CHEMISTRY THAT MATTERS™

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sabic
Specialties

DELIVERING INNOVATION & PERFORMANCE IN MEDICAL DEVICES

SABIC'S SPECIALTY MATERIALS

Medical device manufacturers can rely on SABIC's specialty resins and compounds to deliver benefits ranging from design freedom to strength and durability. These materials can help you meet regulatory mandates and reach your sustainability goals.

SABIC is a preferred global supplier to the industry, offering 100+ medical-grade materials for surgical and drug delivery, patient testing and general healthcare applications. They are backed by SABIC's Healthcare Product Policy, which verifies that these materials meet global safety standards, are covered by an FDA Drug or Device Master File, and are subject to formula lock and a stringent change management process.

SABIC's medical-grade materials can help you optimize the performance, aesthetics, durability and manufacturability of your devices. Furthermore, they can contribute to sustainability and compliance with existing and upcoming regulations. To help you succeed, we offer a range of expert services including application development, predictive engineering, testing, processing guidance and color matching.

MATERIAL SOLUTIONS FOR SIX INDUSTRY CHALLENGES

- Best-in-class chemical resistance
- Multiple sterilization compatibility
- PTFE alternatives for wear & friction
- Strong materials for structural parts
- Connected device performance
- Sustainable devices and materials

COPING WITH HEALTHCARE CHEMICALS

Aggressive healthcare disinfectants can degrade plastics used in equipment housings and device components. Frequent exposure to products like Sani-Cloth AF3 wipes can cause environmental stress cracking (ESC), potentially resulting in malfunctions that may interfere with patient care or lead to costly premature failure and warranty claims.

SABIC's ULTEM™ HU resin series and LNP™ ELCRES™ CRX copolymer resins deliver exceptional chemical resistance. By helping prevent or mitigate ESC, they can help improve device durability, extend useful life and reduce waste for a more-sustainable footprint.

Lightweight, strong ULTEM HU resin replaced metal in the INSORB|20 subcuticular skin stapler, delivering broad sterilization capability and high strength and precision.

SAILING THROUGH STERILIZATION

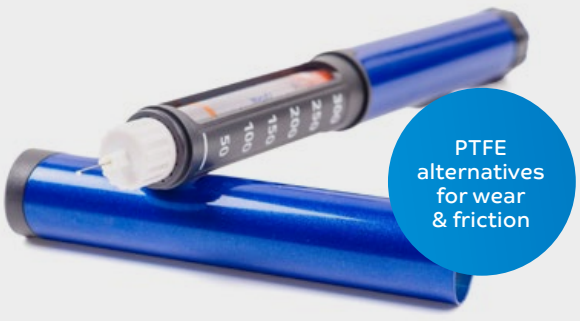
Like disinfectants, sterilization can degrade the performance, appearance and integrity of plastic parts. Adding to the challenge are anticipated EPA regulations restricting EtO sterilization. Materials used in your devices should be compatible with multiple sterilization methods and withstand repeated cycles.

ULTEM HU resins and LNP copolymers provide stable performance under repeated cycles of gamma/E-beam radiation, steam autoclave and vapor hydrogen peroxide (VHP) sterilization, as well as EtO. Their excellent retention of mechanical, thermal and aesthetic properties can help to extend the useful life of devices.

PRECLUDING PTFE FOR WEAR AND FRICTION

Proposed regulations severely restricting or banning per- and polyfluoroalkyl substances (PFAS) are prompting device makers to seek lubrication alternatives to polytetrafluoroethylene (PTFE). SABIC's internally lubricated LNP LUBRILOY™ compounds, featuring a patented olefinic additive, offer an alternative to PTFE-lubricated materials. Their excellent wear and friction performance can enhance device reliability and usability and extend service life.

LNP LUBRILOY compounds are available in a wide range of base resins, including PC, PC/ABS, POM, PBT and PEI.



Application possibilities include moving components and parts that must slide easily, such as dials, pushbutton and slide mechanisms, and internal components of drug delivery devices, as well as surgical devices like trocars.

STRENGTHENING STRUCTURAL PARTS

Strength, stiffness and stability are vital for medical and surgical devices subject to applied force, such as skin staplers, retractors, forceps and injection pens. Traditional stainless steel adds significant weight and can hamper design freedom.

SABIC's ULTEM resins and reinforced LNP™ THERMOCOMP™ compounds can replace metal in structural parts, delivering comparable strength while reducing weight and processing costs and helping enable complex designs. These materials can help structural components remain strong and precise and last longer to reduce waste.

CONNECTING TO CARE

Wireless connectivity is a critical feature of devices used for remote and mobile patient monitoring, diagnosis and treatment. To help achieve positive patient outcomes, connected devices require specialized materials for accurate, safe, reliable and user-friendly operation.

SABIC potential solutions for wireless devices include ULTEM resins with good dielectric properties, LNP™ FARADEX™ compounds with EMI shielding capabilities, and transparent, scratch-resistant LNP™ ELCRES™ DMX copolymers for in displays. SABIC technologies support advanced manufacturing methods like laser direct structuring (LDS). They can help solve aesthetic challenges of laser welding white and light-colored materials.

SUPPORTING SUSTAINABILITY

SABIC's solutions can help you increase sustainability by optimizing designs to reduce weight and dimensions and increasing device lifespan with strong, chemically resistant materials that help avoid premature replacement and reduce landfilling.

Innovations such as LNP™ ELCRIN™ iQ resins, made from chemically upcycled PET water bottles, and certified renewable bio-circular versions of ULTEM and NORYL resins, can help reduce carbon emissions without compromising on performance.

SABIC SPECIALTIES MEDICAL DEVICE MATERIALS

Engineered Thermoplastics

- EXTEM™ resins
- NORYL™ resins
- SILTEM™ resins
- ULTEM™ resins, foam

Specialty Compounds and Copolymers

- LNP™ COLORCOMP™ compounds
- LNP™ FARADEX™ compounds
- LNP™ KONDUIT™ compounds
- LNP™ LUBRICOMP™ compounds
- LNP™ LUBRILOY™ compounds
- LNP™ STAT-KON™ compounds
- LNP™ STAT-LOY™ compounds
- LNP™ THERMOCOMP™ compounds
- LNP™ THERMOTUF™ compounds
- LNP™ VERTON™ compounds
- LNP™ ELCRIN™ compounds
- LNP™ ELCRES™ copolymers

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MEDICAL DEVICES