



SAFETY DATA SHEET

This safety data sheet complies with the requirements of:
JIS Z 7252:2019; JIS Z 7253:2019

Issuing Date 06-Mar-2024

Revision date 21-Aug-2025

Revision Number 2

1. Identification

Product Name	CARBON BLACK
Synonyms	Carbon black, Furnace black, Acetylene black
CAS No.	1333-86-4
Molecular weight	12.01 g/mol
Registration Number(s)	Not applicable
Other information	Sold under KOHLENSTOFF®, KLAREX, JETEX, ONYX, VIRTEX, ELECTRA, COLORX, TYRE GOLD (nanoform products), ENERGEX LB, ENERGEX Li+, and ENERGEX C-Li 200, ENERGEX C-Li 300 (all other ENERGEX products)

Details of the supplier of the safety data sheet

Supplier

Himadri Speciality, Inc.
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Wilmington, DE 19810
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Emergency telephone number Toll Free: 0800-300-5842

E-mail address carbonblack@himadri.com

Recommended use of the chemical and restrictions on use

Recommended use	Additive for plastic and rubber; Pigment for coatings, paints and lacquers; Special applications such as semi conductive compounds, UV filters, additive for batteries, refractories, chemical reagent, etc
Restrictions on use	Not recommended for use as a human tattoo pigment For professional use only

2. Hazard(s) identification

Classification of the substance or mixture

Not a hazardous substance or mixture according to the Globally Harmonized System (GHS).

Aspiration hazard	Not classified
Acute toxicity - Oral	Not classified
Acute toxicity - Dermal	Not classified
Acute toxicity - Inhalation (Gases)	Classification not applicable
Acute toxicity - Inhalation (Vapors)	Not classified
Acute toxicity - Inhalation (Dusts/Mists)	Not classified
Skin corrosion/irritation	Not classified
Serious eye damage/eye irritation	Not classified
Respiratory sensitization	Not classified
Skin sensitization	Not classified

Germ cell mutagenicity	Not classified
Carcinogenicity	Not classified
Reproductive toxicity	Not classified
Specific target organ toxicity (single exposure)	Not classified
Specific target organ toxicity (repeated exposure)	Not classified
Hazardous to the aquatic environment - acute	Not classified
Hazardous to the ozone layer	Not classified

GHS label elements**Hazard statements**

- Not classified

Precautionary statements**Prevention**

- Not applicable

Response

- Not applicable

Storage

- Not applicable

Disposal

- Not applicable

Other hazards

- May form combustible dust concentrations in air
- Contact with dust can cause mechanical irritation or drying of the skin
- Dust contact with the eyes can lead to mechanical irritation
- Inhalation of dust in high concentration may cause irritation of respiratory system
- Do not expose to temperatures above 400 °C
- Keep away from all ignition sources including heat, sparks and flame
- Prevent dust accumulation (to minimize explosion hazard)

3. Composition/information on ingredients

Pure substance/mixture Substance

CAS No. 1333-86-4

Chemical name	CAS No.	Weight-%	ENCS Inventory	ENCS Number	ISHL Inventory	ISHL No.
Carbon black	1333-86-4	100	Exempt	5-3328	No information available	

Pollutant Release and Transfer Register (PRTR)

Not applicable

Poisonous and Deleterious Substances Control Law

Not applicable

4. First-aid measures

In case of inhalation Remove to fresh air. If breathing is difficult, give oxygen. If symptoms persist, call a physician.

In case of skin contact Wash skin with soap and water. If symptoms persist, call a physician.

In case of eye contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention if symptoms occur.
In case of ingestion	Do NOT induce vomiting. Rinse mouth thoroughly with water. Never give anything by mouth to an unconscious person.
Most important symptoms/effects, acute and delayed	Irritating to the eyes and respiratory tract if exposed above the occupational exposure limits. See Section 11 for additional Toxicological Information.
Note to physicians	Treat symptomatically.

