

# BOISWOOD

GAS AND LIQUID CONTROL TECHNOLOGIES

Pressure & Vacuum

Flow

Level & Temperature

Tube & Fittings

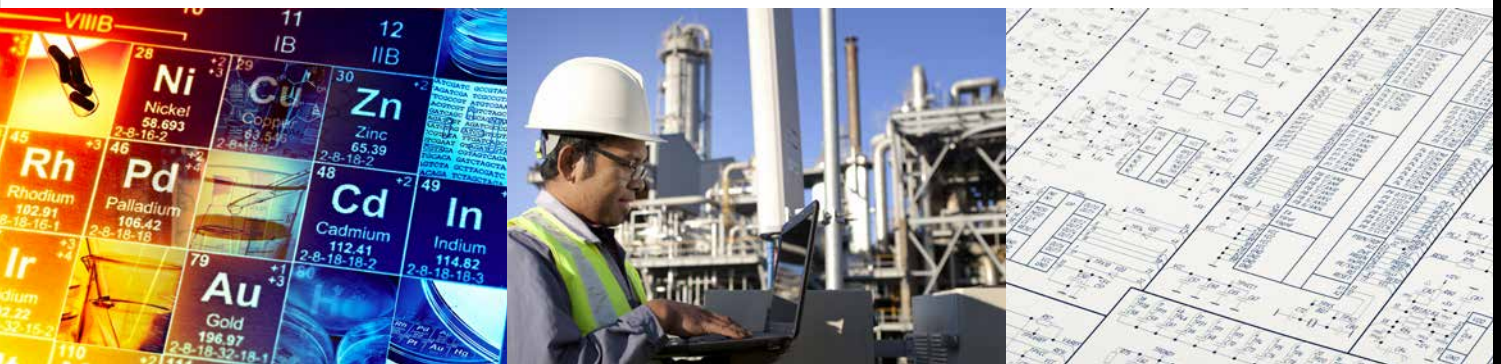
HVAC

Custom Services

## Technical Information

We take great care to ensure that the products we offer represent the best possible, lowest cost technical solutions to meet your requirements. When selecting a product we encourage you to consider that adequate ratings, product function and operation, material compatibility, installation and maintenance are all considered to ensure you achieve safe and trouble-free product performance.

**If in doubt please contact us.**





# Material Compatibility

	Aluminium	Brass	316 St.St.	PTFE	PTFCE	Polyamide	Viton	Kelf-F	Monel	Hast. C	Body Material
Acetylene	A		A	A	A	A	NR	A	NR	NR	
Air	A	A	A	A	A	A	A	A	A	A	A
Allene	A		A	A	A						
Ammonia	A	NR	A	A	A	A	NR	A	NR		
Argon	A	A	A	A	A	A	A				
Arsine	A	A	A	A	A		A				
Boron trichloride	NR		A	A	A	NR	A				
Boron trifluoride	NR	A	A	A	A	NR	A				
n-Butane	A	A	A	A	A						
Carbon dioxide (wet)	A	A	A	A	A	A	NR	A			A
Carbon dioxide (dry)	A	A	A	A	A	A	NR	A			A
Carbon monoxide	A	A	A	A	A	A	A	A	A	A	A
Chlorine (wet)	NR	A	A	A	A	NR	A	A	A	A	NR
Chlorine (dry)	NR	A	A	A	A	NR	A	A	A	A	
Deuterium	A	A	A	A	A	A	A				
Dichlorosilane	N	N	NR	A	A	NR	A				
Dimethylamine		N	A	A	A	NR	NR	A			
Dimethyl ether	A	A	A	A	A			A			
Ethane	A	A	A	A			A				
Ethyl acetylene	A		A	A							
Ethyl chloride	N	A	A	A	A			A			A
Ethylene	A	A	A	A	A						
Ethylene oxide		A	A	A	A		NR				
Fluorine**	A	A	A	NR	NR	NR	NR	NR			A
Germane	A	A	A	A	A		A				
Helium	A	A	A	A	A	A	A	A	A	A	A
Hydrogen	A	A	A	A	A	A	A	A	A	A	A
Hydrogen bromide	NR	N	A	A	A	NR	A				
Hydrogen chloride*		N	A	A	A	NR	A	A	A	A	A
Hydrogen fluoride	NR	NR	NR	A	A	NR	A	NR			A
Hydrogen sulfide*	A	A	A	A	A	NR	A	A		A	A
Krypton	A	A	A	A	A	A	A				
Methane	A	A	A	A	A	A	A	A			A
Natural Gas	A	A	A	A			A	A			A
Neon	A	A	A	A	A	A	A				
Nitric oxide			A	A	A	NR	A				
Nitrogen	A	A	A	A	A	A	A	A	A	A	A
Nitrogen dioxide		N	A	A	A	NR	NR	A			
Nitrogen trifluoride	A	A	A	A	A						
Nitrous oxide	A	A	A	A	A	A	NR	A	NR	NR	NR
Oxygen	CB	A	CB	F	F	F	F	A			F
Phosgene (gas)	NR	A	A	A	A			A		A	
Propane	A	A	A	A	A			A			
Propylene	A	A	A	A	A						
Silane	A	A	A	A	A		A				
Silicon tetrafluoride	NR			A	A	NR	A				
Sulfur dioxide*	A	A	A	A	A	NR	NR	A	A	A	A
Trimethylamine		N	A	A	A	NR	NR	A			
Xenon	A	A	A	A	A	A	A				

