

According to Article 31 of the Regulation (EC) No 1907/2006 (REACH), a Safety Data Sheet (SDS) must be provided for hazardous substances or mixtures. This product does not meet the classification criteria of the Regulation (EC) No 1272/2008 (CLP). Therefore such document is outside the scope of Article 31 of REACH and the requirements for content in each section do not apply

Revision date 09-Nov-2024

Revision Number 7

SECTION 1: Identification of the substance/mixture and of the company/undertaking1.1. Product identifier

Product Code(s)	VXC72R
Product Name	VULCAN® XC72R Carbon Black
REACH registration number	01-2119384822-32
Synonyms	Carbon black, Furnace Black

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

Recommended use	Additive/Filler for plastic and rubber, Pigment, Chemical reagent, Batteries, Refractories, Various.
Uses advised against	Not recommended as a human tattooing pigment.

1.3. Details of the supplier of the safety data sheet

Cabot Switzerland GmbH	SIA Cabot Latvia	Cabot Performance Materials Belgium SPRL
Durachpark	74A Gustava Zemgala gatve	(Only Representative)
Muhlenalstrasse 36	Riga	Rue Prévochamps, 78
Schaffhausen	LV-1039	Pepinster, B – 4860
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Tel: +41 0 52 630 3800	Fax: +371 6780 6478	

For further information, please contact

E-mail address	SDS@cabotcorp.com
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1.4. Emergency telephone number

Emergency Telephone	24 Hour Emergency Phone Number EMEA Regional: CHEMTREC: +44 20 3885 0382 International CHEMTREC: +1 703-741-5970 or +1-703-527-3887
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SECTION 2: Hazards identification2.1. Classification of the substance or mixture*Classification according to Regulation (EC)**No. 1272/2008 [CLP]*

This substance is classified as not hazardous according to regulation (EC) 1272/2008 [CLP]

2.2. Label elements

Signal word
None

Hazard statements

None

Precautionary Statements - EU (§28, 1272/2008)

None

2.3. Other hazards

May cause mechanical irritation. Dust may be irritating to respiratory tract. Do not expose to temperatures above 400 °C.

This substance is classified as hazardous as a combustible dust by the United States 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200) and the Canadian Hazardous Products Regulation (HPR) 2015. The signal word, hazard statement and precautionary statements in the United States and Canada are: WARNING May form combustible dust concentrations in air. Keep away from all ignition sources including heat, sparks and flame. Prevent dust accumulations to minimize explosion hazard.

Endocrine Disruptor Information

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

SECTION 3: Composition/information on ingredients3.1 Substances

Chemical name	Weight-%	REACH registration number	EC No (EU Index No)	Classification according to Regulation (EC) No. 1272/2008 [CLP]	Specific concentration limit (SCL)	M-Factor	M-Factor (long-term)
Carbon Black 1333-86-4	100	01-2119384822-32	215-609-9	-	-	-	-

Additional information

HS Code: 2803.00.00

Particle characteristics values cover all untreated Carbon Black grades

Name of (set of) nanoform(s): solid: nanoform, no surface treatment

Number based particle size distribution (internal structure/primary particles), Method: TEM

D10: 6-30 nm
D50: 10-53 nm
D90: 23-144 nm

Shape: spheroidal
Method: TEM

Crystallinity: amorphous, not crystalline
Method: XRD

Surface Treatment: None

Specific Surface Area: 18-1500 m²/g
Method: N2BET

Level of dustiness High (per DIN-EN 15051-2)

SECTION 4: First aid measures4.1. Description of first aid measures

Inhalation	If cough, shortness of breath or other breathing problems occur, move to fresh air. Seek medical attention if symptoms persist. If necessary, restore normal breathing through standard first aid measures.
Eye contact	In case of eye contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention if symptoms occur.
Skin contact	Wash skin with soap and water. Get medical attention if symptoms occur.
Ingestion	Do NOT induce vomiting. Rinse mouth thoroughly with water. Never give anything by mouth to an unconscious person.

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

Symptoms	See Section 11 for additional Toxicological Information.
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4.3. Indication of any immediate medical attention and special treatment needed

Note to physicians	Treat symptomatically.
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SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable Extinguishing Media	Use foam, carbon dioxide (CO ₂), dry chemical or water spray. A fog is recommended if water is used.
Unsuitable extinguishing media	Do not use a solid water stream as it may scatter and spread fire. DO NOT USE high pressure media which could cause formation of a potentially explosible dust-air mixture.