5. Fire-fighting measures

Suitable Extinguishing Media	Foam. Dry chemical. Carbon dioxide (CO ₂). Fog. A fog spray is recommended if water is used.
Unsuitable extinguishing media	None known.
Specific hazards arising from the chemical	<p>It may not be obvious that carbon black is burning unless the material is stirred and sparks are apparent. Carbon black that has been on fire should be closely observed for at least 48 hours to ensure no smoldering material is present.</p> <p>Burning produces irritant fumes. Product is insoluble and floats on water. If possible, try to contain floating material. Dusts or fumes may form explosive mixtures in air. Avoid generation of dust.</p> <p>Dust deposits should not be allowed to accumulate on surfaces, as these may form an explosive mixture if they are released into the atmosphere in sufficient concentration. Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air). Ground and bond all lines and equipment associated with product system. All equipment should be non-sparking and explosion proof. Take precautionary measures against static discharge.</p>
Flammable properties Explosive properties	<p>Not flammable.</p> <p>Dust explosive, Dust explosion category: ST 1.</p>
Special Extinguishing Media	None known.
Special protective equipment and precautions for fire-fighters	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment. Material becomes extremely slippery when wet.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Material becomes extremely slippery when wet. Avoid generation of dust. All equipment used when handling the product must be grounded. Ensure adequate ventilation. In case of insufficient ventilation, wear suitable respiratory equipment. Use personal protective equipment as required. See section 8 for more information.
For emergency responders	Use personal protection recommended in Section 8.
Environmental precautions	Prevent entry into waterways, sewers, basements or confined areas. Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. Do not flush into surface water or sanitary sewer system. Local authorities should be advised if significant spillages cannot be contained. See Section 12 for additional Ecological Information.
Methods for containment	Prevent further leakage or spillage if safe to do so. Prevent dust cloud. Dust deposits should not be allowed to accumulate on surfaces, as these may form an explosive mixture if they are released into the atmosphere in sufficient concentration. Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air). The product is insoluble and floats on

water. Any product that reaches water should be contained.

Methods for cleaning up

Avoid sweeping spilled dry material. If possible, vacuum using an explosion-proof vacuum and/or cleaning system suitable for combustible dusts. Cleaning system/vacuum equipped with high efficiency particulate air (HEPA) filtration is recommended. Transfer to properly labelled containers. See Section 13 for additional waste treatment information.

Prevention of secondary hazards

Clean contaminated objects and areas thoroughly observing environmental regulations.

Other information

Refer to protective measures listed in Sections 7 and 8.

7. Handling and storage

Handling

Advice on safe handling

Avoid contact with skin and eyes. Avoid generation of dust. Do not breathe dust. Do not use compressed air. Take precautionary measures against static discharges. Use grounding and bonding connection when transferring this material to prevent static discharge, fire or explosion. Fine dust is capable of penetrating electrical equipment and may cause electrical shorts. Safe work practices include the elimination of potential ignition sources in proximity to carbon black dust; good housekeeping to avoid accumulations of dust on all surfaces; appropriate exhaust ventilation design and maintenance to control airborne dust levels to below the applicable occupational exposure limit. If hot work is required, the immediate work area must be cleared of carbon black dust.

Prevents Handling of Incompatible Substances or Mixtures

See section 10 for more information.

Hygiene Measures

Do not breathe dust. Contaminated work clothing should not be allowed out of the workplace. Take off contaminated clothing and wash before reuse. Wash hands and face before breaks and immediately after handling the product.

Storage

Storage Conditions

Keep in a dry, cool and well-ventilated place. Keep in properly labeled containers. Store away from heat, ignition sources, volatile chemicals and strong oxidizers. Do not store together with volatile chemicals as they may be adsorbed onto the product.

Carbon black is not classifiable as a Division 4.2 self-heating substance under the UN test criteria. However, 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 container.

