

1. Product and company identification

Product identifier

Trade name: 616XXX - Carbon Fiber

This safety data sheet pertains to the following products:

Article No. 616G12 - Carbon Fiber Cloth

Article No. 616G15 - Woven Carbon Fiber Stockinette

Recommended use and restrictions on use

General use: Article: carbon-fibers. For orthopedic procedures
Reserved for industrial and professional use.

Initial supplier identifier

Company name: Otto Bock HealthCare Canada Ltd.

Street/POB-No.: 5470 Harvester Road

Postal Code, city: Burlington, ON L7L 5N5, CA

Canada

WWW: www.ottobock.ca

E-mail: info.canada@ottobock.com

Telephone: (800) 665-3327

Telefax: (800) 463-3659

Department responsible for information:

Mark Agro, Telephone: (800) 665-3327 (9 am - 5 pm)

Additional information: Corporate headquarters:
Ottobock SE & Co. KGaA
Max-Näder-Straße 15
Duderstadt
Germany

Emergency phone number

COLLECT, Telephone: (613) 996-6666

Transport:

CONSULTANK Lutz Harder GmbH (Contract QUALI003)

Telephone: +49 (0)178-4337434 (from USA: 01149 178 4337434)

2. Hazards identification

Emergency overview

Appearance: Form: solid
Color: gray up to black

Odor: odorless

Classification: Article not subject to hazard labeling or classification.

Regulatory status

This material is not considered hazardous by the U.S. OSHA Hazard Communication Standard (29 CFR 1910.1200) and WHMIS in Canada.

Hazards not otherwise classified

Processing, e.g. by cutting, sawing or grinding, can produce particles and dust. For risks which have to be observed thereby, see section 7: Handling, section 8: Exposure controls / personal protection and section 11: Toxicology.

Carbon Fiber is electrically conductive. It can cause short circuits within electrical equipment, if material dusts penetrate into the ambient air.

The product in the delivered form is not dust explosion capable; the enrichment of fine dust however leads to the danger of dust explosion.

see section 11: Toxicological information

3. Composition / Information on ingredients

Chemical characterisation: Carbon fibers >95%, Fibers: not respirable

4. First aid measures

General information: For mechanical processing: dust formation.

In case of inhalation: In case of troubles after inhalation of dust:
Move victim to fresh air. Seek medical attention.

Following skin contact: Dust:
Remove residues with soap and water. Seek medical treatment in case of troubles.

After eye contact: Dust:
Immediately flush eyes with plenty of flowing water for 10 to 15 minutes holding eyelids apart. Subsequently consult an ophthalmologist.

After swallowing: Ingestion is not considered a possible route of exposure.
Dust:
Rinse mouth and drink large quantities of water. Seek medical attention if problems persist.

Most important symptoms and effects, both acute and delayed

For mechanical processing: mild irritant

Information to physician

Treat symptomatically.

5. Fire fighting measures

Flash point/flash point range:

No data available

Auto-ignition temperature: No data available

Suitable extinguishing media:

Water spray jet, foam, extinguishing powder, carbon dioxide.

Extinguishing media which must not be used for safety reasons:

Full water jet.

Specific hazards arising from the chemical

In case of fire may be liberated: carbon monoxide and carbon dioxide.

Special protective equipment and precautions for fire-fighters:

Wear a self-contained breathing apparatus and chemical protective clothing.

6. Accidental release measures

Personal precautions:	Avoid generation of dust. Provide adequate ventilation. In the case of the formation of dust: Eliminate all ignition sources if safe to do so. Do not breathe dust. Ensure adequate ventilation, especially in confined areas. Wear protective equipment. Avoid contact with skin and eyes.
Environmental precautions:	Discharge into the environment must be avoided.
Methods for clean-up:	Take up mechanically, placing in appropriate containers for disposal.

7. Handling and storage

Handling

Advices on safe handling:	For mechanical processing: Provide adequate ventilation. Avoid generation of dust. Wear protective equipment. The use of local exhaust ventilation is recommended. Do not breathe dust. Avoid contact with skin and eyes.
Precautions against fire and explosion:	Fine dust: danger of dust explosion. Carbon Fiber is electrically conductive. It can cause short circuits within electrical equipment, if material dusts penetrate into the ambient air.

