



Medical Devices Fact Sheet

What are **fluoropolymers**?

- Fluoropolymers are a specialty plastic that possess a unique combination of properties that make them critical to modern life and a wide variety of sectors and industries.
- Fluoropolymers are one specific class of per-and polyfluoroalkyl substances (PFAS), a group of thousands of chemical compounds with varying characteristics, properties, and environmental and safety profiles.
- Importantly, fluoropolymers do not pose a significant risk to human health or the environment when used for their intended purposes.

Fluoropolymers are critical technologies with no viable alternatives.

- Fluoropolymers' unique combination of properties makes them fundamental to the products they enable.
- No alternatives offer the same combination of properties, including:
 - Fire resistance
 - Weather resistance
 - Temperature resistance
 - Chemical resistance
 - Non-wetting properties
 - Non-sticking properties
 - High-performance dielectric properties

Background Points

Uses of Fluoropolymers in the Medical Device Industry

Fluoropolymers play a significant role in the medical device industry. Applications of fluoropolymers include the below:

- **Surgically implantable medical devices:** Fluoropolymers are used in implantable medical devices like vascular grafts, stent-grafts, and surgical mesh to reduce the risk of failure, infections, medical complications, and replacements as well as to increase the lifetime of implants.
- **Heart patches:** Fluoropolymers are used to make various layers of heart patches to reduce the risk of complications associated with tissue attachment and equipment failure.

- **Catheters:** Fluoropolymers are used to make low-friction and clot-resistant coatings for catheters to support patient safety and comfort.
- **High Dielectric Insulators:** Fluoropolymers make possible high dielectric insulators in defibrillators, pacemakers, and CRT, PET, and MRI imaging devices.
- **3D printing:** Fluoropolymers are used in 3D printing applications that are supplementing supply chain disruptions for personal protective equipment like certified face masks.
- **COVID-19 testing and treatment:** Fluoropolymers are used to make ventilators and COVID-19 test kits that are critical in fighting the global pandemic.

Benefits of Fluoropolymers in the Medical Device Industry

- Reduced risk of cross-infections and medical complications.
- Increased lifetime of implants, reducing risk of failure, and risk of replacement.
- Higher consistency of dosages, increasing effectiveness, and safety of drugs.
- Less frequent clogging of catheters, tubes, and stents.
- Water and abrasion resistance properties.