

UltraPure[®] Gas Line Filter

Unique impregnated membrane equals increased surface area for improved filtration

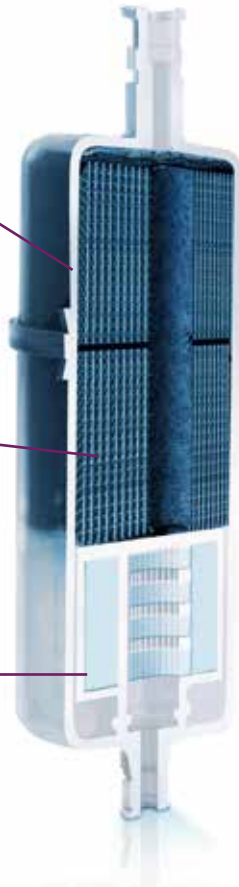
Stage 1

2.7 sq.ft. (2,400 sq.cm) of Potassium Permanganate & Activated Carbon membrane

Provides superior filtering capacity of Volatile Organic Compounds (VOCs)

Stage 2

HEPA filtration unit



Assured protection from VOCs in your IVF gas for 6 months!

UltraPure[®] Gas Line Filter
Proprietary 2-stage filter

Stage 1: Unique impregnated membrane design

- Activated Carbon
- Potassium Permanganate

Stage 2: HEPA filtration unit

Results of VOC Performance Test

UltraPure[®] filters were challenged with a typical mix of VOCs found in IVF laboratories. A custom cocktail of VOCs was made based on the following chart from Kathryn WorriLOW, Ph.D.:

Volatle Organic Compounds – In Vitro Fertilization	Incl. in Cocktail	Volatle Organic Compounds – In Vitro Fertilization	Incl. in Cocktail
Isopropyl alcohol	√	n-Decane	
Ethanol	√	n-Hexane	√
Methanol	√	Methylene Chloride	√
Acetone	√	Formaldehyde	
Toluene	√	Acetaldehyde	
Xylenes	√	Propionaldehyde	√
2-Butanone	√	Hexaldehyde	
Styrene	√	Butyraldehyde	√
Acrolein	√	Benzaldehyde	
Benzene	√	Hexanaldehyde	√
Ethyl Acetate	√	Nonanal	
1,1,1-Trichloroethane	√		

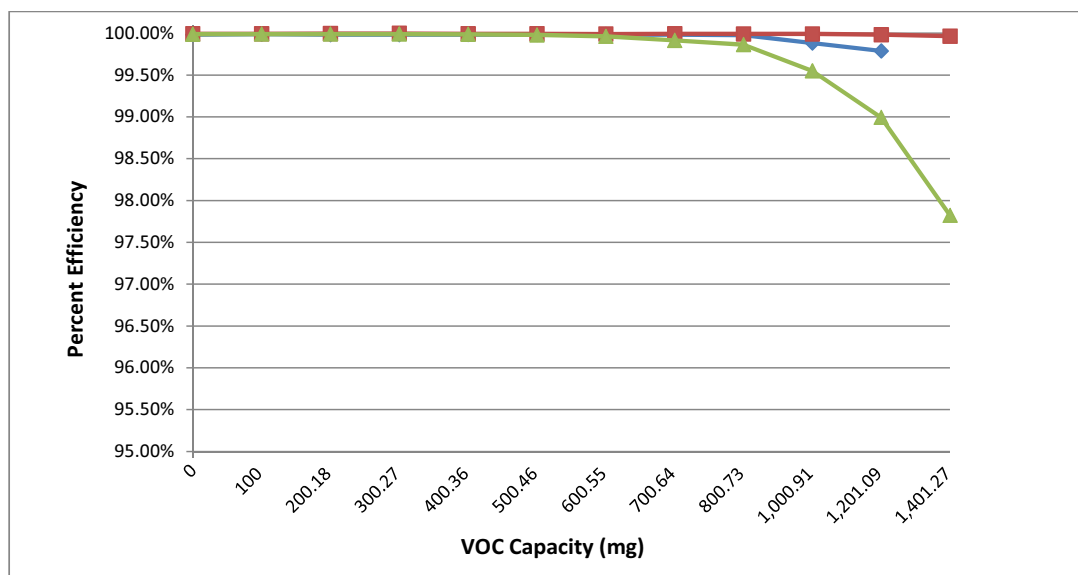
Note:

Those compounds not included were due to their instability in the mixture.

All families of compounds were represented.

The gas cylinder contained equal concentrations of the compounds at approximately 100 parts per million by molar volume (ppmv). The gas was passed through the test filters at a flow rate of 0.36L/min comparable to the maximum flow rate in a mini – incubator, at 22-25 psi, and sampled periodically over 20 hours at the outlet. VOCs were analyzed using gas chromatography coupled to mass spectrometry. All testing was performed by Southwest Research Institute.

Results from testing 3 different UltraPure filters



Using 3,000 $\mu\text{g}/\text{m}^3$ as the average TVOCs in IVF labs, at a flow rate of 22L/hr, the required capacity is 289 mg over 6 months. The filters provide at least twice this capacity with over 99% efficiency. The combination of activated carbon and potassium permanganate provides excellent filtration to remove VOCs from the air supply for incubators in IVF clinics.

UltraPure[®] Gas Line Filter Ordering Information

Catalog Number	Product
ULTRA-001	UltraPure Gas Line Filter (quantity 1 per box)
ULTRA-STARTUP	Start up Kit (includes bracket, intake and output fittings and clamps)
ULTRA-BRAC	Magnetic Holding Bracket
ULTRA-FTGS	Quick-Disconnect Fittings Kit (includes intake and output fittings and clamps)

