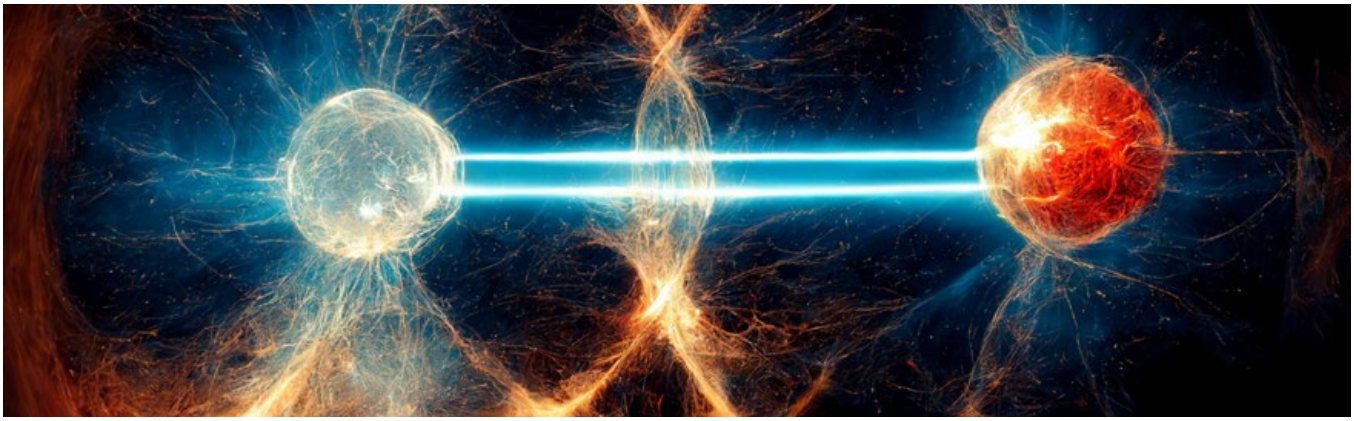
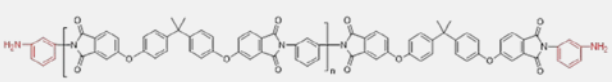
INFUSE THE POWER OF ULTEM™ RESINS

INTRODUCING EXPERIMENTAL REACTIVE ULTEM™ POLYMERS & OLIGOMERS



Reactive ULTEM polyetherimide polymers and oligomers can bring new performance improvements in products like polymer blends, coatings, adhesives, composites, and thermosets. Their end-use applications can benefit from an infusion of ULTEM resin advantages like its strength and stiffness, inherent flame retardancy, chemical resistance, and more. To make this possible, SABIC plans to introduce a new amine-functionalized polyetherimide ULTEM polymers and oligomers.

REACTIVE ULTEM POLYMER

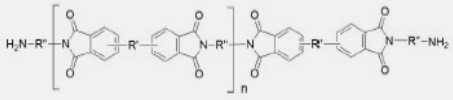


Experimental high molecular weight ULTEM polymer with amine end groups (0.113-0.131 meq/g). The reactive end-groups make the ULTEM resin well suited to form improved polymer structures.

Some enhancements ULTEM polymer may offer:

- High strength & modulus at elevated temperatures
- Enabling a higher Tg in polymer blends
- Improved CTE and dimensional stability over wide temperature range
- Improved adhesion properties
- Tunable phase morphology through formulation design

REACTIVE ULTEM OLIGOMER



Experimental low molecular weight ULTEM oligomer with 4 to 5X reactivity of the polymer (0.450-0.700 meq/g).
Well suited to be used as a high-temperature toughening agent in epoxy, phenolics, cyanate ester, benzoxazine, bismaleimide, and polyurethane-polyurea resin systems.

Some enhancements ULTEM oligomer may offer:

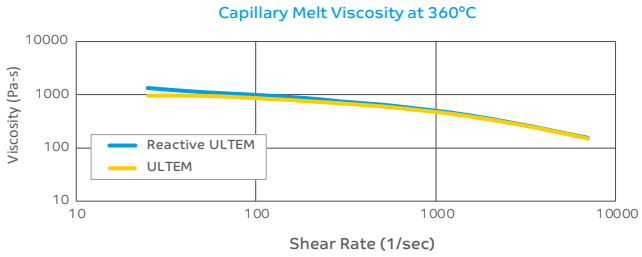
- Improved toughness-stiffness balance
- Higher heat resistance
- Enhanced chemical resistance
- Lower moisture absorption
- Excellent Fire, Smoke & Toxicity (FST) performance

ULTEM™ resin's inherent qualities like flame retardancy, excellent strength, stiffness and more can benefit numerous application spaces. The new experimental reactive ULTEM Polymers and ULTEM Oligomers has the potential to infuse these and other benefits into multiple applications. In addition, both experimental grades are able to provide enhanced processability (solubility, viscosity and compatibility).

THE POWER OF ULTEM RESIN:

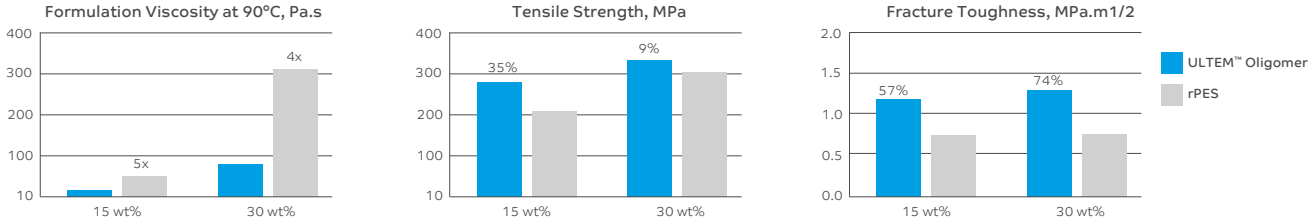
Property	Method	Units	ULTEM resin
Tg	DSC	°C	217
Tensile Strength	ASTM D 638	MPa	110
Flexural Modulus	ASTM D 790	MPa	3510
CTE	ASTM E 831	ppm/°C	50
Flame Retardancy	UL 94	mm	V0≥ 0.75

EXPERIMENTAL REACTIVE ULTEM POLYMER IS EASY TO PROCESS



EXAMPLE OF IMPROVEMENTS IN TGDDM EPOXY SYSTEM:

Reactive ULTEM Oligomer compared to using a reactive Polyethersulfone (rPES), at 15% and 30% by weight (wt%)



Ready to discover how your applications can benefit from an infusion of ULTEM resin advantages? Contact us for experimental samples or technical support today.

make it POSSIBLE | make it ULTEM™ resin

CONTACT INFORMATION

SABIC SPECIALTIES BUSINESS

AMERICAS
E: Specialties.Americas@sabic-hpp.com
T: +1 800 845 0600

ASIA PACIFIC
E: Specialties.Asia@sabic-hpp.com
T: +86 400 833 1033

EUROPE
E: Specialties.EMEA@sabic-hpp.com
T: +36 1 288 3040

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