A&P Technology

4595 East Tech Drive
Cincinnati, OH 45245-1055
TEL: 513-688-3200 FAX: 513-672-9996
sales@braider.com www.braider.com

# Uni-Q-22.3SM

| | | |
|---|---|---|
| Raw Material: | AXIAL: XTW T-700 SC 24K 50C 0.35 TPI<br>AXIAL: XTW COTW T-700 SC 24K 50C 1E | (Toray) |
| Fabric Width: | 12” | |
| Braid Angle: | 0° | |
| Braid Yield: | 6.45 yd/lb | |
| Areal Weight: | 756 GSM | |
| Layer Thickness: | 0.030 in (55% Fiber Volume) | |

## ZERO® Non-woven Unidirectional Carbon

ZERO® is a patented non-woven fabric with a relatively small percentage of binder material (less than 3%). The binder is applied to only one side of the fabric resulting in virtually no crimp in the reinforcement fibers.

For more information please visit www.braider.com, or contact a sales representative at 513-688-3200

**SAFETY DATA SHEET**

# Carbon Fiber "TORAYCA" Sizing Type "5"

1. IDENTIFICATION

COMPANY: Toray Carbon Fibers America, Inc.
SECTION: Technical Center
ADDRESS: 2030 Highway 20; Decatur, AL 35602 USA
TEL No. : (256) 260-2626; contact: Director of Technical Center
FAX No. : (256) 260-1063

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2. HAZARDS IDENTIFICATION (Environmental, Safety and Health)

2.1 CLASS NAME OF HAZARDOUS CHEMICALS FOR SDS

Non-hazardous material

2.2 PHYSICAL & CHEMICAL HAZARDS

Explosive: N/A

2.3 ADVERSE HUMAN HEALTH EFFECTS

Acute Toxic Substance: No case of disease, which is caused by Carbon Fiber, has been reported. Short fiber, for example particles or fly, can cause transient skin irritation.

2.4 ENVIRONMENTAL EFFECTS

2.4.1 Carbon Fiber is electrically conductive, and it can cause the short-circuiting of electrical equipment.

2.4.2 Airborne Carbon Fiber can also disturb electrical equipment.

2.5 HEALTH HAZARD DATA

Primary Route of Entry: Inhalation, Eyes, Dermal, Ingestion

Effects of Overexposure:

| | |
|---|---|
| Inhalation: | Nuisance dust may cause temporary but reversible respiratory problems. |
| Eyes: | Abrasive action may cause damage to the outer surface of the eye. Avoid wearing contact lenses if airborne carbon fiber/particle fly is particularly heavy. |
| Skin Contact: | Fiber contact may cause slight itching and irritation. |
| Ingestion: | Not a likely source of entry due to physical nature of material. |
| Chronic: | Product does not contain carcinogenic materials as defined by OSHA Communication Act 1910.1200. |

3. COMPOSITION INFORMATION ON INGREDIENTS

CHEMICAL TYPE: Carbon (Carbon Fiber)

CAS Number: 7440-44-0

SUBSTANCE ( ) MIXTURE (O): UN CLASS & UN NUMBER: N. A.

| Chemical Name | Comp. (%) | Chemical Formula (Constitutional Formula, Structural Formula) | CAS No. | TSCA |
|---|---|---|---|---|
| Carbon Fiber | ≥94 | Carbon Fiber | 7440-44-0 | Registered |
| Sizing Agent | ≤2 | Not open to public | Registered | Registered |

4. FIRST-AID MEASURES

4.1 INHALATION

Move to fresh air and wash inside of mouth with water. If dizzy or unbalanced, seek medical attention as soon as possible.

4.2 SKIN CONTACT

If transient skin irritation occurs, remove contaminated clothing and wash thoroughly with soap and water. If irritation persists, seek medical attention. Wash contaminated clothing before reuse.

4.3 EYE CONTACT

Immediately wash eyes with an excessive amount of water for at least 15 minutes. If contacts are being used, remove the lens and flush the eyes again with water for an additional 5 to 10 minutes. If the eyes feel uncomfortable or have prickly feeling, seek medical attention as soon as possible.

4.4 INGESTION

Do not induce vomiting. Rinse mouth with fresh water. Then drink two or three glasses of water. Seek medical attention as soon as possible.

5. FIRE-FIGHTING MEASURES

5.1 SPECIFIC HAZARDS WITH REGARD TO FIRE-FIGHTING MEASURES

Apply water from a safe distance to cool and protect surrounding area.

5.2 EXTINGUISHING MEDIA

In case of fire, use water spray, foam, dry chemical powder or carbon dioxide.

Dry chemical powder, carbon dioxide or dry sand should be used for small fires.

