

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

### 1.1. Product identifier

Product form : Substance  
Product name : AB 100%, AB75%, AB50%, ABHC-01, ABHC2-03  
Product codes : AB100%-01-1200-PY-PT, AB100%-01-1350-PB-PT, AB100%-01-25-PB, AB100%-01-25-PY, AB100%-01-PB, AB100%-01-PY, AB100%-03, AB100%-03-1716-PB-PT, AB100%-03-22-PB, AB100%-04-33-PB, AB100%-04-33-PY, AB75%-01, AB75%-03-1584-PB-PT, AB75%-03-16.5-PY, AB75%-03-22-PB, AB75%-03-PB, AB75%-03-PY, AB75%-04, AB75%-04-22-PB, AB75%-04-22-PY, AB-50%-01, AB50%-01-1287-PB-PT, AB50%-01-1386-PB-PT, AB50%-01-33-PB, AB50%-03, AB50%-03-22-PB, AB50%-03-924-PB-PT, AB50%-04, AB50%-04-22-PB, AB50%-04-22-PY, AB50%-04-572-PB-PT, ABHC-01, ABHC-01-22-PB, ABHC-01-792-PB-PT, ABHC2-03, ABHC2-03-22-PB, ABHC2-03-PB-PT.

### 1.2. Details of the supplier of the safety data sheet

Soltex, Inc.  
3707 FM 560  
Houston, TX 77086  
281-587-0900  
Emergency telephone number : Chemtrec 1 800 424 9300

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

#### GHS-US classification in accordance with 29 CFR 1910.1200

According to the criteria in OSHA HCS (2012) 29 CFR 1910.1200 for classifying hazardous sub-stances, Carbon Black is not classified for any toxicological or ecotoxicological endpoint. As a combustible dust it is designated by OSHA as a hazardous chemical.

Not a hazardous substance or mixture according to the Globally Harmonised System (GHS). According to the criteria in GHS (UN) for classifying hazardous substances, Carbon Black is not classified for any physico-chemical, toxicological or ecotoxicological endpoint.

### 2.2. Label elements

#### GHS-US labelling

No labelling applicable

### 2.3. Other hazards

A solid, black, odourless, insoluble, substance that can burn or smoulder at temperatures greater than 752°F (400°C, VDI 2263).

Hazardous products of decomposition can include carbon monoxide, carbon dioxide, and oxides of sulphur. May cause reversible mechanical irritation to the eyes and respiratory tract, especially at concentrations above the occupational exposure limit.

Some grades of carbon black are sufficiently electrically non-conductive to allow a build-up of static charge during handling.

Take measures to prevent the build-up of electrostatic charge.

#### Inhalation

Temporary discomfort to upper respiratory tract may occur due to mechanical irritation when exposures are above the occupational exposure limit.

#### Skin contact

May cause mechanical irritation, soiling, and skin drying.

No cases of sensitization in humans have been reported.

#### Eye contact

High dust concentrations may cause mechanical irritation to eye.

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Long-term exposure below the current occupational exposure limit of 3.5 mg/m<sup>3</sup> (when measured as traditional total dust) may result in a small loss in one aspect of lung function (FEV<sub>1</sub>) over a working life-time.

IARC listed: Group 2B (possibly carcinogenic to humans). Not listed as a carcinogen by NTP, ACGIH, OSHA, or the European Union. See Section 11.

However, the manufacturers of carbon black state that epidemiologic studies of workers in the carbon black industry in the U.S. and W. Europe show no significant adverse health effects due to occupational exposure. This product contains one or more ingredients that have been shown to produce mutagenic effects in in vitro testing. Some studies have linked exposure of carbon black dust to lung effects.

Most carbon blacks contain trace quantities of PAHs present at levels less than 0.1% unless otherwise specified by the supplier. There are no known human carcinogenic effects related to the PAH content of carbon blacks. Recent research has shown that the PAH content of carbon blacks is not released in biological fluids and thus not available for biological activity. See Section 16.

