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Uni-4.3IM7

Raw Material:	AXIAL: IM7 12K GP 5000	(Hexcel)
Fabric Width:	12"	
Braid Angle:	0°	
Braid Yield:	33.16 yd/lb	
Areal Weight:	146 GSM	
Layer Thickness:	0.006 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

HexTow Carbon Fiber Unsized or Sized: GP, GS, G, E, H, J, R and S

1. Identification

Product identifier

Product name HexTow Carbon Fiber Unsized or Sized: GP, GS, G, E, H, J, R and S
 Product number 20716US-2

Recommended use of the chemical and restrictions on use

Application black colored continuous fiber

Details of the supplier of the safety data sheet

Supplier Hexcel Composites
 6700 West 5400 South
 West Valley City
 UT 84118-7678
 USA
 Tel: ++801 252 3400
 Tel: ++800 987 0658

Contact Person 11711 Dublin Blvd, Dublin, California, USA. ++925 551 4900

Emergency telephone number

Emergency telephone To be used only for advice on chemical emergencies, spillages, fires or First Aid:
 For emergencies in US/Canada: CHEMTREC – 800 424 9300
 For emergencies in rest of the world: CARECHEM24 - +44 (0) 1235 239 670

2. Hazard(s) identification

Classification of the substance or mixture

OSHA Regulatory Status This Product is Not Hazardous under the OSHA Hazard Communication Standard.
 Physical hazards Combustible Dust - USH01
 Health hazards Not Classified
 Environmental hazards Not Classified

Physicochemical Physical: Carbon fiber contained in some products is electrically conductive.

Label elements

Signal word Warning
 Hazard statements USH01 May form combustible dust concentrations in air

Other hazards

Warning! This may cause mild, temporary mechanical eye and skin irritation. Vapor or fumes evolved during use and/or heating or curing the product may cause respiratory tract and eye irritation. Dust or particulates from machining, grinding or sawing the cured product may causes skin, eye and upper respiratory tract irritation, allergic skin reaction and possible sensitization.

HexTow Carbon Fiber Unsized or Sized: GP, GS, G, E, H, J, R and S

3. Composition/information on ingredientsMixtures

Composition comments Carbon fiber can be with or without size., Graphite (carbon) synthetic fibers, filament diameter > 4um., >97% w/w, Size:, <3% w/w

4. First-aid measuresDescription of first aid measures

Inhalation With any sign of respiratory distress, affected persons should be taken into fresh air, and made to rest while medical attention is sought.

Ingestion Immediately rinse the mouth repeatedly with water, if swallowing has occurred, do not induce vomiting. If requested, give affected person sips of water. Seek medical attention immediately. If vomiting does occur do not allow the affected person to inhale their vomit. Do not give anything by mouth to an unconscious person.

Skin Contact In case of contact with the product or the cured product dust or particulate, immediately wash skin with mild soap and water. Use a washcloth to help remove the fibres. To avoid further irritation, do not rub or scratch irritated areas. Rubbing or scratching may force fibres into the skin. Get medical attention immediately if the irritation persists.

Eye contact In case of contact with the product or the cured product dust or particulate, immediately flush eyes with large amounts of water for at least 15 minutes, keeping the eyelids open. Get medical attention immediately.

Most important symptoms and effects, both acute and delayed

General information Filaments are mechanical irritants and may induce temporary mouth, nose and throat irritation. Skin or eye contact may cause itching and temporary irritation. Ingestion may cause temporary mechanical irritation of the digestive tract. Pre-existing conditions such as respiratory or skin disorders may be aggravated by exposure to the product or dust/particulate generated from machining/grinding of the cured product.

5. Fire-fighting measuresExtinguishing media

Suitable extinguishing media Extinguish with foam, carbon dioxide, dry powder or water fog.

Unsuitable extinguishing media Do not use water jet as an extinguisher, as this will spread the fire.

Special hazards arising from the substance or mixture

Specific hazards Carbon fibers contained in some products are electrically conductive and if released during combustion may present a hazard to unprotected electrical apparatus.

Hazardous combustion products Above 650°C, if incomplete combustion occurs and depending on air supply and temperature, there may be release of carbon monoxide and dioxide and products of low molecular weight.

Advice for firefighters

Special protective equipment for firefighters Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing.

HexTow Carbon Fiber Unsized or Sized: GP, GS, G, E, H, J, R and S

6. Accidental release measuresPersonal precautions, protective equipment and emergency procedures

Personal precautions Avoid contact with skin, eyes or clothing.

Environmental precautions

Environmental precautions Due to the physical nature of this product, environmental release to drains and water courses is not possible.

Methods and material for containment and cleaning up

Methods for cleaning up Clean up material and put into a suitable container and dispose of properly (See Section 13).

Reference to other sections For personal protection, see Section 8. For waste disposal, see Section 13.