- A** Acceptable
- N** Not Compatible
- NR** Not Recommended
- F** Risk Of Fire / Explosion
- CB** Normally Compatible But May Ignite Under Extreme Conditions
- \*** If Moisture Is Present Consult Boiswood
- \*\*** Equipment Used With Fluorine Must Be Passivated

**Note:**  
A blank in the chart indicates that no data is available

**NOTE:** This chemical resistance guide has been compiled to assist in the selection of chemically resistant materials. The information given is intended as a guide only. Many conditions can affect the material choices. Careful consideration must be given to temperature, pressure and chemical concentration before a final material can be selected. To the best of our knowledge the information contained in the chart is accurate. However Boiswood does not assume any liability whatsoever for the accuracy of completeness of such information. Final determination of the suitability of any information for the use to be contemplated is the sole responsibility of the user. The manner of that use is also the sole responsibility of the user.

# Bottle Connections

Gas	Symbol	Bs341	Din 477	Cga
Acetylene	C2H2	No 4	-	510
Air		No 3	-	590
Allene	C3H4	No 1	-	510
Ammonia	NH3	No 10	-	240
Argon	Ar	No 3	No 6	580
Arsine	AsH3	No 4	No 1 (with flow restrictor)	350
Boron Trichloride	BCl3	No 14	No 8	660
Boron Trifluoride	BF3	No 14	No 8	330
N - Butane	C4H10	No 4	-	510
Carbon Dioxide	CO2	No 8	No 6	320
Carbon Monoxide	CO	No 4	-	350
Chlorine	Cl2	No 6	No 8	660
Deuterium	D2 or 2H2	No 4	-	350
Dichlorosilane	SiH2Cl2	No 15	No 5	678
Dimethylamine	(CH3)2NH	No 11	-	705
Dimethyl Ether	(CH3)2O	No 4	-	510
Ethane	C2H6	No 4	-	350
Ethyl Acetylene	C4H6	-	-	510
Ethyl Chloride	C2H5Cl	No 7	-	510
Ethylene	C2H4	No 4	-	350
Ethylene Oxide	C2H4O	No 7 or No 15	-	510
Fluorine	F2	-	No 8	679
Germane	GeH4	No 4	No 1	660
Helium	He	No 3	No 6	580
Hydrogen	H2	No 4	No 1	350
Hydrogen Bromide	HBr	No 6	No 8	330
Hydrogen Chloride	HCl	No 6	No 8	330
Hydrogen Fluoride	HF	No 6	-	330
Hydrogen Sulfide	H2S	No 15	-	330
Krypton	Kr	No 3	No 6	590
Methane	CH4	No 4	-	350
Natural Gas		No 4	-	350
Neon	Ne	No 3	-	590
Nitric Oxide	NO	No 14	-	660
Nitrogen	N2	No 3	No 10	580
Nitrogen Dioxide	NO2	No 6 or No 14	-	660
Nitrogen Trifluoride	NF3	No 14	No 8	679
Nitrous Oxide	N2O	No 3 or No 13	No 11	326
Oxygen	O2	No 3	No 9	540
Phosgene	COCl2	No 4 or No 6	No 6 or No 8	660
Propane	C3H8	No 4	-	510
Propylene	C3H6	No 4	-	510
Silane	SiH4	-	No 1 (with flow restrictor)	350
Silicon Tetrafluoride	SiF4	No 14	No 8	330
Sulfur Dioxide	SO2	No 12	-	660
Trimethylamine	(CH3)3N	No 11	-	240
Xenon	Xe	No 3	No 6	580
Xenon	A	A	A	A

