

SAFETY DATA SHEET

Tenax®-A Continuous Chopped or Milled Carbon Fibers (Unsize)

SDS NO. 0501 Rev E

EFFECTIVE DATE: 10/1/13

1. IDENTIFICATION OF THE SUBSTANCE AND OF THE COMPANY

Product: Tenax®-A continuous, chopped or Milled carbon fibers with **NO** sizing (surface finish)

Registration number: Not applicable

Use: None specified

Identified use: None specified

Method of operation: See product information.

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Relevant Use: Continuous or Chopped Carbon Fiber Filament with Surface Treatment

Uses advised against: None Known

Method of operation: See product information.

2. HAZARD(S) IDENTIFICATION

Overview: In supplied form the product is not hazardous. When handled and processed can cause skin, eye and respiratory tract irritation

Primary Routes of Exposure: Eye – Yes, Skin – Yes, Inhalation – Yes, Ingestion – No

HMIS Rating: Health – 1, Flammability – 0, Reactivity – 0, Special – NONE

Hazard symbols:



R36/37/38: [Irritating](#) to eyes, [respiratory](#) system and skin.

S36/37/39: Wear suitable [protective clothing, gloves and eye/face protection](#).

Human health dangers: Possible irritant to the skin, eyes and respiratory tract when processed

3. COMPOSITION / INFORMATION ON INGREDIENTS

<u>Name</u>	<u>CAS</u>	<u>% WT</u>	<u>OSHA PEL</u> <u>TWA</u>	<u>ACGIH</u> <u>TLV TWA</u>	<u>SARA</u>
Carbon Fiber (derived from polyacrylonitrile)	7440-44-0	>=95%	N/A	N/A	No

Comment on component parts: No dangerous components.

4. FIRST AID MEASURES

General information: Not applicable

Inhalation:

Ensure supply of fresh air.

Skin contact:

Supply with medical care. Consult a doctor if skin irritation persists.

Eye contact:

In case of contact with eyes rinse thoroughly with plenty of water and seek medical advice.

Ingestion:

Supply with medical care.

Advice to doctor:

Treat symptomatically

5. FIRE FIGHTING MEASURES

Flash Point: N/A

LEL: N/A

UEL: N/A

Suitable extinguishing media:

Dry powder

Extinguishing media that must not be used:

Full water jet

Special exposure hazards arising from the substance or preparation itself or combustion products:

Carbon monoxide (CO); Nitrogen oxides (NOx).

Special protective equipment for firefighters:

Do not inhale combustion gases. Use self-contained breathing apparatus.

Additional information:

Fire residues and contaminated firefighting water must be disposed of in accordance with local regulations.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions: Not applicable

Environmental precautions:

Dust deposits should not be allowed to accumulate on surfaces as they may form an explosive mixture if they are released into the atmosphere in sufficient concentrations during processing. Avoid dust generation during processing, i.e. cleaning of surfaces with compressed air.

Methods for cleaning up: Take up mechanically. Dispose of absorbed material in accordance within the regulations.

7. HANDLING AND STORAGE

Advice on safe handling:

No special measures necessary if used correctly.

Advice on protection against fire and explosion:

Dust can form an explosive mixture with air. Keep away from sources of ignition. Dust deposits should not be allowed to accumulate on surfaces as they may form an explosive mixture if they are released into the atmosphere in sufficient concentrations during processing. Avoid dust generation during processing, i.e. cleaning of surfaces with compressed air. Hazard analysis should be completed to identify the need for process precautions related electrical bonding and grounding.

Requirements for storage rooms and vessels:

No special measures necessary.

Advice on storage compatibility:

Do not store together with oxidizing agents.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Additional advice on system design:

Ensure adequate ventilation on workstation. If dust handling systems are used they should be designed in a manner to prevent the escape of dust into the work area.

Respiratory protection:

Breathing apparatus in the event of high concentrations. short term: filter apparatus, filter N95. Dust may produce mechanical irritation to the mucus membranes of the nose, throat and upper respiratory tract.

Hand protection:

Butyl rubber, > 120 min (EN 374)

Eye protection:

Safety glasses

Skin protection:

Mechanical irritation accompanied by itching or dermal effects may occur from exposure to material. Clean room type clothing that is a light weight fabric and is well ventilated and prevents the transfer of dust. Consider taping at the wrist and ankle areas to control contact with exposed areas. PPE hazard analysis based on user process should be completed.

General protective measures:

Avoid contact with eyes. Do not inhale dust.

Hygiene measures:

Wash hands before breaks and after work. Use barrier skin cream.

