

Technical Data Sheet

EPI-REZ™ Resin 3540-WY-55

Product Description

EPI-REZ™ 3540-WY-55 Resin is a 55 percent solids dispersion of an EPON™ Resin 1007F in water and 2-propoxyethanol. This resin is designed for use in formulating industrial baking finishes, film adhesives/primers and fiber finishes/binders. When crosslinked with an appropriate resole, melamine or urea-formaldehyde resin and baked, epoxy coatings can be obtained that offer performance comparing favorably to solvent-borne epoxy coatings. This resin may also be used in industrial ambient cure primers in conjunction with waterborne EPIKURE™ amine curing agents that offer quick coalescing films with short lacquer dry times.

Application Areas/Suggested Uses

- Clear bake coil coatings
- Pigmented bake and ambient cure industrial coatings
- Modified for other waterborne resins to improve hardness, mar resistance and flexibility

Benefits

- May be formulated to low VOC coatings
- Good adhesion to steel or aluminum
- Compatible with a variety of aminoplast resins
- Stable with a wide range of solvents
- Nonionic stable dispersion of high molecular weight epoxy resin

Sales Specifications

| Property | Value | Unit | Test Method |
|--------------------|--------------|---------|-------------|
| Particle Size | 0.35 - 0.85 | microns | SRC 00033 |
| pH | 7 - 10 | | ASTME70 |
| Solids | 53.5 - 55.5 | % | ASTMD1259 |
| Viscosity | 7000 - 17000 | cP | ASTMD-2196 |
| Weight per Epoxide | 1600 - 2000 | g/eq | ASTMD1652 |

Typical Properties

| Property | Value | Unit |
|------------------------|---------------------|---------|
| Appearance | Opaque white liquid | |
| Pounds/Gallon Solution | 9 | lbs/gal |
| Pounds/Gallon Solids | 10.1 | lbs/gal |

General Information

EPI-REZ 3540-WY-55 may be formulated into gloss enamels, primers, and clear coatings. The viscosity and stability of these coatings are dependent on the solvents, pigments, and other additives used in formulating. It is therefore advisable to include one of the given formulations as a control when formulation changes are made in order to determine the effect of the change on formulation constants.

EPI-REZ Resin 3540-WY-55

<https://www.hexion.com/en-US/product/epi-rez-resin-3540-wy-55>

Generated: February 29, 2020

Issue Date:

Revision: 8/20/2018 3:00:00 AM

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A variety of aminoplast resins have been screened with EPI-REZ 3540-WY-55. Evaluation of cured films using these crosslinking resins indicates that Beetle1 80 at an 80:20 ratio (epoxy resin solids/crosslinker solids) offers the best combination of hardness, flexibility, resistance properties and stability. There are a number of crosslinking agents and combinations of crosslinking agents that may be used with EPI-REZ 3540-WY-55 which offer the formulator latitude in developing coatings for specific end use requirements. Generally, 10 to 30 percent crosslinker resin solids will give optimum results.

In order to obtain adequate cure in baked films, it is necessary to use an acid catalyst. Preferably, a blocked catalyst should be used to ensure adequate stability. Based on extensive testing, phenol/butyl acid phosphate PA752 and FC-5203 have been found to give the best combination of cure response and stability. The recommended level of catalyst is 0.5 to 2.0 percent active catalyst on resin solids depending on baking temperature and duration of storage. Low levels of catalyst will exhibit a gradual loss of cure after one week of storage.

EPI-REZ 3540-WY-55 may also be used with EPI-REZ 3520-WY-55 or EPI-REZ 6520-WH-53 to shorten the lacquer dry time of these resins when cured with amines.

Table 1 /Typical performance - white enamel, 0.8 mil dry film thickness, Bonderite # 1000 (24 gauge)

| | | | 160 in. • lbs. Reverse Impact | MEK Resistance |
|------------|-------------|-----------------|----------------------------------|-----------------|
| Time | Temperature | Pencil Hardness | Double Rubs | Pencil Hardness |
| 30 minutes | 300 °F | 5H | pass | 100 5H |
| 20 minutes | 325 °F | 5H | pass | 100 5H |
| 15 minutes | 350 °F | 5H | pass | 100 5H |
| 10 minutes | 400 °F | 5H | pass | 100 5H |

Safety, Storage & Handling

Please refer to the SDS for the most current Safety and Handling information.

Please refer to the Hexion web site for Shelf Life and recommended Storage information.

For ease of handling and optimum shelf life, epoxy dispersions should be stored in tightly sealed containers at temperatures between 50°F (10°C) and 100°F (37.8°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 Safety Data Sheet (SDS) 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") products should be directed to your Hexion sales representative, or the nearest Hexion sales office. Information and SDSs on non-Hexion products should be obtained from the respective manufacturer.

Packaging

Available in bulk and drum quantities.

Contact Information

For product prices, availability, or order placement, visit the "Contact Us" section of our website. For literature and technical assistance, visit our website at www.Hexion.com/epoxy