

Technical Data Sheet

EPIKURE™ Curing Agent P-100

Product Description

EPIKURE Curing Agent P-100 is a curing agent /accelerator for low temperature curing epoxy powder coatings.

EPIKURE Curing Agent P-100 is a versatile, chemically stable, low bake or ultra-rapid epoxy powder coating converter. It is a solid amine adduct especially designed to cure epoxy resin powder coatings at temperatures as low as 275°F (135°C). This permits the use of energy saving baking schedules. EPIKURE Curing Agent P-100 is compatible with epoxy resins when extruded or hot melt mixed in the normal fashion. This permits a truly homogeneous blend of epoxy resin and curing agent and results in a cured film with excellent appearance. Because of these features EPIKURE Curing Agent P-100 is a significant improvement over accelerated dicyandiamide type curing agents which are widely used in the thin film decorative or functional epoxy powder coatings.

EPIKURE Curing Agent P-100 can be either incorporated as a catalyst with EPON™ Resin 2002 at levels of 2 phr (parts per 100 parts of epoxy resin) or it can be blended with dicyandiamide to function as an accelerator. This provides the powder coating formulator with a wide latitude in meeting specific baking requirements.

Application Areas/Suggested Uses

- Powder Coatings
- Can be used as an accelerator

Benefits

- Low temperature cure

Sales Specifications

Property	Value	Unit	Test Method
Alkalinity	3.5 - 3.9	mEq/g	ASTM D2896

Typical Properties

Property	Value	Unit	Test Method
Nitrogen	10.2 - 11.2	% wt.	ASTM D5291
Melting range	87 - 93	°C	ISO 6321

General Information

Blending by Extrusion:

EPIKURE Curing Agent P-100
<https://www.hexion.com/en-US/product/epikure-curing-agent-p-100>

Generated: May 22, 2019
 Issue Date: 9/18/2018 5:00:00 AM
 Revision:

EPIKURE Curing Agent P-100 is a low melting solid and is easily solubilized in the epoxy resin during melt-mix processing. However, its rapid catalytic activity on the epoxy resin makes necessary the pulverizing of this curing agent to about 200 mesh before blending it with the other components in the formulation. The homogeneous blend is then melt-mixed in a single or twin-screw extruder and pulverized to a suitable particle size.

Cleaning of Equipment:

EPIKURE Curing Agent P-100 is soluble in a blend of acetone/water or methyl ethyl ketone/water, each blend at and 85/15 weight ratio. Either of these solvent blends will effectively clean any equipment that is used to pregrind this curing agent. Acetone and methyl ethyl ketone are very flammable and volatile. Care must be exercised to prevent health and safety hazards. Neither material 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. Once the curing agent is incorporated into the powder formulation, usual cleaning procedures should be employed.

Formulating and film properties

The choice of epoxy resin has a significant influence on the flow properties and appearance of the powder coating, especially for coatings cured below 300°F (149°C). The low melt viscosity of EPON Resin 2002 combined with the low viscosity, compatibility and high reactivity of EPIKURE Curing Agent P-100 provide optimum film decorative/functional coatings.

EPIKURE Curing Agent P-100 can be used as the sole curing agent with epoxy resin or in combination with dicyandiamide. The incorporation of dicyandiamide has been found to be effective in adjusting cure rate and improving color retention and package stability.

Application Methods

Typical methods include electrostatic spray, fluidized bed, electrostatic fluidized bed and flocking by gun. These systems require the incorporation of a bake cycle to cure the formulations.

Safety, Storage & Handling

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

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

EPIKURE Curing Agent P-100 is hygroscopic and care should be exercised to minimize its exposure to atmospheric moisture during storage.

EPIKURE Curing Agent P-100 exhibits excellent storage stability at 75°F max. However, at 100°F the gel times of powder coatings are reduced by as much as 50% after 1 month storage. The incorporation of 1-2 phr of dicyandiamide serves to stabilize the formulation, reducing the decline in gel time after storage at 100°F to only 20%. We therefore recommend that powder coatings based upon EPIKURE Curing Agent P-100 be stored at 80°F maximum for optimum package stability.

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 Inc") products should be directed to your Hexion sales representative, or the nearest Hexion sales office. Information and Safety Data Sheets 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