Delimitation and monitoring of the environmental exposition:

Not determined

9. PHYSICAL AND CHEMICAL PROPERTIES

Form: Fiber
Color: Black
Odor: Odorless
pH-value [1%]: Not applicable
pH-value: Not applicable
Boiling point [°C]: Not applicable
Flash point [°C]: Not applicable
Flammability [°C]: Not applicable
Lower explosion limit: Not applicable
Upper explosion limit: Not applicable
Oxidizing properties: None
Vapor pressure [kPa]: Not applicable
Density at [°C]: 20
Density [g/ml]: 1.7 – 1.90 (carbon density)
Bulk density [kg/m³]: Not applicable
Solubility in water: Insoluble
Partition coefficient [n-octanol/water]: Not applicable
Viscosity: Not applicable
Relative vapor density determined in air: Not applicable
Evaporation speed: Not applicable
Melting point [°C]: ca. 3500
Auto ignition temperature: Not applicable
Decomposition temperature: > 650 (in air), preparation > 290
Electrically Conductivity: Yes

10. STABILITY AND REACTIVITY

Hazardous reactions:

Reactions with strong oxidizing agents. Accumulation of fine dust may entail the risk of a dust explosion in the presence of air. The fine dust from a carbon fiber compound or composite that is cut or formed can create additional dust explosion risk depending on the resin or compounding agent. A process hazard analysis is recommended to determine what, if any, risks are present.

Hazardous decomposition products:

No hazardous decomposition products will be formed during normal usage of carbon fiber. Complete or partial combustion of the surface coating on “sized” carbon fiber may generate COx, NOx, and / or other trace chemicals.

11. TOXICOLOGICAL INFORMATION

Acute oral toxicity: not determined
Acute dermal toxicity: not determined
Acute inhalational toxicity: not determined
Irritant effect on eye: not determined
Irritant effect on skin: not determined
Sensitization: not determined
Subacute toxicity: not determined
Chronic toxicity: not determined
Mutagenicity: not determined
Reproduction toxicity: not determined
Carcinogenicity: not determined
Experiences made in practice: Fiber abrasion can cause mechanical skin irritation.

12. ECOLOGICAL INFORMATION

Fish toxicity: Not applicable
Daphnia toxicity: Not applicable
Behavior in environment compartments: not determined
Behavior in sewage plant: Not applicable
Bacteria toxicity: not determined
Biological degradability: Not applicable
COD: not determined
BOD 5: not determined
AOX-advice: No dangerous components.
General information: Ecological data are not available.

13. DISPOSAL CONSIDERATIONS

Product:

For recycling, consult manufacturer or recycling, consult waste disposal centers.

EU Waste Number:

160306, 061399

Contaminated packaging:

Packaging that cannot be cleaned should be disposed of as for product. Uncontaminated packaging may be taken for recycling.

EU Waste Number:

150101, 150102

14. TRANSPORT INFORMATION

Classification according to DOT: Non-hazardous

Classification according to IMDG: Not classified as "Dangerous Goods" - -

Classification according to IATA: Not classified as "Dangerous Goods"

15. REGULATORY INFORMATION

SARA Title III:

Section 302/304 Extremely Hazardous Substance: None

Section 311 Hazardous Categorization: None

Section 313 Toxic Chemicals: None

CERCLA Section 102(a) Hazardous Substance:

None

RCRA Information:

Currently, the product is not listed in federal hazardous waste regulations 40 CFR, Part 261.33, paragraphs (e) or (f), i.e. Chemical products that are considered hazardous if they become wastes. State or local hazardous waste regulations may also apply if they are different from the federal regulation. It is the responsibility of the user of the product to determine at the time of disposal, whether the product meets relevant waste classification and to assure proper disposal.

U.S., EPA, TSCA Information:

This product is an article as defined by TSCA and is not required to be listed in the TSCA inventory.

Ozone Depletion Information:

This product does not contain or is not manufactured with ozone depleting substances as identified in Title VI, Clean Air Act Stratospheric Ozone Protection and the regulations set forth in 40 CFR, Part 82.

Exposure Risk: Not determined
Chemical safety report: Not determined
Labeling: All chemicals in this product are included on the TSCA Inventory
Hazard symbols: None
R-phrases: None
S-phrases: None

Special labeling:

Authorization, TITLE VII: N/A

Restrictions:

TITLE VIII: N/A
TRANSPORT REGULATIONS: IATADGR (2008).

16. OTHER INFORMATION

VOC (1999/13/CE): N/A
Customs Tariff: Not determined
European Union (2002/95/EC) RoHS / RoHS2:

These products do not contain any of the chemicals listed in the RoHS / RoHS2 regulations

REVISION HISTORY – SDS 0501 –Carbon Fiber - Continuous Filament or Chopped, without Sizing		
Revision	Effective	Summary of Changes
REV: E	10/1/13	Changed Title from MSDS (Material Safety Data Sheet) to SDS (Safety Data Sheet). Changed Format of MSDS to SDS Format-Required under the modification of the OSHA Hazardous Communication Standard (29CFR1910.1200).