



Advanced Polymers for High Tech Applications

1. Material Identification

Product Name: PFP 9110LV Resin

Emergency Phone: For product emergencies involving spill, leak, fire, exposure, or accident call CHEMTREC at (800) 424-9300. For all other inquiries call Precision Fiber Products, Inc at (408) 946-4040.

2. Composition

Hazardous Components	CAS No.	Percent	Exposure Limits	
			ACGIH TLV-TWA	OSHA PEL
Epoxy Resin	Proprietary	< 90	N.E.	N.E.
N-Butyl Glycidyl Ether	2426-08-6	< 30	25 ppm	25 ppm

Abbreviations: N.E. = Not Established

3. Health Hazard Identification

Primary Routes of Exposure: Eyes: Yes Skin: Yes Inhalation: Yes

Eye Contact: May cause severe irritation and corneal damage.

Skin Contact: May cause extreme irritation, damage, and sensitization. May be toxic if absorbed through the skin.

Inhalation: May cause irritation and sensitization. May produce central nervous system depression. May be moderately toxic.

Ingestion: May be slightly toxic. May produce central nervous system depression.

Other: Preexisting skin, eye, and respiratory disorders may be aggravated by exposure to this product. Individuals with preexisting skin or lung allergies may experience increased allergy symptoms upon exposure to this product.

4. First Aid Measures

Eyes: Flush eyes thoroughly with water for at least 15 minutes while holding eyelids open. Seek medical attention.

Skin: Wipe excess from skin, and flush the affected area with water for at least 15 minutes. Follow by washing with soap and water. Wash contaminated clothing thoroughly before reuse. If irritation persists obtain medical attention.

Inhalation: Remove to fresh air, and provide oxygen or artificial respiration if needed. Obtain medical attention.

Ingestion: Induce vomiting. Obtain medical attention.

5. Accidental Release Measures

Ventilate the spill area, and evacuate if necessary. Shut off the source of the leak if it is safe to do so. Remove all ignition sources. Dike and contain large spills. Absorb with a suitable material, and dispose of properly. Clean-up personnel should use adequate protective equipment, including respiratory protection.

6. Handling and Storage

Store in a cool dry place. Keep away from ignition sources and high temperatures. Avoid contact with incompatible materials. Wear protective eye-wear, chemical resistant gloves, and other protective clothing as appropriate. Some curing agents, if mixed with this product in sufficiently large quantities, can cause exothermic reactions and runaway polymerization, yielding fumes which vary widely in composition and toxicity. Do not breathe fumes.



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7. Fire Fighting Measures

Flammable Properties

Flash Point:	> 164°F (Setaflash)
Explosive Limits (% volume in air):	Not determined
Auto-Ignition Temperature:	Not determined
Hazardous Combustion Products:	Carbon oxides, aldehydes, and acids.

Extinguishing Media and Fire Fighting Instructions

When sufficiently large quantities are present, firefighters should be equipped with full bunker gear, including a positive pressure, NIOSH approved, self-contained breathing apparatus. Fire-exposed containers may be cooled with water.

Extinguishing Media: Use water fog, carbon dioxide, dry chemical, or "alcohol" foam.

8. Exposure Controls and Personal Protection

Engineering / Ventilation Controls: General ventilation is acceptable under most conditions, although local ventilation is required to control exposure whenever vapors, mists, or dusts are generated. Eye wash stations should be readily available.

Respiratory Protection: Where exposure exceeds established airborne limits, use a NIOSH approved respirator, or a self-contained breathing apparatus, or a supplied air respirator as necessary to control exposure.

Skin Protection: Impervious gloves and protective clothing should be worn as necessary.

Eye Protection: Wear chemical splash goggles or safety glasses with side shields.

9. Physical and Chemical Properties

Appearance / State:	Light yellow liquid	Boiling Point:	Not determined
Odor:	Not determined	Freezing Point:	Not determined
pH:	Does not apply	Specific Gravity:	1.13
Vap. Pressure (mmHG):	1	Solubility in Water:	Negligible
Vap. Density (air = 1):	4.5	Evaporation Rate (Ether=1):	Not determined

10. Stability and Reactivity

Chemical Stability: Stable under normal conditions and use.

Conditions and Materials to Avoid: Keep away from ignition sources and high temperatures. Reacts with acids, bases, and strong oxidizing agents.

Hazardous Decomposition Products: Carbon monoxide, aldehydes, and acids.

Hazardous Polymerization: Will not occur.

