

## SAFETY DATA SHEET

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Trade name: Lamp Black

Print date: 03.11.23

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Date revised: 21.03.2023

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

### 1.1. Product identifier

Lamp Black

#### Registration no.

EC No.:	215-609-9
Registration no.	01-2119384822-32-XXXX
CAS No.	1333-86-4

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

#### Use of the substance/preparation

Colourant

#### Uses advised against

Mixtures for use for tattooing purposes

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

#### Address

Deffner & Johann GmbH  
Mühläckerstraße 13  
D-97520 Röthlein  
Telefon-Nr.: + 49 (0) 9723 9350-0  
Fax-Nr.: + 49 (0) 9723 9350-25  
E-Mail-Adresse: info@deffner-johann.de

### 1.4. Emergency telephone number

+49 (0) 9723 9350-0 (Mo - Fr: 7.30 - 15.00)

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

Voluntary product information following the Safety Data Sheet format  
This product is not classified hazardous in accordance with Regulation (EC) No 1272/2008.

### 2.2. Label elements

#### Labelling according to regulation (EC) No 1272/2008

The product does not require a hazard warning label in accordance with Regulation (EC) No 1272/2008.

### 2.3. Other hazards

Dust loading. The product is capable of dust explosion under certain conditions.  
This substance/mixture does not contain components classified as persistent, bioaccumulative and toxic (PBT) at levels of 0.1% or higher. This substance/mixture does not contain components classified as very persistent and very bioaccumulative (vPvB) at concentrations of 0.1% or higher. The substance/mixture does not contain components considered to have endocrine disrupting properties for humans according to REACH Article 57(f) or Regulation (EU) 2017/2100 or Regulation (EU) 2018/605 at levels of 0.1% or higher. The substance/mixture does not contain components considered to have endocrine disrupting properties to non-target organisms according to REACH Article 57(f) or Regulation (EU) 2017/2100 or Regulation (EU) 2018/605 at levels of 0.1% or higher.

## SECTION 3: Composition/information on ingredients

### 3.1. Substances

#### Chemical characterization

Carbon Black, amorphous

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

#### General information

In case of persistent symptoms consult doctor.

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#### After inhalation

Remove the casualty into fresh air and keep him calm. In the event of symptoms take medical treatment.

#### After skin contact

Wash off immediately with soap and water. Consult a doctor if skin irritation persists.

#### After eye contact

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Seek medical advice immediately.

#### After ingestion

Rinse mouth thoroughly with water. Call in a physician immediately and show him the Safety Data Sheet.

#### Adhere to personal protective measures when giving first aid

First aider: Pay attention to self-protection!

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

Until now no symptoms known so far.

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

#### Hints for the physician / treatment

Treat symptomatically. After uptake of large amounts of substance: Acceleration of the gastrointestinal passage

### SECTION 5: Firefighting measures

#### 5.1. Extinguishing media

##### Suitable extinguishing media

Water spray jet, Foam, Nitrogen, Dry chemical extinguisher

##### Non suitable extinguishing media

Full water jet, Carbon dioxide, in order to avoid dispersal and spread of the fire.

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

In the event of fire the following can be released: Sulphur oxides; Carbon monoxide (CO); Carbon dioxide (CO<sub>2</sub>); organic combustion products.

#### 5.3. Advice for firefighters

##### Special protective equipment for fire-fighting

Use self-contained breathing apparatus. Wear full protective suit.

##### Other information

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. Ensure there are sufficient retaining facilities for water used to extinguish fire. Collect contaminated fire-fighting water separately, must not be discharged into the drains. Fire residues and contaminated fire-fighting water must be disposed of in accordance with the local regulations.

### SECTION 6: Accidental release measures

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

Avoid dust formation. Do not inhale dust. Use breathing apparatus if exposed to vapours/dust/aerosol. Ensure adequate ventilation. High risk of slipping due to leakage/spillage of product. Use personal protective clothing. Refer to protective measures listed in Sections 7 and 8. Remove persons to safety.

#### 6.2. Environmental precautions

Do not discharge into the drains/surface waters/groundwater. Do not discharge into the subsoil/soil. Product floats on water and does not dissolve. If possible, try to keep floating material together. Retain and dispose of contaminated wash water.

