

In 1995, the International Agency for Research on Cancer (IARC) concluded that there is "sufficient evidence in experimental animals for the carcinogenicity of carbon black." IARC's overall evaluation was that "Carbon black is possibly carcinogenic to humans (2B)." In 2006, IARC re-affirmed this classification. There has been no causal link between carbon black exposure and cancer risk in humans. Applying the rules of the Globally Harmonized System of Classification and Labelling (GHS, e.g. UN 'Purple Book', EU CLP Regulation) the results of repeated dose toxicity and carcinogenicity studies in animals do not lead to classification of Carbon Black for Specific Target Organ Toxicity (Repeated exposure) and carcinogenicity. UN GHS says, that even if adverse effects are seen in animal studies or in-vitro tests, no classification is needed if the mechanism or mode of action is not relevant to humans. The European CLP Regulation also mentions, that no classification is indicated if the mechanism is not relevant to humans. Furthermore, the CLP guidance on classification and labelling states, that "lung overload" in animals is listed under mechanism not relevant to humans.

CLP/GHS-Labeling

GHS Labeling not required

Precautionary Statements

No GHS specific Precautionary Statements required - observe all other warnings and handling instructions in this SDS.

Other hazards which do not result in classification:

SABIC Emergency Overview

- Pellets with slight or no odor
- Spilled material may create slipping hazard
- Can burn in a fire creating dense, toxic smoke
- Molten plastic can cause severe thermal burns
- Fumes produced during melt processing may cause eye, skin, and respiratory tract irritation. Severe over-exposure may result in nausea, headache, chills, and fever. See below for additional effects.
- Secondary operations, such as grinding, sanding, or sawing can produce dust which may present an explosion or respiratory hazard.

Other Information:

Cool skin rapidly with cold water after contact with molten material. Heating can release hazardous gases. Hazardous fumes can also occur in post-processing operations.

Processing Issues:

Processing vapors may cause irritation to the eyes, skin, and respiratory tract. In cases of severe exposure, nausea and headache can also occur. Grease-like processing vapor condensates on ventilation ductwork, molds, and other surfaces can cause irritation and injury to skin.

Aggravated Medical Conditions:

MEDICAL RESTRICTIONS: There are no known health effects aggravated by exposure to this product. However, certain sensitive individuals and individuals with respiratory impairments may be affected by exposure to components in the processing vapors.

5. FIRE-FIGHTING MEASURES

Autoignition Temperature:	490 °C (914°F) estimated
Explosive Limits upper:	Not determined
lower:	Not determined
Suitable Extinguishing Media:	Use dry chemical, CO ₂ , water spray or "alcohol" foam. Water is the best extinguishing medium. Carbon dioxide and dry chemical are not generally recommended because their lack of cooling capacity may permit re-ignition on larger resin fires (blobs, drools, etc.)
Unsuitable Extinguishing Media for Safety Reasons:	Do not use a solid water stream as it may scatter and spread fire
Hazardous Decomposition Products:	Fire will produce dense black smoke containing hazardous combustion products carbon oxides hydrocarbons fragments traces of hydrogen cyanide (hydrocyanic acid) nitrogen oxides (NO _x)
Hazards from Combustion Products:	Fire will produce dense black smoke containing hazardous combustion products, carbon oxides, hydrocarbon fragments, hydrogen cyanide.
Special Protective Equipment for Firefighters:	In the event of fire, wear self-contained breathing apparatus (EU: NEN-EN137)
Specific Hazards:	Take precautionary measures against static discharges During processing, dust may form explosive mixture in air Thermal decomposition can lead to release of irritating gases and vapors

6. ACCIDENTAL RELEASE MEASURES

Clean up:	Sweep up and shovel into suitable containers for disposal. Do not create a powder cloud by using a brush or compressed air.
Personal Precautions:	See section 8.
Environmental Precautions:	Do not flush into surface water or sanitary sewer system. Material should not be released into the environment.