# Physical Properties of Gas

Gas	Symbol	Molecular Weight	Gas Density Kg/M3	Specific Gravity
Acetylene	C2H2	26.0	1.11	0.91
Air		29.0	1.29	1.0
Allene	C3H4	40.1	1.81	1.4
Ammonia	NH3	17.0	0.73	0.60
Argon	Ar	39.9	1.69	1.38
Arsine	AsH3	78.0	*	*
Boron Trichloride	BCl3	117.2	4.98	4.06
Boron Trifluoride	BF3	67.8	2.90	2.37
N - Butane	C4H10	58.1	2.59	2.11
Carbon Dioxide	CO2	44.0	1.87	1.53
Carbon Monoxide	CO	28.0	1.18	0.97
Chlorine	Cl2	70.9	3.05	2.49
Deuterium	D2 or 2H2	4.03	0.17	0.14
Dichlorosilane	SiH2Cl2	101.0	*	*
Dimethylamine	(CH3)2NH	45.1	1.91	1.56
Dimethyl Ether	(CH3)2O	46.1	2.00	1.63
Ethane	C2H6	30.1	1.29	1.05
Ethyl Acetylene	C4H6	54.1	*	*
Ethyl Chloride	C2H5Cl	64.5	2.73	2.23
Ethylene	C2H4	28.1	1.20	0.97
Ethylene Oxide	C2H4O	44.1	1.86	1.52
Fluorine	F2	38.0	1.61	1.31
Germane	GeH4	76.6	*	*
Helium	He	4.0	0.17	0.14
Hydrogen	H2	2.0	0.09	0.07
Hydrogen Bromide	HBr	80.9	3.45	2.82
Hydrogen Chloride	HCl	36.5	1.56	1.27
Hydrogen Fluoride	HF	20.0	0.87	0.71
Hydrogen Sulfide	H2S	34.1	1.46	1.19
Krypton	Kr	83.8	3.55	2.90
Methane	CH4	16.0	0.68	0.55
Natural Gas	*	19.5	0.8034	0.67
Neon	Ne	20.2	0.85	0.70
Nitric Oxide	NO	30.0	1.27	1.04
Nitrogen	N2	28.0	1.18	0.97
Nitrogen Dioxide	NO2	46.0	3.47	2.83
Nitrogen Trifluoride	NF3	71.0	3.00	2.44
Nitrous Oxide	N2O	44.0	1.88	1.53
Oxygen	O2	32.0	1.35	1.11
Phosgene	COCl2	98.9	4.30	3.50
Propane	C3H8	44.1	1.91	1.55
Propylene	C3H6	42.1	1.82	1.48
Silane	SiH4	32.1	1.36	1.11
Silicon Tetrafluoride	SiF4	104.1	4.45	3.63
Sulfur Dioxide	SO2	64.1	2.77	2.26
Trimethylamine	(CH3)3N	59.1	2.45	1.995
Xenon	Xe	131.3	5.59	4.56
Xenon	A	A	A	A

# Quality Assurance

We have been approved since 2000 to ISO 9001, as a distributor of Gas & Liquid Control products, our Certificate number is GB 6191 and our awarding body is QMS International. We are also an Investors in People company. Our Supply Partners also adopt the latest quality standards, lean manufacturing processes and industry approvals.