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

Avoid raising dust. Pick up mechanically. A vacuum cleaner with a high-efficiency filtration system is recommended. When picked up, treat material as prescribed under Section 13 "Disposal".

#### 6.4. Reference to other sections

Information regarding Safe handling, see Section 7. Information regarding personal protective measures, see Section 8. Information regarding waste disposal, see Section 13.

### SECTION 7: Handling and storage

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**7.1. Precautions for safe handling**

**Advice on safe handling**

Avoid the formation and deposition of dust. Provide exhaust ventilation if dust is formed. Ensure adequate ventilation. Handle and open container with care. Provide suitable exhaust ventilation at the processing machines. Fine dust may cause electrical short circuiting or penetrate into electrical devices that are not completely sealed. Use breathing apparatus when transferring large quantities without exhaust ventilation facilities. If workplace limits are exceeded, a respiratory protection approved for this particular job must be worn. Avoid skin and eye contact. Observe the usual precautions for handling chemicals.

**Advice on protection against fire and explosion**

Avoid dust formation. Take action to prevent static discharges. Earthing necessary during loading operations. Keep away from sources of heat and ignition. Dust can form an explosive mixture with air. Do not smoke.

**Classification of fires / temperature class / Ignition group / Dust explosion class**

Dust explosion class Capable of dust explosion

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

**Hints on storage assembly**

Do not store together with foodstuffs. Do not store with strong oxidizing agents. Do not store together with volatile compounds, since they may be adsorbed.

**Further information on storage conditions**

Keep container tightly closed and dry in a cool, well-ventilated place. Protect from direct sunlight. Protect from extreme heat and cold.

**SECTION 8: Exposure controls/personal protection**

**8.1. Control parameters**

**Other information**

The national general dust limit must be observed.  
TRGS 900: Observe the general dust threshold.

**8.2. Exposure controls**

**General protective and hygiene measures**

Do not inhale dust/fumes/aerosols. Avoid contact with skin and eyes. Do not eat, drink or smoke during work time. Keep away from foodstuffs and beverages. Wash hands before breaks and after work. Use barrier skin cream. Observe the usual precautions for handling chemicals. Take off immediately all contaminated clothing.

**Respiratory protection**

If workplace limits are exceeded, a respiratory protection approved for this particular job must be worn. Particle filter P2; Use breathing apparatus in dust-laden atmosphere.

**Hand protection**

Protective gloves  
Observe the information of the glove manufacturers on permeability and breakthrough times and other workplace requirements.

**Eye protection**

Safety glasses with side protection shield

**Body protection**

Clothing as usual in the chemical industry.

**SECTION 9: Physical and chemical properties**

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

<b>Physical state</b>	Powder	
<b>Colour</b>	black	
<b>Odour</b>	odourless	
<b>Melting point</b>		
Value	> 3000	°C
Source	Manufacturer's data	
<b>Boiling point or initial boiling point and boiling range</b>		
Value	> 3000	°C
Source	Manufacturer's data	
<b>Flammability</b>		
	> 45 s	

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Method	VDI 2263 (Grewer)		
Source	Manufacturer's data		
<b>Upper and lower explosive limits</b>			
Lower explosion limit	50		g/m <sup>3</sup>
Method	VDI 2263		
Source	Manufacturer's data		
<b>Flash point</b>			
Remarks	Not applicable		
<b>Ignition temperature</b>			
Value	> 600		°C
Method	VDI Guideline 2263		
Method	BAM		
Source	Manufacturer's data		
<b>Decomposition temperature</b>			
Value	> 400		°C
Remarks	Smoulder temperature		
Method	VDI 2263		
Source	Manufacturer's data		
<b>pH value</b>			
Value	>= 6,5		
Concentration/H <sub>2</sub> O	50	g/l	
Temperature	20	°C	
Source	Manufacturer's data		
<b>Viscosity</b>			
Remarks	Not applicable		
<b>Solubility(ies)</b>			
Remarks	insoluble in other solvents		
Source	Manufacturer's data		
<b>Partition coefficient n-octanol/water (log value)</b>			
Remarks	Not applicable		
<b>Vapour pressure</b>			
Remarks	Not applicable		
<b>Density and/or relative density</b>			
Value	1,7	to	1,9 g/cm <sup>3</sup>
Temperature	20	°C	
Source	Manufacturer's data		
<b>Relative vapour density</b>			
Remarks	Not applicable		
<b>Particle characteristics</b>			
Remarks	This substance/mixture contains no nanoforms based on: Measurement data.		
Source	Manufacturer's data		
<b>9.2. Other information</b>			
<b>Odour threshold</b>			
Remarks	Not applicable		
<b>Specific surface</b>			
Remarks	No data available		
<b>Evaporation rate (ether = 1) :</b>			
Remarks	not determined		
<b>Solubility in water</b>			
Remarks	insoluble		
Source	Manufacturer's data		
<b>Minimum ignition energy</b>			
Minimum ignition energy	> 1		kJ
Method	VDI 2263		
Source	Manufacturer's data		
<b>Auto-ignition temperature</b>			
Value	> 140		°C
Method	IMDG-Code		

