





## HEALTHCARE TRENDS & MARKET DYNAMICS

In recent years, there has been increased consumer interest in understanding and tracking health outcomes from a non-clinical remote location, at home or on the go. As a result, the healthcare market is innovating with advanced new products and technologies including medical wearables, drug delivery devices, labware & diagnostic test kits and remote patient monitoring.

## FORMERRA'S HEALTHCARE FOCUS AREAS

As these new healthcare innovations enter the market, and needs and priorities shift, our 30+ years of material expertise and regulatory

experience can help get your device to market safely and efficiently. We regularly study market drivers and trends, including those that influence key healthcare segments:

Catheters & Tubing  
Drug Delivery Devices  
Fluid Management  
Labware & Diagnostics  
Medical Equipment  
Surgical Devices  
Medical Device & Pharmaceutical Packaging  
Wearable Devices & Remote Patient Monitoring

## HOW CAN WE HELP YOU SUCCEED?

When designing parts for the healthcare industry, you're challenged with developing robust and high-performing components, developing high-quality and reliable manufacturing and supply chain operations, adhering to regulatory and quality assurance standards and expediting time to market.

Our dedicated healthcare team is here to help:

- Provide product design assistance and material selection guidance, backed by extensive application knowledge and a broad portfolio of specialty medical materials
- Align technical and manufacturing support to accelerate time to market
- Optimize supply chain and logistics to simplify your business



PRODUCT FAMILY	SUPPLIER	STERILIZATION	REGULATORY	CLARITY
<b>RIGID POLYMERS</b>				
ABS	INEOS Styrolution™ FCFC	Gamma/E Beam (may lose some impact), EtO (avoid repeated cycles)	USP Class VI, ISO 10993	Opaque
Fluoropolymer	Arkema™	EtO, Steam & Gamma (up to 10 Mrads)	USP Class VI & ISO 10993	Opaque
PMMA	Trinseo™	Gamma/E Beam (may discolor), EtO	USP Class VI, FDA	Transparent
Blends & Alloys	Covestro™, Trinseo™, INEOS Styrolution™, Avient™	Gamma/E Beam, EtO	USP Class VI, ISO 10993	Opaque/ Transparent
Cellulosic	Eastman®	Gamma/E Beam, EtO	USP Class VI, ISO 10993	Transparent
EVA	DuPont™, Westlake™	Gamma/E Beam, EtO	USP Class VI, FDA	Opaque/ Transparent
HDPE, LDPE, ULPE	Dow®, Chevron Phillips Chemical™, Westlake™, DuPont™	Gamma/E Beam, EtO	USP Class VI, FDA	Opaque/Translucent
HIPS & GPPS	Americas Styrenics™, FCFC	Gamma/E Beam (may discolor), EtO (avoid repeated cycles)	USP Class VI, FDA	Opaque/Transparent
Polyamides	DuPont™, Avient™, Arkema™	Gamma/E Beam (may discolor), EtO	USP Class VI, ISO 10993, FDA	Opaque
PBT, PET	DuPont™	Gamma/E Beam (may discolor), EtO	USP Class VI, ISO 10993, FDA	PBT – Opaque PET – Transparent
Copolyester	Eastman®	Gamma/E Beam (may discolor), EtO	USP Class VI, ISO 10993, FDA	PBT – Opaque PET – Transparent
PC	Covestro™, Trinseo™	Gamma/E Beam (may discolor), EtO, Autoclave (limited)	USP Class VI, ISO 10993	Transparent
POM	DuPont™	EtO	USP Class VI, ISO 10993, FDA	Opaque
PP	FCFC, Lyondellbasell™, INVISTA™, INEOS™, GEON Performance Solutions, Pinnacle Polymers™	Gamma/E Beam (must be stabilized), EtO, Autoclave (must be high heat resistant grade)	USP Class VI, ISO 10993, FDA	Translucent/ Transparent
PVC	GEON Performance Solutions	Gamma/E Beam (must be stabilized), EtO (must be out-gassed)	USP Class VI, FDA	Transparent
SAN	INEOS Styrolution™	Gamma/ E Beam (color may be affected and may lose some impact), EtO (avoid repeated cycles)	ISO 10993	Transparent
SBC	INEOS Styrolution™	Gamma/E Beam, EtO	USP Class VI, FDA	Transparent
<b>THERMOPLASTIC ELASTOMERS (TPES)</b>				
ENG TPE	DuPont™, Arkema™	Gamma/E Beam, EtO	USP Class VI, ISO 10993, FDA	Opaque
fPVC	GEON Performance Solutions	Gamma/E Beam (must be stabilized), EtO (must be out-gassed)	USP Class VI, FDA	Transparent
POE	Dow®	Gamma/E Beam, EtO	USP Class VI, FDA	Opaque/ Transparent
SEBS	Avient™	Gamma/E Beam, EtO	USP Class VI, FDA	Transparent
TPU	Covestro™	Gamma/E Beam (may discolor), EtO	USP Class VI, ISO 10993, FDA	Transparent
TPV	Avient™, Celanese	Gamma/E Beam (may cause loss in physical properties), EtO	USP Class VI, FDA	Opaque
<b>THERMOSET ELASTOMERS</b>				
Silicone	DuPont™	Gamma, EtO, Autoclave	USP Class VI, ISO 10993, FDA	Transparent



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