors in rats are the result of exposure under "lung overload" conditions. The development of lung tumors in rats is specific to this species. Mouse and hamster do not develop lung tumors under similar test conditions. The CLP guidance on classification and labeling states, that "lung overload" in animals is listed under mechanism not relevant to humans.

IARC listed: Group 2B (possibly carcinogenic to humans). Not listed as a human carcinogen by NTP, ACGIH, OSHA, or the European Union. ACGIH listed as A3 Confirmed animal carcinogen with unknown relevance to humans: The agent is carcinogenic in experimental animals at a relatively high dose, by route(s) of administration, at site(s), of histological type(s), or by mechanism(s) that may not be relevant to worker exposure. Available epidemiologic studies do not confirm an increased risk of cancer in exposed humans. Available evidence does not suggest that the agent is likely to cause cancer in humans except under uncommon or unlikely routes or levels of exposure. 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 (inhaleable fraction) exposure over a 40-year period. An older European investigation suggested that exposure to 1 mg/m3 (inhaleable 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.

IARC carcinogenicity

IARC Group 2B  Possibly carcinogenic to humans.

General information

Inhalation

Dust may irritate the respiratory system.
Carbon Black

**Ingestion**
No specific health hazards known.

**Skin Contact**
Powder may irritate skin. Not a skin sensitiser.

**Eye contact**
Dust in the eyes will cause irritation.

**Target Organs**
Respiratory system, lungs

**Medical Symptoms**
RESPIRATORY SYSTEM.

### Toxicological information on ingredients.

#### CARBON BLACK

**Carcinogenicity**

<table>
<thead>
<tr>
<th>IARC carcinogenicity</th>
<th>IARC Group 2B Possibly carcinogenic to humans.</th>
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<tbody>
<tr>
<td>NTP carcinogenicity</td>
<td>Reasonably anticipated to be a human carcinogen.</td>
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<tr>
<td>OSHA Carcinogenicity</td>
<td>Not listed.</td>
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### Ecological Information

**Ecotoxicity**

**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).

**Persistence and degradability**

- Persistence and degradability: The product is not readily biodegradable.

**Bioaccumulative potential**

- Bio-Accumulative Potential: Bioaccumulation is unlikely to be significant because of the low water-solubility of this product.

**Mobility in soil**

- Mobility: The product is insoluble in water.

**Results of PBT and vPvB assessment**

- Results of PBT and vPvB assessment: This product does not contain any substances classified as PBT or vPvB.

**Other adverse effects**

- Other adverse effects: None known.

### Disposal considerations

**Waste treatment methods**

**General information**

- Waste to be treated as controlled waste. Disposal in accordance with federal, state and local regulations.

**Disposal methods**

- Reuse or recycle products wherever possible. Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority.
Carbon Black

General
The product is not covered by international regulations on the transport of dangerous goods (IMDG, IATA, DoT).

Road transport notes
Not classified as dangerous for road transport.

Rail transport notes
Not classified as dangerous for rail transport.

Sea transport notes
Not classified as dangerous for sea transport.

Air transport notes
Not classified as dangerous for air transport.

UN Number
Not applicable.

UN proper shipping name
Not applicable.

Transport hazard class(es)
Not applicable.

Transport labels
Packing group
Not applicable.

Environmental hazards
Environmentally Hazardous Substance
No.

Special precautions for user
Not applicable.

Transport in bulk according to
Annex II of MARPOL 73/78
and the IBC Code

15. Regulatory information

US State Regulations

State Regulations Comments
"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.

California Proposition 65 Carcinogens and Reproductive Toxins

CARBON BLACK
Known to the State of California to cause cancer.

Massachusetts "Right To Know" List

CARBON BLACK
Yes.

Rhode Island "Right To Know" List
Carbon Black

CARBON BLACK
Yes.

Minnesota "Right To Know" List
CARBON BLACK
Yes.

New Jersey "Right To Know" List
CARBON BLACK
Yes.

Pennsylvania "Right To Know" List
CARBON BLACK
Yes.

Inventories
EU - EINECS/ELINCS
EINECS
All the ingredients are listed or exempt.

Canada - DSL/NDSL
DSL
All the ingredients are listed or exempt.

US - TSCA
All the ingredients are listed or exempt.

US - TSCA 12(b) Export Notification
No.

16. Other information

General information
See technical literature for details of suitable applications of this product.

Issued by
Product Regulations Dept

Revision date
5/28/2015

Revision
5

Supersedes date
11/21/2012

SDS No.
17783

SDS status
Approved.

This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty, guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.