

**MATERIAL SAFETY DATA SHEET**  
**QUANTUM COMPOSITES,® inc.**

**1. CHEMICAL PRODUCT AND IDENTIFICATION**

PRINT DATE: February 26, 2007

APPROVAL DATE: June 5, 2001

PRODUCT NAME ..... : Lytex® 4149

CHEMICAL FAMILY ..... : Epoxy

CHEMICAL NAME ..... Carbon Fiber filled Epoxy  
: Engineered Structural Composite

FORMULA ..... : Mixture

**MANUFACTURER:**  
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**EMERGENCY TELEPHONE NUMBERS:**  
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**2. COMPOSITION/INFORMATION ON INGREDIENTS**

Carbon Fiber filled Epoxy Engineered Structural Composite (ESC)

100%

**HAZARDOUS INGREDIENTS**

INGREDIENT NAME / CAS NUMBER	EXPOSURE	LIMITS	CONCENTRATION (%)
Styrene 100-42-5	OSHA: ACGIH:	50 ppm TWA 100 ppm STEL 20 ppm TWA 40 ppm STEL	< 1%
Carbon Fiber 7440-44-0	OSHA: ACGIH:	Total Nuisance Dust 15 mg/cu.m Respirable Nuisance Dust 5 mg/cu.m 10 mg/cu.m TWA N/E STEL	55%

(N/E = Not Established)

- The International Agency for Research on Cancer (IARC) has reclassified styrene as Group 2B "possibly carcinogenic to humans". This new classification is not based on health data relating to either humans or animals, but on a change in the IARC classification system. The Styrene Information and Research Center does not agree with the reclassification and has published the following statement. "Recently published studies tracing over 50,000 workers exposed to high occupational levels of styrene over a period of 45 years showed no association between styrene and cancer, no increase in cancer among styrene workers (as opposed to the average among all workers), and no increase in mortality related to styrene."

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**3. HAZARDS IDENTIFICATION****EMERGENCY OVERVIEW**

Non-tacky, stiff, solid sheet layered between polymer film. During a fire, irritating and toxic gases may be generated. See Section 10.

**POTENTIAL HEALTH EFFECTS:**

**ROUTE(S) OF ENTRY** .....: Inhalation, skin contact / absorption, eye contact.

**HUMAN EFFECTS AND SYMPTOMS OF OVEREXPOSURE** ....: Irritating to all parts of the respiratory tract. Styrene vapors can be irritating to eyes. Dermal contact may cause moderate irritation. Chronic exposure to levels above the PEL of styrene may cause kidney or liver damage or central nervous system effects.

**INHALATION** .....: Excessive inhalation of vapors can cause nasal & respiratory irritation, central nervous system effects, including dizziness, weakness, fatigue, nausea, headache and possible unconsciousness.

**SKIN CONTACT** : Prolonged or repeated contact can cause moderate irritation, defatting, and dermatitis.

**EYE CONTACT** ...: Can cause severe irritation, redness, tearing, and blurred vision.

**INGESTION**.....: Can cause gastrointestinal irritation, nausea, vomiting, and diarrhea.

**CARCINOGENICITY**

**NTP** .....: Not listed

**IARC** .....: See Page 1 for styrene monomer information

**OSHA** .....: Not Registered

**MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE** .....: Previous respiratory disorders, dermatitis.

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**4. FIRST AID MEASURES:**

**FIRST AID FOR EYES** .....: Flush with clean, lukewarm water (low pressure) for 15 minutes, occasionally lifting eyelids. Get medical attention.

**FIRST AID FOR SKIN** .....: Wash affected areas thoroughly with soap and water. Wash contaminated clothing before reuse. Do not wash with organic solvents.

**FIRST AID FOR INHALATION** .....: Remove to fresh air. Give artificial respiration if not breathing. Oxygen may be given by qualified personnel if breathing is difficult. Get medical attention.

