

## EpoPro<sup>®</sup> 4221

### Cycloaliphatic Epoxy Resin

#### CAS # 2386-87-0

EpoPro<sup>®</sup> 4221 is a cycloaliphatic epoxy resin with very low viscosity used for many electrical, composite, adhesive, and tooling applications for its excellent properties. It can be cured with anhydrides, cycloaliphatic amines, aromatic amines, acid and cationic curative. It is most often cured with heat, UV or EB curing mechanisms.

The cured system based on EpoPro<sup>®</sup> 4221 provides excellent UV resistance and long term outdoor performance in electrical equipment and structural composites including filament wound structures. Cured systems formulated with the EpoPro 4221 and suitable hardeners can develop glass transition temperature in excess of 180°C and mineral or fiber filled systems or composite systems based on this resin can be formulated to maintain their properties at up to 200°C even in hot wet environments.

#### BENEFITS

- Low viscosity, UV resistant with excellent long term outdoor performance.
- Excellent wetting of most clothes, fibers, fillers, & filaments
- High Glass transition temperatures possible with certain hardeners
- Excellent Chemical Resistance
- Excellent Electrical Properties
- Low Color, Excellent color retention with appropriate hardener selection

<b>TYPICAL PROPERTIES</b>	<b>VALUE</b>	<b>TEST METHOD</b>
Visual Appearance	Clear Liquid	Visual
Color, APHA	100 Max	
Density	1.17 g/cm <sup>3</sup>	ASTM E-201
Viscosity, Part A, at 25°C	200 – 450 cP	ASTM D-2393
Epoxy Index. eq. / kg	7.0 – 7.7	ISO 3001
Epoxy Equivalent Weight g/g mol	128 – 145	

#### Applications:

EpoPro<sup>®</sup> 4221 can be used for many different applications, both as a primary resin as a formulating component. Contact SP&S and we'd be happy to provide starting formulations for various applications based on the glass transition or other properties that you are trying to achieve.

#### STORAGE GUIDELINES

Store EpoPro<sup>®</sup> 4221 in a clean, cool and dry environment in its tightly closed original container. The EpoPro<sup>®</sup> 4221 will have a minimum shelf-life of 3 years from date of shipment when stored at 15°C – 35°C (59°F - 95°F).

# Product Datasheet



Keep away from acids and halogens for best storage life as this material is a halogen scavenger and may react with acids.

## HANDLING PRECAUTIONS

Mandatory and recommended industrial hygiene procedures should be followed whenever these products are being handled and processed. For additional information please consult the corresponding material safety data sheets.

## PERSONAL HYGIENE



Warning. H317 May cause an allergic skin reaction. H402 Harmful to aquatic life.

### Prevention:

P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.  
P272 Contaminated work clothing should not be allowed out of the workplace.  
P273 Avoid release to the environment.  
P280 Wear protective gloves.

## FIRST AID

In case of contact: **Skin** – Immediately wash skin thoroughly with mild soap and water. Remove contaminated clothing and wash before reuse. Destroy contaminated shoes and other articles made of leather. **Eyes** – Immediately flush eyes with plenty of water for 15 minutes and get prompt medical attention. **Inhalation** - Remove person to fresh air. Administer oxygen or artificial respiration if necessary. Call a physician. **Ingestion** - Do not induce vomiting. Dilute with plenty of water and contact physician immediately. Never give anything by mouth to an unconscious person.

**DISCLAIMER :** **IMPORTANT** The following supercedes Buyer's documents. **SELLER / MANUFACTURER MAKES NO REPRESENTATION OR WARRANTY, EXPRESS OR IMPLIED, INCLUDING OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.** No statements herein are to be construed as inducements to infringe any relevant patent. Under no circumstances shall Seller / Manufacturer be liable for incidental, consequential or indirect damages for alleged negligence, breach of warranty, strict liability, tort or contract arising in connection with the product(s). Buyer's sole remedy and Seller's sole liability for any claims shall be Buyer's purchase price. Data and results presented are based on controlled or laboratory work and must be confirmed by Buyer by testing for its intended conditions of use. The product(s) has not been tested for, and is therefore not recommended for, uses for which prolonged contact with mucous membranes, abraded skin, or blood is intended; or for uses for which implantation within the human body is intended.

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