

CHEMISTRY THAT MATTERS™



DISCOVER MORE SUSTAINABLE OPTIONS

FEATURING UPCYCLED, MECHANICALLY RECYCLED
AND CERTIFIED RENEWABLE OFFERINGS



ABOUT SABIC SPECIALTIES

SABIC's Specialties business can offer more than just materials. We stay ahead of the game by developing new products to keep up with the latest regulatory, scientific and consumer trends. And we're always looking for new ways to add value to your experience.

We invite you to work with us in a personal and collaborative approach. Our team is well-equipped to support your product development teams with our knowledge of materials, design, application development and testing.

Contact us today to learn more.

Email us at Specialties@sabic-hpp.com
or scan the code.



Look for our
sustainability
icon

DISCOVER SUSTAINABLE PRODUCT PORTFOLIOS FROM SABIC SPECIALTIES

While acknowledging the complexity of environmental, social and economic factors, we offer a proven solution: replacing fossil-based thermoplastics with more-sustainable materials.

This transition can help organizations worldwide address increasing pressure to lower their carbon footprint, advance circularity and reduce plastic waste. This pressure can come from regulatory requirements, industry expectations, consumer demands, and environmental, social and governance (ESG) initiatives. To address these scenarios, SABIC offers a wide range of sustainable alternatives to traditional materials that maintain high quality, performance and manufacturability.

Sustainable product portfolios from SABIC's Specialties business include upcycled, mechanically recycled, and certified renewable resins and copolymer resins. They are formulated using renewable and recycled feedstocks.

Customers can obtain sustainable versions of ULTEM™, NORYL™ and LNP™ ELCRIN™ iQ resins, LNP THERMOCOMP™ compounds and LNP™ ELCRIN™ copolymers.



UPCYCLED

PBT materials containing up to 60% upcycled content from post-consumer recycled PET



MECHANICALLY RECYCLED

Materials containing a minimum of 25% PCR content



CERTIFIED RENEWABLE

Materials made with ISCC+ certified renewable bio-based feedstocks

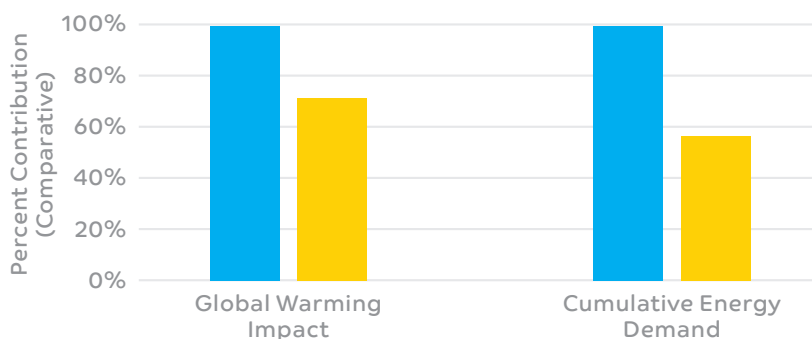
SABIC'S UPCYCLED PORTFOLIO

SABIC's proprietary upcycling technology uses de-polymerization to process recycled single-use polyethylene terephthalate (PET) plastic, including ocean-bound plastic, into polybutylene terephthalate (PBT) resins and alloys. Branded as LNP ELCRIN iQ materials, they contain up to 60% post-consumer recycled (PCR) content and can offer the same mechanical properties as conventional PBT and other alloy materials.

At the end of 2022, SABIC had already diverted 400 million 0.5-liter waste PET bottles for use in its iQ upcycling process.



COMPARISON OF RESIN CRADLE TO GATE FOOTPRINT DATA*



Compared with virgin PBT**

↓ 29% Global Warming Impact***

↓ 43% Cumulative Energy Demand***

■ Virgin PBT
■ ELCRIN™ iQ PBT

* The life cycle assessment study was completed by SABIC in 2020 and underwent third-party critical review as per ISO 14040/14044 standards

** Virgin PBT resin produced through PTA process

*** Midpoint impacts, Cumulative Energy Demand V1.11 and IPCC 2013 OWP100a V1.03 used to measure CED and OW impacts.

The following products are examples from the LNP ELCRIN iQ portfolio of PBT materials.

LNP ELCRIN W1000JiQ compound contains a minimum of 56% PCR content by weight. This biocompatible grade with low extractables and no intentionally added PFAS is well suited for use in healthcare applications like pumps and nozzles. Other properties include good chemical resistance and processability.

Ocean-bound PET water bottles are used in **LNP ELCRIN WF0061BiQ resin**, a 30% glass fiber-reinforced grade. It carries a UL94 V0 rating at 0.8mm and features non-brominated/non-chlorinated flame-retardant chemistry.

Food contact-compliant **LNP ELCRIN WF006LiQ resin** also has 30% glass fiber reinforcement, delivering stiffness and strength in water treatment pumps and other potable water applications. It contains 37% PCR content.



