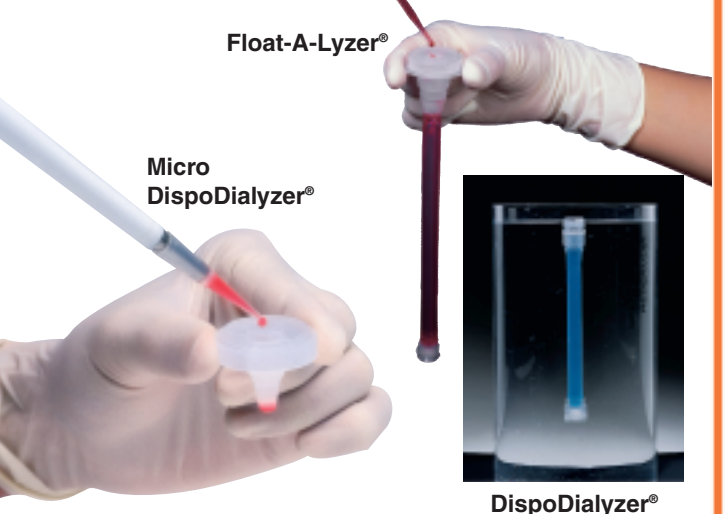
Spectra/Por® Easy-to-Use Dialysis Membrane Products



Float-A-Lyzer®

Micro DispoDialyzer®

DispoDialyzer®

Spectrum Product Instruction Manual

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Introduction Easy-To-Use products

The easy-to-use products are innovative dialysis devices developed for small sample volume dialysis which combine efficiency and convenience. They are pre-assembled dialysis tubes that float upright and feature our Spectra/Por® Biotech Cellulose Ester (CE) and Regenerated Cellulose (RC) dialysis membranes and a cap for easy loading and recovery of samples. These features eliminate the need for time consuming membrane cleaning treatments and the use of membrane closures.

There are three products available in our "easy-to-use" line of products: the Spectra/Por DispoDialyzer®, the Spectra/Por Micro DispoDialyzer® and the Spectra/Por Float-A-Lyzer®. They are available in Molecular weight cut off (MWCO) ranging from 100 to 300,000 Daltons and samples volumes ranging from 10uL to 10mL.

Applications

The easy-to-use product line of dialysis membranes can be used for various applications such as:

- Sample preparation prior to electrophoresis, HPLC: removing salts such as sodium chloride, detergents, ammonium sulfate, cesium chloride, surfactants, etc.
- Separation and purifications of substances such as DNA, proteins, viruses, antibodies, peptides, polymers, etc., from low molecular weight contaminants.
- Sample concentration when using a solvent absorbent

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powder such as Spectra/Gel® Absorbent

- Measure the diffusion rates for ions
- Binding studies

Spectra/Por® Micro DispoDialyzer® A Dialysis Device for Ultra Micro Volume Samples

The Micro DispoDialyzer was developed for efficiently dialyzing ultra micro sample volumes of 10µL, 50 µL and 100 µL. Using a dispensing micro pipette, precious samples can be conveniently loaded and recovered.

This device features an innovative Spectra/Por Biotech Regenerated Cellulose (RC) seamless membrane attached to a floatable cap for easy handling. No flotation device, syringe or needle accessories are required. It offers a high membrane surface area to volume ratio for a faster dialysis rate.

Spectra/Por MicroDispoDialyzer is packaged wet individually in 0.1% sodium azide preservative. Simply rinse the device in DI water to remove the preservative prior to use. They are available in a range of molecular weights cut off (MWCO) from 3,500 to 60,000 Daltons and come with colored caps for easy sample identification.

Specifications

Specifications

Membrane Sealing Material:	Silicon ring & PVC medical adhesive
Active membrane Area (cm^2):	0.16 for 10 µL 0.63 for 50 µL 1.70 for 100 µL
Total length:	2.9 cm
Cap diameter:	3.6 cm
Cap:	Polypropylene
Membrane floatation disk:	Polypropylene

Color Coded Dot	MWCO
Black	3.5 kD
Natural	8kD
Orange	15 kD
Red	25 kD
White	60 kD

Color Coded Cap	Volume
Blue	10 µL
Natural	50 µL
Red	100 µL

Handling and Use

1. Remove the Micro DispoDialyzer from the packaging by holding the device firmly at the collar of the floatation disk. Note: Handle the Micro DispoDialyzer by the collar of the floatation disk to protect the membrane from damage.
2. Remove the cap and discard the sodium azide solution inside the membrane using a micro pipette. Dispense a small amount of deionized water into the membrane cup

Spectra/Por® Easy-to-Use Products

to remove the preservative. Float the MicroDispoDialyzer vertically in a reservoir containing deionized water and a stir bar and adjust the stirring rate to a pin wheel formation. Allow the membrane to soak for a minimum of 30 minutes to remove the 0.1% sodium azide preservative.