Before entering vessels and confined spaces containing carbon black, test for adequate oxygen, flammable gases and potential toxic air contaminants. Do not allow dust to accumulate on surfaces.

8. Exposure controls/personal protection

Exposure guidelines

Chemical name	ISHL Concentration Standards	Japan Society of Occupational Health	ACGIH TLV
Carbon black 1333-86-4	-	TWA: 4 mg/m ³ ; total dust TWA: 1 mg/m ³ ; respirable dust	TWA: 3 mg/m ³ inhalable particulate matter

Note

See section 16 for terms and abbreviations.

Other information on limit values

NOTE: 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.

Biological exposure limits This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies

Engineering controls Use process enclosures and/or exhaust ventilation to keep airborne dust concentrations below the occupational exposure limit. Ensure that eyewash stations and safety showers are close to the workstation location.

Environmental exposure controls See Section 12 for additional Ecological Information.

Personal protective equipment

Respiratory protection Approved air purifying respirator (APR) for particulates may 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. Selected references to respiratory protection standards are provided below:

US: NIOSH approval under 42 CFR 84 required. OSHA (29 CFR 1910.134). ANSI Z88.2-1992 (Respiratory Protection).

EU: CR 529 Guidelines for Selection and Use of Respiratory Protective Devices (CEN). 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.

Eye/face protection Wear safety glasses with side shields (or goggles).

Hand protection No special glove composition (material, thickness) is required for carbon black. Chemical breakthrough time considerations do not apply when selecting gloves. General duty gloves may be used to protect hands from soiling. Barrier creams may help to protect the exposed areas of skin.

Skin and body protection Wear suitable protective clothing.

9. Physical and chemical properties

Information on basic physical and chemical properties

Appearance	Black powder or pellet
Physical state	Solid
Color	Black
Odor	Odorless
Odor threshold	Not applicable

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
Melting point / freezing point		Not applicable
Initial boiling point and boiling range		Not applicable
Flammability		Not flammable
Upper/lower flammability or explosive limits		
Upper flammability or explosive limits		Not applicable
Lower flammability or explosive limits		Not applicable
Flash point		Not applicable
Evaporation rate		Not applicable
Autoignition temperature	> 140 °C / 284.0 °F	Transport - IMDG Code
Decomposition temperature		Not applicable
SADT (°C)		No data available

pH	3 - 11	50 g/L Water, 20°C/68°F (ASTM D1512)
Viscosity		
Kinematic viscosity		Not applicable
Dynamic viscosity		Not applicable
Water solubility	Insoluble	
Solubility(ies)		None known
Partition Coefficient (n-octanol/water)		Not applicable
Vapor pressure		Not applicable
Density and/or relative density		
Relative density	1.7 - 2 g/cm ³	@20°C
Liquid Density		Not applicable
Bulk density	1.25 - 40 lb/ft ³ , 20 - 640 kg/m ³	Pellets: 200 - 640 kg/m ³ ; Powder: 20 – 380 kg/m ³
Relative vapor density		Not applicable
Particle characteristics		
Particle Size		Not applicable
Particle Size Distribution	< 7 - < 101 nm	d50

Other information

Molecular weight	12.01 g/mol
VOC content	< 2.5 % w/w @ 950 °C
Softening point	No information available

Information with regard to physical hazard classes**Explosives**

Explosive properties Dust explosive, Dust explosion category: ST 1

Flammable solids

Burning Rate > 45 sec Not flammable

Oxidizing properties

Not applicable

Formation of explosible dust/air mixtures

Maximum Pressure Rise (bar)	10 bar VDI 2263
Maximum Rate of Pressure Rise (bar/sec)	30-400 bar/sec VDI 2263 & ASTM E1226-88
K _{st} (bar.m/s)	< 30-100 bar-m/s VDI 2263
Minimum Ignition Energy (mJ)	> 1,000,000 mj VDI 2263
Minimum Ignition Temperature (°C)	> 600°C VDI 2263, BAM Furnace, Dust cloud
Minimum Explosive Conc. (g/m ³)	50 g/m ³ dust
Minimum Ignition Temperature - Layer (°C)	> 400°C VDI 2263

