

## Safety Data Sheet

according to Commission Regulation (EU) 2020/878 of 18 June 2020

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### 1 – Identification of the substance/mixture and of the company/undertaking

#### 1.1: Product identifier

**Trade name:** Carbon Black, nanoform

**CAS Number:** 1333-86-4

**REACH Registration Number:** 01-2119489801-30-0000, 01-2119384822-32-0003, -0006, -0007, -0008, -0012, -0013, -0031, -0032, -0033, -0057, -0058

#### 1.2: Relevant identified uses of the substance and uses advised against

**Recommended use:** Industrial uses.

**Restrictions on use:** Not intended for food and drug use.

#### 1.3: Details of the supplier of the Safety Data Sheet

**Manufacturer/Supplier:**

Asbury Carbons, Inc.

Fregatweg 46 B-C

Limburg, Maastricht 6222 NZ

Chemtel: +(813)248-0585

Asbury: 011-31-040-7600610

Preparer: RTW

Email Address: rweir@asbury.com

Date Prepared: 2/23/2023 (replaces version 11/30/2018)

#### 1.4: Emergency telephone number:

ChemTel      800-255-3924 (North America)  
                    +1 (813)248-0585 (International)

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## 2 - Hazards Identification

### 2.1: Classification of the substance

Combustible Dust - May form combustible dust concentrations in air

### 2.2: Label Elements

**GHS label elements**

This product is classified and labeled according to the Globally Harmonized System (GHS).

- **Hazard pictograms:** none required
- **Signal word:** Warning
- **Hazard statements:** May form combustible dust concentrations in air.
- **Precautionary statements:**
  - Keep away from all ignition sources including heat, sparks and flame.
  - Prevent dust accumulations to minimize explosion hazard.

• **Additional information:**

Read the label and safety data sheet before use. Prevent dust accumulations to minimize explosion hazard. Keep away from all ignition sources including heat, sparks and flame.

### 2.3: Other hazards:

May form explosible dust-air mixture if dispersed.

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### 3 – Composition/Information on Ingredients

**Substance:** Carbon Black, nanoform

**CAS #:** 64743-05-1

**EC #:** 215-609-9

**REACH Registration number:** 01-2119489801-30-0000, 01-2119384822-32-0003, -0006, -0007, -0008, -0012, -0013, -0031, -0032, -0033, -0057, -0058

**Nanoform particle characterization:**

- Assessment: per Regulation (EC) No 1907/2006, this substance/ mixture contains nanoforms.  
Total content of nanomaterials: 100 %
  - Particle Size Distribution (number distribution, STEM)
    - D10 = 15 - 60 nm
    - D50 = 30 - 100 nm
    - D90 = 60 - 200 nmPhysical state: micron-sized agglomerates
  - Dustiness: Dustiness Band: high (Measurement method: EN 15051-2+A1)
  - Specific surface area: 20 – 1,200 m<sup>2</sup>/g (method: nitrogen BET)
  - Shape: spheres, aspect ratio < 3:1 (measurement technique: TEM)
  - Crystallinity: amorphous (measurement technique: X-ray Diffraction (XRD))
  - Surface treatment/coatings: none
  - Dissolution Rate : insoluble
  - Dispersion Stability : condition-dependent intermediate dispersion stability  
(method: OECD Test Guideline 318)
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### 4 – First Aid Measures

#### 4.1: Description of first aid measures

**After inhalation:**

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.

**After skin contact:**

Carefully wash off skin with soap and water. Consult a physician if symptoms occur.

**After 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.

**After ingestion:**

- 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

Exposure to airborne dust.

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

- If medical advice is needed, have product container or label at hand.
  - If necessary, give oxygen respiration treatment.
  - After absorbing large amounts of substance: acceleration of gastrointestinal passage
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## 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 to avoid dispersal and spread of the fire.

