

## 616x - Carbon Fiberglass Textile Material

Material number 616x

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### 1. Product and company identification

#### Product identifier

Trade name: 616x - Carbon Fiberglass Textile Material

This safety data sheet pertains to the following products:

616H11 - Carbon Fiberglass Webbing

616G14 - Woven Carbon Fiberglass Stockinette

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

General use: Article: carbon/glass-textile material 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  
USA

WWW: [www.ottobockus.com](http://www.ottobockus.com)

Telephone: +1 (801) 956-2400

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Department responsible for information:

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

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

#### Emergency phone number

CHEMTREC, Telephone: +1 (800) 424-9300

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: black and whitish  
Odor: odorless

Classification: Article not subject to hazard labelling or classification.

Precautionary statements: Avoid breathing dust.

### Regulatory status

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

### 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.  
see section 11: Toxicological information

## 3. Composition / Information on ingredients

Chemical characterization: Carbon/glass-fibers: > 95% (Carbonfibers on the basis of polyacrylonitrile)

CAS-Number: -

Relevant ingredients:

CAS No.	Designation	Concentration	Classification
CAS 25068-38-6	Bisphenol A epoxy resin (molecular-weight < 700)	< 1 %	Skin Irritation - Category 2. Eye Irritation - Category 2A. Sensitization - skin - Category 1. Aquatic toxicity - chronic - Category 2.

## 4. First aid measures

General information:	For mechanical processing: dust formation.
In case of inhalation:	Provide fresh air. Rinse mouth thoroughly with water. Seek medical treatment in case of troubles.
Following skin contact:	Remove residues with soap and water. Avoid rubbing. Fibers may penetrate deeper into the skin by rubbing. In the event of persistent symptoms seek medical treatment.
After eye contact:	Immediately flush eyes with plenty of flowing water for 10 to 15 minutes holding eyelids apart. In case of troubles or persistent symptoms, consult an ophthalmologist.
After swallowing:	Rinse mouth thoroughly with water. Give affected person large quantities of water, better milk. Seek medical attention. Subsequent observance for Obstructing of the bowel/intestines.

### Most important symptoms/effects, acute and delayed

Fibers and dust: Skin irritation, mucous membrane irritation, eye irritations.  
May produce an allergic reaction.

### 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 self-contained breathing apparatus.

Additional information:

You have to dispose of contaminated extinguishing water according to the regulations of the authorities.

### 6. Accidental release measures

Personal precautions:

Provide adequate ventilation.

Avoid generation of dust. Wear suitable protective clothing.

Environmental precautions:

Discharge into the environment must be avoided.

Methods for clean-up:

Take up mechanically, placing in appropriate containers for disposal. Final cleaning.

### 7. Handling and storage

#### Handling

Advices on safe handling:

For mechanical processing:

Provide adequate ventilation. Avoid generation of dust.

Wear suitable protective clothing. The use of local exhaust ventilation is recommended.

Precautions against fire and explosion:

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

Specific use(s)

Article: carbon/glass-textile material for orthopedic procedures.

#### Storage

Requirements for storerooms and containers:

Store at room temperature. (< 50 °C)

Protect from moisture contamination. (< 85 %)

Hints on joint storage:

Do not store together with oxidizing agents.

### 8. Exposure controls / personal protection

#### Exposure guidelines

Occupational exposure limit values:

CAS No.	Designation	Type	Limit value
-	616x - Carbon Fiberglass Textile Material	USA: ACGIH: TWA	10 mg/m <sup>3</sup> (Dust limit value, inhalable fraction)
		USA: ACGIH: TWA	3 mg/m <sup>3</sup> (Dust limit value, respirable fraction)
		USA: OSHA: TWA	15 mg/m <sup>3</sup> (Dust limit value, total dust)
		USA: OSHA: TWA	5 mg/m <sup>3</sup> (Dust limit value, respirable fraction)
65997-17-3	Glass fibers	USA: ACGIH: TWA	1 fibers/cm <sup>3</sup> (Synthetic vitreous fibres, Continuous filament glass fibres)
		USA: ACGIH: TWA	5 mg/m <sup>3</sup> (Synthetic vitreous fibres, Continuous filament glass fibres, inhalable fraction)
		USA: NIOSH: TWA	3 fibers/cm <sup>3</sup>
		USA: NIOSH: TWA	5 mg/m <sup>3</sup> (glass wool, fiberglass, glass fibers)

Additional information: This limit values shall be applied in the case of formation of critical WHO-fibres by mechanical processing.