5.2. Special hazards arising from the substance or mixture

Specific hazards arising from the chemical	It may not be obvious that carbon black is burning unless the material is stirred and embers and/or sparks are apparent. Carbon black that has been on fire should be observed closely for at least 48 hours to ensure no smoldering material is present. Burning produces irritant fumes. The product is insoluble and floats on water. If possible, try to contain floating material.
Hazardous combustion products	Carbon monoxide, Carbon dioxide (CO ₂), Oxides of sulfur

5.3. Advice for firefighters

Special protective equipment and precautions for fire-fighters	In case of fire: Wear self-contained breathing apparatus. Use personal protection equipment. Wet carbon black produces very slippery walking surfaces.
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SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions	CAUTION: Wet carbon black produces very slippery walking surfaces. Avoid generation of dust. Ensure adequate ventilation. Use personal protection equipment. See section 8.
Other information	Refer to protective measures listed in Sections 7 and 8

6.2. Environmental precautions

Environmental precautions	Local authorities should be advised if significant spillages cannot be contained. See Section 12 for additional Ecological Information.
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6.3. Methods and material for containment and cleaning up

Methods for containment	Prevent further leakage or spillage if safe to do so. Contain spilled product on land, if possible. The product is insoluble and floats on water. Any product that reaches water should be contained.
Methods for cleaning up	If the spilled material contains dust or has the potential to create dust, use explosion-proof vacuums and/or cleaning systems suitable for combustible dusts. Use of a vacuum with high efficiency particulate air (HEPA) filtration is recommended. Do not create a dust cloud by using a brush or compressed air. Dry sweeping is not recommended. Water spray will produce very slippery walking surfaces and will not result in satisfactory removal of carbon black contamination. Pick up and transfer to properly labeled containers. See section 13.

6.4. Reference to other sections

Reference to other sections	See section 8 for more information. See section 13 for more information.
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SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling	Avoid contact with skin and eyes. Avoid generation of dust. Do not breathe dust. Provide appropriate local exhaust ventilation at machinery and at places where dust can be generated. Do not create a dust cloud by using a brush or compressed air. Dust can form an explosive mixture with air. Take precautionary measures against static discharges. All metal parts of the mixing and processing equipment must be earthed/grounded. Ensure all equipment is electrically earthed/grounded before beginning transfer operations. Fine dust is capable of penetrating electrical equipment and may cause electrical shorts. If hot work (welding, torch cutting, etc.) is required the immediate work area must be cleared of product and dust.
General hygiene considerations	Handle in accordance with good industrial hygiene and safety practice.

7.2. Conditions for safe storage, including any incompatibilities

Storage Conditions	Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat. Eliminate sources of ignition. Do not store together with strong oxidizing agents. Do not store together with volatile chemicals as they may be adsorbed onto product. Keep in properly labeled 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 vessels and confined spaces containing carbon black, test for adequate oxygen, flammable gases and potential toxic air contaminants. Dust deposits should not be allowed to accumulate on surfaces, as these may form an explosible mixture if they are released in the atmosphere in sufficient concentrations.
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7.3. Specific end use(s)

Risk Management Methods (RMM)	Per Article 14.4 of the REACH Regulation no exposure scenario has been developed as the substance is not hazardous.
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SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure Limits	The table below is a summary. Please see the specific legislation for complete information.
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Chemical name	Carbon Black 1333-86-4
Belgium	TWA: 3 mg/m ³
Czech Republic	TWA: 2.0 mg/m ³ dust
Denmark	TWA: 3.5 mg/m ³
Finland	TWA: 3.5 mg/m ³ STEL: 7 mg/m ³
France	TWA: 3.5 mg/m ³
Greece	TWA: 3.5 mg/m ³ STEL: 7 mg/m ³
Hungary	TWA: 3 mg/m ³ respirable
Ireland	TWA: 3 mg/m ³ inhalable fraction STEL: 15 mg/m ³ calculated, inhalable fraction
Italy AIDII	TWA: 3 mg/m ³
Norway	TWA: 3.5 mg/m ³ STEL: 7 mg/m ³ calculated
Poland	TWA: 4 mg/m ³ inhalable fraction
Portugal	TWA: 3 mg/m ³
Slovakia	TWA: 2 mg/m ³ respirable fraction TWA: 10 mg/m ³ respirable fraction
Spain	TWA: 3.5 mg/m ³
Sweden	NGV: 3 mg/m ³ inhalable fraction
ACGIH TLV	TWA: 3 mg/m ³ inhalable particulate matter

Other information

(1) Unless otherwise indicated as "respirable" or "inhalable", the exposure limit represents a "total" value. The inhalable exposure limit has been demonstrated to be more restrictive than the total exposure limit, by a factor of approximately 3.