### SECTION 3: Composition/information on ingredients

#### 3.1. Substances

Name	Product identifier	%	GHS-US classification
Carbon black	(CAS No.) 1333-86-4	100	Not classified

#### 3.2. Mixtures

Not applicable

### SECTION 4: First aid measures

#### 4.1. Description of first aid measures

- If inhaled : Restore normal respiration with first aid measures as necessary.  
If cough, dyspnoea or other respiratory problems occur, bring exposed persons out into the fresh air. Consult a physician if symptoms persist.
- In case of skin contact : Carefully wash off skin with soap and water. Consult a physician if symptoms occur.
- In case of eye contact : Possible discomfort is due to foreign substance effect.  
Rinse thoroughly with plenty of water keeping eyelid open.  
In case of persistent discomfort: Consult an ophthalmologist.
- If swallowed : Do not induce vomiting.  
Rinse mouth with water.  
If conscious, drink plenty of water.  
Never give by mouth to anyone, who faints quickly, becomes unconscious or has cramps.  
After absorbing large amounts of substance / In case of discomfort:  
Supply with medical care.

#### 4.2. Most important symptoms and effects, both acute and delayed

No additional information available

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

No additional information available

### SECTION 5: Firefighting measures

#### 5.1. Extinguishing media

- Suitable extinguishing media : Use foam, carbon dioxide (CO<sub>2</sub>), nitrogen (N<sub>2</sub>), dry chemical or water spray.  
Use of atomized spray is recommended if water is used.
- Unsuitable extinguishing media : Do not use full-force water jet in order dispersal and spread of the fire.

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### 5.2. Special hazards arising from the substance

The ignition temperature of this material in air is approximately 900 °C. If ignited, flames may not be visible in the burning powder. Some heat and smoke may be noticeable.

May be released in case of fire: carbon monoxide, carbon dioxide, sulphur oxides, organic products of decomposition.

### 5.3. Advice for firefighters

Protection during firefighting : Firefighters should wear full protective gear. If possible, isolate the burning powder into an open area (preferably outside), monitor, and allow the fire to burn itself out. Gently applying a fine water mist to the area of the fire may be helpful. Stop spraying if water starts to puddle. Eliminating the source of oxygen may also be helpful. DO NOT spray with high pressure fire extinguishers.

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

Caution: Moist industrial soot causes dangerously slick surfaces. Avoid dust formation. Ensure sufficient ventilation. Use personal safety equipment. See also Section 8.

#### 6.1.1. For non-emergency personnel

No additional information available

#### 6.1.2. For emergency responders

No additional information available

### 6.2. Environmental precautions

Do not allow material to enter the groundwater system. Product floats on water and does not dissolve. If possible, try to keep floating material together. If larger amounts of spill material cannot be contained, local authorities should be informed. Do not allow entrance in sewage water, soil stretches of water, groundwater, drainage systems.

Carbon black is not a hazardous substance under the Comprehensive Environmental Response, Compensation and Liability Act (40 CFR 302), or the Clean Water Act (40 CFR 116), or a hazardous air pollutant under the Clean Air Act Amendments of 1990 (40 CFR 63).

### 6.3. Methods and material for containment and cleaning up

Vacuum up immediately. A vacuum cleaner with a high-efficiency filtration system is recommended. To avoid raising dust do not use brooms or compressed air. Collect and place in correctly labelled containers. For disposal see Section 13. Avoid dust formation.