11. Disposal Considerations

Keep out of surface waters, sewers, and waterways entering or leading to surface waters. Notify authorities if any exposure to the environment occurs or is likely to occur. Utilize an appropriate disposal facility, in compliance with applicable federal, state, and local environmental control regulations.

12. Transportation Information

Not regulated by IATA. Not regulated by DOT if shipped in containers of 119-gallon capacity or less.

DOT/IATA Proper Shipping Name: Resin Solution

Hazard Class: Combustible Liquid

UN ID#: 1866

Packing Group: III



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13. Toxicological Information

This section provides toxicological information. It is suggested that persons trained in its evaluation interpret this information.

Epoxy Resin

Acute Oral LD50: 11.4 g/kg, rat; 15.6 g/kg, mouse
Acute Dermal LD50: 20 mL/kg, rabbit

Recent two-year bioassays in mice, exposed by the dermal route to this component, have yielded very limited evidence of weak carcinogenicity. The authors of this work have concluded that the renal tumor evidence "was of no biological significance" and that the resin "is not a systemic carcinogen when applied to the dorsal skin of CF1 mice." This component has been proven to be inactive when tested by in vivo mutagenicity screening and has produced chromosomal aberrations in cultured rat liver cells. The significance of this information to humans is unknown.

N-Butyl Glycidyl Ether

Acute Oral LD50: 1.53 g/kg, mouse; 2.26 g/kg, rat
Acute Dermal LD50: 788 mg/kg, rabbit
Acute Inhalation LC50: > 3500 ppm (four-hour), mouse; 1030 ppm (eight-hour), rat

Rats exposed to this component at 150 ppm for 50 seven-hour exposures demonstrated significantly retarded growth. In the same study, there was a 50% mortality rate in rats exposed at 300 ppm, with additional signs of toxicity in the survivors. Testicular atrophy was observed in rats exposed at 300 ppm, but the rats were juvenile, obscuring the significance – if any – of the result. In a twenty-eight-day inhalation study, rats exposed at 188 ppm showed decreased body weight and changes in blood chemistry. Severe irritation of the upper respiratory tract was observed in rats exposed at 94 ppm and 188 ppm. This component has tested positive in a number of in vitro genetic toxicity assays with and without metabolic activation. Mixed results were observed in the dominant lethal and the mouse micronucleus tests.

14. Regulatory Information

US Federal Regulations

TSCA: The chemical components of this product are included in the TSCA Chemical Substance Inventory, as required.

SARA Title III Information

Section 313 – Toxic Chemicals:

Pursuant to section 313 or SARA Title III, this product does not contain any chemicals in a concentration equal to or greater than the *de minimis* level.

Section 311/312 – Hazard Categories:

Fire Hazard:	Yes
Reactivity Hazard:	No
Sudden Release of Pressure Hazard:	No
Immediate (Acute) Health Hazard:	Yes
Delayed (Chronic) Health Hazard:	No

NFPA Hazards:	Health: 2	Flammability: 2	Reactivity: 0
HMIS Hazards:	Health: 2	Flammability: 2	Reactivity: 0

State Regulations/Right to Know

California Proposition 65: This product is not known to contain any chemicals which are recognized by the State of California to cause cancer, birth defects, or other reproductive harm, including epichlorohydrin and phenyl glycidyl ether.

Precision Fiber Products, Inc urges each customer or recipient of this MSDS to study it carefully in order to become aware of and understand the hazards associated with the product. The reader should consider consulting reference works or individuals who are experts in ventilation, toxicology, and/or fire prevention, as necessary to use and understand the data contained in this MSDS.

To promote safe handling, customers and recipients should: 1 –notify their employees, agents, contractors, and others whom they know or suspect will use this material or the information in this MSDS and any other information regarding hazards or safety; 2 –furnish this same information to each of their customers for the product; and 3 –request their customers to notify their employees, customers and other users of the product of this information.

The information contained herein is based on the data available to Precision Fiber Products, Inc, and is believed to be correct. However, Precision Fiber Products, Inc makes no warranty, expressed or implied, regarding the accuracy of this data or the results to be obtained from the use thereof. Precision Fiber Products, Inc assumes no responsibility for injury from the use of the product described herein.

Precision Fiber Products, Inc.
180 S. Hillview dr. Milpitas, CA, 95035, USA

E-mail: orders@pfpfiber.com
www.precisionfiberproducts.com

Phone: 1 (408) 946-4040 • Standard Fax: 1 (408) 228-1958 • PO Fax only: 1 (408) 228-8058