# Material Safety Data Sheet
# Carbon Black

Edition: 01/02/2016

In compliance with Regulation (EC) No 1907/2006,
Annex II, as amended by Regulation (EU) No 453/2010

**1) Identification of substance/preparation and of the company undertaking**

| | | |
|---|---|---|
| | Material | Carbon Black |
| | Synonyms | Lampblack, Pigment Black |
| | Product number | LB1011,8405,C391 |
| | CAS No | 1333-86-4 |
| 7 | REACH Registration no. | 01-2119384822-32-xxxx |
| | Company | Inoxia Ltd<br>45.7 Dunsfold Park<br>Stovolds Hill<br>Cranleigh<br>Surrey<br>GU6 8TB<br>Tel: 02032 909990<br>safety@inoxia.co.uk<br>www.inoxia.co.uk |

**1.2. Relevant identified uses of the substance or mixture and uses advised against**

Identified uses: Industrial colour

**2) Hazards identification.**

**2.1. Classification of the substance or mixture**

**Classification**

| | |
|---|---|
| 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. |

**2.2. Label elements**

| | |
|---|---|
| Hazard statements | NC Not Classified |

**2.3. Other hazards**

## 3) Composition/information on ingredient

### 3.2. Mixtures

**Carbon Black** **60-100%**
CAS number: 1333-86-4 EC number: 215-609-9

| **Classification** | Classification (67/548/EEC or 1999/45/EC) |
|---|---|
| Not Classified | - |

The Full Text for all R-Phrases and Hazard Statements are Displayed in Section 16.
**Composition comments** Carbon Black

## 4) First Aid Measures

### 4.1. Description of first aid measures

**First-aid measures after inhalation:** Move affected person to fresh air at once. Get medical attention if any discomfort continues.

**First-aid measures after skin contact:** Wash skin thoroughly with soap and water. Get medical attention if irritation persists after washing.

**First-aid measures after eye contact:** Rinse with water. Get medical attention if any discomfort continues.

**First-aid measures after 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.

### 4.2. 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.

### 4.3. Indication of any immediate medical attention and special treatment needed

Notes for the doctor: Treat symptomatically.

## 5) Fire Fighting

### 5.1. Extinguishing media

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

### 5.2. Special hazards arising from the substance or mixture

Specific hazards Fire or high temperatures create: Carbon dioxide (CO2). Carbon monoxide (CO). Sulphurous 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.

### 5.3. 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

### 6.1. 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.

### 6.2. Environmental precautions

**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.

### 6.3. 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 shovelled into containers. (See Section 13).

### 6.4. Reference to other sections

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

## 7) Handling/Storage

### 7.1. 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.

### 7.2. 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.

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

## 8) Exposure Controls/Personal Protection

**8.1. Control parameters**
**Occupational exposure limits**
CARBON BLACK

Long-term exposure limit (8-hour TWA): WEL 3.5 mg/m³
Short-term exposure limit (15-minute): WEL 7 mg/m³
WEL = Workplace Exposure Limit

**Ingredient comments**
WEL = Workplace Exposure Limits UK Guidance Note EH40 - Workplace Exposure Limits.

**8.2. 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. |
| **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/Chemical Properties

### 9.1. Information on basic physical and chemical properties

| | |
|---|---|
| Appearance | Dusty powder |
| Colour | Black |
| Odour | Odourless |
| 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 |

### 9.2. Other information

**Other information:** No information required.
**Volatile organic compound:** This product contains a maximum VOC content of None

## 10) Stability/Reactivity

### 10.1. Reactivity

There are no known reactivity hazards associated with this product.

### 10.2. Chemical stability

No particular stability concerns.

### 10.3. Possibility of hazardous reactions

Not relevant.

### 10.4. Conditions to avoid

Avoid contact with the following materials: Strong oxidising agents.

### 10.5. Incompatible materials

Materials to avoid: Strong oxidising agents.

### 10.6. 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. Sulphurous gases (SOx).

## 11) Toxicological Info

### 11.1. 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**

| | |
|---|---|
| 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 hprt 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**

| | |
|---|---|
| Carcinogenicity | Tumor development in Rats caused by lung overload, no epidemiological evidence for lung tumors in Humans.<br><br>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.<br><br>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 (inhalable fraction) exposure over a 40-year period. An older European investigation suggested that exposure to 1 mg/m3 (inhalable 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.

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**General information**

Dust may irritate the respiratory system.