### 6.4. Reference to other sections

No additional information available

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

#### Precautions for safe handling:

Avoid contact with eyes and skin. Do not inhale dust. Ensure sufficient ventilation and extraction at processing machines and locations where dust may form. Use no brooms or compressed air to avoid raising dust. Fine dust may cause electrical short circuiting or penetrate into electrical devices that are not completely sealed. Take measures to prevent electrostatic charging. If work under hot conditions is unavoidable (welding, torch cutting, etc.), the working area must be kept as free as possible of soot product and dust. Provide sufficient ventilation and exhaust at the workplace. In closed containers such as silos or poorly ventilated store rooms, carbon monoxide may be present. For this reason, sources of ignition should be kept clear and respiratory equipment independent of surrounding air should be worn as a precautionary measure. When repairs of the production system are to be made (e.g. welding work), the section to be repaired must be essentially free of product. Take measures to prevent the build up of electrostatic charge. Keep away from sources of ignition - No smoking.

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### 7.2. Conditions for safe storage, including any incompatibilities

Store cool and dry in a well-ventilated location. Keep away from heat and ignition sources. Do not store together with strong oxidants. Do not store together with volatile compounds, since they may be adsorbed. Store in correctly labelled containers.

Carbon black is not classifiable as a Division 4.2 self-heating substance under the UN test criteria. However, the UN criteria for determining if a substance is self-heating is volume dependent, i.e., the auto-ignition temperature decreases with increasing volume. This classification may not be appropriate for large volume storage containers. Before entering closed vessels and confined spaces containing carbon black test for adequate oxygen, flammable gases and potential toxic air contaminants (e.g., CO).

Follow standard safe practices when entering confined spaces.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

Carbon black (1333-86-4)		
USA ACGIH - TLV	TWA (Inhalable Fraction)	3 mg/m <sup>3</sup>
USA NIOSH - REL	TWA	3.5 mg/m <sup>3</sup>
USA OSHA - PEL	TWA	3.5 mg/m <sup>3</sup>

Observe national regulations

### 8.2. Exposure controls

#### Engineering Measure

: Use process enclosures and/or exhaust ventilation to keep airborne dust concentrations below the occupational exposure limit.

Depending on processing requirements, equipment, and the composition, concentration, and energy requirements of intermediates and/or finished products, dust control systems may require explosion relief vents, or an explosion suppression system, or an oxygen-deficient environment. See NFPA 654 and 68. Local exhaust ventilation recommended for all transfer points to mixers, blenders, batch feeding processes and point sources that may release dust to work environment. Recommended mechanical handling to minimize human contact with dust. Recommended ongoing preventive maintenance and house-keeping programs to minimize dust release from ventilation control systems and the build-up of dust on surfaces in work environment. See NFPA 654. Except for approved power-operated trucks designated as EX, power-operated industrial trucks shall not be used in atmospheres containing hazardous concentrations of carbon black dusts.

#### = protection

: No special glove composition is required for carbon black. Gloves may be used to protect hands from carbon black soiling. Recommendation: Wear protective gloves made of the following materials: natural latex (NR), PVC, nitrile rubber (NBR). The data about break through time/strength of material is not valid for undissolved solids/dust.

#### Eye protection

: Safety glasses with side-shields. If dust occurs: basket-shaped glasses

#### Skin and body protection

: When using, do not eat, drink or smoke. Wash face and/or hands before break and end of work. Wash hands and other exposed skin with mild soap and water. Use of a barrier cream may help prevent skin drying and minimize soiling. To ensure ideal skin protection: use super fatted soaps and skin cream for skin care. When handling larger quantities: chemical protective suit or disposable protective clothing. Remove and wash contaminated clothing before reuse. Wear general protective clothing to minimize skin contact. Work clothes should not be taken home and should be washed daily.