7. HANDLING AND STORAGE

Handling:	Handle in accordance with good industrial hygiene and safety practices. Provide for appropriate exhaust ventilation and dust collection at machinery. Avoid dust formation. All metal parts of the mixing and processing equipment must be earthed.
Storage:	Store in closed container in a dry and cool area. Keep away from heat sources and sources of ignition.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure limits:	No components with information, unless noted below
Chemical Name	Carbon black
France INRS (VME)	1333-86-4
Netherlands OEL - MAC	3.5 MGM3
UK EH40 MEL (TWA)	3.5 mg/m ³
Spain - Valores Limite Ambientales - VLE	WEL_TWA: 3.5 mg/m ³ ; WEL_STEL: 7 mg/m ³
Denmark TWA Data - Threshold Limit Values (TLV):	VLA-ED: 3.5 mg/m ³
Sweden Threshold Limit Values Data -	ANM: p_K ; GR: 3.5 mg/m ³
Portugal - TWAs	NGV: 3 MGM3 totaldamm
Norway Exposure Limit Values Data - Threshold Limit Value:	VLE-MP: 3.5 mg/m ³ ; NOT: A_4; FUND: Pulmão
Ireland Exposure Limit Values Data - Time Weighted Average (TWA):	KONS: 3.5 mg/m ³
Greece - OEL	TWA 3.5 mg/m ³ ; STEL 7 mg/m ³
Finland Exposure Limit Values Data - Time Weighted Average (TWA):	DT_1 3.5 mg/m ³ ; DT_2 7 mg/m ³
Italy - OEL	HTP_8: 3.5 mg/m ³ ; HTP_15: 7 mg/m ³
	3.5 mg/m ³

**SABIC Recommended Exposure Limits have been established for certain chemicals.*

Engineering Measures to Exposure:	In the case of hazardous fumes, wear self-contained breathing apparatus. Wear face-shield and protective suit for abnormal processing problems. Handle in accordance with good industrial hygiene and safety practice. Provide for appropriate exhaust ventilation at machinery.
Hand Protection:	Protective gloves should be worn. (EU: NEN-EN 374).
Eye Protection:	Safety glasses with side-shields. (EU: NEN-EN 165-166).
Respiratory Protection:	In the case of hazardous fumes, wear self contained breathing apparatus. In case of insufficient ventilation wear suitable respiratory equipment. (EU: NEN-EN149).
Body Protection:	Long sleeved clothing. (EU: NEN-EN 340-369-465).
Hygiene Measures:	When using, do not eat, drink or smoke.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State:	Solid
Appearance:	Pellets
Color:	Same as color code
Odor:	None
Melting point/range:	Various
Autoignition Temperature:	490 °C (914°F) estimated
Vapor Pressure:	Negligible
Water Solubility:	Insoluble
Evaporation Rate:	Negligible
Specific gravity:	>1; (water = 1)
VOC content (%):	Negligible
Explosive Limits	
upper:	Not determined
lower:	Not determined

10. STABILITY AND REACTIVITY

Stability:	Stable under ambient conditions. Hazardous polymerization does not occur.
Conditions to Avoid:	Avoid temperatures above 630°C. To avoid thermal decomposition, avoid elevated temperatures. Heating can result in the formation of gaseous decomposition products, some of which may be hazardous.
Hazardous Decomposition Products:	Traces of phenol, alkylphenols, hydrogen cyanide (hydrocyanic acid), nitrogen oxides (NOx), styrene, acrylates.
Incompatible Products:	Strong acids, strong oxidizing agents.

11. TOXICOLOGICAL INFORMATION

LD50/oral/rat:	>5000 mg/kg
LD50/dermal/rabbit:	>2000 mg/kg
Subchronic Toxicity:	No information available
Primary Irritation:	Substance does not generally irritate and is only mildly irritating to the skin
IARC:	Not listed
OSHA:	Not regulated
NTP:	Not tested

Remarks: The toxicological data has been taken from products of similar composition

Special Studies: Carbon Black: The International Agency for Research on Cancer (IARC) has determined that carbon black is a class 2B known animal and possible human carcinogen by the route of inhalation. Rats exposed to high doses of carbon black by inhalation developed statistically significant increases in lung fibrosis and lung tumors. Carbon Black: The scientific discussions about the carcinogenic potential of inorganic low solubility particles (fine dust) including carbon black has not been concluded. Many inhalation toxicologists believe the lung fibrosis and tumors that developed in rats following exposure to carbon black result from massive accumulation of small dust particles that overwhelm the clearance mechanism and produce what is termed "lung overload," an effect considered to be rat specific and not relevant to humans. In addition, based on epidemiological studies, no causal link between carbon black exposure and cancer risk in humans has been demonstrated.

