3.1 Membranes for Filtration

3.1.2 - Nitrocellulose (NC) Membrane - MicronSep™

Description and Use

GVS Life Sciences Nitrocellulose (NC) Filtration Membrane is an unsupported, hydrophilic membrane. Its rapid flow rate and high throughput make it ideal for use in diagnostic kit manufacturing applications.

Features and Benefits

- **High flow rate:** Provides fast filtration rates
- **Uniform pore structure:** Provides consistent flow and diffusion rates
- **< 4% extractables:** Leads to more consistent results
- **Lot-to-lot consistency:** Produces dependable results every time

Typical Applications

- Aqueous filtration
- Sterility testing
- Gravimetric analysis with ashing technique
- Microbiological and particulate analysis
- Black for food and beverage applications

Consistent Uniformity Improves Control and Performance

Produced through a proprietary manufacturing process, GVS Life Sciences Nitrocellulose meets rigorous quality standards throughout every step of production. This process ensures the membrane has a uniform pore structure and consistent thickness (within 10 µm).

GVS Life Sciences NC Filtration Membranes are composed of a mixture of inert cellulose nitrate and cellulose acetate polymers. The uniform microporous structure of these filters provides the fastest flow rates and highest throughputs available in a membrane filter. Because they are biologically inert, GVS Life Sciences NC Filtration Membranes are ideal for a wide range of clarification, sterilization and analytical applications such as: microbiological analysis, clarification or sterilization of aqueous solutions, industrial hygiene applications, silt density index and particulate-matter analysis. For gravimetric analysis using ashing techniques, GVS Life Sciences NC Membranes yield a residue or less than 0.045% of their initial weight. They are hydrophilic with a noncytotoxic wetting agent and yield extractable levels of less than 4% of their weight. These membranes are autoclavable at 121°C (250°F) for 20 minutes. Sterilized product lifetime is 18months from sterilization date (1 year warranty).

Flexibility for OEM Requirements

GVS Life Sciences Nitrocellulose is available in rolls from 25 mm (1.0 in) to 40 cm (31 inches) wide. It is also available in sheets and cut disks gridded, plain, white or black, that can be customized to meet your application and size requirements. Slitting tolerance is from +/- 0.039 inches (+/- 1 mm). Because GVS Life Sciences Nitrocellulose Filtration Membrane is manufactured on-site all customization, such as wicking rate and thickness, is easy and cost-effective.

Table 2: Product Characteristics

Sterilization	Gamma Irradiation or Ethylene Oxide (EtO)
USP Class VI testing	Passed
Thickness	Approx. 6 mil (150 µm) +/- 10µm
Extractables	< 4%
BSA Protein Binding	Approx. 160 µg/cm² (depending on pore size)
Maximum Operating Temperature	356°F (180°C)
Sealing Compatibility	Ultrasonic, Heat, Radio Frequency and Insert Molding
Pore Size Range	0.1 to 8.0 µm

Table 3: Performance Characteristics

Pore Size	0.1µm	0.22µm	0.45µm	0.8µm	1.2µm	5.0µm	8.0µm
Minimum Bubble Point psi (kg/cm²)	80 (5.62)	52 (3.66)	30 (2.11)	11 (0.77)	9 (0.63)	6 (0.42)	4 (0.28)
Typical Flow Rate, mL/min/cm² @ 10psi (0.7 kg/cm²)	6.9 (0.49)	19 (1.34)	51 (3.59)	198 (13.9)	265 (18.6)	650 (45.7)	2316 (163)

Ordering information: Nitrocellulose Gridded Filtration Membrane, White and Black - S-Pak™

	Bulk Packaging*					Individual Sterile Package Without Pad*						
Dimensions Packaging	25mm 100/pk	25mm 100/pk	47mm 100/pk	47mm 100/pk	47mm 1000/pk	47mm 100/pk	47mm 100/pk	47mm 200/pk	47mm 200/pk	47mm 1000/pk	47mm 1000/pk	50mm 1000/pk
Color	white	black	white	black	white	white	black	white	black	white	black	white
Pore sizes 0.22 µm			1214839			1216720		1214861		1214396		
0.45 µm		1214969	1215207	1214977	3013416	1216721		1215230	1214991	1214923	1213643	1222980
0.7 µm						1216722		1215406	1213331	1215408	1221948	
0.8 µm	1225419	1215411	1215421	1215412		1216724	1215590				3057814	
1.2 µm	1215435		1215437									
8 µm				3053377								

FILTRATION MEMBRANES

	Individual Sterile Package With Pad*			
Dimensions Packaging	47mm 100/pk	47mm 100/pk	47mm 1000/pk	47mm 1000/pk
Color	white	black	white	black
Pore sizes 0.45 µm	1215237	1214866	1215249	1213145
0.7 µm	1215407	1216718	1215409	
0.8 µm	1225460	1216723		

*Larger bulk packaging available, call for details.

Ordering information: Nitrocellulose Filtration Membrane, White and Black

Dimensions Packaging	13mm 100/pk	25mm 100/pk	25mm 100/pk	37mm 100/pk	47mm 100/pk	47mm* 100/pk
Color	white	white	black	white	white	black
Pore sizes 0.1 µm		1214527			1214533	
0.22 µm	1214882	1214898			1214909	
0.45 µm	1215257	1215263	1215019	1215272	1215281	
0.65 µm		1215376			1215380	
0.8 µm	1215424	1215425	1215415	1215426	1215428	1215416
1.2 µm	1215438	1215440			1215441	
5.0 µm	1215448	1215450			1215451	
8.0 µm	1214456	1215455			1215456	

*Sterile and bulk packaging available, call for details.

Ordering information: Nitrocellulose Filtration Membrane, White and Black (cont.)

Dimensions Packaging	90mm 25/pk	142mm 25/pk	293mm 25/pk	20x20cm 5/pk	20x20cm 5/pk
Color	white	white	white	white	black
Pore sizes 0.1 µm		1214554	1214565		
0.22 µm	1214941	1214950	1214959	3031100	
0.45 µm	1215305	1215316	1215323	1225781	3053082
0.8 µm	1215431	1215432	1215433	3050851	
1.2 µm	1215442	1215443			
5.0 µm	1215452	1215453			
8.0 µm	1215027	1221955	1212631		