

 Automotive 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 Automotive Industry**

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

- **Fuel lines, fuel hoses, turbocharger hoses and hoses in hydraulic systems:** Fluoropolymers are used for their resistance to high temperatures, helping prevent leaks and breakdowns.
- **ABS brake lines:** Fluoropolymers provide better brake efficiency and help absorb pressure.
- **O-rings:** Fluoropolymers are used as seals in fuel containment systems and fuel injectors.
- **Shaft seals and valve stem seals:** Fluoropolymers are used as a sealing component to

protect from dust and aggressive lubricants.

- **Air intake manifold and cylinder head gaskets:** Fluoropolymers are used to provide essential heat and stress resistance to sealant beads that prevent gas and other liquid leakages.
- **Greenhouse emission controls:** Fluoropolymers are used to lower exhaust emissions, which reduces a vehicle's carbon footprint.
- **Fuel cells and batteries in electric vehicles:** Fluoropolymers are utilized in newer fuel cells and batteries, providing extra safety while maintaining high voltages.

### *Benefits of Fluoropolymers in the Automotive Industry*

- Better fuel economy by reducing vehicle weight.
- Lower exhaust emissions, including both carbon and NOx gasses.
- Increased lifetime of components.
- Improved reliability and lower maintenance costs.
- Increased comfort and noise reduction.
- Enables use of alternative fuels and power storage batteries.
- Helps avoid oil and fluid leakage.