

# Fibergrate Material Safety Data Sheet

## Bonding Kit - Part B

Reprint Date: 04/25/12 | Shell Revision Date: 08/30/96 | Fibergrate Revision Date: 03/04/11

### Section I - Chemical Product & Company Identification

<b>24 hour Emergency Phone Number:</b>	Chemtrec - Domestic (800)424-9300 Shell - (713)473-9461
<b>General Assistance Number:</b>	(713) 241-4819
<b>Product Name:</b>	EPI-CURE® 3140 Curing Agent (Formerly EPON CURING AGENT® V-40, EPI-CURE® 8540 and EUREDUR® 3140)
<b>Chemical Name:</b>	Mixture (See Section II)
<b>Chemical Family:</b>	Polyamide
<b>HMIS Rating:</b>	H=3, F=1, R=0
<b>WHMIS Rating:</b>	D1B, D2B, E

Shell Oil Company  
Product Safety & Compliance  
P.O. Box 4320  
Houston, TX 77210

### Section II - Product/Ingredients

Product: Epi-Cure 3140 Curing Agent

Ingredient	Cas No.	Percent
Fatty Acid Polyamides	68410-23-1	>84
Triethylenetetramine (TETA)	112-24-3	<16

### Section III - Acute Toxicity Data

<b>Acute Oral LD50:</b>	>5 g/kg (Rat)
<b>Acute Dermal LD50:</b>	>8 g/kg (Rabbit)
<b>Acute Inhalation LD50:</b>	No Data Available

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### Section IV - Health Information

The health effects noted below are consistent with requirements under the OSHA Hazard Communication Standard (29 CFR 1910.1200).

<b>Eye Contact:</b>	Product may be extremely irritating to the eyes and may cause severe damage including blindness. Vapors may be irritating.
<b>Skin Contact:</b>	Product may be mildly irritating to the skin. Product may cause skin sensitization.
<b>Ingestion:</b>	Not expected to be a relevant route of exposure, however, product may produce irritation of mouth and throat and the gastrointestinal tract.
<b>Inhalation:</b>	Mists or vapors may produce severe respiratory irritation.
<b>Signs and Symptoms:</b>	Irritation as noted above. Skin sensitization (allergy) may be evidenced by rashes, especially hives.
<b>Aggravated Medical Conditions:</b>	Preexisting skin, eye and respiratory disorders may be aggravated by exposure to this product.
<b>Other Health Effects:</b>	See Section VII for supplemental health information.

### Section V - Occupational Exposure Limits

Product/ Ingrdient	OSHA		ACGIH		Other
	PEL/TWA	PEL/Ceiling	TLV/TWA	TLV/STBL	
<b>Product:</b>	None Established				
<b>Ingredient 1:</b>	None Established				
<b>Ingredient 2:</b>	None Established				

### Section VI - Emergency and First Aid Procedures

<b>Eye Contact:</b>	Immediate flush eyes with plenty of water for at least 15 minutes while holding eyelids open. Rinse continuously with water while on way to get medical attention.
<b>Skin Contact:</b>	Remove contaminated clothing or shoes. Wipe excess from skin and flush with plenty of water for at least 15 minutes. Use soap if available or follow by washing with soap and water. Do not reuse clothing until thoroughly cleaned. Get medical attention.
<b>Ingestion:</b>	Do not induce vomiting. Give one glass of water unless victim is drowsy, convulsing or unconscious. Seek medical attention.
<b>Inhalation:</b>	Remove victim to fresh air and provide oxygen if breathing is difficult. Give artificial respiration if notbreathing. Get medical attention.

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### Section VII - Supplemental Health Information

Triethylenetetramine (TETA) has been found to be a direct acting mutagen in the Ames Assay. It gave positive results with and without activation.

TETA was fetotoxic and teratogenic when fed to rats at 0.83% and 1.67% of diet. When applied dermally to the skin of pregnant guinea pigs, there was a 90% abortion rate or death of fetus with secondary to copper deficiency resulting from the chelating activity of TETA.

### Section VIII - Physical Data

<b>Boiling Point:</b>	Decomposes
<b>Vapor Pressure (MM HG):</b>	Negligible @ 20° C
<b>Solubility (In Water):</b>	Slight
<b>Evaporation Rate (Normal Butyl Acetate =1):</b>	Not Available
<b>Appearance and Odor:</b>	Amber, viscous liquid with ammonia odor.
<b>Specific Gravity:</b>	0.96 (H <sub>2</sub> O = 1)
<b>Melting Point:</b>	Not Available:
<b>Vapor Density (Air = 1):</b>	>1