(2) In its facilities globally, Cabot Corporation manages to the US ACGIH TLV of 3.0 mg/m³ TWA inhalable.

Derived No Effect Level (DNEL)

As required under the EU Registration, Evaluation and Authorization of Chemicals (REACH) regulation, the Carbon Black REACH Consortium (of which Cabot Corporation is a member) developed a Derived No Effect Level (DNEL) for carbon black of 2 mg/m³ inhalable based on human health studies, and 0.5 mg/m³ respirable based on animal studies.

Predicted No Effect Concentration (PNEC) Not applicable

8.2. Exposure controls

Engineering controls

Ensure adequate ventilation to maintain exposures below occupational limits. Provide appropriate local exhaust ventilation at machinery and at places where dust can be generated. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection

Wear safety glasses with side shields (or goggles). Appropriate eye/face protection should be selected and used according to the chemical nature, hazards and use of this product and safety requirements of the local jurisdiction.

Hand protection

No special glove composition (material, thickness) is required for carbon black and chemical breakthrough time considerations do not apply when selecting gloves. General duty gloves may be used to protect hands from carbon black soiling. Glove selection should be based on the task to be performed, dexterity requirements, and associated physical hand hazards (temperature, cuts, punctures, etc.), not chemical exposure. Use of a barrier cream may help prevent skin drying and minimize soiling. Wash hands and other exposed skin with mild soap and water.

Skin and body protection

Wear suitable protective clothing. Wash contaminated clothing before reuse. Contaminated work clothing should not be allowed out of the workplace.

Respiratory protection	An approved air-purifying respirator (APR) for particulates may be permissible where airborne concentrations are expected to exceed occupational exposure limits. Protection provided by air-purifying respirators 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. Use of respirators must include a complete respiratory protection program in accordance with national standards and current best practices. The following agencies/organizations approve respirators and/or criteria for respirator programs: US: NIOSH approval under 42 CFR 84 required. OSHA (29 CFR 1910.134). ANSI Z88.2-1992 (Respiratory Protection). EU: CR592 Guidelines for the Selection and Use of Respiratory Protection. Germany: DIN/EN 143 Respiratory Protective Devices for Dusty Materials. UK: BS 4275 Recommendations for the Selection, Use and Maintenance of Respiratory Protective Equipment. HSE Guidance Note HS (G)53 Respiratory Protective Equipment.
General hygiene considerations	Handle in accordance with good industrial hygiene and safety practice.
Environmental exposure controls	In accordance with all local legislation and permit requirements.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Solid	
Appearance	Black powder or pellets	
Color	black	
Odor	None	
Odor threshold	Not applicable	
<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
Melting point / freezing point		Not applicable
Boiling point / boiling range		Not applicable
Flammability (solid, gas)	> 45 seconds	not classifiable as "Highly Flammable", or "Easily Ignitable"
Flammability Limit in Air		Not applicable
Flash point		Not applicable
Autoignition temperature	> 400 °C	ASTM E2021-09, Dust layer
Decomposition temperature		Not applicable
pH	4 - 11	50 g/l water, 68°F (20°C), ASTM 1512. untreated carbon black
Kinematic viscosity		Not applicable
Dynamic viscosity		Not applicable
Water solubility	insoluble	
Solubility(ies)	insoluble	
Partition coefficient		Not applicable
Vapor pressure		Not applicable
Relative density	1.7 - 2.2	@ 20 °C
Bulk density	200-680 kg/m ³	pellets
	20-380 kg/m ³	powder
Relative vapor density		Not applicable

Particle characteristics: values cover all untreated Carbon Black grades

Particle Size Distribution Number based particle size distribution (internal structure/primary particles), Method: TEM

D10:	6-30 nm
D50:	10-53 nm
D90:	23-144 nm
Shape:	spheroidal
	Method: TEM
Dispersion stability:	Intermediate Stability, OECD 318
Dissolution rate:	Not soluble
Agglomeration state:	Micron-sized agglomerates
Specific Surface Area:	18-1500 m ² /g
	Method: N2BET
Level of dustiness:	High (per DIN-EN 15051-2)

