

Flexibilizer T

Reactive Epoxy Flexibilizer & Viscosity Reducer



Typical Properties		(Not for specification purposes. All tests run at 25°C unless otherwise noted)
Flexibilizer T Properties:		
Appearance	Visual	Light Amber liquid
Color, tristimulus		50
Refractive Index		1.560 at 20°C
Specific Gravity	ASTM-D-1475	1.27 g/ml
Viscosity	ASTM-D-2393	950 cP
pH		7.0
Flash Point	Closed Cup	>93°C

Suggested Applications:

- In Epoxy tooling compounds, adhesive, sealants, encapsulants & coatings to impart increased toughness and resiliency

Benefits:

- Solvent-free, fully reactive flexibilizer & viscosity reducer

Flexibilizer T is a solvent-free reactive flexibilizer based upon a synthetic rubber. It is designed to improve toughness and resiliency of epoxy resin systems. The affects of adding the Flexibilizer T to an epoxy system or using it as the sole curative is generally to provide increased flexibility, cracking resistance, impact resistance and peel strength and to lower the modulus of the cured material. In some cases the Flexibilizer T may also modestly shorten the pot life of the system.

Flexibilizer T chemical reacts with epoxy systems to produce a finished product with a flexible polymer backbone. It contains no plasticizers or other non-reactive components that can leach out of the fully cured epoxy to produce either reduced flexibility over time, high weight loss & out-gassing at elevated temperature or other negative results. However, extended exposure to high temperatures may gradually induce increased hardness in epoxy systems with high levels of the Flexibilizer T due to additional oxidative cross-linking and chemical rearrangement.

In most systems, the addition of the Flexibilizer T will reduce the viscosity of the mixed epoxy. The magnitude of viscosity reduction will be determined by the difference between the viscosity of the Flexibilizer T and the epoxy system and the quantity of the Flexibilizer T added.

In most 2 part epoxy systems the Flexibilizer T can replace from 25% – 45% of the standard hardener to impart increased toughness without dramatic changes to other cured properties. The exact level should be determined experimentally or by consultation with SP&S to ensure that the epoxy will fully cure. With most unfilled, liquid epoxy resins, the Flexibilizer T can be used as the sole curative at levels from 80 to 200 parts by weight per 100 parts by weight of the resin. (90 – 100 pbw is typical for standard epoxy resins like DER 331 or 332, Araldite GY 6010, or Epon 828.) For a recommendation for use with your specific epoxy system please contact SP&S or

conduct a thorough evaluations to be sure that the level used is satisfactory for your application.

Storage Guidelines:

Store this material in a clean, dry environment in its tightly closed original container. These products are not considered especially temperature sensitive, but ideally should be stored between 15 - 40°C (59-104°F) to maintain optimum quality. Under these conditions the products will have a minimum shelf-life of 12 months from the date of shipment.

Processing Guidelines:

Because of its low viscosity and its excellent compatibility to epoxy resins, Flexibilizer T can be added to these resins at room temperature either manually or using mechanical agitation. Whatever method is chosen, be sure to accurately weigh both the resin and the additive prior to mixing and to ensure the targeted mix ratio is obtained.

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:

Caution!!! Prolonged or Repeated exposure may cause eye or skin irritation and possible allergic skin reaction. May be harmful if inhaled or swallowed. Avoid contact with eyes, skin, and clothing. Wear impervious clothes and eye protection when handling. Avoid breathing vapor or mist. Keep containers closed when not in use. Use only with adequate ventilation. Wash thoroughly after handling. Launder contaminated clothing prior to reuse.

First Aid

In case of contact:

Skin - Wash skin thoroughly with mild soap and water. Remove contaminated clothing and wash before reuse. Discard contaminated shoes and other articles made of leather

Eyes - Flush eyes with plenty of water for 15 minutes and get prompt medical attention.

Inhalation - Remove person to fresh air

Ingestion - If conscious, dilute with plenty of water, induce vomiting and contact physician immediately. Never give anything by mouth to an unconscious person

Disclaimer:

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