3. Remove the cap and discard the water from the inside of the membrane using a micro pipette. Gently shake out all residual water droplets from the inside of the membrane. Remaining water may dilute the sample. Label the sample identification on the flat surface of the polypropylene flotation disk.
4. Using a micro pipette carefully load the sample onto the bottom of the membrane cup. If sample gets on the wall of the membrane cup, drag the droplets to the bottom with the pipette tip. Carefully snap the cap in place. While firmly holding the collar of the flotation disk of the Micro DispoDialyzer, gently shake it to drive the sample against the bottom of the membrane cup.
5. Float the Micro DispoDialyzer vertically in the dialysate reservoir containing a stir bar and adjust the stirring rate to a pin wheel formation.
6. After dialysis, slowly rotate to open the cap of the Micro DispoDialyzer and use the pipette to recover your sample. Collect sample droplets which may adhere on the surface of the cap post and membrane.

Spectra/Por® DispoDialyzer®

The Spectra/Por DispoDialyzer is designed for dialysis of 500 µl to 5ml samples. The DispoDialyzers are irradiated and are individually packaged in DI water. Just rinse with DI water, insert the sample, screw the leak-proof cap shut, and it is ready for dialysis. The sample can be recovered by using a pipet. They are available in a range of molecular weight cut offs (MWCO) from 100 to 300,000 Daltons for Cellulose Ester membranes and 8,000 to 25,000 Daltons for the Regenerated Cellulose membranes.

The DispoDialyzers will fit the Spectra/Por EZ-1 MultiDialyzer (Part No. 132402) and the Dialysis reservoirs (Part No. 132002 and 132005).

Description

Each Spectra/Por DispoDialyzer is made from a length of a Spectra/Por Biotech CE or RC membrane. One end of the membrane in bonded to a closed polycarbonate plug containing a Teflon weight and the other end to a polycarbonate threaded top that is closed by a polypropylene screw top with an ethylene-propylene O-ring. They are individually pressure tested to 3 psi to ensure they are integral. Each irradiated DispoDialyzer is individually packaged wet in DI water and sealed in a foil pouch to ensure its cleanliness and integrity. The dispodialyzer membranes should be rinsed out before use. Care should be taken to not allow the membrane to dry out during handling and use.

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Specifications

DispoDialyzers come with colored caps to help the user distinguish between different molecular weight cut offs.

MWCO	Cap Color	MWCO	Cap Color	MWCO	Cap Color
100	Lt. Blue	3,500	Black	15,000	Orange
500	Amber	5,000	Pink	25,000	Red
1,000	Violet	8,000	Clear	50,000	Green
2,000	Dk. Green	10,000	Yellow	100,000	Blue
				300,000	Gray

Dimensions

Size	Membrane Flat Width	Top Piece Diameter	Exposed membrane	Total Length Length
500 µL	8 mm	1.25 cm	2.0 cm	6.0 cm
1 mL	8 mm	1.25 cm	4.5 cm	8.5 cm
2 mL	8 mm	1.25 cm	8.5 cm	13 cm
5 mL	16 mm	1.50 cm	8.5 cm	12 cm

Notes:

- Membrane Flat Width-may vary +/- 2 mm
- Top Piece Diameter-the diameter of the flange of the top piece
- Exposed membrane Length-may vary +/- 0.5 cm
- Total Length-top cap to bottom weighted plug; may vary +/- 0.5 cm

Handling and Use

The Spectra/Por DispoDialyzer is designed to be easy to use. The following guide, however, may prove useful to a first time user.

1. Open the foil pouch by tearing from the notched end or cutting with sterile scissors. Remove the cellulose acetate butyrate tube containing the DispoDialyzer and open the top.
2. Use forceps or similar instrument to remove the DispoDialyzer from its container. Unscrew the top and remove the DI water. Rinse with water or buffer. Always use a blunt tipped pipette or syringe with a blunt tipped needle when filling or emptying the DispoDialyzer. Conditioning the DispoDialyzer with an appropriate buffer solution might be deemed suitable at this time.
3. Fill the DispoDialyzer with your sample. It might be necessary to shape the tubing by sliding between gloved fingers in order to fill the DispoDialyzer completely as a small amount of trapped air will help it float and keep vertical.
4. Screw the cap on tightly to ensure the O-ring seals at the top, and place in the appropriate solution.
5. After dialysis is complete, remove the DispoDialyzer from the solution and unscrew the cap. To remove the sample, use a pipette or a syringe with a blunt tipped needle to reach in and suction out the sample. In the case of the large sizes, the sample may simply be

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poured from the DispoDialyzer.