9.2. Other information

9.2.1. Information with regard to physical hazard classes

Not applicable

9.2.2. Other safety characteristics

Formation of explosible dust/air mixtures

Minimum Explosive Conc.	50 g/m ³	dust
Minimum Ignition Temperature	> 500 °C	VDI 2263, BAM furnace, Dust cloud
Minimum Ignition Temperature - Layer	> 400 °C	VDI 2263
Minimum Ignition Energy	> 10000 mJ	VDI 2263
Maximum Pressure Rise	10 bar	10 bar at an initial starting pressure of 1 bar. Higher starting initial pressures will yield higher explosion pressures. VDI 2263
Maximum Rate of Pressure Rise	30-400 bar/sec	VDI 2263 and ASTM E1226-88
K _{st}	< 200 bar.m/s	VDI 2263
Explosive properties	Dust may form explosible mixture in air	Dust explosion category: ST 1
Oxidizing properties		Not applicable
% Volatile (by Weight)	<2.5%	950 °C, untreated carbon black

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity May react exothermically upon contact with strong oxidizers.

10.2. Chemical stability

Stability Stable under normal conditions. Stable under recommended storage conditions.

Explosion data

Sensitivity to mechanical impact	None.
Sensitivity to static discharge	Dust can form an explosive mixture with air. Avoid generation of dust. Do not create a dust cloud by using a brush or compressed air. Take precautionary measures against static discharges. All metal parts of the mixing and processing equipment must be earthed/grounded. Ensure all equipment is electrically earthed/grounded before beginning transfer operations.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions None under normal processing.

Hazardous polymerization Hazardous polymerization does not occur.

10.4. Conditions to avoid

Conditions to avoid Avoid generation of dust. Do not expose to temperatures above 400 °C. Keep away from heat.

Eliminate sources of ignition.

10.5. Incompatible materials

Incompatible materials Strong oxidizing agents.

10.6. Hazardous decomposition products

Hazardous decomposition products Carbon monoxide, Carbon dioxide (CO₂), Oxides of sulfur, Organic products of combustion

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity

Oral LD50 > 8000 mg/kg (rat); (Equivalent to OECD TG 401).

Dermal LD50 No data available.

Inhalation LC50 No data available.

Skin corrosion/irritation Rabbit: not irritating. (Equivalent to OECD TG 404). Edema = 0 (max. attainable irritation score: 4). Erythema = 0 (max. attainable irritation score: 4).

Assessment: Not irritating to skin.

Serious eye damage/eye irritation Rabbit: not irritating. (OECD TG 405). Cornea: 0 (max. attainable irritation score: 4). Iris: 0 (max. attainable irritation score: 2). Conjunctivae: 0 (max. attainable irritation score: 3). Chemosis: 0 (max. attainable irritation score: 4).

Assessment: Not irritating to the eyes.

Respiratory or skin sensitization Guinea pig skin (Buehler Test): Not sensitizing (OECD 406).

Assessment: Not sensitizing in animals. No cases of sensitization in humans have been reported.

Germ cell mutagenicity

In Vitro

Carbon black is not suitable to be tested in bacterial (Ames test) and other in vitro systems because of its insolubility. However, when organic solvent extracts of carbon black have been tested, results showed no mutagenic effects. Organic solvent extracts of carbon black can 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. (Borm, 2005)

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" (Driscoll, 1997) which led to chronic inflammation and release of reactive oxygen species. This is considered to be a secondary genotoxic effect and, thus, carbon black itself would not be considered to be mutagenic.

Assessment: In vivo mutagenicity in rats occurs by mechanisms secondary to a threshold effect and is a consequence of "lung overload," which leads to chronic inflammation and the 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

ANIMAL TOXICITY:

Rat, oral, duration 2 years.

Effect: no tumors.

Mouse, oral, duration 2 years.

Effect: no tumors.

Mouse, dermal, duration 18 months.

Effect: no skin tumors.

Rat, inhalation, duration 2 years.

Target organ: lungs.

Effect: inflammation, fibrosis, tumors.

Note: Tumors in the rat lung are considered to be related to the "lung overload" 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 (ILSI, 2000). Tumors 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.

