

Gas & Metal Compatibility Table

Gas	Chemical Formula	Suggested Filter Media
Ammonia	NH ₃	SS/Ni
Argon	Ar	SS/Ni
Arsenic Pentafluoride	AsF ₅	SS/Ni
Arsine	AsH ₃	SS/Ni(1)
Boron Trichloride BCl ₃	BCl ₃	H/Ni
Boron Trifluoride BF ₃	BF ₃	H/Ni
Carbon Dioxide	CO ₂	SS/Ni
Carbon Monoxide	CO	SS
Carbon Tetrachloride	CCl ₄	SS/Ni
Carbon Tetrafluoride	CF ₄	SS/Ni
Chlorine	Cl ₂	H/Ni/SS
Diborane	B ₂ H ₆	SS/Ni(1)
Dichlorosilane	SiH ₂ Cl ₂	H/Ni
Diethyltelluride	Te(C ₂ H ₅) ₂	SS/Ni
Fluorine	F ₂	H/Ni
Freon 13	CClF ₃	SS/Ni
Freon 14 Tetrafluoromethane	CF ₄	SS/Ni
Freon 23 Trifluoromethane/Fluoro-form	CHF ₃	SS/Ni
Freon 115 Chloropentafluoroethane C	C ₂ ClF ₅	SS/Ni
Freon 116 Hexafluoroethane C	C ₂ F ₆	SS/Ni
Germane	GeH ₄	SS/Ni
Helium	He	SS/Ni
Hydrogen	H ₂	SS/Ni
Hydrogen Bromide HBr	HBr	H/Ni
Hydrogen Chloride HCl	HCl	H/Ni
Hydrogen Fluoride HF	HF	H/Ni
Hydrogen Selenide H ₂ Se	H ₂ Se	SS/Ni
Hydrogen Sulfide H ₂ S	H ₂ S	SS/Ni
Krypton	Kr	SS/Ni
Methane	CH ₄	SS/Ni
Methyl Fluoride CH ₃ F	CH ₃ F	SS/Ni
Nitric Oxide NO	NO	SS/Ni
Nitrogen	N ₂	SS/Ni
Nitrogen Trifluoride	NF ₃	H/Ni/SS
Nitrous Oxide N ₂ O	N ₂ O	SS/Ni
Neon	Ne	SS/Ni
Oxygen	O ₂	SS/Ni
Ozone	O ₃	H
Perfluoropropane	C ₃ F ₈	SS/Ni
Phosphine	PH ₃	SS/Ni(1)
Phosphorus Trifluoride PF ₃	PF ₃	H/Ni
Phosphorous Pentachloride PCl ₅	PCl ₅	SS/Ni
Phosphorous Pentafluoride PF ₅	PF ₅	SS/Ni
Silane	SiH ₄	SS/Ni
Silicon Tetrachloride SiCl ₄	SiCl ₄	H/Ni
Silicon Tetrafluoride SiF ₄	SiF ₄	H/Ni
Stibine	SbH ₃	SS/Ni
Sulfur Hexafluoride	SF ₆	SS/Ni
Tetraethyl Orthosilicate TEOS	TEOS	SS/Ni
Trichlorosilane	SiHCl ₃	H/Ni
Trimethyl Borane (CH ₃) ₃ B	(CH ₃) ₃ B	SS/Ni
Trimethyl Phosphate	(CH ₃) ₃ PO ₄	SS/Ni
Tungsten Hexafluoride WF ₆	WF ₆	H/Ni
Xenon	Xe	SS/Ni

SS = 316L Stainless Steel

Ni = Nickel

H = Hastelloy C-22

(1) - Compatible to 25 degrees C and concentrations to 1000 ppm

(2) - Compatible to 150 degrees C

Choosing a Mott High Purity Gas Filter:

Choosing the best metal filter is not always a simple matter, because in addition to easily identified variables (i.e., gas, pressure and flow), there are subjective considerations. Some gases are compatible with more than one type of metal which allows you a choice when selecting the right filter for your application.

The information contained in this table is a guideline for appropriate filter selection. Consultation with your gas supplier is recommended to ensure gas compatibility. Because so many factors can affect the chemical resistance of a given product, you should pretest under your own operating conditions. As with any chemical application, safety precautions as noted on MSDS sheets should be observed.



Mott engineers are available to recommend which filter best meets the criteria of your application. To expedite that selection process, you should have the following information available:

Type of Gas: _____
 Gas Flow Rate: _____
 Inlet (or system) Pressure: _____ PSIG
 Maximum allowable P: _____ PSID
 Inlet & Outlet Connections: _____
 Available Envelope/Footprint Dimensions (if known):