#### 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.

Skin protection: For mechanical processing: Wear suitable protective clothing.  
For machine processing:  
Protective gloves against mechanical risks according to OSHA Standard - 29 CFR: 1910.138  
In case of manual processing:  
Protective gloves according to OSHA Standard - 29 CFR: 1910.138.  
Glove material: butyl caoutchouc (butyl rubber)-Breakthrough time: >480 min.  
Observe glove manufacturer's instructions concerning penetrability and breakthrough time.

Respiratory protection: For mechanical processing:  
Half mask with particle filter 1 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.  
Avoid rubbing. Fibers may penetrate deeper into the skin by rubbing.  
Remove fibers and/or dust from working clothes using a vacuum cleaner  
Glass fibers-dust:  
Avoid contact with skin and eyes.

### 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: black and whitish
Odor:	odorless
Odor threshold:	No data available
pH:	No data available
Melting point/freezing point:	Carbon: approx. 6332 °F
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 - 2.6 g/cm <sup>3</sup>
Water solubility:	at 68 °F: glass/carbon fibers: insoluble
Partition coefficient: n-octanol/water:	No data available
Auto-ignition temperature:	No data available
Thermal decomposition:	Carbon fibers: > 650 °C Coating agent: > 290 °C
Ignition temperature:	Carbon: 662 °F

## 10. Stability and reactivity

Reactivity:	No data available
Chemical stability:	Stable under recommended storage conditions. Glass fibers: not combustible
Possibility of hazardous reactions:	Carbon Fiber is electrically conductive. It can cause short circuits within electrical equipment, if material dusts penetrate into the ambient air.
Conditions to avoid:	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

Coating agent: > 290 °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: For mechanical processing:

Possible in traces: formation of WHO-fibers

Definition WHO-fibers: length (L) > 5 µm and diameter (D) < 3 µm and L:D > 3:1

classification WHO-fibers: Causes concern for man owing to possible carcinogenic effects. Should be regarded as if they are carcinogenic to man.

### Symptoms

Fibers and dust: Skin irritation, mucous membrane irritation, eye irritations.

May produce an allergic reaction.

## 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: Glass fibers: Product is not biodegradable.

### 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

### 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

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

#### National regulations - Canada

Bisphenol A epoxy resin (molecular-weight < 700): DSL: listed

#### National regulations - Great Britain

Hazchem-Code: -

### 16. Other information

Text for labeling:

Hazard rating systems:



See information supplied by the manufacturer.

#### 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  
Aquatic toxicity - chronic: Hazardous to the aquatic environment - chronic  
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  
Eye Irritation: Eye irritation  
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  
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  
Sensitization - skin: Skin sensitisation  
Skin Irritation: Skin irritation  
TRGS: Technical Rules for Hazardous Substances  
TSCA: Toxic Substance Control Act  
vPvB: Very persistent and very bioaccumulative  
WHO: World Health Organization





# SAFETY DATA SHEET

according to 29 CFR 1910.1200 and ANSI standard Z400.1-2010

## 616x - Carbon Fiberglass Textile Material

Material number 616x

Revision date: 5/23/2025  
Version: 9.3  
Replaces version: 9.2  
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Literature: IARC Vol 81, 23.08.2002 Man-made Vitreous Fibres  
TRGS 905, 05/2008 Verzeichnis krebserzeugender, erbgutverändernder oder  
fortpflanzungsgefährdender Stoffe

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

Date of first version: 1/3/2008

### 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.