MORTALITY STUDIES (HUMAN DATA):

A study on carbon black production workers in the UK (Sorahan, 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 (Morfeld, 2006; Buechte, 2006) found a similar increase in lung cancer risk but, like the Sorahan, 2001 (UK study), found no association with carbon black exposure. A large US study of 18 plants showed a reduction in lung cancer risk in carbon black production workers (Dell, 2006). Based upon these studies, the February 2006 Working Group at the International Agency for Research on Cancer (IARC) concluded that the human evidence for carcinogenicity was inadequate (IARC, 2010).

Since the IARC evaluation of carbon black, Sorahan and Harrington (2007) have 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 (2009) 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.

IARC CANCER CLASSIFICATION:

In 2006 IARC re-affirmed its 1995 finding that there is "inadequate evidence" from human health studies to assess whether carbon black causes cancer in humans. IARC concluded that there is "sufficient evidence" in experimental animal studies for the carcinogenicity of carbon black. IARC's overall evaluation is that carbon black is "possibly carcinogenic to humans (Group 2B)". This conclusion was based on IARC's guidelines, which generally require such a classification if one species exhibits carcinogenicity in two or more animal studies (IARC, 2010).

Solvent extracts of carbon black were used in one study of rats in which skin tumors were found after dermal application and several studies of mice in which sarcomas were found following subcutaneous injection. IARC concluded that there was "sufficient evidence" that carbon black extracts can cause cancer in animals (Group 2B).

ACGIH CANCER CLASSIFICATION:

Confirmed Animal Carcinogen with Unknown Relevance to Humans (Category A3 Carcinogen).

ASSESSMENT:

Applying the guidelines of self-classification under the Globally Harmonized System of Classification and Labeling of Chemicals, carbon black is not classified as a carcinogen. Lung tumors are induced in rats as a result of repeated exposure to inert, poorly soluble particles like carbon black and other poorly soluble particles. Rat tumors are a result of a secondary non-genotoxic mechanism associated with the phenomenon of lung overload. This is a species-specific mechanism that has questionable relevance for classification in humans. In support of this opinion, the CLP Guidance for Specific Target Organ Toxicity – Repeated Exposure (STOT-RE), cites lung overload under mechanisms not relevant to humans. Human health studies show that exposure to carbon black does not increase the risk of carcinogenicity.

Reproductive toxicity

ASSESSMENT: No effects on reproductive organs or fetal development have been reported in long-term repeated dose toxicity studies in animals.

STOT - single exposure

ASSESSMENT: Based on available data, specific target organ toxicity is not expected after single oral, single inhalation, or single dermal exposure.

STOT - repeated exposure

ANIMAL TOXICITY:

Repeated dose toxicity: inhalation (rat), 90 days, No Observed Adverse Effect Concentration (NOAEC) = 1.1 mg/m³ (respirable). Target organ effects at higher doses are lung inflammation, hyperplasia, and fibrosis.

Repeated dose toxicity: oral (mouse), 2 yrs, No Observed Effect Level (NOEL) = 137 mg/kg (body wt.)

Repeated dose toxicity: oral (rat), 2 yrs, NOEL = 52 mg/kg (body wt.)

Although carbon black produces pulmonary irritation, cellular proliferation, fibrosis, and lung tumors in the rat under conditions of "lung overload", there is evidence to demonstrate that this response is principally a species-specific response that is not relevant to humans.

MORBIDITY STUDIES (human data):

Results of epidemiological studies of carbon black production workers suggest that cumulative exposure to carbon black may result in small, non-clinical decrements in lung function. A U.S. respiratory morbidity study suggested a 27 ml decline in FEV1 from a 1 mg/m³ 8 hour TWA daily (inhalable fraction) exposure over a 40-year period (Harber, 2003). An earlier 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 (Gardiner, 2001). 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.

In the U.S. study, 9% of the highest non-smokers 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.

INHALATION ASSESSMENT:

Applying the guidelines of self-classification under GHS, carbon black is not classified under STOT-RE for effects on the lung. Classification is not warranted on the basis of the unique response of rats resulting from the "lung overload" following exposure to poorly soluble particles such as carbon black. The pattern of pulmonary effects in the rat, such as inflammation and fibrotic responses, are not observed in other rodent species, non-human primates, or humans under similar exposure conditions. Lung overload does not appear to be relevant for human health. Overall, the

epidemiological evidence from well-conducted investigations has shown no causative link between carbon black exposure and the risk of non-malignant respiratory disease in humans. A STOT-RE classification for carbon black after repeated inhalation exposure is not warranted.