7. Handling and storagePrecautions for safe handling

Usage precautions Handling : Avoid direct contact with product. Avoid inhalation of dust/fumes generated during processing operations. Dust produced from handling and machining product will contain fibrous material. Avoid inhalation and provide positive dust extraction and collection from cutting zone. Protect against fire and explosion by avoiding dust formation and ignition sources when machining cured product. Dust from products containing carbon fibre is electrically conductive.

Storage : Store containers, securely closed according to container label instructions.

Store away from food and food stuffs.

Conditions for safe storage, including any incompatibilities

Storage precautions Keep container tightly closed and dry.

Specific end uses(s)

Specific end use(s) As this product is an article, this section is not applicable.

8. Exposure Controls/personal protectionExposure controlsProtective equipment

Appropriate engineering controls

Provide adequate ventilation.

Eye/face protection

Eyewear complying with an approved standard should be worn if a risk assessment indicates eye contact is possible.

Hand protection

It is recommended that gloves are made of the following material: Polyvinyl chloride (PVC). Rubber (natural, latex).

Other skin and body protection

Wear appropriate clothing to prevent any possibility of skin contact.

Hygiene measures

Wash at the end of each work shift and before eating, smoking and using the toilet.

Respiratory protection

Wear a suitable dust mask.

HexTow Carbon Fiber Unsized or Sized: GP, GS, G, E, H, J, R and S

9. Physical and Chemical PropertiesInformation on basic physical and chemical properties

Appearance	Black colored fiber
Color	Black.
Odor	No characteristic odor.
Odor threshold	It is not relevant as there is not toxic effect.
pH	Not relevant due to the physical form of this product.
Melting point	Carbon fiber 6512 F / 3600 C°C
Initial boiling point and range	Not relevant due to the physical form of this product.
Flash point	Not relevant due to the physical form of this product.
Evaporation rate	Not relevant due to the physical form of this product.
Evaporation factor	Not relevant due to the physical form of this product.
Flammability (solid, gas)	May form combustible dust concentrations in air
Vapour pressure	Not relevant due to the physical form of this product.
Vapour density	Not relevant due to the physical form of this product.
Relative density	Not relevant due to the physical form of this product.
Solubility(ies)	Not relevant due to the physical form of this product.
Auto-ignition temperature	Not relevant due to the physical form of this product.
Explosive properties	Not classified as explosive but dust or airborne filaments could induce explosion in high voltage equipments by short circuit.
Oxidising properties	Does not meet the criteria for classification as oxidizing.

10. Stability and reactivity

Stability	Stable at normal ambient temperatures and when used as recommended.
Possibility of hazardous reactions	Will not occur under normal conditions of use.
Materials to avoid	Strong oxidizing agents.
Hazardous decomposition products	The products of combustion and decomposition depend on other materials present in the fire and the actual conditions of the fire. Burning will produce carbon and nitrogen oxides and other unidentified gases and vapors that may be toxic. Avoid inhalation.

11. Toxicological informationInformation on toxicological effects

Toxicological effects	Continuous filament of carbon fiber with a filament diameter > 4um are not considered respirable. World Health Organization defines a respirable fiber as a fiber with a diameter (d) < 3um, a length (l) > 5um and l/d ratio >= 3
Other health effects	The components present in this material at concentrations equal to or greater that 0.1% are not listed or regulated by IARC, NTP, OSHA or ACGIH as a carcinogen.

HexTow Carbon Fiber Unsized or Sized: GP, GS, G, E, H, J, R and S

Inhalation	May cause irritation to the upper respiratory tract. Vapor or fumes generated from exposing this product to elevated temperatures may cause irritation to the respiratory tract. Dust or particulate from machining, grinding or sawing the cured product may cause irritation to the upper respiratory tract.
Ingestion	None expected under normal conditions of use. Ingestion is not an expected route of industrial exposure.
Skin Contact	Contact may cause mechanical irritation, skin redness, itching and drying of the skin. Prolonged or repeated contact may cause allergic skin reaction, dermatitis and possible sensitization.
Eye contact	May cause mechanical irritation. Vapor or fumes generated from exposing the product to elevated temperatures may cause irritation. Dust or particulate from the product or from machining, grinding or sawing the product may cause mechanical irritation.
Medical considerations	Preexisting eye, skin or respiratory disorders may be aggravated by contact and/or exposure to the product, the vapor or fumes generated from heating the product or to the dust or particulate from machining, grinding or sawing the cured product.

12. Ecological Information

Ecotoxicity No ecological data has been determined on the total product.

Toxicity

Toxicity Not regarded as dangerous for the environment.

Persistence and degradability

Persistence and degradability Not relevant due to the physical form of this product.

Bioaccumulative potential

Bio-Accumulative Potential Not relevant due to the physical form of this product.

Mobility in soil

Mobility Not relevant, due to the form of the product.

13. Disposal considerations

Waste treatment methods

General information Materials for disposal should be placed in appropriate sealed containers to avoid potential human and environmental exposure. It is the responsibility of the generator to comply with all federal, state, provincial and local laws and regulations. We recommend that you contact an appropriate waste disposal contractor and environmental agency for relevant laws and regulations. Under the U.S., Resource Conservation and Recovery Act (RCRA), 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.