Download our ELCRIN iQ resins brochure:
bit.ly/ELCRIN_iQ



Specialty resins and compounds formulated using mechanically recycled post-consumer content offer properties close to those of fossil-based equivalents. To further increase sustainability, SABIC can incorporate pre-consumer recycled carbon or glass fiber diverted from waste streams of industrial processes. Currently certified products can be found here:
bit.ly/SABIC_SCSGlobal



Our grades using ISCC+ certified renewable bio-based feedstock from waste products are not in competition with the food chain. They can offer properties equivalent to those of fossil-based resins and can be substituted without the need for requalification, based on the mass-balance approach.





MECHANICALLY RECYCLED PORTFOLIO

PCR-BASED NORYL RESINS

SABIC offers recycled versions of more than 200 existing NORYL resin grades, plus unlimited new grades, which can be formulated with 25% or more PCR content.

The company has commercialized several grades, including **NORYL NH5120RC3 resin**. This product contains 30% PCR content, helping to lower its global warming potential (GWP) by 10 percent compared to the incumbent, fossil-based grade. It features non-brominated/non-chlorinated flame retardance meeting the UL94 V1 standard at 1.5mm.

PCR-BASED LNP THERMOCOMP COMPOUNDS

LNP THERMOCOMP D151RCC compound contains up to 50% recycled content. It features high stiffness and strength, dimensional stability and non-brominated/non-chlorinated flame retardance with 10 percent glass fiber reinforcement.

PCR-BASED PC COPOLYMER RESINS

LNP™ ELCRIN EXL9253RCC resin, a PC siloxane copolymer, is a UV-stabilized opaque grade with 50% PCR content. It features medium flow, excellent low temperature ductility down to -30 °C and thin-wall flame retardance meeting the UL94 V0 standard at 1.0mm. Its excellent processability and mold release offer potentially shorter cycle times compared to standard PC.

Another PC copolymer grade is transparent **LNP ELCRIN EXL8281TCC resin** with 75% PCR content. Its properties and processability are comparable to those of LNP ELCRIN EXL9253RCC resin featured above.

CERTIFIED RENEWABLE PORTFOLIO

LNP ELCRIN PC COPOLYMER RESIN

LNP ELCRIN EXL9134B PC siloxane copolymer resin is a UV-stabilized, high flow, opaque grade whose major component is synthesized from certified renewable feedstock. It meets the UL94 V0 standard at 1.5mm using a non-brominated/non-chlorinated flame retardant chemistry, and provides extreme low temperature ductility down to -35°C.

NORYL RESINS

These materials are formulated with polyphenylene ether (PPE) resin feedstocks certified under ISCC+. More than 300 NORYL resin grades can be requested in certified renewable bio-based versions, each with a choice of bio-based content percentage up to nearly 100 percent.

NORYL NH5120BIO4 resin is a non-brominated/non-chlorinated flame-retardant grade with a UL94 V1 rating at 1.5mm. It contains no-intentionally added per- and polyfluoroalkyl substances (PFAS).

NORYL GFN2BIO3 resin features high strength and high hydrolytic and dimensional stability, as well as low warpage and low specific gravity. It carries a UL746C F1 outdoor suitability rating.



Download Sustainable NORYL resins brochure:
bit.ly/Sustainable_NORYL



ULTEM RESINS

ULTEM polyetherimide (PEI) materials are the first certified renewable high-temperature, amorphous resins available. These resins can potentially replace traditional ULTEM grades or sulfone polymers such as PSU, PESU and PPSU. Most ULTEM resin grades can be requested as certified renewable versions. LCA/PCF data is available on request.

ULTEM 1010 resin is an unreinforced grade that features excellent mechanical, electrical and dimensional properties. For an amorphous material, it offers very good chemical resistance and is inherently flame retardant. It meets the UL94 V0 and 5V standards and complies with FAR 25.853 requirements.

ULTEM 9085 resin is a PEI blend with an excellent balance of flow, stiffness and ductility. The material meets FAR25.853 and OSU55/55 heat release requirements for aerospace interior applications. It also holds the Rail EN45545 R6-HL3 rating.



Download Certified Renewable ULTEM resins brochure:
bit.ly/Bio_ULTEM_resin



Download introduction to ULTEM resins portfolio:
bit.ly/ULTEM_Portfolio



SUCCEEDING WITH SABIC'S SUSTAINABLE PRODUCT PORTFOLIOS

To help you gain the greatest value from our upcycled, mechanically recycled and certified renewable products, SABIC can offer resin customization services to meet specific application requirements. We also can provide a full array of technical support services and resources:

- Material suggestions and samples
- Design and predictive engineering services
- COLORXPRESS™ color matching services
- Teardowns and prototyping
- Processing technical support
- Application testing guidance
- Industry regulatory information

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SABIC MATERIAL FINDER
Find the right Specialties material
for your application ►



LNP RESINS
& COMPOUNDS

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