Spectra/Por® Float-A-Lyzer®

The new Spectra/Por Float-A-Lyzer is an ultra performance dialysis device for sample volumes from 300 µL to 10 ml.

Each Float-A-Lyzer Dialysis Tube features Spectra/Por Biotech membranes with twelve choices of Molecular Weight Cut Off (MWCO) ranging from 100 to 300,000 Daltons for all types of separation applications. High purity membranes yield excellent sample recovery for biological samples such as proteins, peptides, antibodies, DNA, etc... Purifications by removing small molecular weight contaminants, desalting, buffer exchange and concentration are quick and easy handle with the Float-A-Lyzer.

Each Spectra/Por Float-A-Lyzer is individually packaged in a seal foil pouch to ensure its integrity. They come wet in 0.1% sodium azide preservative solution.

Specifications

Volume	300 µL	500 µL	1 mL	3 mL	5 mL	10 mL
Total Length	7 cm	8 cm	9 cm	9 cm	10 cm	16 cm
Membrane Diameter	5 mm	5 mm	5 mm	16 mm	16 mm	16 mm
Cap Diameter	36 mm	36 mm	36 mm	36 mm	36 mm	36 mm

Handling and Use

1. Remove the Spectra/Por Float-A-Lyzer from the packaging by holding it firmly at the collar of the flotation disk. **Note:** handle the Float-A-Lyzer at the collar of the flotation disk to protect the membrane from damage. Detach the packaging tube and discard the sodium azide preservative.
2. Remove the cap and discard the sodium azide inside the membrane using a pipette. Dispense deionized water into the membrane to remove the preservative. Snap the cap in place and float the Float-A-Lyzer vertically in a reservoir containing deionized water and a stir bar. Adjust the stirring rate to a pin wheel formation. Allow the membrane to soak for a minimum of 30 minutes to remove the 0.1% sodium azide preservative.
3. Remove the cap and discard the water from the inside of the membrane using a pipette. Condition the membrane if necessary by rinsing inside the membrane with the dialysate (buffer). Label the sample identification on the flat surface of the polypropylene flotation disk.
4. Using a pipette carefully load the sample onto the bottom of the membrane and snap the cap in place.
5. Float the Spectra/Por Float-A-Lyzer vertically in the dialysate reservoir containing a stir bar and adjust the stirring rate to a pin wheel formation.
6. After dialysis, slowly rotate to open the cap and use the pipette to recover your sample. Collect sample droplets

which may adhere on the surface of the cap post and membrane.

Easy-to-Use Products Storage and Shelf Life

Storage: Store wet membrane at 4°C in a preservative solution of one of the following: 0.1% sodium azide, 1% formaldehyde or 1% sodium benzoate. The membrane should not be allowed to dry. Unopen membranes can be stored at room temperature.

Shelf Life: Approximately two years depending on storage conditions.

Membrane Chemical Compatibility

The chemical compatibility table is intended for use as a guide for selecting a proper membrane. Variables in temperature, concentrations, duration of exposure and other factors may affect the performance of the membranes. Generally, the Regenerated Cellulose (RC) membranes have a better resistance to most chemical solutions than Cellulose Ester (CE) membranes. Please see chemical compatibility table on page 12.

CE membranes are sensitive to organic solvents such as acetone, Methyl Ethyl Ketone (MEK) or dioxane which will irreparably damage the membranes. Lower alcohols such as methanol, ethanol, and isopropanol can be used with CE membranes at short exposure times or low concentrations.

RC membranes have a good chemical resistance to the following groups: hydrocarbons, halogenated hydrocarbons, alcohol, ketones, esters, oxides, solvents containing nitrogen. RC membranes are not recommended for use with hydrochloric acid>25% nitric acid>25%, 96% sulfuric acid, 25% perchloric acid, 1N potassium hydroxide, and 10% aqueous phenol.

Spectra/Gel™ Absorbent

Spectra/Gel Absorbent can be used with any easy-to-use dialysis product such as Spectra/Por Micro DispoDialyzer, Dispodialyzer and Float-A-Lyzer for fast and convenient sample concentration. It gently reduces sample volume for an excellent sample recovery.

