

616XXX - Carbon Fiber

Material number 616XXX

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1. Product and company identification**Product identifier**

Trade name: 616XXX - Carbon Fiber

Relevant identified uses of the substance or mixture and uses advised againstGeneral use: Article: carbon-fibers. For orthopedic procedures
Reserved for industrial and professional use.**Details of the supplier of the safety data sheet**Company name: Otto Bock Health Care
Street/POB-No.: 3820 W. Great Lakes Drive
Postal Code, city: Salt Lake City, UT 84120
USAWWW: www.ottobockus.com

Telephone: +1 (801) 956-2400

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Dept. responsible for information:

Quality Department,
Telephone: +1 (801) 954-2304 (7 AM – 3 PM, Mountain Time),
Email: USRegulatory@ottobock.com

Additional information: This safety data sheet pertains to the following products:

Article No. 616G12 - Carbon Fiber Cloth

Article No. 616G15 - Woven Carbon Fiber Stockinette

Corporate headquarters:

Ottobock SE & Co. KGaA

Max-Näder-Straße 15

Duderstadt

Germany

Emergency phone number**CHEMTREC, Telephone: +1 (800) 424-9300****2. Hazards identification****Emergency overview**Appearance: Form: solid
Color: gray up to black

Odor: odorless

Classification: This material is classified as not hazardous.

Regulatory status

This material is not considered hazardous by the U.S. OSHA Hazard Communication Standard (29 CFR 1910.1200) and SIMDUT 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 characterization: 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: Swallowing is not regarded as a possible way of exposition.
Dust:
Rinse mouth and drink large quantities of water. Seek medical attention if problems persist.

Most important symptoms/effects, 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, dry chemical 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.

Protective equipment and precautions for firefighters:

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
USA: ACGIH: TWA	10 mg/m ³
USA: ACGIH: TWA	3 mg/m ³
USA: OSHA: TWA	15 mg/m ³
USA: OSHA: TWA	5 mg/m ³

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.

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 value: 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 68 °F: 1.7 - 2 g/cm³

Water solubility: at 68 °F: 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: 662 °F

10. Stability and reactivity

Reactivity: No data available.

Chemical stability: Stable under recommended storage conditions.

Possibility of hazardous reactions
 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.

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.
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.

Contaminated packaging

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

14. Transport information

USA: Department of Transportation (DOT)

Proper 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 - U.S. Federal Regulations

Carbon fibers: TSCA Inventory: listed
TSCA HPVC: not listed
NIOSH Recommendations:
Occupational Health Guideline:
0307

National regulations - Great Britain

Hazchem-Code: -

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

Reason of change: Changes in section 1.3: Corporate headquarters

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SAFETY DATA SHEET

in accordance with 29 CFR 1910.1200 and ANSI standard Z400.1-2010

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Department issuing data sheet

Contact person: see section 1: Dept. 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.