

Product Description

EzCiclo RF100 is a solid recycled epoxy hardener derived from waste plastics, featuring a high recycled content. Composite materials produced with EzCiclo RF100 can be degraded by using the CleaVER system. EzCiclo RF100 enhances the potential for material reuse and recycling, bringing significant added value to the entire production process.

Neat resin properties

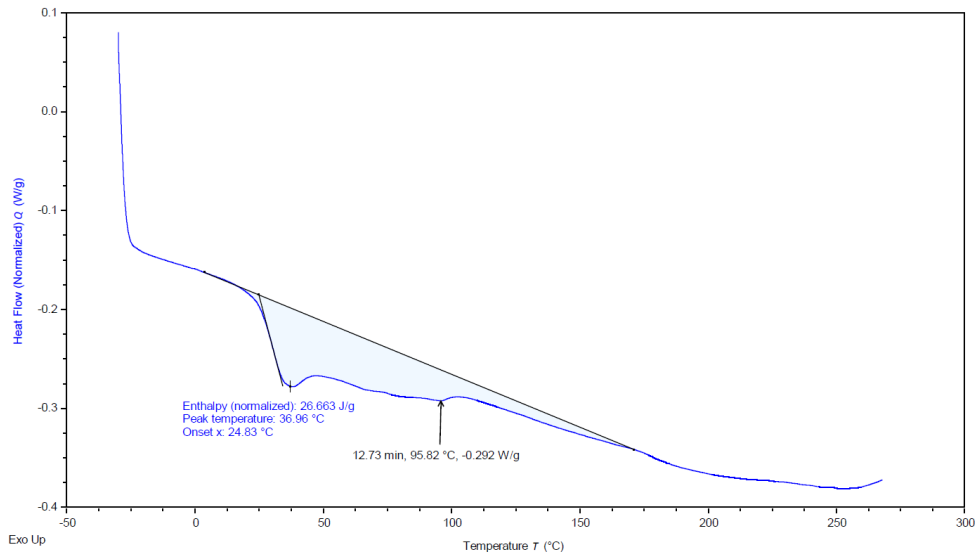
Appearance	Light yellow or reddish brown/Solid
Reaction Equivalent Weight (g/eq)	135-155
Number-average Molecular Weight (Mn)	900~1100
Melting point (°C)	30~60
Recycled Content (%)	>75
Shelf Life (months)	12 (below 30 °C)

The picture of EzCiclo RF100



The data presented herein are believed to be accurate and reliable. We require customers to inspect and test our product before use and to satisfy themselves as to contents and suitability for their specific applications. Information herein is to assist customers in determining whether our products are suitable for their applications but not to be taken as a guarantee, express warranty or implied warranty of merchantability or fitness for particular purpose, nor is any protection from any law or patent to be inferred. All patent rights are reserved. The exclusive remedy for all proven claims is limited to replacement of our material and in no event shall we be liable for special, incidental or consequential damages.

DSC Thermogram of EzCiclo RF100



Epoxy thermosets' Properties

RF100 could be cured with commercial epoxy resins using 2-ethyl-4-methylimidazole (2E4MZ) as an accelerator. The glass transition temperature (T_g) of thermosets were measured by a DSC instrument and recorded during the second run analysis.

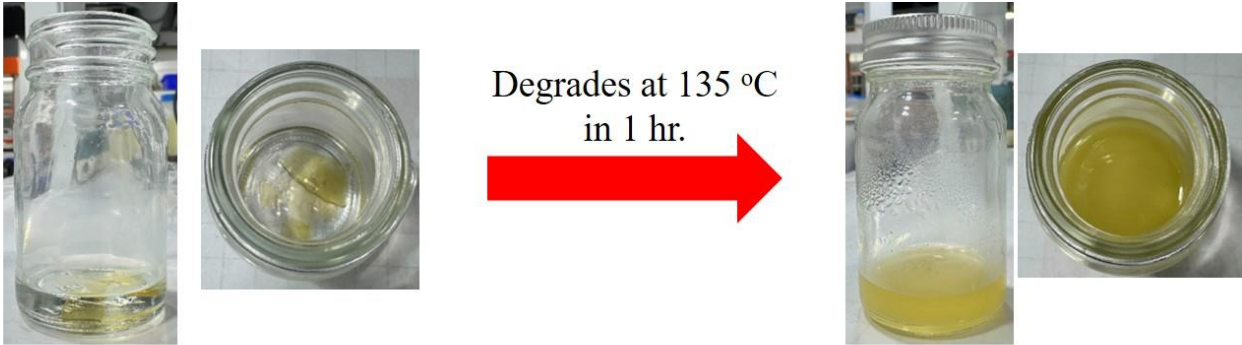
Epoxy resin	Glass transition temperature, T_g (°C)*
NPEL-128	117.7
NPEF-170	109.7
NPPN-638S	148.8
Tetraglycidyl 4,4'- diaminodiphenylmethane (TGDDM)	174.6
CNE195	182.2

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*The analysis was carried out from 0 to 250 °C at a rate of 10 °C/min.

Degradation of thermoset:



The RF100-derivative thermoset was immersed in CleaVER.

Completely degradable by CleaVER.

Notice of Use

- RF100 can be cured with any commercial epoxy resin, the recommended usage amount is equivalent to the epoxy resin. Adding more will not result in a faster reaction, but in incomplete curing with limited performance, that cannot be corrected in any way.
- The recommended usage amount of an accelerator is 0.4~1 wt% of epoxy resins.
- RF100 should be melt-mixed with epoxy resins at 50~100 °C before adding accelerators.
- The suggested curing temperature is above 140 °C.

Storage condition

Please store in a dry place.

Package

Standard packing is 20 Kg steel drum.

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