## 6. ACCIDENTAL RELEASE MEASURES

### 6.1 MEASURES FOR HANDLING PERSONNEL

No special measures requested

### 6.2 MEASURES FOR ENVIRONMENTAL EFFECTS

No special measures requested

### 6.3 MEASURES WHEN HANDLING SPILLED SUBSTANCE

N/A

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## 7. HANDLING AND STORAGE

### 7.1 HANDLING

Exposure control for individuals handling product:

Contact with carbon fiber can cause transient skin irritation. Hold the paper tube when handling bobbins to limit contact. To limit exposure wear cloth/leather gloves and cover exposed areas with normal work clothing. Additional protection may be needed if particle limits are excessive.

Protective measures against fire & explosion: N/A

### 7.2 STORAGE

Store bobbins in a cool, dark space. Low humidity is recommended.



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## 8. EXPOSURE CONTROL / PERSONAL PROTECTION

### 8.1 CONTROL PARAMETERS

No data are available for the product

| Content | Carbon Fiber |
|---|---|
| LABOR SAFETY & HEALTH ACT(JAPAN) ppm ($mg/m^3$) | 2.9$mg/m^3$ (reference value by "Kokuji" by Min. of Labor Japan (1995)) |
| OSHA ppm ($mg/m^3$) | 2.0$mg/m^3$ as the total dust of first class dust by the Japanese regulation (reference value) etc. |
| ACGIH ppm ($mg/m^3$) | 10.0$mg/m^3$ as the "kyuunyuusei" dust not classified to other categories, etc. (reference value) |

### 8.2 ENGINEERING MEASURES

Local extract ventilation is recommended where dust and fly are generated by cutting or processing Carbon Fiber. Filter in ventilation is requested to prevent dust and fly from being discharged into open air.

8.3 PERSONAL PROTECTIVE EQUIPMENT

8.3.1 Respiratory protection: Adequate respirator is suggested to keep from inhaling dust and fly particles.

8.3.2 Eye protection: Adequate protective goggles are suggested to keep eyes from dust and fly.

8.3.3 Hand, skin and body protection: Adequate protective gloves are suggested to keep skin from dust and fly.

## 9. PHYSICAL & CHEMICAL PROPERTIES

| | |
|---|---|
| Appearance : Black fiber | Odor : None |
| Density : 1.6~2.0 | Boiling point : N/A |
| Melting point : N/A | Vapor pressure : N/A |
| Vapor density : N/A | Solubility(%) : In soluble<br>in water: N/A<br>in others: N/A |
| Volatility : N/A | Others : N/A |



## 10. STABILITY & REACTIVITY (PHYSICAL HAZARD)

| | |
|---|---|
| Flash point : None | Spontaneous ignition temperature : None |
| Explosion limit (%) : None<br>Upper: None<br>Lower: None | Combustibility: Not Spontaneous<br>Reactivity with water: None |
| Flammability : N/A | Dust explosion: N/A |
| Oxidizibility :<br>Oxidized by strong oxidizer.<br>Stable for other chemicals | Self-reactivity : None |

Oxidation can progress slowly and become red-hot when exposed to high temperatures greater than 240°C in air.

## 11. TOXICOLOGICAL INFORMATION

Acute toxicity: N/A

Sub-chronic toxicity: N/A

Chronic toxicity: N/A

Carcinogenic effects: No silicosis case has been reported on inhalation test with mouse.

Mutagenic effects: In one component of Sizing Agent, Bisphenol A epoxy resin, the mutagenic effect on a microbe is recognized.

Irritant properties: Contact with fly or dust can cause skin irritation.

Teratogenic effects: N/A

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12. ECOLOGICAL INFORMATION

Biodegradability: N/A

Bioaccumulation: N/A

Fish toxicity: N/A

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13. DISPOSAL CONSIDERATION

13.1 In case of disposal, this product must be treated as industrial waste, separated from public waste.

13.2 This product should not be incinerated. Carbon fiber can not be incinerated well by a general incinerator, and the fibrous fragments, which may be generated by insufficient incinerator, may cause the short-circuiting of electrical equipment.

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14. TRANSPORTATION INFORMATION

N/A

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15. REGULATORY INFORMATION



| Regulatory/Classification | Reg. Info. | Substance Name | Allowed Concentration | |
|---|---|---|---|---|
| TSCA (USA) No. | N/A | 7440-44-0<br>Carbon Fiber | N/A | N/A |
| EINECS No. | N/A | N/A | N/A | N/A |
| California Proposition 65 | N/A | N/A | N/A | N/A |
| FDA<br>UL | N/A<br>N/A | N/A<br>N/A | N/A<br>N/A | N/A<br>N/A |
| CAS | N/A | 7440-44-0 | N/A | N/A |
| REACH | Article Only | Carbon Fiber | N/A | N/A |
| OSHA | N/A | N/A | N/A | N/A |

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16. OTHER INFORMATION INCLUDING DATE OF PREPARATION OF LAST REVISION:

SDS NUMBER. : CFA-005 SDS-3

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