Storage

Requirements for storerooms and containers:	Store at room temperature. Keep away from heat.
Hints on joint storage:	Do not store together with oxidizing agents. Keep away from food, drink and animal feedingstuffs.

8. Exposure controls / personal protection

Exposure guidelines

Occupational exposure limit values:

Type	Limit value
Canada: OEL 8 hour	10 mg/m ³ (Dust limit value, inhalable fraction)
Canada: OEL 8 hour	3 mg/m ³ (Dust limit value, respirable fraction)
Canada: OEL TWA	10 mg/m ³ (Dust limit value, inhalable fraction)
Canada: OEL TWA	3 mg/m ³ (Dust limit value, respirable fraction)
Canada: VEMP	10 mg/m ³ (total dust)
Canada: VEMP	3 mg/m ³ (total dust, respirable fraction)
USA: ACGIH: TWA	10 mg/m ³ (Dust limit value, inhalable fraction)
USA: ACGIH: TWA	3 mg/m ³ (Dust limit value, respirable fraction)
USA: OSHA: TWA	15 mg/m ³ (Dust limit value, total dust)
USA: OSHA: TWA	5 mg/m ³ (Dust limit value, respirable fraction)

Engineering controls

For mechanical processing: Provide adequate ventilation.

The use of local exhaust ventilation is recommended.

See also information in chapter 7, section storage.

Personal protection equipment (PPE)

Eye/face protection:	For mechanical processing: Tightly sealed goggles according to OSHA Standard - 29 CFR: 1910.133 or ANSI Z87.1-2010. If necessary: Wear face protective shield.
Skin protection:	For mechanical processing: Wear suitable protective clothing. For mechanical processing: Protective gloves according to OSHA Standard - 29 CFR: 1910.138 Observe glove manufacturer's instructions concerning penetrability and breakthrough time.
Respiratory protection:	For mechanical processing: Respiratory protection must be worn whenever the TLV (WEL) levels have been exceeded. Particulates filter P2 according to OSHA Standard - 29 CFR: 1910.134 or ANSI Z88.2.
General hygiene considerations:	Avoid generation of dust. Do not breathe dust. Wash hands before breaks and after work.

Environmental exposure controls

Refer to 6.: Section "Environmental precautions".

9. Physical and chemical properties

Information on basic physical and chemical properties

Appearance:	Form: solid Color: gray up to black
Odor:	odorless
Odor threshold:	No data available
pH:	No data available
Melting point/freezing point:	No data available
Initial boiling point and boiling range:	No data available
Flash point/flash point range:	No data available
Evaporation rate:	No data available
Flammability:	No data available
Explosion limits:	No data available
Vapor pressure:	No data available
Vapor density:	No data available
Density:	at 20 °C: 1.7 - 2 g/cm ³
Water solubility:	at 20 °C: carbon fibers: insoluble
Partition coefficient: n-octanol/water:	No data available
Auto-ignition temperature:	No data available
Thermal decomposition:	Carbon fibers: > 650 °C
Ignition temperature:	350 °C

10. Stability and reactivity

Reactivity:	Refer to 10.3.
Chemical stability:	Stable under recommended storage conditions.
Possibility of hazardous reactions:	<p>Fine dust: danger of dust explosion.</p> <p>Carbon Fiber is electrically conductive. It can cause short circuits within electrical equipment, if material dusts penetrate into the ambient air.</p>
Conditions to avoid:	Avoid generation of dust. Keep away from heat.
Incompatible materials:	Strong oxidizing agents
Hazardous decomposition products:	In case of fire may be liberated: carbon monoxide and carbon dioxide.
Thermal decomposition:	Carbon fibers: > 650 °C

11. Toxicological information

Toxicological tests

Toxicological effects:	Acute toxicity (oral): Lack of data.
	Acute toxicity (dermal): Lack of data.
	Acute toxicity (inhalative): Lack of data.
	Skin corrosion/irritation: Lack of data.
	Serious eye damage/irritation: Lack of data.
	Sensitisation to the respiratory tract: Lack of data.
	Skin sensitisation: Lack of data.
	Germ cell mutagenicity/Genotoxicity: Lack of data.
	Carcinogenicity: Lack of data.
	Reproductive toxicity: Lack of data.
	Effects on or via lactation: Lack of data.
	Specific target organ toxicity (single exposure): Lack of data.
Other information:	Specific target organ toxicity (repeated exposure): Lack of data.
	Aspiration hazard: Lack of data.
Other information:	Fibers: not respirable