12. ECOLOGICAL INFORMATION

Ecotoxicity Effects: Do not flush into surface water or sanitary sewer system.

Ecotoxicity - Invertebrate Data: Ecological damages are not known or expected under normal use.

Germany VCI (WGK): 0

13. DISPOSAL CONSIDERATIONS

Waste from residues / unused products: Where possible recycling is preferred to disposal or incineration. Dispose of in accordance with local regulations.

Contaminated Packaging: Empty containers should be transported/delivered using a registered waste carrier for local recycling or waste disposal.

EWC waste disposal no: 702 - waste from the manufacture, formulation, supply and use of plastics, synthetic rubber and man-made fibres.

14. TRANSPORT INFORMATION

Transport Classification: Not regulated as hazardous for shipment, unless noted below, under current transportation guidelines.

DOT

ADR/RID/ADN

IMDG

ICAO

IATA-DGR

15. REGULATORY INFORMATION

This substance is classified and labelled according to Annex I of Directive 67/548/EEC, as amended.

International Inventories:

TSCA (USA):	Listed
DSL (Canada):	Not listed - One or more components listed on NDSL
EINECS/ELINCS (Europe):	Listed
ENCS (Japan):	Not listed
IECSC (China):	Listed
KECL (Korea):	Not listed
PICCS (Philippines):	Not listed
AICS (Australia):	Not listed
NZIoC (New Zealand):	Listed
REACH Information:	For this product's REACH related information, please contact webinquiries@sabic-ip.com

Other Inventory Information:

A "Listed" entry above means all chemical components are on the respective inventory list and/or a qualifying exemption exists for one or more components. A "Not listed" entry above indicates one or more components is restricted from import or manufacture into that country/region. Articles are exempt from registration and are therefore not listed on the national chemical inventories.

SVHC (REACH Regulation (EC) No 1907/2006 and 453/2010, as amended):

This product does not intentionally contain SVHC chemicals except as noted below. Incidental amounts of impurities, if present, would be below the threshold limit of 0.1% by weight.

California Proposition 65:

Components in this product known to the State of California to cause cancer and/or reproductive effects, are listed below:

Chemical Name	Weight %	California Proposition 65:
Carbon black 1333-86-4	0.3-1.0	Listed: February 21, 2003 Carcinogenic. (airborne, unbound particles of respirable size)

RoHS EU Directive 2011/65/EU:

The subject product is in compliance with EU RoHS Directive 2011/65/EU. All below chemicals are not employed in the manufacture of the product: a.Cadmium and its compounds, b.Lead and its compounds, c.Mercury and its compounds, d.Hexavalent chromium compounds, e.Polybrominated biphenyls (PBBs), f.Polybrominated diphenyl ethers (PBDEs including Deca-BDE). The trace levels of heavy metals may be present as impurities within threshold limits (<0.1% for Pb, Hg, Cr VI, and <0.01% for Cd). We are disclosing this information, to the best of our knowledge, based upon data from our raw material manufacturers.

16. OTHER INFORMATION

Full text of H-Statements referred to under sections 2 and 3

H332 - Harmful if inhaled
H302 - Harmful if swallowed
H319 - Causes serious eye irritation
H335 - May cause respiratory irritation
H315 - Causes skin irritation

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SDS Scope:

Europe: Conforms to Regulation (EC) No. 1907/2006 (REACH), Annex II, as amended by Regulation (EU) No. 453/2010.
This document is also applicable in other countries and regions.

Prepared by: Product Stewardship & Toxicology

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End of Safety Data Sheet