



SAFETY DATA SHEET

Edition from August 24, 2006 Replaced edition from August 22, 2005

Distribution date August 24, 2006

TRADE NAME

PANEX® CARBON FIBER

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: PANEX® Carbon Fiber

SYNONYMS: N/A

CHEMICAL FAMILY: Carbon Fiber

COMPANY: Zoltek Companies, Inc.
3101 Mckelvey Road
St. Louis, MO 63044
USA.

EMERGENCY: Phone: (314) 291-5110. Fax: (314) 291-6511

2. COMPOSITION/INFORMATION ON INGREDIENTS

<u>COMPONENT</u>	<u>CAS. NO</u>	<u>%</u>	<u>LIMITS FOR AIR CONTAMINANTS</u>
CARBON FIBER, Polyacrylonitrile (PAN)-based carbon	7440-44-0	91.0-99.8	OSHA and ACGIH have not established air contamination for carbon fibers. Under certain conditions, this substance may be a nuisance dust. OSHA has an established standard for particulates not otherwise regulated (nuisance dust) set at 5 mg/m ³ (respirable fraction) and 15 mg/m ³ (total dust). ACGIH has established an exposure value of 3 mg/m ³ (respirable fraction) and 10 mg/m ³ (total)
SIZING	Sizing is proprietary.	0.2-9.0 %	

3. HAZARDS IDENTIFICATION

Least:0, Slight: 1, Moderate: 2, High: 3. Extreme: 4	HEALTH	FIRE	REACTIVITY
CARBON FIBER	1	0	0
SIZING	1	1	0

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.

4. FIRST-AID MEASURES

EYE: Flush eyes with water for 15 minutes.

SKIN: Wash affected areas thoroughly with soap and water.
 INHALATION: Remove from the area of the dust to fresh air. Seek medical attention if you feel unwell.
 INGESTION: In the event of deliberate ingestion, do not induce vomiting unless directed to do so by consulting with a doctor.

5. FIRE-FIGHTING MEASURES

EXTINGUISHING MEDIA: Normal firefighting procedures
 RESTRICTION: No restrictions
 UNUSUAL FIRE & EXPLOSION HAZARDS: Airborne fibers are electrically conductive.
 FLASH POINT: Not determined
 FLAMMABLE LIMITS: N/A
 MAIN COMBUSTION GAS: CO₂, CO and a minute amount of N₂, HCN and H₂O.
 PERSONAL PROTECTION: Self contained breathing apparatus

6. ACCIDENTAL RELEASE MEASURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: 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.

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 switch gear, 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.

8. EXPOSURE CONTROLS/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.

9. PHYSICAL AND CHEMICAL PROPERTIES

BOILING POINT: N/A
 VAPOR PRESSURE: N/A
 VAPOR DENSITY: N/A
 SPECIFIC GRAVITY (H₂O = 1): 1.82 g/cm³
 MELTING POINT: N/A
 EVAPORATION RATE (Butyl Acetate = 1): N/A
 SOLUBILITY IN WATER: Negligible (Dispersible)
 APPEARANCE AND ODOR: Black, odorless

10. STABILITY AND REACTIVITY

STABILITY: Stable
CONDITIONS TO AVOID: Can react with 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 CO₂, CO and a minute amount of N₂, HCN and H₂O.
HAZARD POLYMERIZATION: Will not occur. Carbon fiber is basically inert.
CONDITIONS TO AVOID: None

11. TOXICOLOGICAL INFORMATION

HEALTH HAZARDS: None known.
CARCINOGENICITY: No
SIGNS & SYMPTOMS OF EXPOSURE: Possible rash.
MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE: None known

12. ECOLOGICAL INFORMATION

No ecological data is available for this product.

13. DISPOSAL CONSIDERATIONS

Landfill sites - industrially approved. Do not incinerate. If necessary, consult local, state, and federal agencies prior to disposal of this material.

14. TRANSPORT INFORMATION

US/INTERNATIONAL SHIPPING INFORMATION UNDER DOT/ADR/IMDG/IATA REGULATIONS: This product is not regulated as dangerous or hazardous goods under DOT, ADR, IMDG, IATA, or UN shipping regulations.

15. REGULATORY INFORMATION

This product is not classified as toxic chemical or hazardous material. No special warning label is required.

TSCA (US) NO: Carbon fiber 7440-44-0

EINECS NO: N/A

WHMIS (Canada): N/A

CAS: 7440-44-0

OSHA: N/A

SARA TITILE III Section 313 Toxic chemicals: None.

16. OTHER INFORMATION

DISCLAIMER: This information is furnished without warranty, expressed or implied, except that it is believed to be accurate to the best knowledge of Zoltek Companies, Inc. The information presented in this MSDS is related only to specific material designated herein. Zoltek Companies, Inc. assumes no legal responsibility for the use or reliance upon these data. The user should review any recommendation in the specific context of the intended use to determine whether appropriate.