Symptoms

For mechanical processing: mild irritant

12. Ecological information

Ecotoxicity

Effects in sewage plants:	The insoluble part can be precipitated mechanically in suitable sewage treatment plants.
Further details:	No data available

Mobility in soil

No data available

Persistence and degradability

Further details: No data available

Additional ecological information

General information: Discharge into the environment must be avoided.

13. Disposal considerations

Product

Recommendation: Incinerate according to applicable local, state and federal regulations.

Package

Recommendation: Dispose of waste according to applicable legislation.
Non-contaminated packages may be recycled.

14. Transport information

UN number

ADR/RID, IMDG, IATA-DGR:
not applicable

UN proper shipping name

ADR/RID, IMDG, IATA-DGR:
Not restricted

Transport hazard class(es)

ADR/RID, IMDG, IATA-DGR:
not applicable

Packing group

ADR/RID, IMDG, IATA-DGR:
not applicable

Environmental hazards

Marine pollutant: no

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

No data available

USA: Department of Transportation (DOT)

Proper shipping name: Not restricted

Canada: Transportation of Dangerous Goods (TDG)

Shipping name: Not restricted

Sea transport (IMDG)

Proper shipping name:: Not restricted
Marine pollutant: no

Air transport (IATA)

Proper shipping name:: Not restricted

Further information

No dangerous good in sense of these transport regulations.

15. Regulatory information

National regulations - Canada

No data available

National regulations - U.S. Federal Regulations

This product is an article as defined by TSCA regulations, and is exempt from TSCA inventory listing requirements.

National regulations - U.S. State Regulations

No data available

16. Other information

Hazard rating systems:



NFPA Hazard Rating:

Health: 1 (Slight)
Fire: 1 (Slight)
Reactivity: 0 (Minimal)

HMIS Version III Rating:

Health: 1 (Slight)
Flammability: 1 (Slight)
Physical Hazard: 0 (Minimal)
Personal Protection: X = Consult your supervisor

HEALTH	1
FLAMMABILITY	1
PHYSICAL HAZARD	0
	X

Abbreviations and acronyms:

ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
 ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road
 AS/NZS: Australian Standards/New Zealand Standards
 CAS: Chemical Abstracts Service
 CFR: Code of Federal Regulations
 CLP: Classification, Labelling and Packaging
 DMEL: Derived minimal effect level
 DNEL: Derived no-effect level
 EC: European Community
 EmS: Emergency Response Procedures for Ships Carrying Dangerous Goods
 EN: European Standard
 EQ: Excepted quantities
 IATA: International Air Transport Association
 IATA-DGR: International Air Transport Association – Dangerous Goods Regulations
 IBC Code: International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk
 IMDG Code: International Maritime Dangerous Goods Code
 IMO: International Maritime Organization
 MARPOL: Maritime Pollution: The International Convention for the Prevention of Pollution from Ships
 MFSU: Manufacture, formulation, supply and use
 OEL: Occupational Exposure Limit Value
 OSHA: Occupational Safety and Health Administration
 PBT: Persistent, bioaccumulative and toxic
 PNEC: Predicted no-effect concentration
 RID: Regulations Concerning the International Carriage of Dangerous Goods by Rail
 TLV: Threshold Limit Value
 TRGS: Technical Rules for Hazardous Substances
 TSCA: Toxic Substance Control Act
 vPvB: Very persistent and very bioaccumulative
 WEL: Workplace Exposure Limit
 WHMIS: Workplace Hazardous Materials Information System

Reason of change: Changes in section 8: Occupational exposure limit values

Date of first version: 13/6/2007

Department issuing data sheet

Contact person: see section 1: Department responsible for information

The information in this data sheet has been established to our best knowledge and was up-to-date at time of revision. It does not represent a guarantee for the properties of the product described in terms of the legal warranty regulations.