10. Stability and reactivity

Reactivity	May react exothermically upon contact with strong oxidizers. Combustible dust.
Chemical stability	May form combustible dust - air mixture.
Possibility of hazardous reactions	Dust can form an explosive mixture with air.
Conditions to avoid	Temperatures above > 400 °C / > 752 °F. Eliminate sources of ignition. Incompatible materials. Avoid accumulation of airborne dusts.
Incompatible materials	Strong oxidizing agents.
Hazardous decomposition products	Carbon monoxide, Carbon dioxide (CO ₂), Sulfur oxides, Organic products of combustion.
Hazardous polymerization	Hazardous polymerization does not occur.

Explosion data

Sensitivity to static discharge Yes. Fine dust dispersed in air, in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard.

Sensitivity to mechanical impact None.

11. Toxicological information

Product Information

Ingestion No known hazard by swallowing.

Inhalation Inhalation of dust in high concentration may cause irritation of respiratory system.

Skin contact Contact with dust can cause mechanical irritation or drying of the skin.

Eye contact Dust contact with the eyes can lead to mechanical irritation.

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms Irritating to the eyes and respiratory tract if exposed above the occupational exposure limits. See Section 11 for additional Toxicological Information.

Acute toxicity Based on available data, the classification criteria are not met. Classification not possible.

Numerical measures of toxicity**Numerical measures of toxicity - Component Information**

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Carbon black	> 8000 mg/kg (Rat) Equivalent to OECD TG 401	-	-

Abbreviations and acronyms

Rat: Rat

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation Based on available data, the classification criteria are not met.

Component Information					
Carbon black (1333-86-4)					
Exposure route	Effective dose	Method	Species	Exposure time	Results
		Equivalent to OECD OECD TG 404	Rabbit		non-irritant; Product score: erythema: 0 edema: 0

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

Component Information					
Carbon black (1333-86-4)					
Effective dose	Method	Species	Exposure route	Exposure time	Results
	OECD TG 404	Rabbit			non-irritant; Product score: Iris: 0, Chemosis: 0, Cornea: 0, Conjunctivae: 0

Respiratory or skin sensitization Based on available data, the classification criteria are not met.

Component Information

Carbon black (1333-86-4)			
Species	Method	Exposure route	Results
Guinea pig	OECD TG 406		Not a skin sensitizer

Germ cell mutagenicity

In vitro: Carbon black is not suitable to be tested directly 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 they are very tightly bound to carbon black and are 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 (Driscoll, 1997). This observation is considered to be rat-specific and a consequence of "lung overload," which leads 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.

Rat, inhalation, duration 2 years.

Target organ: lungs.

Effect: inflammation, fibrosis, tumors.

Note: Tumors in the rat lung are considered to be related to "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

Mouse, oral, duration 2 years.

Effect: no tumors.

Mouse, dermal, duration 18 months.

Effect: no skin tumors.

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."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 Labelling 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.

The table below indicates whether each agency has listed any ingredient as a carcinogen.

Chemical name	Japan GHS Classification	Japan Society of Occupational Health	IARC
Carbon black	Carc. 2	Group 2B - Substances that are possibly carcinogenic to humans with limited supporting evidence	Group 2B - Possibly carcinogenic to humans

Reproductive toxicity

Assessment:

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

Target organ effects

Lungs.

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.

Assessment:

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

Dermal: 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.

