

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

1.1 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

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

General use: Article: carbon-fibres. For orthopaedic procedures
Reserved for industrial and professional use.

1.3 Details of the supplier of the safety data sheet

Company name: Ottobock SE & Co. KGaA

Street/POB-No.: Max-Näder-Straße 15

Postal Code, city: 37115 Duderstadt

Germany

E-mail: export@ottobock.de

Telephone: +49 (0)5527 848-0

Telefax: +49 (0)5527 72330

Department responsible for information:

Arbeitssicherheit, Telephone: 05527-848-0, e-mail: Arbeitssicherheit@ottobock.de

Only available during office hours.

1.4 Emergency telephone number

Telephone: +49 (0)5527 848-0

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Article not subject to hazard labelling or classification.

2.2 Label elements

Labelling (CLP)

not applicable

2.3 Other hazards

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.

Endocrine disrupting properties, Results of PBT and vPvB assessment:

No data available

SECTION 3: Composition/information on ingredients

3.1 Substances: not applicable

3.2 Mixtures

Chemical characterisation: Carbon fibres >95%, Fibres: not respirable

SECTION 4: First aid measures

4.1 Description of 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.

4.2 Most important symptoms and effects, both acute and delayed

For mechanical processing: mild irritant

4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media: Water spray jet, foam, extinguishing powder, carbon dioxide.

Extinguishing media which must not be used for safety reasons:

Full water jet.

5.2 Special hazards arising from the substance or mixture

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

5.3 Advice for firefighters

Special protective equipment for firefighters:

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

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

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.

6.2 Environmental precautions

Discharge into the environment must be avoided.

6.3 Methods and material for containment and cleaning up

Take up mechanically, placing in appropriate containers for disposal.

6.4 Reference to other sections

Refer additionally to section 8 and 13.

SECTION 7: Handling and storage

7.1 Precautions for safe 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.

7.2 Conditions for safe storage, including any incompatibilities

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.

7.3 Specific end use(s)

No information available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Additional information: Contains no substances with occupational exposure limit values.

8.2 Exposure controls

For mechanical processing: Provide adequate ventilation.
The use of local exhaust ventilation is recommended.

Personal protection equipment

Occupational exposure controls

Respiratory protection: For mechanical processing:
Respiratory protection must be worn whenever the WEL levels have been exceeded.
Particulates filter P2 according to EN 143.
Hand protection: For mechanical processing:
Protective gloves according to EN 388
Observe glove manufacturer's instructions concerning penetrability and breakthrough time.
Eye protection: For mechanical processing:
Tightly sealed goggles according to BS EN ISO 16321-1:2022.
If necessary: Wear face protective shield.
Body protection: For mechanical processing: Wear suitable protective clothing.
General protection and hygiene measures:
Avoid generation of dust. Do not breathe dust.
Wash hands before breaks and after work.

Environmental exposure controls

Refer to "6.2 Environmental precautions".

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state at 20 °C and 101.3 kPa	Form: solid
Colour:	grey up to black
Odour:	odourless
Odour threshold:	No data available
Melting point/freezing point:	No data available
Initial boiling point and boiling range:	No data available
Flammability:	No data available
Upper/lower flammability or explosive limits:	No data available
Flash point/flash point range:	No data available
Auto-ignition temperature:	350 °C
Decomposition temperature:	Carbon fibres: > 650 °C
pH:	No data available
Viscosity, kinematic:	No data available
Water solubility:	at 20 °C: carbon fibres: insoluble
Partition coefficient: n-octanol/water:	No data available
Vapour pressure:	No data available
Density:	at 20 °C: 1.7 - 2 g/cm ³
Vapour density:	No data available
Particle characteristics:	Not applicable

9.2 Other information

Explosive properties:	No data available
Oxidizing characteristics:	No data available
Auto-ignition temperature:	No data available
Evaporation rate:	No data available

SECTION 10: Stability and reactivity

10.1 Reactivity

Refer to 10.3.

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 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.

10.4 Conditions to avoid

Avoid generation of dust. Keep away from heat.

10.5 Incompatible materials

Strong oxidizing agents

10.6 Hazardous decomposition products

Thermal decomposition:	In case of fire may be liberated: carbon monoxide and carbon dioxide. Carbon fibres: > 650 °C
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SECTION 11: Toxicological information

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

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.

11.2 Information on other hazards

Endocrine disrupting properties: No data available

Other information: Fibres: not respirable

Symptoms

For mechanical processing: mild irritant

SECTION 12: Ecological information

12.1 Toxicity

Further details: No data available

12.2 Persistence and degradability

Further details: No data available

Effects in sewage plants: The insoluble part can be precipitated mechanically in suitable sewage treatment plants.

12.3 Bioaccumulative potential

Partition coefficient: n-octanol/water:
No data available

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

No data available

12.6 Endocrine disrupting properties

No data available

12.7 Other adverse effects

General information: Discharge into the environment must be avoided.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product

Waste key number: 07 02 99 = Wastes from the MFSU of plastics, synthetic rubber and man-made fibres.
MFSU = manufacture, formulation, supply and use

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.

SECTION 14: Transport information

14.1 UN number or ID number

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

14.2 UN proper shipping name

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

14.3 Transport hazard class(es)

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

14.4 Packing group

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

14.5 Environmental hazards

Dangerous for the environment: Substance/mixture is not environmentally hazardous
according to the criteria of the UN model regulations.

Marine pollutant: no

14.6 Special precautions for user

No dangerous good in sense of these transport regulations.

14.7 Maritime transport in bulk according to IMO instruments

No data available

SECTION 15: Regulatory information

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

National regulations - EC member states

Further regulations, limitations and legal requirements:
No data available

15.2 Chemical Safety Assessment

For this substance a chemical safety assessment is not required.

SECTION 16: Other information

Reason of change: General revision

Date of first version: 27/6/2007

Department issuing data sheet: **see section 1: Department responsible for information**

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
- EN: European Standard
- EQ: Excepted quantities
- EU: European Union
- 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
- 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
- REACH: Registration, Evaluation, Authorisation and Restriction of Chemicals
- 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

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.