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- Respiratory protection** : If workplace exposure limits are exceeded and/or larger amounts are released (leakage, spilling, dust) the indicated respiratory protection should be used.  
Dust mask with P2 particle filter  
Approved air purifying respirator (APR) for particulates should be used where airborne dust concentrations are expected to exceed occupational exposure limits. Use a positive-pressure, air supplied respirator if there is any potential for uncontrolled release, exposure levels are not known, or in circumstances where APRs may not provide adequate protection.  
When respiratory protection is required to minimize exposures to carbon black, programs should follow the requirements of the appropriate governing body for the country, province or state.  
See OSHA 29 CFR 1910.134
- Protective measures** : If there is the possibility of skin/eye contact, the indicated hand/eye/body protection should be used.  
Handle in accordance with good industrial hygiene and safety practice.
- Hygiene measures** : When using, do not eat, drink or smoke. Wash face and/or hands before break and end of work.  
To ensure ideal skin protection: use super fatted soaps and skin cream for skin care.

## SECTION 9: Physical and chemical properties

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

- Physical state : Solid
- Appearance : Powder
- Colour : Black
- Odour : Odourless
- Odour threshold : Not applicable
- pH :  $\geq 6.5$  (20°C)  
Concentration: 50g/L (68°F)
- Melting point/range :  $> 3,000^{\circ}\text{C}$  or  $>5,432^{\circ}\text{F}$
- Freezing point : No data available
- Boiling point /range :  $> 3,000^{\circ}\text{C}$  or  $>5,432^{\circ}\text{F}$
- Flash point : Not applicable
- Evaporation Rate : Not applicable
- Flammability (solid/gas) :  $>45\text{s}$   
Method: VDI 2263  
The substance is not a flammable solid.  
Method: UN method N.1

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Minimum ignition temperature	: >600°C or >1,112°F Method: VDI 2263 (BAM-furnace)
Upper explosion limit	: Not determined
Lower explosion limit	: 50 g/m <sup>3</sup> Medium: Dust. Method: VDI 2263
Vapour pressure	: Not applicable
Relative vapour density	: Not applicable
Density	: 1.7-1.9g/cm <sup>3</sup> (20°C) or (68°F)
Solubility(ies)	
Water solubility	: Insoluble
Solubility in other solvents	: Insoluble
Partition coefficient: n-octanol/water	: Not applicable
Auto-ignition temperature	: >140°C or >284°F Method: IMDG-Code Volume dependent parameter, measured temperature refers to the 1 L sample 100 mm sample cube. Not classifiable as a Division 4.2 self-heating substance as defined by UN Recommendations on the Transport of Dangerous Goods and IMDG.
Viscosity	
Viscosity, dynamic	: Not applicable
Viscosity, kinematic	: Not applicable
Explosive properties	: Dust deflagration index (Kst) Kst = 30 - 100 bar m/s Method: VDI 2263 Dusts can form explosive mixtures with air. see section 7.
Impact sensitivity	: Not impact sensitive.
Dust explosion class	: St1  Method: VDI 2263
Metal corrosion rate	: not determined
Minimum ignition energy	: > 1 kJ Method: VDI 2263
Maximal absolute explosion pressure	: 10 bar Method: VDI 2263
Metal corrosion	: Remarks: not determined

### 9.2. Other information

No additional information available

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### SECTION 10: Stability and reactivity

- 10.1. Reactivity** : Stable under normal conditions.  
Carbon black cannot easily be caused to explode and therefore there is no danger in practical use.  
However, in special test procedures a carbon black/air mixture can explode.
- 10.2. Chemical stability** : The product is chemically stable.
- 10.2. Possibility of hazardous reactions** : Hazardous polymerization does not occur.  
Will not occur under normal conditions.  
Carbon black cannot easily be caused to explode and therefore there is no danger in practical use.  
However, in special test procedures a carbon black/air mixture can explode.  
Take measures to prevent electrostatic discharges. Avoid dust formation.  
All metal parts of the mixing and processing machines must be earthed.  
Make sure all equipment is grounded before loading operations.
- 10.4. Conditions to avoid** : Avoid heat effect and sources of ignition.  
Avoid temperatures above 400 °C (752 °F).
- 10.5. Incompatible materials** : Avoid contact with strong oxidants.
- 10.6. Hazardous decomposition products** : Carbon monoxide  
Carbon dioxide (CO<sub>2</sub>)  
Organic products of decomposition sulphoxides