12. Ecological information**Ecotoxicity**

Chemical name	Fish	Crustacea	Algae/aquatic plants	Toxicity to
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				microorganisms
Carbon black	LC50: >1000mg/L (96h, Brachydanio rerio (zebrafish)) Method: OECD Guideline 203	EC50: > 5600 mg/l (24h, Daphnia magna (waterflea)) Method: OECD Guideline 202	EC50: >10,000 mg/L (72h, Scenedesmus subspicatus) NOEC: ≥10,000 mg/L (Scenedesmus subspicatus) Method: OECD Guideline 201	EC0: ≥=800 mg/L (3h, Activated sludge) Method: DEV L3 (TTC test)

Persistence and degradability	Insoluble in water. The methods for determining biodegradability are not applicable to inorganic substances. Insoluble in water. The methods for determining biodegradability are not applicable to inorganic substances.
Bioaccumulative potential	Not expected because of the physicochemical properties of the substance.
Mobility in soil	Insoluble. Not expected to migrate. Insoluble. Not expected to migrate.
Hazardous to the ozone layer	Not classified.
Other adverse effects	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).

13. Disposal considerations

Waste from residues/unused products	Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.
Contaminated packaging	Dispose of contents/containers in accordance with local regulations.

14. Transport information

Note:	<p>The International Carbon Black Association organized the testing of seven ASTM reference carbon blacks according to the UN method, Self-Heating Solids. All seven reference carbon blacks were 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.</p> <p>The following organizations do not classify carbon black as a "hazardous cargo" if it is "carbon, non-activated, mineral origin." Himadri Speciality Chemical Ltd's carbon black products meet this definition</p>
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International Regulations

<u>IMDG</u>	Not regulated
<u>ADR</u>	Not regulated
<u>IATA</u>	Not regulated

Domestic regulations

See section 15. If product is subject to the Fire Service Law, Poisonous and Deleterious Substance Control Law, High Pressure Gas Safety Law, Ship Safety Law, and/or the Civil Aeronautics Act, the requirements that are specific to each of the laws must be

followed.

Japan Not regulated

15. Regulatory information

National regulations

Industrial Safety and Health Law

Notifiable Substances / Substances Subject to Risk Assessment

Law Article 57-2 Enforcement Order Article 18-2, and Law Article 57-3

Notification Name	Content rate % (sum)	Enforcement Date
Carbon Black	100	

Harmful Substances to be Indicated on Label

Law Article 57-1 Enforcement Order Article 18

Notification Name	Content rate % (sum)	Enforcement Date
Carbon Black	100	

Poisonous and Deleterious Substances Control Law

Not applicable

Fire Service Law

Not applicable

Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc. (CSCL)

Not applicable

Act on Prevention of Marine Pollution and Maritime Disaster

Not applicable

International Regulations

The Stockholm Convention on Persistent Organic Pollutants Not applicable

The Rotterdam Convention Not applicable

International Inventories

TSCA	Active
DSL/NDSL	Listed on DSL.
EINECS/ELINCS	Listed. RN: 215-609-9.
ENCS	Listed.
IECSC	Listed.
KECI	Listed.
PICCS	Listed.
AIIC	Listed.
NZIoC	Listed.
TCSI	Listed.

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 Chemicals Inventory

PICCS - Philippines Inventory of Chemicals and Chemical Substances

AIIC - Australian Inventory of Industrial Chemicals

NZIoC - New Zealand Inventory of Chemicals

TCSI - Taiwan Chemical Substance Inventory

16. Other information

Issuing Date	06-Mar-2024
Revision date	21-Aug-2025
Revision Note	SDS sections updated. 1, 2, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15.

