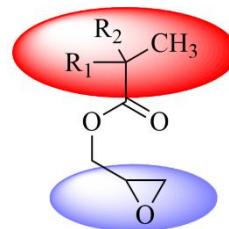


## Glycidyl Neodecanoate – F10

### Introduction:

F10, glycidyl neodecanoate, a synthetic saturated monocarboxylic acid mixture of highly branched isomers. The structure may be represented as:



Both R<sub>1</sub> and R<sub>2</sub> are alkyl with total 7 carbon atoms. The tertiary carbon structure has large steric hindrance, which is similar to umbrella structure. Therefore, it has good hydrophobicity, acid and alkali resistance, and UV resistance. The active epoxy group is easy to react with carboxyl group, amino group and hydroxyl group. The hydroxyl group formed after ring opening can be used for crosslinking.

### Applications:

Glycidyl neodecanoate makes it a unique modifier of coating resin. The epoxy group has high reactivity and can react with carboxyl, amino and hydroxyl groups. The reactivity of epoxy group enables it to be introduced into acrylic resin, polyester and alkyd resin at lower temperature with few side reactions. The polyester prepared by this method meets the design requirements of narrow molecular weight distribution and low viscosity. Branched chain fatty acid structure provides hydrolysis stability, weatherability and UV resistance of the resin. The suspended tertiary carbon structure can also reduce the viscosity of the modified resin and improve the wettability and plasticization of the pigment.

### Typical applications include:

- (1) Acrylic polyol resin
- (2) High solid and waterborne coatings
- (3) Active diluent for epoxy resin
- (4) Automotive topcoats, intermediate paints, primers, varnishes and touch up paints
- (5) On heavy duty anticorrosive coatings for ships and bridges

### Specifications:

Property	Test method	Unit	Value
Epoxy group content	Perchloric acid titration	mmol/kg	4100 - 4300
Epoxy molar mass	--	g/mol	232.5 - 244
Colour	GB3143	Pt-Co(hazen)	≤ 35

Water content	GB/T 606	%m/m	$\leq 0.1$
Appearance	Visual	--	Clear liquid , free from suspended matter

## Typical Properties

Property	Test method	Unit	Value
Molecular formula (theoretical)	--	--	C <sub>13</sub> H <sub>24</sub> O <sub>3</sub>
Viscosity at 25 °C	ASTM D445	mPa·s	7.12
Viscosity at 100°C	ASTM D445	mPa·s	1.30
Viscosity at 125°C	ASTM D445	mPa·s	0.94
Viscosity at 150°C	ASTM D445	mPa·s	0.72
Density at (when 15°C-40°C	ASTM D4052	g/mL	0.95—0.97
Vapour pressure at 37.8°C	ASTM D323	kPa	0.9
Specific heat at 25°C	DSC	kJ/kg·°C	1.733
Boiling range 5%-90% (v/v) at 101.3 kPa	ASTM D86	°C	251-278
Flash point (PMCC)	ASTM D93	°C	126
Solidification point	ASTM D97	°C	Below-60

## Test Methods

ASTM Standards are published by the American Society for Testing and Materials USA. ISO standards are published under the supervision of the International Standards Organisation. Local analytical methods may be used in technical preference to quoted specification test methods. However, the latter remain the reference method in the event of dispute.

## Transport and Storage

The product is packed with 200 liter drums. ISO-tanks are used when the product is transported in bulk. Please use glycidyl neodecanoate strictly according to our MSDS. For more information, contact the Operations Department of our company.

The information contained in this publication is, to the best of our knowledge, true and accurate, but any recommendations or suggestions which may be made are without guarantee, since the conditions of use are beyond our control.