Membrane Compatibility Table

This chemical resistance chart is intended for use as a guide, not as a guarantee of chemical compatibility. Variables in temperature, concentrations, durations of exposure and other factors may affect the use of the product. It is recommended to test under your own conditions.

The following codes are used to rate chemical resistance:

R Recommended
L Limited Exposure
NR Not Recommended
U Unknown

	Regenerated Cellulose (RC)	Cellulose Ester (CE)		Regenerated Cellulose (RC)	Cellulose Ester (CE)
Acetic acid (diluted-5%)	L	R	Cellosolve	NR	L
Acetic acid (med conc-25%)	NR	R	Chloracetic acid	NR	R
Acetic acid (glacial)	NR	R	Chloroform	L	R
Acetone	NR	R	Chromic acid	NR	NR
Acetonitrile	NR	R	Cresol	NR	R
Ammonium hydroxide (diluted)	NR	R	Cyclohexane	L	R
Ammonium hydroxide			Cyclohexanone	NR	R
(med conc)	NR	L	Diacetone alcohol	NR	R
Amyl acetate	NR	R	Dichloromethane	L	R
Amyl alcohol	L	R	Dimethyl formamide	NR	L
Aniline	NR	R	Dimethylsulfoxide	NR	R
Benzene	NR	R	“1,4 Dioxane”	NR	L
Benzyl alcohol	NR	R	Ethers	NR	R
Boric acid	R	R	Ethyl acetate	NR	R
Brine	R	R	Ethyl Alcohol	L	R
Bromoform	NR	R	Ethyl alcohol (15%)	R	R
Butyl acetate	NR	R	Ethyl alcohol (95%)	L	R
Butyl alcohol	L	R	Ethylene dichloride	NR	R
Butyl cellosolve	NR	L	Ethylene glycol	L	R
Butylraldehyde	NR	R	Ethylene oxide	NR	L
Carbon tetrachloride	NR	R	Formaldehyde (2%)	L	R

	Regenerated Cellulose (RC)	Cellulose Ester (CE)		Regenerated Cellulose (RC)	Cellulose Ester (CE)
Formaldehyde (30%)	L	R	Nitric acid (concentrated)	NR	NR
Formic acid (25%)	NR	R	Nitrobenzene	NR	L
Formic Acid (50%)	NR	R	Nitropropane	NR	L
Freon®	R	R	Oils, mineral	R	R
Gasoline	R	R	Pentane	R	R
Glycerine	R	R	Perchloric acid (25%)	NR	L
Glycerol	R	R	Perchloroethylene	NR	R
Hexane	R	R	Petroleum based oils	R	R
Hexanol	L	R	Petroleum ether	R	R
Hydrochloric acid (diluted-5%)	R	R	Phenol (0.5%)	R	R
Hydrochloric acid			Phenol (10%)	NR	R
(med conc-25%)	NR	NR	Phosphoric acid (25%)	NR	L
Hydrochloric acid (con-37%)	NR	NR	Potassium hydroxide (1N)	L	L
Hydrofluoric acid (25%)	NR	L	Potassium hydroxide (25%)	NR	R
Hydrogen peroxide (30%)	NR	NR	Potassium hydroxide (50%)	NR	NR
Iodine solutions	NR	NR	Propanol	R	R
Isobutyl alcohol	R	R	Pyridine	NR	R
Isopropanol	L	R	Silicone oil	R	R
Isopropyl acetate	NR	R	Sodium hydroxide (0.1N)	L	R
Isopropyl alcohol	L	R	Sodium hydroxide (diluted-5%)	NR	L
Isopropyl ether	L	R	Sodium hydroxide (25%)	NR	L
Jet Fuel 640A	R	R	Sodium hydroxide (conc-50%)	NR	NR
Kerosene	R	R	Sodium Hydroxide(Concentrated)	NR	NR
Lactic acid	R	R	Sodium Hypochlorite	R	R
Methyl acetate	NR	R	Sulfuric acid (diluted-5%)	L	R
Methyl alcohol	L	R	Sulfuric acid (med conc-25%)	NR	L
Methyl alcohol (98%)	L	R	Sulfuric acid (6N)	NR	L
Methyl cellosolve	L	L	Sulfuric Acid (concentrated)	NR	NR
Methyl Chloride	NR	R	Tetrahydrofuran	NR	R
Methyl ethyl ketone	NR	R	Toluene	R	R
Methyl formate	NR	L	Trichloroacetic acid (25%)	NR	NR
Methyl isobutyl ketone	NR	R	Trichlorobenzene	NR	R
Methylene chloride	L	R	Trichloroethane	L	R
N-Methyl-2-Pyrrolidone	NR	R	Trichloroethylene	R	R
Mineral spirits	R	R	Triethylamine	NR	R
Monochlorobenzene	L	R	Turpentine	NR	R
Nitric acid (diluted-5%)	L	R	Urea	R	R
Nitric acid (med conc-25%)	NR	NR	Urea (6N)	NR	R
Nitric acid (6N)	NR	N	Water	R	R
Nitric acid (conc-70%)	NR	NR	Xylene	NR	R