**Inhalation**

**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

**Toxicological effects** Not regarded as a health hazard under current legislation.

**Acute toxicity – oral**

**Notes (oral $LD_{50}$)** Based on available data the classification criteria are not met.

**Acute toxicity – dermal**

**Notes (dermal $LD_{50}$)** Based on available data the classification criteria are not met.

**Acute toxicity – inhalation**

**Notes (inhalation $LC_{50}$)** Based on available data the classification criteria are not met.

**Skin corrosion/irritation**

**Animal data** Based on available data the classification criteria are not met.

**Serious eye damage/irritation**

**Serious eye damage/irritation** Based on available data the classification criteria are not met.

**Respiratory sensitisation**

**Respiratory sensitisation** Based on available data the classification criteria are not met.

**Skin sensitisation**

**Skin sensitisation** Based on available data the classification criteria are not met.

**Germ cell mutagenicity**

**Genotoxicity - in vitro** Based on available data the classification criteria are not met.

**Carcinogenicity**

**Carcinogenicity** Based on available data the classification criteria are not met.

**IARC carcinogenicity** None of the ingredients are listed or exempt.

**NTP carcinogenicity** Reasonably anticipated to be a human carcinogen.

**OSHA Carcinogenicity** Not listed.

**Reproductive toxicity**

**Reproductive toxicity - fertility** Based on available data the classification criteria are not met.

**Reproductive toxicity - development** Based on available data the classification criteria are not met.

**Specific target organ toxicity - single exposure**

**STOT - single exposure** Not classified as a specific target organ toxicant after a single exposure.

**Specific target organ toxicity - repeated exposure**

| | |
|---|---|
| **STOT - repeated exposure** | Not classified as a specific target organ toxicant after repeated exposure |
| **Aspiration hazard** | |
| **Aspiration hazard** | Not relevant. Solid. |
| **General information** | No specific health hazards known. The severity of the symptoms described will vary dependent on the concentration and the length of exposure. |
| **Inhalation** | No specific symptoms known. |
| **Ingestion** | May cause discomfort if swallowed. May cause stomach pain or vomiting. |
| **Skin contact** | Prolonged contact may cause dryness of the skin. |
| **Eye contact** | No specific symptoms known. May be slightly irritating to eyes. |
| **Route of entry** | Ingestion Inhalation Skin and/or eye contact |
| **Target organs** | No specific target organs known. |

## 12) Ecological Information

**Ecotoxicity.**

**Ecological information on ingredients.**

**Ecotoxicity**: Not regarded as dangerous for the environment. However, large or frequent spills may have hazardous effects on the environment.

### 12.1. 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).

**Ecological information on ingredients.**

**Toxicity** Based on available data the classification criteria are not met.

### 12.2. Persistence and degradability

The product is not readily biodegradable.

**Ecological information on ingredients.**

**Persistence and degradability** The degradability of the product is not known.

### 12.3. Bioaccumulative potential

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

**Ecological information on ingredients.**

**Bioaccumulative potential** No data available on bioaccumulation

**12.4. Mobility in soil**

**Mobility** The product is insoluble in water.

**Ecological information on ingredients.**

**Mobility** No data available.

**12.5. Results of PBT and vPvB assessment**

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

**12.6. Other adverse effects**

None known

**Ecological information on ingredients.**

**Other adverse effects** None known

## 13) Disposal Considerations

**13.1. Waste treatment methods**

**General information:** Disposal to licensed waste disposal site in accordance with local Waste Disposal Authority

**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.

## 14) Transport Information

| | |
|---|---|
| **General** | The product is not covered by international regulations on the transport of Dangerous goods (IMDG, IATA, ADR/RID). |
| **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. |

**14.1 UN Number**

Not applicable.

**14.2 UN Proper Shipping Name**

Not applicable.

**14.3 Transport Hazard Class(es)**
No transport warning sign required.
**Transport labels**

**14.4. Packing group**
Not applicable.

**14.5. Environmental hazards**
**Environmentally hazardous substance/marine pollutant**
No.

**14.6. Special precautions for user**
Not applicable.

**14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**
Not applicable.

## 15) Regulatory Information

**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture**

| | |
|---|---|
| **National regulations** | Chemicals (Hazard Information & Packaging) Regulations 1996. |
| **EU legislation** | Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) (as amended). Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures (as amended). Commission Regulation (EC) 790/2009, 1st ATP of CLP. Commission Regulation (EU) No 453/2010 of 20 May 2010. |
| **Guidance** | UK HSE guidance note EH40, Workplace Exposure Limits. |
| **Water hazard classification** | Not water-polluting |

**15.2. Chemical safety assessment**
Not required as non-hazardous material
**US State Regulations**

## 16) Other Information

| | |
|---|---|
| **General information** | See technical literature for details of suitable applications of this product. |
| **Issued by** | Product Regulations Dept |
| **Revision date** | 01/02/2016 |
| **Revision** | 6 |
| **Supersedes date** | 28/05/2015 |

| | |
|---|---|
| **SDS number** | 17783 |
| **SDS status** | Approved. |
| **Risk phrases in full** | Not classified. |

*This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.*
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