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RESICARE

Beyond resin, innovation for life.

FOR HIGH VALUE EPOXY APPLICATIONS

Resi4 EPOXY

A unique, bisphenols-free, renewable-carbon-based epoxy resin engineered for high value applications.

Composites **Structural adhesives** **UV / dual cure coatings**

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Resi4 EPOXY

Our epoxy resin provide **a sustainable alternative** to conventional petro-based epoxy resins, synthesized with a unique, bio-based monomer that replace **bisphenols**.

Resi4 EPOXY is a unique, bio-based epoxy resin for high value project, with high thermal and mechanical properties, ready to be formulated with conventional hardeners.

This epoxy resin is a new alternative to historical epoxy resins, developed according to REACH legislation, for worker safety and end-users.

Benefits and characteristics

High-thermal performance

Glass transition (Tg) **higher than DGEBA** during comparative tests (iso-hardeners: amine, anhydride, ...)

Solving toxicity[1] issues in bisphenols-based resins for end-users and offering regulatory peace of mind

REACH compliant

Monomers **free of bisphenols** by design

Free of CMR and **endocrine disruptors**

Supports your company's sustainable development strategy

Approaching 100% bio-based formulation[2]

Low CO_2 emissions[2]

Advantages

No serious health hazard pictogram VS **Bisphenol-A, Bisphenol-F** and **Bisphenol-S.**

Serious health hazard

Resi4 EPOXY
CO_2 emissions[2] (CO_2kg / kg)

(1)Formulated without chemicals meeting SVHC criteria (Substance of Very High Concern) as defined by European Chemicals Agency in date of 01/01/2026.

(2)Upon availability of our sugar-based monomers industrial demonstrators in 2027. Two of our first main industrial monomers demonstrators are based in France. The bio-based content is based on ISO 16620 guidelines based on internal data. CO2 emission's preliminary figures are based on internal data, compliant with iso 14044 guidelines. The variability of high and low values is depending of sugar sourcing and industrials scale up.

Technical Data Sheet
Resi4 EPOXY

Applications:

Composites | Structural adhesives | UV / dual cure coatings

Product: Resi4 EPOXY.

Description: Epoxy monomeric et oligomeric.

Presentation form: Yellow to orange viscous liquid.

Benefits: Bisphenols-free, high thermal and mechanical properties.

Main application: High performance valuable applications (iso reference).

Main processing method: 1K or 2K dispensing, potting, hot melt.

Main cross-linking: Use standard epoxy hardeners (amines, anhydrides, ...).

Duration of use and storage: Months at room temperature, measurement on going.

Handling precautions: This product must be used in accordance with the instructions in the Safety Data Sheet.

Liquid resin characteristics

Property	Method	Unit	Measure
Viscosity at 25°C	Rheometer	Pa.s	10 – 40
Epoxy content	NMR	meq/g	8 - 9
Water residual	Karl Fisher	%wt	< 0,1
Density	Pycnometer	-	1,3

Thermal performances of the resin

Property	Method	Unit	Measure
Tg (mixed with anhydride)	DMA	°C	> 142 °C *(vs 127°C with DGEBA)*
T5%	ATG	°C	> 250 °C

Destruction and disposal: Cleaning of liquid resin with acetone or ethanol. Disposal with resin waste.

Additional information: For further information, please reach out to us through the contact form on our website (https://resicare.michelin.com/contact/).

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Did you know?
REACH regulation focus

I've heard about the REACH regulation...
Should I really worry about it? Does it impact my business?

Yes! Regarding the European directive 2004/37/EC, employers must reduce the use of CMR substances in the workplace. This must be done by replacing the hazardous substance with a safer alternative, if technically feasible!

Got it... Time to improve our chemistry for a safer future!

Sent by Pioneer customer

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CERTIFICATION UTAC ISO 9001 UTAC CERAM