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Remarks	Volume-dependent parameter, measured temperature refers to the 1 l sample
Remarks	Carbon black is not classifiable as a Division 4.2 self-heating substance under the UN test criteria. However, the UN criteria for determination if a substance is self-heating is volume dependent, i.e. the auto-ignition temperature decreases with increasing volume.
Source	Manufacturer's data
<b>Explosive properties</b>	
evaluation	not determined
<b>Oxidising properties</b>	
Remarks	not determined
<b>Other information</b>	
None known	

**SECTION 10: Stability and reactivity****10.1. Reactivity**

No hazardous reactions when stored and handled according to prescribed instructions.

**10.2. Chemical stability**

Stable under recommended storage and handling conditions (see section 7).

**10.3. Possibility of hazardous reactions**

Dust explosion hazard. When used as recommended, no hazardous reactions are expected.

**10.4. Conditions to avoid**

Static charges. Dust can form an explosive mixture with air. Avoid all sources of ignition: heat, sparks, open flame. temperatures above 400 °C

**Decomposition temperature**

Value	>	400	°C
Remarks		Smoulder temperature	
Method		VDI 2263	
Source		Manufacturer's data	

**10.5. Incompatible materials**

Reactions with strong oxidising agents.

**10.6. Hazardous decomposition products**

Carbon monoxide and carbon dioxide, sulphurous oxides (SO<sub>x</sub>), organic products of decomposition

**SECTION 11: Toxicological information****11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008****Acute oral toxicity**

Species	rat	
LD50	>	8000 mg/kg
Method		Equivalent to OECD Test Guideline 401
Remarks		Based on available data, the classification criteria are not met.
Source		Manufacturer's data

**Acute dermal toxicity**

Remarks Based on available data, the classification criteria are not met.

**Acute inhalational toxicity**

Remarks Based on available data, the classification criteria are not met.

**Skin corrosion/irritation**

Species	rabbit
evaluation	non-irritant
Method	Equivalent to OECD Test Guideline 404
Remarks	Based on available data, the classification criteria are not met.
Source	Manufacturer's data

