

## Recommended Filter

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An overview of membrane filter applications and recommendations for filter selection are in the various parts. We make up this summary to help customers to make best for their processed.

#### Contents:

#### Recommended Filter for general laboratory filtration

Field of application	Preferred pore size	Recommended filter composition
General clarification and removal of particles from liquids	1 µm	Cellulose ester
Filtration of viscous fluids	3~8 µm	Cellulose ester
Nitrogen-free analysis	0.45 µm	Cellulose acetate
Removal or collection of larger viruses and phages	0.1 µm	Cellulose ester
Virus filtration	0.025 µm	Cellulose ester
Removal of Mycoplasma sp.	0.1 µm	Cellulose ester
Removal/collection of colloidal analytical precipitates	0.1 µm	Cellulose ester
Ultracleaning for production of pure reagents for light scattering	0.1 µm	Cellulose ester
Ultracleaning of solvents for HPLC	0.5 µm	Teflon? Regen. cellulose
Sterilizing filtration of aqueous fluids	0.2 µm	Cellulose ester Nylon
Sterilizing filtration of nonaqueous solutions	0.2 µm	Teflon
Sterilizing filtration of alcoholic solutions	0.2 µm	Cellulose ester
Bulk bacterial removal	0.45 µm	Cellulose ester
Analytical precipitate removal	0.65 µm	Cellulose ester
Sieving of aqueous particulates		Nuclepore
Gravimetric analysis of industrial hydraulic fluids	5 µm	Cellulose ester
Sterile air venting	0.2 µm	Teflon
Filtration of organic solutions or solvents		Regenerated cellulose
Aggressive fluid sterilization	0.2 µm	Teflon
Aggressive fluid clarification	1 µm	Teflon
Air and gas sterilization	0.2 µm	Teflon
Analysis of radioactive particulates		Cellulose ester

### Recommended filters for water microbiology and analysis

Field of application	Preferred pore size	Recommended filter composition
Concentration of viruses	0.1 $\mu\text{m}$	Cellulose nitrate
Total bacterial count	0.2 $\mu\text{m}$	Cellulose ester
Coliform count	0.45 $\mu\text{m}$	Cellulose ester
Fecal coliform count	0.7 $\mu\text{m}$	Cellulose ester (anisotropic)
Phytoplankton removal for analysis	1~3 $\mu\text{m}$	Cellulose ester
General removal of suspended particles for analysis	5 $\mu\text{m}$	Cellulose ester
Removal of fine sediment for analysis	0.45 $\mu\text{m}$	Cellulose ester
Boiler feedwater testing for iron oxide particulates	0.45 $\mu\text{m}$	Cellulose ester (grid)

### Recommended filters for air pollution analysis

Field of application	Preferred pore size	Recommended filter composition
Separation of air particles of different sizes	0.4~8 $\mu\text{m}$	Nuclepore
Routine air sampling	0.8 $\mu\text{m}$	Cellulose ester
Collection of viruses in air	0.2 $\mu\text{m}$	Cellulose nitrate
Collection of airborne particulates for subsequent microscopic analysis	0.45 $\mu\text{m}$	Cellulose nitrate
Collection of light-colored particles for subsequent microscopic analysis	0.45 $\mu\text{m}$	Cellulose nitrate
Asbestos monitoring (NIOSH method)	0.8 $\mu\text{m}$	Cellulose nitrate
Oil mist monitoring (NIOSH method)	0.8 $\mu\text{m}$	Cellulose nitrate
Quantitative collection of general respirable dusts	1 $\mu\text{m}$	Cellulose nitrate
Particle control in hot gases	0.8 $\mu\text{m}$	Cellulose acetate
Collection of cotton dusts for gravimetric analysis	0.5 $\mu\text{m}$	Cellulose nitrate
Collection of moist dusts for subsequent analysis	1 $\mu\text{m}$	Cellulose ester
Aerosol monitoring	3 $\mu\text{m}$	Teflon
Biohazard hoot exhaust air monitoring	0.2 $\mu\text{m}$	Cellulose ester