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

- Can pose a dust explosion hazard if dispersed in air. Avoid ignition sources.
- Dust explosion class ST1; Minimum Ignition Energy greater than 10J
- During heating or in case of fire poisonous gases are produced (including carbon monoxide, carbon dioxide, sulphur oxides, organic products of decomposition).
- Carbon Black does not burn with an open flame and fire may not be noticed until material is poked to reveal visible sparks.
- Carbon Black that has burnt once should be observed carefully for at least 48 hours.
- Water used to extinguish fire should not enter drainage systems, soil or stretches of water. Ensure there are sufficient retaining facilities for water used to extinguish fire.

### 5.3: Advice for firefighters

#### **Protective equipment:**

- Wear self-contained respiratory protective device.
  - Wear fully protective suit.
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## 6 – Accidental Release Measures

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

Wear protective equipment. Keep unprotected persons away.  
Ensure adequate ventilation, and avoid formation of dust.  
Particular danger of slipping on leaked/spilled product.

### 6.2: Environmental precautions

Do not allow to enter sewers, surface or ground water.

### 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.
- Avoid dust formation.

### 6.4: Reference to other sections

See Section 7 for information on safe handling.  
See Section 8 for information on personal protection equipment.  
See Section 13 for disposal information.

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## 7 – Handling and Storage

### 7.1: Precautions for safe handling:

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- 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 carbon black 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.

#### Information about protection against explosions and fires:

- Dust can combine with air to form an explosive mixture.
- Dust explosion class ST1; Minimum Ignition Energy greater than 10J (very low hazard of spark ignition)

#### 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.
- The provisions of the International Maritime Dangerous Goods Code (IMDG) do not apply to Carbon Black (HS Code 2803.00.00) of mineral origin (petroleum and gas feedstocks) as these products are not self-heating. The IMDG exemption for Carbon Black of mineral origin is contained within IMDG Code Special Provision 925, under Part 3, Chapter 3.3.
- 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.

#### 7.3: Specific end use(s)

See Section 1.2

## 8 – Exposure Controls/ Personal Protection

### 8.1: Control parameters

Components with limit values that require monitoring at the workplace:

Components	CAS No.	Value Type (form of exposure)	Control parameters / Permissible Concentration	Basis
Carbon Black, amorphous	1333-86-4	TWA (Inhalable fraction.)	3.0 mg/m <sup>3</sup>	ACGIH-TLV
		TWA	3.5 mg/m <sup>3</sup>	OSHA-PEL
		TWA	3.5 mg/m <sup>3</sup>	NIOSH REL

Observe national regulations

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#### **8.2: Exposure controls:**

##### **Engineering controls:**

- 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.
- Recommend mechanical handling to minimize human contact with dust.
- Recommend ongoing preventive maintenance and housekeeping programs to minimize dust release from ventilation control systems and the build-up of dust on surfaces in work environments. 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 dust.
- See also section 7.

##### **General protective and hygienic 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.
- 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.

##### **Personal protective equipment:**

- Breathing equipment:
  - 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
- Protection of hands:
  - 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
- Body protection:
  - Protective work clothing

**Environmental exposure controls:** No relevant information available.

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## **9 – Physical and Chemical Properties**

### **9.1: Information on basic physical and chemical properties**

**Physical state:** solid (powder / beads)

**Color:** Black

**Odor:** Odorless

**Odor threshold:** Not determined.

**Melting / freezing point:** >5,432 °F / >3,000 °C

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**Boiling point:** >5,432 °F / >3,000 °C

**Flammability:** >45 s; method: VDI 2263.

The substance is not a flammable solid; method: UN method N.1

**Explosion limits:** Lower: 50 g/m<sup>3</sup>; medium: dust; method: VDI 2263

Upper: Not determined.