**Serious eye damage/irritation**

Species	rabbit
evaluation	non-irritant
Method	OECD 405

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Remarks	Based on available data, the classification criteria are not met.
Source	Manufacturer's data
<b>Sensitization</b>	
Route of exposure	dermal
Species	guinea pig
evaluation	non-sensitizing
Method	OECD 406
Remarks	Based on available data, the classification criteria are not met.
Source	Manufacturer's data
<b>Subacute, subchronic, chronic toxicity</b>	
Remarks	Repeated or prolonged inhalation of dust may lead to chronic respiratory irritation.
Remarks	Frequent persistent contact with the skin can cause skin irritation.
Remarks	Like any foreign body, particles (dust) can cause mechanical irritation.
<b>Mutagenicity</b>	
Remarks	Carbon Black is not suitable to be tested in bacterial (Ames test) and other in vitro systems because of its insolubility. When tested, however, results for Carbon Black showed no mutagenic effects.
Remarks	Organic solvent extracts of Carbon Black can, however, contain traces of polycyclic aromatic hydrocarbons (PAHs).
Remarks	A study to examine the bioavailability of these PAHs showed that PAHs are very tightly bound to Carbon Black and not bioavailable.
Source	Born (2005)
Remarks	After inhalation exposure to carbon black, changes in the hprt gene due to mutations in rat lung epithelial cells were reported in an experimental study.
Remarks	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.
Source	Baan (2007), Elder (2000), Carter (2000), Mauderly (1996a), Mauderly (1996b)
Remarks	This mechanism is considered to be a secondary genotoxic effect and, thus, Carbon Black itself would not be considered to be mutagenic.
Remarks	Based on available data, the classification criteria are not met.
Source	Manufacturer's data
<b>Reproductive toxicity</b>	
Remarks	Based on the specific chemical-physical properties of carbon black, it is not likely to be distributed in the body and reach the reproductive organs, embryo and/or fetus under in vivo conditions.
Remarks	Therefore, no adverse effects of Carbon Black on fertility/reproduction and/or foetal development are expected.
evaluation	Based on available data, the classification criteria are not met.
Source	Manufacturer's data
<b>Carcinogenicity</b>	
Route of exposure	oral
Species	rat
Duration of exposure	2 y
evaluation	No indications of carcinogenic effects are available from long-term trials.
Remarks	Based on available data, the classification criteria are not met.
Source	Manufacturer's data
Route of exposure	inhalative
Species	rat
Duration of exposure	2 y
evaluation	lungs / imflammation, fibrosis, tumours
Remarks	Lung tumors in rats are the result of exposure to carbon black under "lung overload" conditions.
Remarks	The development of lung tumours in rats is specific to this species. Mouse and hamster do not develop lung tumours under similar test conditions.
Remarks	The CLP guidance on classification and labelling states, that "lung overload" in animals is listed under mechanism not relevant to humans.
Source	UN GHS, CLP, CLP Guidance
Remarks	Based on available data, the classification criteria are not met.
Route of exposure	oral
Species	mouse
Duration of exposure	2 y
evaluation	No indications of carcinogenic effects are available from long-term trials.

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Remarks	Based on available data, the classification criteria are not met.
Source	Manufacturer's data
Route of exposure	dermal
Species	mouse
Duration of exposure	18 Months
evaluation	No indications of carcinogenic effects are available from long-term trials.
Remarks	Based on available data, the classification criteria are not met.
Source	Manufacturer's data

## Specific Target Organ Toxicity (STOT)

### Repeated exposure

	Route of exposure	inhalative
	Organs:	lungs / inflammation, hyperplasia, fibrosis
Species		rat
NOAEC	1	mg/m <sup>3</sup>
Duration of exposure	90	d
Remarks		respirable fraction
Source		Manufacturer's data
	Route of exposure	oral
Species		mouse
NOEL	137	mg/kg
Duration of exposure	2	y
Source		Manufacturer's data
	Route of exposure	oral
Species		rat
NOEL	52	mg/kg
Duration of exposure	2	y
Source		Manufacturer's data

### Aspiration hazard

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

## 11.2 Information on other hazards

### Endocrine disrupting properties with respect to humans

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

### Other information

This colour includes carbon black. According to IARC this pigment is classified in group 2B (possibly carcinogenic to humans).  
The IARC came to this conclusion in 1995 when, based on human data, "there is inadequate evidence" for the carcinogenicity of carbon black.  
However, the IARC saw the development of lung tumors in rats after inhalation exposure to carbon black as sufficient evidence of carcinogenicity in test animals.  
However, as a result of detailed and extensive 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.  
Based on several studies, the IARC working group concluded in 2006 that the evidence for carcinogenicity in humans is insufficient and confirmed its 1995 classification as carc. 2 B.  
In addition, extensive epidemiological and clinical studies of carbon black factory workers have not provided evidence of clinically significant adverse health effects from occupational exposure to carbon black. No dose response relationship was observed in workers exposed to Carbon Black.  
Sources: Sorahan (2001), Wellmann (2006), Morfeld (2006a), Buchte (2006), Morfeld (2006b), Dell (2006), Sorahan (2007), Morfeld (2007), Morfeld (2009), Morfeld (2010)  
Prolonged exposure to dust concentrations exceeding the exposure limit may result in impairment of the self-cleaning capacity of the lungs and cause adverse lung effects.