### SECTION 11: Toxicological information

#### 11.1. Information on likely routes of exposure

Inhalation  
Eye contact  
Skin contact

#### Acute toxicity

##### Product:

Acute oral toxicity : LD50 (Rat): > 8,000 mg/kg  
Method: Equivalent to OECD Test Guideline 401  
Assessment: The substance or mixture has no acute oral toxicity

#### Skin corrosion/irritation

##### Product:

Species: Rabbit  
Method: Equivalent to OECD Test Guideline 404  
Result: not irritating  
Remarks:  
Oedema = 0 (max. attainable irritation score: 4)  
Erythema = 0 (max. attainable irritation score: 4)

#### Serious eye damage/eye irritation

##### Product:

Species: Rabbit  
Result: not irritating  
Method: OECD Test Guideline 405

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### Remarks:

Cornea = 0 (max. attainable irritation score: 4)  
Iris = 0 (max. attainable irritation score: 2)  
Conjunctiva = 0 (max. attainable irritation score: 3)  
Chemosis = 0 (max. attainable irritation score: 4)

## Respiratory or skin sensitisation

### Product:

Test Type: Buehler Test  
Species: Guinea pig  
Method: OECD Test Guideline 406  
Result: not sensitizing to the skin  
Remarks: No evidence of sensitization was found in animals. No cases of sensitization in humans have been reported.

## Germ cell mutagenicity

### Product:

Genotoxicity in vitro : Remarks: 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 5).

Genotoxicity in vivo : Remarks: 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 genotoxic oxygen species.

Germ cell mutagenicity - Assessment : Not a mutagen

In vivo mutagenicity in rats is occurring by mechanisms secondary to a threshold effect and a consequence of "lung overload" which led to chronic inflammation and release of genotoxic oxygen species. This mechanism is considered to be a secondary genotoxic effect and, thus, Carbon Black itself would not be considered to be mutagenic.

## Carcinogenicity

### Product:

Species: Rat  
Application Route: Oral  
Exposure time: 2 years  
Remarks: no tumours

Species: Rat  
Application Route: Inhalation  
Exposure time: 2 years



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Remarks: lungs / inflammation, fibrosis, tumours

Remarks: exposure under overload conditions

Remarks: Note: Tumours in the rat lung are considered to be related to the "particle overload phenomenon" rather than to a specific chemical effect of carbon black itself in the lung. These effects in rats have been reported in many studies on other poorly soluble inorganic particles and appear to be rat specific. Tumours have not been observed in other species (i.e., mouse and hamster) for carbon black or other poorly soluble particles under similar circumstances and study conditions.

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

Species: Mouse

Application Route: Oral

Exposure time: 2 years

Remarks: no tumours

Species: Mouse Application

Route: Dermal

Exposure time: 18 months

Remarks: no tumours

Carcinogenicity - Assessment : Not carcinogenic

**IARC** : Group 2B: Possibly carcinogenic to humans

**OSHA** : Not classifiable as a human carcinogen

**NTP** : Not classifiable as a human carcinogen

### Reproductive toxicity

#### **Product:**

Effects on fertility : Remarks: No experimental studies on effects of Carbon Black on fertility and reproduction have been located. However, based on the toxicokinetics data, Carbon Black is deposited in the lungs and based on its specific chemical-physical properties (insolubility, low absorption potential), it is not likely to distribute in the body to reach reproductive organs, embryo and/or foetus under in vivo conditions. Therefore, no adverse effects of Carbon Black to fertility/reproduction are expected. No effects have been reported in longterm animal studies.

Effects on foetal development : Remarks: No experimental studies on effects of Carbon Black on foetal development have been located. However, based on the toxicokinetics data, Carbon Black is deposited in the lungs and based on its specific chemical-physical properties (insolubility, low absorption potential), it is not likely to distribute in the body to reach reproductive organs, embryo and/or foetus under in vivo conditions. Therefore, no adverse effects of Carbon Black to foetal development are expected.

