

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

Relevant identified uses of the substance or mixture and uses advised againstGeneral 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
USAWWW: www.ottobockus.com

Telephone: +1 (801) 956-2400

Telefax: +1 (801) 956-2401

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:

616H11 - Carbon Fiberglass Webbing
616G14 - Woven Carbon Fiberglass 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: black and whitish
Odor: odorless
Classification: This material is classified as not hazardous.

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) 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.
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	Content	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 ³
		USA: ACGIH: TWA	3 mg/m ³
		USA: OSHA: TWA	15 mg/m ³
		USA: OSHA: TWA	5 mg/m ³
65997-17-3	Glass fibers	USA: ACGIH: TWA	1 fibers/cm ³
		USA: ACGIH: TWA	5 mg/m ³
		USA: NIOSH: TWA	3 fibers/cm ³
		USA: NIOSH: TWA	5 mg/m ³

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Additional information: This limit values shall be applied in the case of formation of critical WHO-fibers 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.

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 value: 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/cm³
- Water solubility: at 68 °F: glass/carbon fibers: insoluble

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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.

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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.

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

Glass fibers: TSCA Inventory: listed; UVCB
 TSCA HPVC: not listed

Bisphenol A epoxy resin (molecular-weight < 700): TSCA Inventory: listed; EPA flags XU
 TSCA HPVC: not listed

National regulations - Great Britain

Hazchem-Code: -

16. Other information

Text for labeling: See information supplied by the manufacturer.

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

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 1.3: Corporate headquarters

Date of first version: 1/3/2008

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.