

Technical Data Sheet

EPI-REZ™ Resin 5108-W-60

Product Description

EPI-REZ Resin 5108-W-60 is a nonionic, waterborne dispersion of a highly multifunctional Bisphenol A epoxy novolac resin and is most commonly used in combination with other epoxy resin dispersions to increase the epoxide functionality of a system. Adding EPI-REZ Resin 5108-W-60 to fiber sizing formulations will lead to increased epoxide functionality in the fiber-matrix interphase and can improve moisture, chemical and thermal performance for fiber-reinforced composites. In cured applications, EPI-REZ Resin 5108-W-60 can be used to increase the rate of green strength or hardness development and will also contribute to improved moisture, chemical and thermal resistance.

Application Areas/Suggested Uses

- Size treatments for inorganic and organic fibers
- Textile binders
- Film adhesives
- Ambient and heat cured industrial coatings
- Modifier for other waterborne epoxy resins

Benefits

- High functionality epoxy resin
- Excellent particle size stability
- No VOC
- Superior hydrolytic and chemical resistance
- High thermal resistance
- Can be cured through epoxide functional groups

Typical Properties

| Property | Value | Unit | Test Method |
|-------------------|---------------------|------|-------------|
| Appearance | Opaque white liquid | | |
| Organic Cosolvent | None | | |
| pH | 3 - 6 | | ASTME70 |

Sales Specifications

| Property | Value | Unit | Test Method |
|-----------------------------------|--------------|---------|-------------|
| Epoxy Group Content EGC | 4000 - 4760 | mmol/kg | ASTMD1652 |
| Particle Size Coulter Volume Mean | 1.7 max | µm | Internal |
| Solids Content | 58 - 60 | %m | ASTMD1259 |
| Viscosity at 25°C, Brookfield | 5000 - 13000 | cP | ASTMD1545 |
| Weight per Epoxide WPE | 210 - 250 | g/eq | ASTMD1652 |

Processing/How to use

General Information

EPI-REZ Resin 5108-W-60

<https://www.hexion.com/en-US/product/epi-rez-resin-5108-w-60>

Generated: September 18, 2019

Issue Date:

Revision:

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EPI-REZ Resin 5108-W-60 is most commonly used with other waterborne epoxy resin dispersions as a film former for fiber sizing applications. In this application, EPI-REZ Resin 5108-W-60 increases the epoxide functionality of the system, a feature which generally translates to improved moisture, chemical and thermal resistance. Upon evaporation of water at slightly elevated temperatures, EPI-REZ Resin 5108-W-60 coalesces to form a clear, continuous, tack-free film.

EPI-REZ Resin 5108-W-60 may be used alone or as a modifier with other waterborne epoxy resins for heat cure applications including textile binders, film adhesives, and coatings where a polymer network is built by reacting the epoxide groups. Water dispersed or water soluble curing agents which react with epoxide groups or promote self-polymerization can be used as crosslinking agents with EPI-REZ Resin 5108-W-60. Such curing agents include dicyandiamide, polyamides, and aliphatic amines. In heat cure applications in combination with a suitable crosslinking agent, EPI-REZ Resin 5108-W-60 will form a clear, highly crosslinked, chemically resistant film.

Safety, Storage & Handling

Please refer to the Safety Data Sheet (SDS) for the most current Safety and Handling information and the Hexion Inc web site for Shelf Life and recommended Storage information.

For ease of handling and optimum shelf life, epoxy dispersions should be stored between 50°F (10°C) and 100°F (38°C). Do not allow the product to freeze. To prevent skinning or surface drying, do not leave the product uncovered for extended periods of time. If the need arises to store partially filled drums, replace the plastic top sheet onto the surface of the liquid product. With extended storage or shipping, some settling may occur. In general, material should be lightly and thoroughly agitated before use to ensure uniformity.

Exposure to these materials should be minimized and avoided, if feasible, through the observance of proper precautions, use of appropriate engineering controls and proper personal protective clothing and equipment, and adherence to proper handling procedures. None of these materials should be used, stored, or transported until the handling precautions and recommendations as stated in the Material Safety Data Sheet (MSDS) for these and all other products being used are understood by all persons who will work with them. Questions and requests for information on Hexion Inc. ("Hexion Inc") products should be directed to your Hexion sales representative, or the nearest Hexion sales office. Information and SDS on non-Hexion products should be obtained from the respective manufacturer.

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