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Reproductive toxicity - Assessment : Not a reproductive toxin  
Not a teratogen

### STOT - single exposure

#### Product:

Remarks: Based on the information available, organ-specific toxicity is not to be expected after one single exposure.

### STOT - repeated exposure

#### Product:

Remarks: Effects in the rat lung are considered to be related to the "lung overload phenomenon" (1 & 6 & 7 & 8 & 9) rather than to a specific chemical effect of Carbon Black itself in the lung. These effects in rats have been reported in many studies on other poorly soluble inorganic particles.

Remarks: Based on the information available, organ specific toxicity is not to be expected after repeated exposure.

### Repeated dose toxicity

#### Product:

Species: Rat

NOAEC: 1 mg/m<sup>3</sup>

Application Route: inhalation (respirable fraction)

Exposure time: 90 d

Target Organs: lungs / inflammation, hyperplasia, fibrosis

Species: Mouse

NOEL: 137 mg/kg

Application Route: Oral

Exposure time: 2 yr

Species: Rat

NOEL: 52 mg/kg

Application Route: Oral

Exposure time: 2 yr

### Aspiration toxicity

#### Product:

No aspiration toxicity classification

### Experience with human exposure

#### Product:

General Information : In 1995 IARC concluded, "There is inadequate evidence in humans for the carcinogenicity of Carbon Black." Based on rat inhalation studies IARC concluded that there is "sufficient evidence in experimental animals for the carcinogenicity of Carbon Black," IARC's overall evaluation was that "Carbon Black is possibly carcinogenic to humans (Group 2B)." This conclusion was based on IARC's guidelines, which require such a classification if one animal species exhibits carcinogenicity in two or more studies. Lung tumours in rats are the result of exposure under "lung overload" conditions. The development of lung tumours in rats is specific to this species. Mouse and hamster showed no carcinogenicity in similar studies.

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In 2006 IARC reaffirmed its 1995 classification of Carbon Black as, Group 2B (possibly carcinogenic to humans). Overall, as a result of the detailed epidemiological 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. Furthermore, several epidemiological and clinical studies of workers in the Carbon Black production industries show no evidence of clinically significant adverse health effects due to occupational exposure to Carbon Black. No dose response relationship was observed in workers exposed to Carbon Black.

Applying the rules of the Globally Harmonized System of Classification and Labelling (GHS, e.g. UN 'Purple Book', EU CLP Regulation) the results of repeated dose toxicity and carcinogenicity studies in animals do not lead to classification of Carbon Black for Specific target organ toxicity (Repeated exposure) and carcinogenicity. UN GHS says, that even if adverse effects are seen in animal studies or invitro tests, no classification is needed if the mechanism or mode of action is not relevant to humans. 2) The European CLP Regulation also mentions, that no classification is indicated, if the mechanism is not relevant to humans. 3) Furthermore, the CLP guidance on classification and labeling states, that "lung overload" in animals is listed under mechanism not relevant to humans. 4) 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/m<sup>3</sup> (inhalable fraction) exposure over a 40-year period. An older European investigation suggested that exposure to 1 mg/m<sup>3</sup> (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 10) 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 11 & 12 & 13 & 14) found a similar increase in lung cancer risk but, like the 2001 UK study 10), found no association with Carbon Black exposure. In contrast, a large US study 15) 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. 1) Since this IARC evaluation of Carbon Black, Sorahan and Harrington 16) reanalyzed 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 17 & 18) 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 16). Morfeld and McCunney 19) applied a Bayesian approach to unravel the role of uncontrolled cofounders and identified smoking and prior exposure to

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occupational carcinogens received before being hired in the Carbon Black industry as main causes of the observed lung cancer excess risk. 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. Several epidemiological and clinical studies of workers in the Carbon Black production industries show no evidence of clinically significant adverse health effects due to occupational exposure to Carbon Black. No dose response relationship was observed in workers exposed to Carbon Black.

