

Technical Data Sheet

Fleuron™ MFD-USF

Curable Soft Elastomer for Microfluidic Applications

Features & Benefits

- Flowable
- UV Curable (Under N₂ environment).
- High Transparency.
- Inert.
- Gas Permeable.
- Low absorption of organic solvents.
- Minimal absorption of small molecules.

Composition

- Two-part (solvent-solute).
- Proprietary Perfluoropolyether Polymer.

Applications

Fleuron™ MFD-USF is suitable for:

- Microfluidic Applications.
- Drug Screening.
- Material synthesis platforms.
- High resolution imaging of biological systems.

Typical Properties:

Property	Unit	Result
Resin Properties		
One or Two Part		Two
Color		Colorless
Viscosity	mPa.sec	24
Boiling Point	°C	116
Curing Properties		
Soft bake at 115°C per mL	hours	1
Soft bake at 80°C per mL	hours	3
UV Cure (405 nm) @ 7 mW/cm ²		
Per mm thickness	secs	90
Physical Properties		
Young's Modulus	MPa	7
Elongation	%	210
Tensile Strength	MPa	7
CTE	ppm/°C	285
TGA (N ₂ , 5% weight loss)	°C	265
Dielectric constant (1 kHz)	kHz	2.25
Swelling Ratio (72hr)	m ₂ /m ₁	
Water (DI)		1
Pentane		1
Toluene		1.024

DCM		1.087
Ethanal		1.124
Acetone		1.214
Dev-20		1.24
Ethyl Acetate		1.274
HFE 7100		1.477
Dev-10		1.515
Optical Properties		
Optical Transmission/ Haze	%	0.23
RI @ 589 nm		1.37
Device Properties		
Thermal Stability @37°C	Days	30
O ₂ Permeability	Barrer	75
Cell Viability	%	95
Hydrophobic Molecule Absorption (Log D 2.4)	%	<5%
Hydrophilic Molecule Absorption (Log D -4)	%	<1%

Store FLEURON™ MFD-USF photoresist upright and in tightly closed containers in a cool, dry environment away from direct sunlight at a temperature of 10-25 °C. Store away from light, acids, and heat. Shelf life is 6 months from the shipping date.

Handling

Refer to Safety Data Sheet (SDS) for details on the handling procedures and product hazards prior to use.

Disposal

FLEURON™ PR-USF photoresist may be included with other waste streams containing organic solvents designated for hazardous waste, in accordance with local, state, and federal regulations. It is the responsibility of the customer to ensure the proper disposal of FLEURON™ PR-USF photoresists, developer and residues in accordance with all federal, state, and local environmental regulations.

Disclaimer

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Technical Support

For any technical questions or general inquiries about our products please email us at materials@axoft.us.