**Flash point:** n/a (material is a solid)

**Minimum ignition temperature:** >1112 °F / >600 °C (method: VDI 2263 (BAM-furnace))

**Auto-ignition temperature:**

- >284 °F / >140 °C (Method: IMDG-Code; Cubic sample container of 100 mm side lengths.)
- Not classifiable as a Division 4.2 self-heating substance as defined by UN Recommendations on the Transport of Dangerous Goods and IMDG. Volume-dependent parameter, measured temperature refers to the 1 l sample. Temperature decreases with increasing volume.

**Decomposition temperature:** >752 °F / >400 °C (Method: VDI 2263; smolder temperature)

**pH-value:** >= 6.5 (68 °F / 20 °C, concentration: 50 g/l)

**Kinematic viscosity:** n/a (material is an insoluble solid)

**Solubility in / miscibility with water:** Not miscible; insoluble.

**Partition coefficient (n-octanol/water):** Not determined.

**Vapor pressure:** n/a (material is a stable solid)

**Relative density:** 1.7 - 1.9

**Vapor density:** n/a (material is a stable solid)

**Particle characteristics:**

- Assessment: per Regulation (EC) No 1907/2006, this substance/ mixture contains nanoforms.  
Total content of nanomaterials: 100 %
- Particle Size Distribution (number distribution, STEM)
  - D10 = 15 - 60 nm
  - D50 = 30 - 100 nm
  - D90 = 60 - 200 nmPhysical state: micron-sized agglomerates
- Dustiness: Dustiness Band: high (Measurement method: EN 15051-2+A1)
- Specific surface area: 20 – 1,200 m<sup>2</sup>/g (method: nitrogen BET)
- Shape: spheres, aspect ratio < 3:1 (measurement technique: TEM)
- Crystallinity: amorphous (measurement technique: X-ray Diffraction (XRD))
- Surface treatment/coatings: none
- Dissolution Rate : insoluble
- Dispersion Stability : condition-dependent intermediate dispersion stability  
(method: OECD Test Guideline 318)

#### **9.2: Other information:**

Warning: may form combustible dust concentrations in air.

Combustible dust class ST1: K<sub>ST</sub> 30-100 bar m/s, MIE above 10J

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## **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.

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#### **10.3: 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 (Smoulder temperature).
- See also section 7.

#### **10.5: Incompatible materials**

Strong oxididants

#### **10.6: Hazardous decomposition products**

Carbon monoxide, carbon dioxide, organic products of decomposition, sulphoxides

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## **11 – Toxicological Information**

### **11.1: Information on toxicological effects**

#### **Acute 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:**

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/irritation:**

Species : Rabbit (method: OECD Test Guideline 405)  
Result: not irritating  
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 sensitization:**

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:**

- 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



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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 genotoxic oxygen species.
- 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:

- Species: Rat  
Application Route: Oral  
Exposure time: 2 years  
Remarks: no tumours
- Species: Rat  
Application Route: Inhalation  
Exposure time: 2 years  
Symptoms: lungs / inflammation, fibrosis, tumours  
Remarks: exposure under overload conditions. 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

#### Reproductive toxicity:

- Effects on fertility: 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 long-term animal studies.
- Effects on foetal development: 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.
- Reproductive toxicity assessment: Not a reproductive toxin  
Not a teratogen



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**STOT-single exposure:**

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

**STOT-repeated exposure:**

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 hazard:** Based on available data, the classification criteria are not met.

**Probable route(s) of exposure:** Inhalation, eye contact, skin contact

#### **11.2: Information on other hazards**

**Endocrine disrupting properties:**

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

**Experience with human exposure:**

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 FEV<sub>1</sub> 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 FEV<sub>1</sub>. 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 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 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 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.

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Since this IARC evaluation of Carbon Black, Sorahan and Harrington 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 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. Morfeld and McCunney applied a Bayesian approach to unravel the role of uncontrolled confounders and identified smoking and prior exposure to 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.

## 12 – Ecological Information

### 12.1: Toxicity

#### **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/aquatic plants:**

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 :**

EC0 (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.

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- **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.