**FIRST AID FOR INGESTION** .....: Consult physician immediately.

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**5. FIRE FIGHTING MEASURES:**

**FLASH POINT** .....: Solid, Not Applicable. (This material was analyzed by test method 16 CFR 1500.44 and the results showed that the compound would temporarily ignite when heated, but would not sustain a flame.)

**BOILING POINT**.....: Solid, Not Applicable

**EXTINGUISHING MEDIA** ....: Dry Chemical; Carbon Dioxide; Foam; Water. Treat as Class B fire.

**SPECIAL FIRE FIGHTING PROCEDURES** : Full emergency equipment with self-contained breathing apparatus and full protective clothing should be worn by firefighters. During a fire, irritating and toxic gases may be generated by thermal decomposition or combustion (See Section 10)

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6. **ACCIDENTAL RELEASE MEASURES:**

**SPILL OR LEAK PROCEDURES** .....: Sweep or place into container.

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7. **HANDLING AND STORAGE:**

**STORAGE TEMPERATURE** .....:100 F Maximum (Required to maintain product quality - See Section 10).

**SHELF LIFE** .....: 6 Months in original, sealed container at 0 F.

**SPECIAL SENSITIVITY** .....:Heat, Moisture

**HANDLING AND STORAGE PRECAUTIONS** :Store below 0 F to maintain good molding characteristics.

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8. **EXPOSURE CONTROLS/PERSONAL PROTECTION:**

**EYE PROTECTION REQUIREMENTS** .....: Safety glasses.

**SKIN PROTECTION REQUIREMENTS** .....: Lint free gloves, to minimize skin contact.

**RESPIRATORY/VENTILATION REQUIREMENTS:** Local exhaust in handling and fabrication areas. Use NIOSH/MSHA approved respirator for organic vapors if ventilation system does not maintain atmosphere below PELs.

**EXPOSURE LIMITS** .....: Not established for product as whole. Refer to section 2.

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9. **PHYSICAL AND CHEMICAL PROPERTIES:**

**PHYSICAL FORM** .....: Sheet

**ODOR** .....: Pungent aromatic odor

**SOLUBILITY IN WATER** .....: Insoluble

**SPECIFIC GRAVITY** .....: 1.0 – 1.2

**% VOLATILE BY VOLUME** .....: 2%

**VAPOR PRESSURE** .....: < 1mm Hg @ 75°F

**VAPOR DENSITY (Air=1)**.....: 3.6

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10. **REACTIVITY:**

**STABILITY** .....: This is a stable material. Non-hazardous cross-linking may occur under elevated temperatures, adversely impacting product quality.

**HAZARDOUS POLYMERIZATION** .....: Will not occur.

**DECOMPOSITION PRODUCTS** .....: Carbon dioxide or carbon monoxide may be generated during thermal decomposition.

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11. **TOXICOLOGICAL INFORMATION:**

No information available.

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12. **ECOLOGICAL INFORMATION:**

No data available.

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13. **DISPOSAL METHOD:**

**WASTE DISPOSAL METHOD** .....: Waste must be disposed of in accordance with federal, state, and local environmental control regulations. Sanitary landfill is acceptable in many areas. This material can also be incinerated in approved facilities.

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14. **TRANSPORTATION INFORMATION:**

**D.O.T. SHIPPING NAME** .....: Not Regulated

**D.O.T. HAZARD CLASS** .....: None

**D.O.T. LABEL** .....: None

**D.O.T. PLACARD** .....: None

**FREIGHT CLASS BULK** .....: Not Applicable

**FREIGHT CLASS PACKAGE** .....: Compounds, molding, containing chopped fibers, filler and resin

**PRODUCT LABEL** .....: Lytex® 4149

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15. **OTHER INFORMATION:**

**DISCLAIMER** .....: The above information is believed to be correct, but does not purport to be all inclusive and shall only be used as a guide. Quantum Composites, inc. will not be held liable for any damages resulting from or with contact of the above mentioned product.