Spectra/Por® Easy-to-Use Products

Ordering Information

Spectra/Por® Micro DispoDialyzer®

- Spectra/Por Biotech Regenerated Cellulose (RC) membrane
- Packaged 0.1% sodium azide preservative solution.
- Package of 12, 24 or 48

Ordering information: 12/pkg
Product No. for MWCO

Volume	3.5 kD	8kD	15kD	25kD	60kD
10 µl	1356001	1356002	1356003	1356004	1356005
50 µl	1356011	1356012	1356013	1356014	1356015
100 µl	1356021	1356022	1356023	1356024	1356025

Ordering information: 24/pkg.
Product No. for MWCO

Volume	3.5 kD	8kD	15kD	25kD	60kD
10 µl	1356031	--------	--------	--------	--------
50 µl	1356041	1356042	--------	--------	1356045
100 µl	1356051	--------	1356053	1356054	1356055

Ordering information: 48/pkg.
Product No. for MWCO

Volume	3.5 kD	8kD	15kD	25kD	60kD
10 µl	--------	1356062	1356063	1356064	1356065
50 µl	--------	1356072	1356073	1356074	1356075
100 µl	1356081	1356082	1356083	1356084	1356085

Spectra/Por® Float-A-Lyzer®

- Spectra/Por Biotech RC or CE membrane
- Individually packaged wet in 0.1% sodium azide
- 10/package

Product Number for Cellulose Ester (CE)						
MWCO	300 µl	500 µl	1 ml	3 ml	5 ml	10 ml
100	235001	235013	235025	235037	235049	235061
500	235002	235014	235026	235038	235050	235062
1,000	235003	235015	235027	235039	235051	235063
2,000	235004	235016	235028	235040	235052	235064
3,500	235005	235017	235029	235041	235053	235065
5,000	235006	235018	235030	235042	235054	235066
8,000	235116	235118	235130	235142	235154	235166
10,000	235007	235019	235031	235043	235055	235067
15,000	235008	235020	235032	235044	235056	235068
25,000	235009	235021	235033	235045	235057	235069
50,000	235010	235022	235034	235046	235058	235070
100,000	235011	235023	235035	235047	235059	235071
300,000	235012	235024	235036	235048	235060	235072

Product Number fo Regenerated Cellulose (RC)						
MWCO	300 µl	500 µl	1 ml	3 ml	5 ml	10 ml
3,500	235073	235079	235085	235091	235097	235103
8,000	235074	235080	235086	235092	235098	235104
10,000	235075	235081	235087	235093	235099	235105
15,000	235076	235082	235088	235094	235100	235106
25,000	235077	235083	235089	235095	235101	235107
60,000	235078	235084	235090	235096	235102	235108

Spectra/Por® DispoDialyzer®

- Spectra/Por Biotech RC or Cellulose Ester (CE) membrane
- Irradiated and Individually packaged wet in DI water
- 10/package

Product Number for Cellulose Ester (CE)				
MWCO	500 µl	1 ml	2 ml	5 ml
100	135474	135502	135530	135558
500	135476	135504	135532	135560
1,000	135478	135506	135534	135562
2,000	135480	135508	135536	135564
3,500	135482	135510	135538	135566
5,000	135484	135512	135540	135568
8,000	135486	135514	135542	135570
10,000	135488	135516	135544	135572
15,000	135490	135518	135546	135574
25,000	135492	135520	135548	135576
50,000	135494	135522	135550	135578
100,000	135496	135524	135552	135580
300,000	135498	135526	135554	135582

Product Number for Regenerated Cellulose (RC)				
MWCO	500 µl	1 ml	2 ml	5 ml
8,000	135062	135006	135024	135042
10,000	135064	135009	135027	135045
15,000	135066	135012	135030	135048
25,000	135068	135015	135033	135051

Spectra/Gel® Absorbent

Product No.	Description
292600	Spectra/Gel™ Absorbent, 500 g

Ordering Information

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