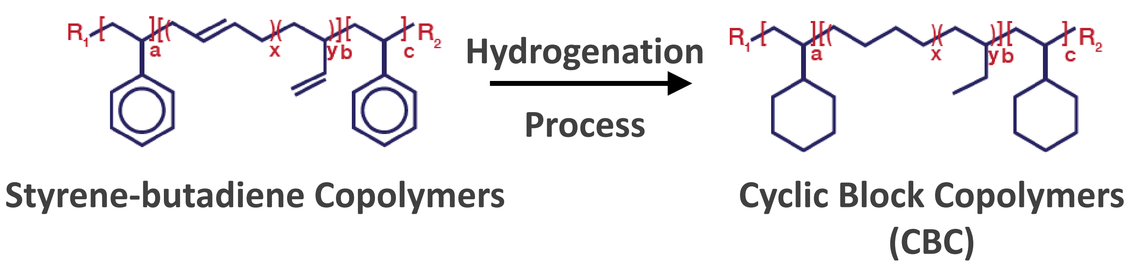
ViviOn™ cyclic block copolymers

“Clean & Clear” for Medical and Bio-Diagnostic Applications

Scan QR code for more details

ViviOn™ is a family of novel cyclic block copolymers (CBC), which are fully hydrogenated polymers based on styrene and conjugated dienes via anionic polymerization. ViviOn™ CBC is a high-purity and optically clear polymer. Products made by ViviOn™ CBC can be sterilized using ethylene oxide (EtO), gamma, and e-beam radiation.

ViviOn™ is also certified with ISO-10993 biocompatibility, US Pharmacopeia <88> Class VI and <661>, as well as JP Pharmacopeia 7.02. FDA Type III Drug Master File is also available (DMF #32470).



Styrene-butadiene Copolymers

Cyclic Block Copolymers (CBC)

Key Features of CBC

- UV-C Transmittance
- Low Auto-Fluorescence
- Low Extractables, Low Outgassing
- Gamma & e-beam sterilization compatible
- Chemical Resistance
- Light (Density of 0.94 g/cm^3)

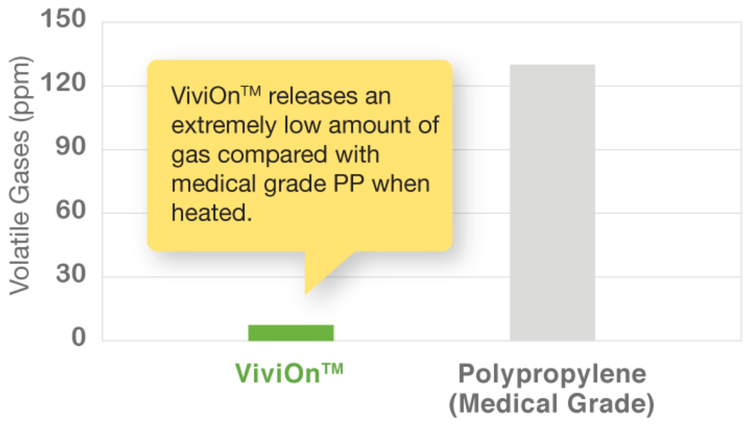
Pre-Filled Syringes

Pharmaceutical Vials

UV/Fluorescence Microplates

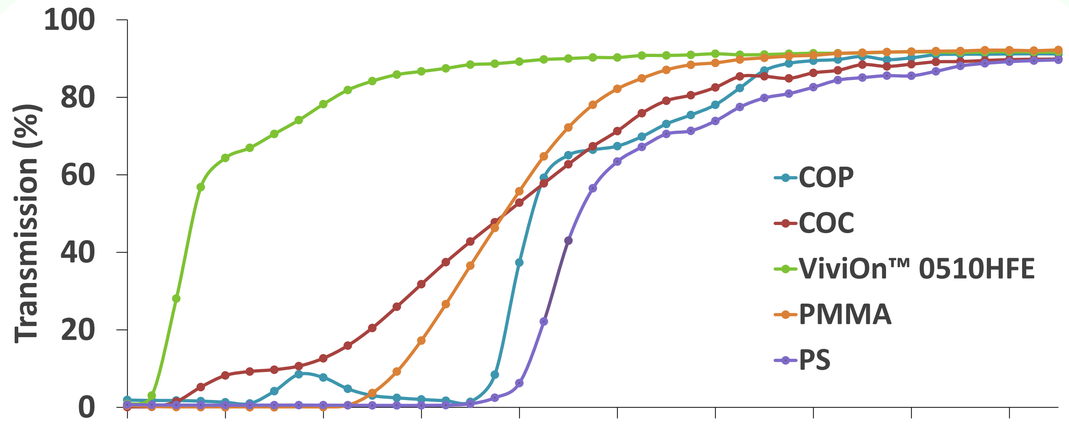
Microfluidics (Bio-chips)

High Purity

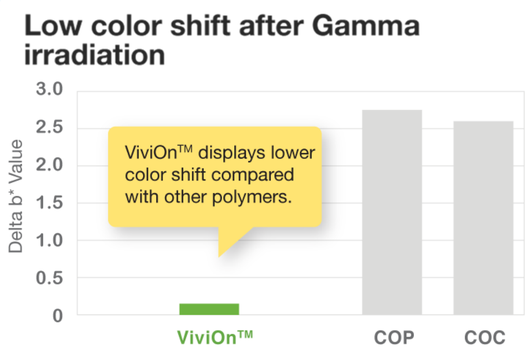


Test Condition: Heat at 80°C for 2hrs, then measure volatile gases by Headspace GC/MS.

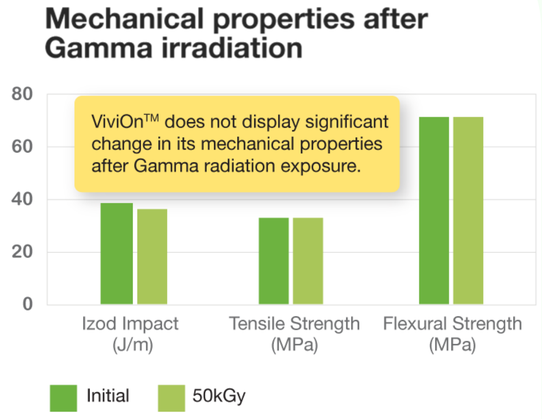
High UV Transmittance



Gamma Sterilizable



Degree of color shift after exposure to 50kGy of Gamma radiation then settled for 1 day.



Mechanical properties were measured before and after 3 weeks of Gamma irradiation.

Good Solvent Resistance

Acid	Hydrochloric acid 36%	O	Ketone	Acetone	O
	Sulfuric acid 40%	O		Methyl Ethyl Ketone	O
	Acetic acid > 94%	O			
	Nitric acid 65%	O			
Alkali	NaOH 50%	O	Hydro-Carbon	Hexane	X
	Ammonia solution 35%	O		Baby oil (mineral oil)	X
Alcohol	Methanol	O	Others	DMSO	O
	Ethanol	O		Silicone oil	O
	Isopropanol	O		Ethylene glycol	O

Experiment: CBC resin & tensile bar specimen were immersed in the chemical or reagent for 2 days at room temperature, then measured the specimen’s weight loss and mechanical reduction. Resistance (O): weight loss < 1% and elongation at break% did not observe significant difference; Not Resistance(X): weight change >5% or elongation at break% reduced by > 50%.