### Section IX - Fire and Explosion Hazards

<b>Flash Point and Method:</b>	>428° F (220° C) (COC)
<b>Flammable Limits/Percent Volume In Air:</b>	<i>Lower: N/APP Upper: N/APP</i>
<b>Extinguishing Media:</b>	Use water fog, "alcohol" foam, dry chemical or CO <sub>2</sub> . Do not use a direct stream of water. Product will float. Water or foam may cause frothing which can be violent, especially sprayed into containers of hot or burning liquid.
<b>Special Fire Fighting Procedures and Precautions:</b>	Material will not burn unless preheated. Do not enter confined fire space without full bunker gear (helmet with face shield, bunker coats, gloves and rubber boots), including a positive pressure NIOSH approved self-contained breathing apparatus. Cool fire exposed containers with water.
<b>Unusual Fire and Explosion Hazards:</b>	Delayed lung damage (pulmonary edema) can be experienced after exposure to combustion products, sometimes hours after the exposure. Nitrogen oxides and nitrogen containing organic compounds may be released upon combustion. See Section XIII.

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### Section X - Reactivity

<b>Stability:</b>	Stable
<b>Hazardous Polymerization:</b>	Will not occur
<b>Conditions and Materials to Avoid:</b>	Avoid contact with strong oxidizing agents. Reaction with epoxy resins can produce considerable heat. (See Section XIII).
<b>Hazardous Decomposition Products:</b>	Nitrogen oxides, carbon monoxide and unidentified organic compounds (some containing nitrogen) may be formed during thermal or oxidative decomposition or combustion. See Section XIII.

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### Section XI - Employee Protection

<b>Respiratory Protection:</b>	Avoid breathing vapors/mists. Use a NIOSH-approved respirator as required to prevent overexposure. In accord with 29 CFR 1910.134, use either a full-face, atmosphere-supplying respirator or an air-purifying respirator for organic vapors. Avoid breathing vapors which may be produced under some conditions such as heating or applications of uncured material in large surface areas (e.g., flooring and painting). Avoid breathing aerosols and mists which may be formed by various methods of application.
<b>Protective Clothing:</b>	Do not get in eyes. Wear chemical goggles if there is potential contact with eyes. Avoid contact with skin and clothing. Wear chemical-resistant gloves and protective clothing.
<b>Additional Protective Measures:</b>	Use ventilation as required to control vapor concentrations. Eye wash fountains and safety showers should be available for emergency use.

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### Section XII - Environmental Protection

<b>Spill or Leak Procedures:</b>	Triethylenetetramine (TETA) is resistant to biodegradation in biological wastewater treatment plants. It could be toxic to the biomass in a treatment plant and could be toxic to fish. May burn although not readily ignitable. Use cautious judgement when cleaning up large spills.
<b>Large Spills:</b>	Wear respirator and protective clothing as appropriate. Shut off source of leak if safe to do so. Dike and contain. Remove with vacuum trucks or pump to storage/salvage vessels. Soak up residue with an absorbent such as clay, sand or other suitable material; dispose of properly. Flush area with water to remove trace residue.
<b>Small Spills:</b>	Take up with an absorbent material and dispose of properly.

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### Section XIII - Special Precautions

<b>WARNING:</b>	<p>Extremely irritating to the eyes. May cause skin and respiratory tract irritation. May cause skin sensitization. Containers, even those that have been emptied, can contain hazardous product residues. Wash with soap and water before eating, drinking, smoking, applying cosmetics or using toilet facilities. Launder contaminated clothing before reuse. Contaminated leather articles including shoes cannot be decontaminated and should be destroyed.</p> <p>Heating this curing agent in the presence of air may cause thermal and oxidative decomposition. With some epoxy resins, it may produce exothermic reactions which in large masses can cause runaway polymerization and charring of the reactants. Fumes and vapors from these thermal and chemical decompositions vary widely in composition and toxicity. Do not breath fumes. Use a NIOSH-approved respirator as required to prevent overexposure. In accord with 29 CFR 1910.134, use either an atmosphere-supplying respirator or an air-purifying respirator for organic vapors.</p> <p>Store in a cool, dry place with adequate ventilation. Keep away from open flames and high temperatures. Do not pressurize drum containers to empty them.</p>
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### Section XIV - Transportation Requirements

DEPARTMENT OF TRANSPORTATION (DOT) CLASSIFICATION:	
<b>Class:</b>	8
<b>UN I.D. #</b>	UN2259
<b>Packing Group:</b>	II

### Section XV - Other Regulatory Information

The following chemicals are specifically listed by individual states; other product specific health and safety data in other sections of the MSDS may also be applicable for state requirements. For details on your regulatory requirements, you should contact the appropriate agency in your state.

State Listed Component	CAS No.	Percent	State Code
Triethylenetetramine (TETA)	112-24-3	<16	CA, FL, MA, NJ, PA

CA = California Hazardous Substance List; FL = Florida Substance List; MA = Massachusetts Substance List; NJ = New Jersey Hazardous Substance List; PA = Pennsylvania Hazardous Substance List

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