## SECTION 12: Ecological information

### 12.1. Ecotoxicity

#### Product:

- Toxicity to fish : LC0 ((Brachydanio rerio)): 1,000 mg/L  
Exposure time: 96 h  
Method: OECD 203
- LC0 (Leuciscus idus melanotus): > 5,000 mg/L  
Exposure time: 14 d  
Method: DIN 38412 part 15
- Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna): > 5,600 mg/l  
Exposure time: 24 h  
Method: OECD 202
- Toxicity to algae : EC50 (scenedesmus subspicatus): > 10,000 mg/L  
Exposure time: 72 h  
Method: OECD 201
- NOEC (scenedesmus subspicatus): > 10,000 mg/L  
Exposure time: 72 h  
Method: OECD 201
- Toxicity to microorganisms : ECO (local activated sludge): > 400 mg/L  
Exposure time: 3 h  
Method: DEV L3 (TTC test)
- : EC10 (local activated sludge): 800 mg/L  
Exposure time: 3 h  
Method: DEV L3 (TTC test)

#### **Ecotoxicology Assessment**

- Acute aquatic toxicity : Carbon Black is an inert, inorganic and water insoluble substance therefore its bioavailability for aquatic organisms is low. As an element it has not further reactive or functional groups and an acute toxicity is not expected.
- Chronic aquatic toxicity : Carbon Black is an inert, inorganic and water insoluble substance therefore its bioavailability for aquatic organisms is low. As an element it has not further reactive or functional groups and a chronic toxicity is not expected.
- Toxicity Data on Soil : As an inert solid substance, insoluble in water and organic solvents diffusion through membranes or uptake and bioaccumulation to terrestrial organisms is not expected. Based on the available data, Carbon Black is not considered as toxic to terrestrial organism.

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### 12.2. Persistence and degradability

**Product:**

- Biodegradability : Remarks: Carbon Black is substantially elemental carbon. The substance is inorganic and cannot be further biodegraded by microorganisms
- Physico-chemical removability : Remarks: Carbon Black is substantially elemental carbon. It is inert and contains no functional or water-soluble groups. It cannot be further degraded by hydrolysis, light or by photo degradation in air or in surface water.
- Stability in water : Remarks: The product is insoluble and floats on water.
- Impact on Sewage Treatment : Based on the available data, Carbon Black is not expected to interfere with the operation of sewage treatment plants.

### 12.3. Bioaccumulative potential

**Product:**

- Bioaccumulation : Remarks: Based on the physical-chemical properties of Carbon Black as an inert solid, its insolubility and stability in water and in organic solvents, diffusion through membranes of organisms and therefore bioaccumulation is not expected.

### 12.4. Mobility in soil

**Product:**

- Stability in soil : Remarks: Carbon Black is an inert solid. It is stable and insoluble in water or organic solvents. Its vapour pressure is negligible. Based on these properties it is expected that Carbon Black will not occur in air or water in relevant amounts. Also potential for distribution via water or air, respectively, can be dismissed. The deposition in soil or sediments is therefore the most relevant compartment of fate in the environment.

### 12.5. Other adverse effects

**Product:**

- Results of PBT and vPvB assessment : Not a PBT, vPvB substance as per the criteria of the REACH Ordinance.
- Additional ecological information : No negative effects known.

## SECTION 13: Disposal considerations

### 13.1. Disposal methods

- Waste from residues : In accordance with local and national regulations.  
Observe national regulations.  
Product can be burned in suitable incineration plants or disposed of in a suitable landfill in accordance with the regulations issued by the appropriate federal, provincial, state and local authorities.  
US: Not a hazardous waste under U.S. RCRA, 40 CFR 261.
- Contaminated packaging : Return reusable containers to manufacturer.  
Paper bags may be incinerated, or recycled, or disposed of in an appropriate landfill in accordance with national and local laws. Noncontaminated packaging may be reused. Contaminated packaging should ideally be emptied; it can then be recycled after having been decontaminated. Packaging which cannot be decontaminated should be disposed of like the material.