## SECTION 12: Ecological information

### 12.1. Toxicity

#### General information

not determined

#### Fish toxicity

Species zebra fish (Brachydanio rerio)



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LC0	1000		mg/l
Duration of exposure	96	h	
Method	OECD 203		
Source	Manufacturer's data		
Species	golden orfe (Leuciscus idus)		
LC0	> 5000		mg/l
Duration of exposure	14	d	
Method	DIN 38412 / Part 15		
Source	Manufacturer's data		

**Daphnia toxicity**

Species	Daphnia magna		
EC50	> 5600		mg/l
Duration of exposure	24	h	
Method	OECD 202		
Source	Manufacturer's data		

**Algae toxicity**

Species	Scenedesmus subspicatus		
EC50	> 10000		mg/l
Duration of exposure	72	h	
Method	OECD 201		
Source	Manufacturer's data		
Species	Scenedesmus subspicatus		
NOEC	> 10000		mg/l
Duration of exposure	72	h	
Method	OECD 201		
Source	Manufacturer's data		

**Bacteria toxicity**

Species	activated sludge		
EC0	> 400		mg/l
Duration of exposure	3	h	
Method	DEV/L3 test (Dehydrogenase activity)		
Source	Manufacturer's data		
Species	activated sludge		
EC10	800		mg/l
Duration of exposure	3	h	
Method	DEV/L3 test (Dehydrogenase activity)		
Source	Manufacturer's data		

**12.2. Persistence and degradability****General information**

The product has not been tested. Because of the product's consistency and lack of solubility in water bioavailability is not likely.

**Biodegradability**

Remarks The product is inert according to previous experience and not degradable.

**12.3. Bioaccumulative potential****General information**

Carbon black is an inert solid that is insoluble and stable in water and organic solvents. Due to these physico-chemical properties of carbon black, no diffusion through membranes of organisms and therefore no bioaccumulation is expected.

**Partition coefficient n-octanol/water (log value)**

Remarks Not applicable

**12.4. Mobility in soil****General information**

Carbon black is an inert solid that is insoluble and stable in water and organic solvents. 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****Results of PBT and vPvB assessment**

This substance/mixture does not contain components classified as persistent, bioaccumulative and toxic (PBT) at levels of 0.1% or higher.

This substance/mixture does not contain components classified as very persistent and very bioaccumulative (vPvB) at concentrations of 0.1% or higher.

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## 12.6 Endocrine disrupting properties

### Endocrine disrupting properties with respect to the environment

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

## 12.7. Other adverse effects

### General information

not determined

### General information / ecology

Do not discharge product unmonitored into the environment.

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

#### Disposal recommendations for the product

Product should be taken to a suitable and authorized waste disposal site in accordance with relevant regulations and if necessary after consultation with the waste disposal operator and/or the competent Authorities.

#### Disposal recommendations for packaging

Packaging that cannot be cleaned should be disposed off as product waste.  
Uncontaminated packaging may be taken for recycling.

## SECTION 14: Transport information

### Land transport ADR/RID

The product does not constitute a hazardous substance in land transport.

### Marine transport IMDG/GGVSee

The product does not constitute a hazardous substance in sea transport.

### Air transport ICAO/IATA

The product does not constitute a hazardous substance in air transport.

### Information for all modes of transport

#### 14.6. Special precautions for user

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 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 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.

Carbon Black is not: UN 1361: CARBON of animal or vegetable origin; UN 1362: CARBON, activated; UN 3088: Self-heating solid, organic, n.o.s.

## SECTION 15: Regulatory information

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

#### Water Hazard Class (Germany)

Water Hazard Class (Germany)	Not water hazardous
Identification number	1742

### 15.2. Chemical safety assessment

For this substance a chemical safety assessment has been carried out.

## SECTION 16: Other information

### Key literature references and sources for data

Baan (2007): Baan, R. Carcinogenic Hazards from Inhaled Carbon Black, Titanium Dioxide, and Talc not Containing Asbestos or Asbestiform Fibers: Recent Evaluations by an IARC Monographs Working Group. Inhalation Toxicology, 19

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(Suppl. 1); 213-228(2007).

UN GHS: UN: Globally harmonized system of classification and labelling of chemicals (GHS). Revision 3, 2009.  
[http://www.unece.org/trans/danger/publi/ghs/ghs\\_rev03/03files\\_e.html](http://www.unece.org/trans/danger/publi/ghs/ghs_rev03/03files_e.html);

CLP: EU: Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No. 1907/2006.

