

Aquivion® D83-24B

Perfluorosulfonic Acid
Solvay Specialty Polymers

Message:

Aquivion® D83-24B is a perfluorosulfonic acid (PFSA) ionomer dispersion that exhibits an Equivalent Weight (EW) of 830 g/eq. Polymer concentration is 24%. Solvent system is >99% water and is free of ethers.

Aquivion® PFSA dispersions are based on the unique Short Side Chain copolymer of Tetrafluoroethylene (TFE) and Sulfonyl Fluoride Vinyl Ether (SFVE) $F_2C=CF-O-CF_2CF_2-SO_2F$ produced by Solvay. The PFSA ionomer dispersions contain its acid form (-SO₃H) and are available in various solvent systems, EWs and concentrations.

These dispersions can be used to produce PEM fuel cell electrodes and electrochemical cell electrodes, to manufacture or repair ion exchange membranes, to produce super-acid catalysts, and for the surface treatment of PTFE membranes to improve wetting behavior.

General Information			
Physical	Nominal Value	Unit	Test Method
HSE/Transportation Classification	Corrosive		
Equivalent (EW) ¹	810 - 850	g/eq	Internal method
Polymer concentration	24	%	TGA
Density (25°C)	1.140	g/cm ³	Internal method
Solvent water content	> 99	%	
Viscosity ² (25°C)	5 - 15	mPa · s	ASTM D2196
Total acid content	1.17 - 1.23	meq/g	Internal method
flammability-Under environmental conditions	No		

Additional Information	
HEALTH, SAFETY AND ENVIRONMENT	
Aquivion® PFSA dispersions are not harmful if used and handled according to standard processing procedures (see for example the "Guide to the Safe Handling of Fluoropolymer Resins" issued by the Society of the Plastics Industry). If handled inappropriately (e.g. overheating above 230°C for extended period of time) the dispersions may release harmful toxic chemicals. By their chemical properties Aquivion® PFSA dispersion grades are classified as hazardous material subject to transportation regulations (ADR, IATA, IMDG). D83-06A is flammable whereas D83-24B and D79-20BS are corrosive (R-SO ₃ H being a strong acid, measured pH < 2). Please refer to corresponding Material Safety Data Sheets for more information on handling and safety.	
PACKAGING, SHIPMENT AND STORAGE	
Aquivion® PFSA D83-06A and D83-24B are available in 0.5, 5 and 60 liter containers (D79-20BS: 0.25 liter). It is recommended to store the product at 25 °C (77 °F) in a clean temperature-controlled and well ventilated environment, protected from direct sunlight and other sources of heat or irradiation. Containers should be kept tightly closed to avoid solvent evaporation. D83-06A shall be kept away from sparks, flames or other possible source of ignition.	

NOTE	
1.	eq = mol SO ₃ H
	Dynamic mechanical spectrometer rheometer RFS III geometry: Couette mode: steady speed scan
2.	test value: 40 1 / s

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