#### **12.2: Persistence and degradability**

- **Biodegradability:** Carbon Black is substantially elemental carbon. The substance is inorganic and cannot be further biodegraded by microorganisms
- **Physico-chemical removability:** 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:** 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**

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**

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: Results of PBT and vPvB assessment**

Not a PBT or vPvB substance as per the criteria of the REACH Ordinance.

#### **12.6: Endocrine disrupting properties**

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

#### **12.7: Other adverse effects:**

No further relevant information available.

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## **13 – Disposal Considerations**

#### **13.1: Waste treatment methods**

**Product disposal:** In accordance with local and national regulations. Observe national regulations. No waste key number as per the European Waste Types List can be assigned to this product, since such classification is based on the (as yet undetermined) use to which the product is put by the consumer. The waste key number must be determined as per the European Waste Types List (decision on EU Waste Types List 2000/532/EC) in cooperation with the disposal firm / producing firm / official authority.

**Contaminated packaging:** Non-contaminated packaging may be re-used. 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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#### 14 – Transport Information

**14.1: UN-Number** Not regulated as a dangerous good

**14.2: UN proper shipping name** Not regulated as a dangerous good

**14.3: Transport hazard class(es)** Not regulated as a dangerous good

**14.4: Packing group** Not regulated as a dangerous good

**14.5: Environmental hazards** Not regulated as a dangerous good

**14.6: Special precautions for user**

This product is:

- Not classified as dangerous in the meaning of transport regulations.
- Not dangerous goods in the meaning of IMDG-Code. The provisions of the International Maritime Dangerous Goods Code (IMDG) do not apply to Carbon Black (HS Code 2803.00.00) of mineral origin (petroleum and gas feedstocks) as these products are not self-heating. The IMDG exemption for Carbon Black of mineral origin is contained within IMDG Code Special Provision 925, under Part 3, Chapter 3.3.
- Non-activated and of mineral origin.
- Not dangerous goods in the meaning of ADR/RID, ADN, ICAO/IATA-DGR.
- Not a hazardous material of division 4.2. ASTM reference carbon blacks were tested according to the UN method, Self Heating Solids, and found to be "Not a selfheating 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.

This product is **not**:

- UN 1361: CARBON of animal or vegetable origin
- UN 1362: CARBON, activated
- UN 3088: Self-heating solid, organic, n.o.s.

**14.7: Maritime transport in bulk according to IMO instruments**

Not a marine hazard, not hazardous in bulk

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#### 15 – Regulatory Information

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

**REACH Substances of Very High Concern (SVHC):** Product contains no listed substances

**15.2: Chemical safety assessment**

A Chemical Safety Assessment has been carried out for this substance.

Not a hazardous substance or mixture.

Due to the lack of dangerous properties an exposure assessment is not necessary.

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#### 16 – Other Information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

**Abbreviations and acronyms:**

## Safety Data Sheet

### according to Commission Regulation (EU) 2020/878 of 18 June 2020

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ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

CAS: Chemical Abstracts Service (division of the American Chemical Society)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

OSHA: Occupational Safety & Health Administration

Carc. 1A: Carcinogenicity – Category 1A

STOT RE 1: Specific target organ toxicity (repeated exposure) – Category 1

#### Sources

Website, European Chemicals Agency ([echa.europa.eu](https://echa.europa.eu))

Website, US EPA Substance Registry Services

([ofmpub.epa.gov/sor internet/registry/substreg/home/overview/home.do](https://ofmpub.epa.gov/sor internet/registry/substreg/home/overview/home.do))

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Patty's Industrial Hygiene, 6th ed., Rose, Vernon, ed. ISBN: 978-0-470-07488-6

Casarett and Doull's Toxicology: The Basic Science of Poisons, 8th Ed., Klaasen, Curtis D., ed., ISBN: 978-0-07-176923-5.

Safety Data Sheets, Individual Manufacturers

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**<https://asbury.com/resources/asbury-carbons-regulatory-statements/>**