CLP Guidance: Guidance to Regulation (EC) No 1272/2008 on Classification, Labelling and Packaging of Substances and Mixtures. 14 May 2009- IHCP, DG Joint Research Centre, European Commission

[http://ecb.jrc.ec.europa.eu/documents/ClassificationLabelling/CLP\\_Guida](http://ecb.jrc.ec.europa.eu/documents/ClassificationLabelling/CLP_Guida)

Borm (2005): Borm, P.J.A. et al. Formation of PAH-DNA adducts after in-vivo and vitro exposure of rats and lung cell to different commercial carbonblacks. *Tox Appl Pharm.* 2005. 1:205(2):157 - 167

Elder (2000): Elder, A.C.P. et al. (2000). Particle surface area-associated pulmonary effects following overloading with carbon black. *The Toxicologist*, Vol. 54, No 1, p. 315

Carter (2000): Carter, J.M., Oberdörster, G. and Driscoll, K.E. (2000). Cytokine, Oxidant, and mutational responses after lung overload to inhaled Carbon Black. *The Toxicologist*, Vol. 54, No 1, p. 315

Mauderly (1996a): Mauderly, J.L. et al. Particle Overload in the Rat Lung and Lung Cancer, Implications for Human Risk Assessment. Proceedings of a Conference Held at the Massachusetts Institute of Technology, March 29 and 30, 1995.

Taylor & Francis, Washington, DC 1996

Mauderly (1996b): Mauderly, J.L. (1996). Lung overload: The dilemma and opportunities for resolution. *Inhalation Toxicology* 8, 1-28

Wellman (2006): Wellmann J, Weiland S, Neiteler G, Klein G, Straif K. Cancer mortality in German Carbon Black workers 1976-1998. *Occup Env. Med.*, August 2006; 63:513-521

Morfeld (2006a): Morfeld P, Buchte, SF, Straif K, Keil U, McCunney R, Piekarski C. Lung cancer mortality and Carbon Black exposure – Cox regression analysis of a cohort from a German Carbon Black production plant. *J Occup Env Med* 2006 (in press).

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**Abbreviations**

ADR: Accord européen relatif au transport international des marchandises Dangereuses par Route

AGW: Arbeitsplatzgrenzwert

AwSV: Verordnung über Anlagen zum Umgang mit wassergefährdenden Stoffen (Ordinance on facilities for handling substances that are hazardous to water)

BGW: Biologischer Grenzwert

CAS: Chemical Abstracts Service

DNEL: Derived no effect level

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

GGVSee: Gefahrgutverordnung See

IARC: International Agency for Research on Cancer

IATA: International Air Transport Association

ICAO: International Civil Aviation Organization

IMDG: International Maritime Code for Dangerous Goods

LC: Lethal concentration

LD: Lethal dose

MAK: Maximale Arbeitsplatz-Konzentration

NOEC: No observable effect concentration

NOEL: No observable effect level

OECD: Organisation for Economic Co-operation and Development

OEL: Occupational exposure limit

PBT: Persistent, Bioaccumulative and Toxic

PNEC: Predicted no effect concentration

RID: Règlement concernant le transport international ferroviaire de marchandises dangereuses

**Safety data sheet in accordance with regulation (EC) No 1907/2006**

**Trade name: Lamp Black**

**Print date: 03.11.23**

**Version: 1 / DE**

**Date revised: 21.03.2023**

**Replaces Version: - / DE**

TRGS: Technische Regeln für Gefahrstoffe  
VDI: Verein Deutscher Ingenieure  
VLEP: Valeurs Limites d'exposition Professionnelle  
vPvB: Very persistent and very bioaccumulative  
WGK: Wassergefährdungsklasse (water hazard class)

**Supplemental information**

These data is based on our present knowledge and experience respectively supplier-information. This safety data sheet describes the product in regard to the requirements of safety. The information does not represent an assurance for certain properties. Existing laws and regulations are to be observed by the recipient of our products in own responsibility. It is the responsibility of the user, to determine if the product is suitable for the deliberate operational area and the respective intended purpose. A liability for damages in connection with the use of this information is excluded. Relevant changes compared with the previous version of the safety data sheet are marked with: \*\*\*