ORAL ASSESSMENT:

Based on available data, specific target organ toxicity is not expected after repeated oral exposure.

DERMAL ASSESSMENT:

Based on available data and the chemical-physical properties (insolubility, low absorption potential), specific target organ toxicity is not expected after repeated dermal exposure.

Aspiration hazard

ASSESSMENT: Based on industrial experience and the available data, no aspiration hazard is expected.

11.2. Information on other hazards

11.2.1. Endocrine disrupting properties

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

11.2.2. Other information

Other adverse effects

No information available.

SECTION 12: Ecological information

12.1. Toxicity

Ecotoxicity

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 (Method: OECD 201).
Activated sludge: EC0 (3hr) >= 800 mg/L. (Method: DEV L3 TTC test).

12.2. Persistence and degradability

Persistence and degradability

The methods for determining biodegradability are not applicable to inorganic substances.

12.3. Bioaccumulative potential

Bioaccumulation

Not expected due to physicochemical properties of the substance.

12.4. Mobility in soil

Mobility

Insoluble. Not expected to migrate.

12.5. Results of PBT and vPvB assessment

PBT and vPvB assessment

This substance is not considered to be persistent, bioaccumulating nor toxic (PBT). This substance is not considered to be very persistent nor very bioaccumulating (vPvB).

12.6. Endocrine disrupting properties

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 information available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste from residues/unused products	Waste should not be released to sewers. Product, as supplied, can be burned in suitable incineration facilities or should be disposed of in accordance with the regulations issued by the appropriate federal, state and local authorities. Same consideration should be given to containers and packaging.
Contaminated packaging	Dispose of contents/container in accordance with local, regional, national, and international regulations as applicable.
Waste codes / waste designations according to EWC / AVV	EU Waste Code No. 61303.

SECTION 14: Transport information

Note: 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.

The following organizations do not classify carbon black as a "hazardous cargo" if it is "carbon, non-activated, mineral origin". Cabot carbon blacks meet this definition

IATA

14.1 UN number or ID number	Not regulated
14.2 UN proper shipping name	Not regulated
14.3 Transport hazard class(es)	Not regulated
14.4 Packing group	Not regulated
14.5 Environmental hazards	Not applicable
14.6 Special precautions for user	
Special Provisions	None

IMDG

14.1 UN number or ID number	Not regulated
14.2 UN proper shipping name	Not regulated
14.3 Transport hazard class(es)	Not regulated
14.4 Packing group	Not regulated
14.5 Environmental hazards	Not applicable
14.6 Special precautions for user	
Special Provisions	None
14.7 Maritime transport in bulk according to IMO instruments	No information available

RID

14.1 UN number or ID number	Not regulated
14.2 UN proper shipping name	Not regulated
14.3 Transport hazard class(es)	Not regulated
14.4 Packing group	Not regulated
14.5 Environmental hazards	Not applicable
14.6 Special precautions for user	
Special Provisions	None

ADR

14.1	UN number or ID number	Not regulated
14.2	UN proper shipping name	Not regulated
14.3	Transport hazard class(es)	Not regulated
14.4	Packing group	Not regulated
14.5	Environmental hazards	Not applicable
14.6	Special precautions for user	
	Special Provisions	None

SECTION 15: Regulatory information

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

Germany

Water hazard class (WGK)	non-hazardous to water (nwg)
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International Inventories

TSCA	Complies
DSL/NDSL	Complies
EINECS/ELINCS	Complies
ENCS	Complies
IECSC	Complies
KECL	Complies
PICCS	Complies
AIIC	Complies
TCSI	Complies
NZIoC	Complies

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
 DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
 EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
 ENCS - Japan Existing and New Chemical Substances
 IECSC - China Inventory of Existing Chemical Substances
 KECL - Korean Existing and Evaluated Chemical Substances
 PICCS - Philippines Inventory of Chemicals and Chemical Substances
 AIIC - Australian Inventory of Industrial Chemicals
 TCSI - Taiwan Chemical Substance Inventory
 NZIoC - New Zealand Inventory of Chemicals

15.2. Chemical safety assessment

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

SECTION 16: Other information

Key or legend to abbreviations and acronyms used in the safety data sheet

Legend Section 8: Exposure controls/personal protection

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value	*	Skin designation

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End of Safety Data Sheet