### Recommended filters for food and beverage quality control

Field of application	Preferred pore size	Recommended filter composition
Total bacterial count	0.2 $\mu\text{m}$	Cellulose ester
Coliform count	0.45 $\mu\text{m}$	Cellulose ester
Coliforms in milk	0.65 $\mu\text{m}$	Cellulose ester
Collection of yeasts and molds for colony count	0.65 $\mu\text{m}$	Cellulose ester
Collection of yeasts and molds for microscopic analysis	0.8 $\mu\text{m}$	Cellulose ester

### Recommended filters for sterility testing

Field of application	Preferred pore size	Recommended filter composition
Pharmaceuticals/cosmetics containing no inhibitor substances	0.2 $\mu\text{m}$	Cellulose ester
Pharmaceuticals/cosmetics containing inhibitor	0.45/0.2 $\mu\text{m}$	Cellulose ester
Ointments/pastes containing no inhibitory substances	0.45/0.3 $\mu\text{m}$	Cellulose ester (hydrophobic edge)
Ointments/pastes containing inhibitors	0.45/0.3 $\mu\text{m}$	Cellulose ester (hydrophobic edge)

### Recommended filters for cytology and chemotaxis

Field of application	Preferred pore size	Recommended filter composition
Collection of human cells for exfoliative cytology	1~5 $\mu\text{m}$	Cellulose ester
Chemotactic chambers for study of migration of cells in relation to chemical stimuli	3~12 $\mu\text{m}$	Cellulose ester Nuclepore

### Recommended filters for tissue culture media sterilization by serial filtration

Field of application	Preferred pore size	Recommended filter composition
Coarse filtration or prefiltration	0.8~1 $\mu\text{m}$	Cellulose ester
Fine prefiltration	0.45 $\mu\text{m}$	Cellulose ester
Final prefiltration	0.3 $\mu\text{m}$	Cellulose ester
Sterile filtration	0.2 $\mu\text{m}$	Cellulose ester
Mycoplasma removal	0.1 $\mu\text{m}$	Cellulose ester
Serum pre-filtration	1 $\mu\text{m}$	Cellulose ester

### Recommended filters for biomedical and chemistry

Field of application	Preferred pore size	Recommended filter composition
Cell counter reagent water	0.8 µm	Cellulose ester
Binding of RNA and DNA complexes	0.45 µm	Cellulose nitrate
Binding of RNA and DNA complexes	0.45 µm	Cellulose nitrate
Separating bound from unbound proteins	0.45 µm	Cellulose acetate
Radiomunoassay (RIA) for separation of antibody-bound antigen from free antigen	0.45 µm	Cellulose acetate
Separation of proteins from water	0.025 µm	Cellulose nitrate
Fluorescence analysis of antibodies	0.45 µm	Cellulose nitrate(black)
Construction	0.6 µm	Polyvinyl chloride

### Recommended filters for industrial and pharmaceutical applications

Field of application	Preferred pore size	Recommended filter composition
Stabilizing finished beer	1.2 µm	Cellulose ester
Stabilizing wines and juices	0.8µm	Cellulose ester
Final filtration of distilled beverages	1µm	Cellulose acetate(not nitrate)
Ultracleaning of water	0.45/1.2µm	Cellulose ester
Ultracleaning of alcohol	1µm	Cellulose acetate
Sterilizing filtration of alcohol-containing solutions	0.2µm	Cellulose acetate
Clarification of photo resists	10µm	Teflon
Clarification of concentrated acids, alkalies	10µm	Teflon
Clarification of other reactive and corrosive liquids	10µm	Teflon
Clarification of rocket propellants and other cryogenics	10µm	Teflon
Semi-conductor manufacture	0.2µm	Cellulose acetate
Vaccine clarification	0.45µm	Cellulose ester
Vaccine sterilization	0.2µm	Cellulose ester
Intravenous fluid manufacture	0.2µm	Cellulose ester
Filtration of hydraulic fluids	0.8µm	Cellulose acetate