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## Safety Data Sheet

### SECTION 14: Transport information

In accordance with DOT / ADR / RID / ADNR / IMDG / ICAO / IATA

#### 14.1. UN number

US DOT - Not regulated as a hazardous material.

ICAO / IATA - Not regulated as a hazardous material.

#### 14.2. UN proper shipping name

Not regulated as a hazardous material.

#### 14.3. Transport hazard class(es)

Not regulated as a hazardous material.

#### 14.4. Packing group

Not regulated as a hazardous material.

#### 14.5. Environmental hazards

Not regulated as a hazardous material.

#### 14.6. Special precautions for user

Remarks : U.S. DOT Transport Information: not regulated.  
U.S. Rail Regulations: not classified.  
Not classified as dangerous in the meaning of transport regulations.  
Non-activated carbon black of mineral origin.  
No hazardous material of division 4.2  
  
Seven (7) ASTM reference carbon blacks were tested according to the UN method, Self Heating Solids, and found to be "Not a self-heating substance of Division 4.2"; the same carbon blacks were tested according to the UN method, Readily Combustible Solids, and found to be "Not a readily combustible solid of Division 4.1"; under current UN Recommendations on the Transport of Dangerous Goods.  
  
Not dangerous goods in the meaning of ADR/RID, ADN, IMDG Code, ICAO/IATA-DGR

#### 14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable for product as supplied.

### SECTION 15: Regulatory information

#### 15.1. US Federal regulations

##### Carbon black (1333-86-4)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

Superfund Amendments and Reauthorization Act (SARA) Sections 311/312 apply if carbon black is present at any one time in amounts equal to or greater than 10,000 pounds. Under these sections, carbon black is determined to be hazardous according to the following EPA hazard categories:

Immediate health hazard:	No
Delayed (chronic) health hazard:	Yes
Sudden release of pressure hazard:	No
Reactive hazard:	No

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Superfund Amendments and Reauthorization Act (SARA) Title III Section 313 Toxic Substances: Does not contain any components subject to this section.

### 15.2. US State regulations

Carbon black (1333-86-4)				
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significance risk level (NSRL)
Yes				

US. California Safe Drinking Water & Toxic Enforcement Act (Proposition 65)

"Carbon black (airborne, unbound particles of respirable size)" is a California Proposition 65 listed substance.

Carbon black (1333-86-4)
U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) List

### 15.3. Additional regulatory information

#### OSHA Hazard Communication Standard (29 CFR 1910.1200)

According to the criteria in OSHA HCS (2012) 29 CFR 1910.1200 for classifying hazardous substances, Carbon Black is not classified for any toxicological or eco-toxicological endpoint. As a combustible dust it is designated by OSHA as a hazardous chemical.

#### Toxic Release Inventory (TRI)

Under EPA's Toxics Release Inventory (TRI) program the reporting threshold for 21 Polycyclic Aromatic Compounds (PACs) has been lowered to 100 pounds per year manufactured, processed, or otherwise used. (64 CFR 58666, Oct. 29, 1999) The 100 pounds/yr applies to the cumulative total of 21 specific PACs. Section 1.5.1 indicates that the de minimis exemption (i.e., disregarding amounts less than 0.1%) has been eliminated for PACs. Carbon black may contain certain of these PACs and the user is advised to evaluate their own TRI reporting responsibilities. (Note: Benzo (g,h,i) perylene is listed separately and has a 10 lb. reporting threshold.)

## SECTION 16: Other information

**Revision Date** : 11/16/2020

**Other Information** : This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200.

#### Party Responsible for the Preparation of This Document

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*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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