Disposal methods Dispose of waste and residues in accordance with local authority requirements. For products containing carbon fiber, it is possible to recycle the carbon component.

14. Transport information

General This Product is not dangerous to transport.

UN Number

This product is not dangerous to transport.

UN proper shipping name

HexTow Carbon Fiber Unsized or Sized: GP, GS, G, E, H, J, R and S

This product is not dangerous to transport.

Transport hazard class(es)

This product is not dangerous to transport.

Packing group

This product is not dangerous to transport.

Environmental hazards

Environmentally Hazardous Substance

This product is not dangerous to transport.

15. Regulatory informationUS Federal Regulations

SARA Section 302 Extremely Hazardous Substances Tier II Threshold Planning Quantities

Not listed.

CERCLA/Superfund, Hazardous Substances/Reportable Quantities (EPA)

Not listed.

SARA Extremely Hazardous Substances EPCRA Reportable Quantities

Not listed.

SARA 313 Emission Reporting

Not listed

RCRA

RCRA Information: Currently, the product is not listed in the federal hazardous waste regulation 40 CFR, Part 261.33, paragraphs (E) or (F), ie. chemical products that are considered hazardous if they become waste. 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.

US State Regulations

California Proposition 65 Carcinogens and Reproductive Toxins

This product contains no listed substances known to the State of California to cause cancer, birth defects or other reproductive harm, at levels which would require a warning under the statute.

Inventories

US - TSCA

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

HexTow Carbon Fiber Unsized or Sized: GP, GS, G, E, H, J, R and S

16. Other information

Abbreviations and acronyms used in the safety data sheet	ACGIH American Conference of Industrial Hygienists ATE Acute Toxicity Estimate CAS# Chemical Abstracts Service Number CERCLA Comprehensive Environmental Response, Compensation, and Liability Act DOT Department of Transportation EmS Emergency Response Procedures for Ships Carrying Dangerous Goods EPA Environmental Protection Agency GHS Global Harmonized System HMIS Hazardous Materials Identification System, IATA International Air Transport Association ICAO International Civil Aviation Organization IMDG International Maritime Dangerous Goods Kow Octanol-water partition coefficient LC50 Lethal concentration to 50% of a test population LD50 Lethal dose to 50% of a test population n.o.s. Not otherwise specified OSHA Occupational Safety and Health Administration PBT Persistent, Bioaccumulative and Toxic substance PNEC Predicted No Effect Concentration PPE Personal Protection Equipment RCRA Resource Conservation and Recovery Act SADT Self-accelerating decomposition temperature SARA Superfund Admendments and Reauthorization Act STOT Specific Target Organ Toxicity (STOT) RE Repeated Exposure (STOT) SE Single Exposure TSCA Toxic Substance Control Act UN United Nations VOC Volatile Organic Compound WHMIS Workplace Hazardous Materials Information System
General information	When present in the product, airborne carbon fibers or dust may create electrical short-circuits which could result in damage to or malfunctioning of electrical equipment.
Issued by	U.S.A. Product Stewardship department
Revision date	5/1/2015
Revision	0
Hazard statements in full	USH01 May form combustible dust concentrations in air
ACA HMIS Health rating.	Slight hazard. (1)
ACA HMIS Physical hazard rating.	Normally stable. (0)
ACA HMIS Personal protection rating.	F
ACA HMIS Flammability rating.	Will not burn. (0)

Wherever such words or phrases as "hazardous," "toxic," "carcinogen," etc. appear herein, they are used as a defined or described under state employee right-to-know laws, Federal OSHA laws or the direct sources for these laws such as the International Agency for Research on Cancer (IARC), the National Toxicology Program (NTP), etc. The use of such words or phrases should not be taken to mean that we deem or imply any substance or exposure to be toxic, hazardous or otherwise harmful. Any exposure can only be understood within the entire context of its occurrence, which includes such factors as the substance's characteristics as defined in the SDS, amount and duration of exposures, other chemicals present and preexisting individual differences in response to the exposure. The data provided in this SDS is based on the information received from our raw material suppliers and other sources believed to be reliable. We are supplying you this data solely in compliance with the Federal OSHA Hazard Communication Standard, 29 CFR 1910.1200 and the Federal and State laws as described in Section 15: Regulatory Information. The information contained in this SDS is proprietary and confidential to Hexcel Corporation. This SDS and the information in it are not to be used for purposes other than compliance with the Federal OSHA Hazard Communication Standard. If you have received this SDS from any other source than Hexcel Corporation or its authorized agent, the information contained in it may have been modified from the original document and it may not be the most current revision. Liability, if any, for use of this product is limited to the terms contained in our sale terms and conditions. We do not in any way warrant (expressed or implied, including any implied warranty for merchantability or fitness for a particular purpose) the data contained or the product described in this SDS. Additionally, we do not warrant that the product will not infringe any patent or other proprietary or property rights of others.