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

List may include phrases which are not applicable to this product

ACGIH	American Conference of Governmental Industrial Hygienists
ADN	Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways (Europe)
ADR	Agreement concerning the International Carriage of Dangerous Goods by Road (Europe)
AIIC	Australian Inventory of Industrial Chemicals
ATE	Acute Toxicity Estimate
ASTM	American Society for the Testing of Materials
bar	Biological Reference Values for Chemical Compounds in the Work Area
BAT	Biological tolerance values for occupational exposure
BEL	Biological exposure limits
bw	Body weight
Ceiling	Maximum limit value
CMR	Carcinogen, Mutagen or Reproductive Toxicant
DOT	Department of Transportation (United States)
DSL	Domestic Substances List (Canada)
EmS	Emergency Schedule
ENCS	Existing and New Chemical Substances (Japan)
EPA	U.S. Environmental Protection Agency
GHS	Globally Harmonized System
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IBC	International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk
ICAO	International Civil Aviation Organization
IECSC	Inventory of Existing Chemical Substances in China
IMDG	International Maritime Dangerous Goods
IMO	International Maritime Organization
ISHL	Industrial Safety and Health Law (Japan)
ISO	International Organization for Standardization
KECI	Korean Existing Chemicals Inventory
LC50	Lethal Concentration to 50% of a test population
LD50	Lethal Dose to 50% of a test population (Median Lethal Dose)
MARPOL	International Convention for the Prevention of Pollution from Ships
n.o.s.	Not Otherwise Specified
NOAEC	No Observed Adverse Effect Concentration
NOAEL	No Observed Adverse Effect Level
NOELR	No Observable Effect Loading Rate
NZIoC	New Zealand Inventory of Chemicals
OECD	Organization for Economic Cooperation and Development
OEL	Occupational exposure limits
PBT	Persistent, Bioaccumulative and Toxic substance
PICCS	Philippines Inventory of Chemicals and Chemical Substances
PMT	Persistent, Mobile and Toxic
PPE	Personal protective equipment
PRTR	Pollutant Release and Transfer Register
QSAR	Quantitative Structure Activity Relationship

RID	Agreement concerning the International Carriage of Dangerous Goods by Rail (Europe)
SADT	Self-Accelerating Decomposition Temperature
SAR	Structure-activity relationship
SDS	Safety Data Sheet
SL	Surface Limit
STEL	Short Term Exposure Limit
STOT RE	Specific target organ toxicity - Repeated exposure
STOT SE	Specific target organ toxicity - Single exposure
TCSI	Taiwan Chemical Substance Inventory
TDG	Transport of Dangerous Goods (Canada)
TSCA	Toxic Substances Control Act (United States)
TWA	Time-Weighted Average
UN	United Nations
VOC	Volatile organic compounds
vPvB	Very Persistent and Very Bioaccumulative
vPvM	Very Persistent and Very Mobile
As	Allergenic substance
DS	Dermal Sensitizer
Ot	Ototoxicant
pOt	Ototoxicant - potential to cause hearing disorders
PS	Photosensitizer
RS	Respiratory Sensitizer
S	Sensitizer
poS	Sensitizer - capable of causing occupational asthma
Sa	Simple asphyxiant
Sd	Skin designation
pSd	Skin designation - potential for cutaneous absorption
Sdv	Skin designation - vacated
Sk	Skin notation
dSk	Skin notation - danger of cutaneous absorption
pSk	Skin notation - potential for cutaneous absorption

Key literature references and sources for data used to compile the SDS

U.S. Environmental Protection Agency ChemView Database
 European Chemicals Agency
 European Food Safety Authority (EFSA)
 U.S. Environmental Protection Agency
 Acute Exposure Guideline Level(s) (AEGL(s))
 U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act
 U.S. Environmental Protection Agency High Production Volume Chemicals
 Food Research Journal
 Hazardous Substance Database
 International Uniform Chemical Information Database (IUCLID)
 Japan National Institute of Technology and Evaluation (NITE)
 Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)
 NIOSH (National Institute for Occupational Safety and Health)
 National Library of Medicine's ChemID Plus (NLM CIP)
 U.S. National Toxicology Program (NTP)
 New Zealand's Chemical Classification and Information Database (CCID)
 International Organization for Economic Co-operation and Development (OECD) Environment, Health, and Safety Publications
 International Organization for Economic Co-operation and Development (OECD) High Production Volume Chemicals Program
 International Organization for Economic Co-operation and Development (OECD) Screening Information Data Set
 United Nations World Health Organization (WHO)

Disclaimer

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End of Safety Data Sheet