BHOR Force
Woven Fabrics

Material Safety Data Sheet – BhorForce®- Woven Unidirectional Carbon Fabric (Warp Unidirectional), Woven Carbon Fabric

Section 1: Product And Company Information

Product Name(s):	Woven Unidirectional Carbon Fabric (Warp Unidirectional), Woven Carbon Fabric
Manufacturer	
Filament	PAN Based High Strength Carbon Fiber 3K, 6K, 12K, 24K, 48K
Fabric	The Bhor Chemicals and Plastics Pvt. Ltd.

Section 2: Hazards Identification

Black fiber without odor. Based on data available, this product is not hazardous. But its airborne dusts can short circuit electrical equipment	
HMIS Rate	HEALTH=1, FIRE=0, REACTIVITY=0 0: Least, 1: Slight, 2: Moderate, 3: High. 4: Extreme
Human Health Hazards	
Eye	Dust may cause temporary irritation.
Skin	Dust may cause mild irritation. In some cases, the dust may cause allergic skin reactions.
Inhalation	Dust may cause mild irritation.
Statements of hazards	
This product and its dusts are electrically conductive. There is no known health effects connected with long term use or contact with this product. See Section 11 of MSDS for more toxicological data.	

Section 3 : Composition – Information Constituent Parts

Component	CAS. NO	Content (%Wt/Wt)
Carbon fiber, Polyacrylonitrile (PAN)-based carbon Hazardous components: None	7440-44-0	>99%

Section 4: First Aid Measures

Inhalation	Move person to fresh air. Seek medical attention if irritation persists.
Eye Contact	Flush eyes with running water for at least 15 minutes. Seek medical attention if irritation persists.
Skin Contact	Wash with mild soap and running water. Use a washcloth to help remove fibers. To avoid more irritation, do not rub or scratch affected areas. Rubbing or scratching may force fibers into skin. Seek medical attention if irritation persists.
Ingestion	Ingestion of this material is unlikely. If it does occur, watch the person for several days to make sure that intestinal blockage does not occur.

Section 5: Fire Fighting Measures

Flash Point and Method	None
Flammability Limits (%)	None
Auto Ignition Temperature	Not Applicable
Extinguishing Media	Water, foam, CO_2 or dry chemical.
Unusual Fire and Explosion Hazards	Airborne fibers are electrically conductive.
Fire Fighting Instructions	Use self contained breathing apparatus (SCBA) in a sustained fire.
Hazardous Combustion Products	Primary combustion products are carbon monoxide, carbon dioxide and water. Other undetermined compounds could be released in small quantities

Section 6: Accidental Release Measures

In case of spill, collect the spilled materials. If this material is not contaminated, put it into a clean container and it can be reused. Otherwise, dispose of it properly. Because the dust is electrically conductive and may become airborne, clean up with a vacuum. If an electrical appliance is used, take the steps necessary to avoid the risk of electrical shock.

Section 7: Handling And Storage

Precautions To Be Taken In Handling & Storing:
Airborne particles and filaments should be controlled so as to minimize (1) skin irritation, (2) electrical shorts in switchgear, etc. due to conductivity of fiber.
Other Precautions:
Protect all electrical equipment, in or near areas in which fiber is handled or used, from contact with airborne particles and filaments to avoid possible damage caused by electrical shorts

Section 8: Exposure Controls And Personal Protection

Respiratory protection	Personal dust respirators applicable if high degree of fiber fly is experienced.
Ventilation	Yes - local exhaust for airborne fiber removal.
Protective gloves	Yes
Eye protection	Safety glasses
Other protective clothing or equipment	Recommend disposable protective garment to eliminate possible skin irritation.
Work/hygienic practices	Gloves (tyvek) and niosh approved nuisance dust masks. Before eating, Drinking, or smoking wash hands and face thoroughly with soap and water.

Exposure guideline:

Substance	**OSHA (PEL)**	**ACGIH (TLV)**
Carbon fiber, polyacrylonitrilebased Carbon	15mg/m3 (total); 5mg/m3 (respirable)	10mg/m3 (total); 3mg/m3 (respirable)

Section 9: Physical And Chemical Properties

Physical state and form	Solid, fabric in rolls
Colour	Black
Odor	Odorless
pH	not applicable
Specific Gravity	1.86 g/cc
Solubility	Negligible
Softening point N/A	N/A

Melting point	Approximately 2000°C
Decomposition temperature:	Begins to oxidize at temperatures >250^{0}C in standard air environment.
Explosive properties	None
Flammability	Flash point of the size is unknown but is foreseeable far higher than 200°C.

Section 10: Chemical Stability And Reactivity Information

Stability	Stable
Materials To Avoid	Strong oxidizing agents.
Incompatible Materials	See above.
Hazardous Decomposition Or Byproducts	Products of combustion and decomposition depend on other materials present in the fire and the fire conditions. Burning will produce CO_2, CO and a minute amount of N_2, HCN and H_2O.
Hazard Polymerization	Will not occur. Carbon fiber is basically inert.
Conditions To Avoid	None

Section 11: Toxicological Information

Acute toxicity	Possible temporary irritations of a purely mechanical nature due to fibers, that can affect the skin, eyes and upper respiratory tracts. It disappears when exposure is ended.
Long term toxicity	There are no known health effects associated with chronic exposure to this product apart from extremely rare allergies to continuous fiber Carbon fabrics.
Carcinogenic risks	The table below indicates whether or not each agency has listed continuous carbon fibre as a carcinogen:

Ingredient	**ACGIH**	**IARC**	**NTP**	**OSHA**
Carbon Fiber Continuous	No	No	No	No

Section 12: Ecological Information

No ecological data is available for this product.

Section 13: Disposal Considerations

Depending on local regulations, Carbon fabric wastes can either be considered as inert waste or as common industrial waste. Carbon fabric waste cannot be destroyed by incineration.

Section 14: Transport Information

Carbon fabrics are not considered as hazardous goods by transport regulations. This product is not regulated as dangerous or hazardous goods under DOT, IMO, ICAO, IATA or UN shipping regulations.