

# CHART 1: Regulator Recommendations for Semiconductor Gases

## Point of Use & Gas Cabinet Applications



High Purity Controls

GAS	SPECIFIC GRAVITY (AIR = 1)	CYLINDER PRESSURE PSIG (BAR) @ 70 DEG. F	HAZARDS	CGA (DISS)	STATE	Point of Use Regulators				Gas Cabinet Regulators	
						SERIES 1/4" POINT OF USE OR SPECIALTY GASES	THREADLESS SERIES 1/4" POINT OF USE OR SPECIALTY GASES	SERIES 1/2" POINT OF USE OR BULK GAS	THREADLESS SERIES 1/2" POINT OF USE OR BULK GAS	SERIES GAS CABINET OR CYLINDER GAS	THREADLESS SERIES GAS CABINET OR CYLINDER GAS
AMMONIA NH <sub>3</sub>	0.593	114 (7.8)	TOXIC FLAMMABLE CORROSIVE	660 (720)	LIQUEFIED GAS	64-2600	74-2400 12-1	64-3200	23-3	64-2800 64-3200	74-2400 74-3800
ARGON Ar	1.38	2640 (182)	ASPHYXIANT	580 (718)	COMPRESSED GAS	64-2600	74-2400 12-1	64-3200 64-5400	74-3000 23-4	64-2600	74-2400
ARSINE AsH <sub>3</sub>	2.718	205 (14.1)	TOXIC FLAMMABLE	350 (632)	LIQUEFIED GAS	64-2600	74-2400 12-1			64-2800	74-2400
BORON TRICHLORIDE BCl <sub>3</sub>	4.045	5.4 (.37)	TOXIC CORROSIVE	660 (634)	LIQUEFIED GAS	64-5000	74-2400 12-1		74-300A	64-5000H	74-300AH
BORON TRIFLUORIDE BF <sub>3</sub>	2.32	1000 (68.9)	TOXIC CORROSIVE	330 (642)	COMPRESSED GAS	64-2600	74-2400 12-1			64-2800	74-2400
BORON-11 TRIFLUORIDE ENRICHED B <sub>11</sub> F <sub>3</sub>	2.37	850 (58.6)	TOXIC CORROSIVE	330 (642)	COMPRESSED GAS	64-2600	74-2400 12-1			64-2800	74-2400
CARBON DIOXIDE CO <sub>2</sub>	1.527	830 (57.2)	ASPHYXIANT	320 (716)	LIQUEFIED GAS	64-2600	74-2400 12-1			64-2600	74-2400
CARBON MONOXIDE CO	0.967	2000 (137.9)	TOXIC FLAMMABLE	350 (724)	COMPRESSED GAS	64-2600	74-2400 12-1			64-2800	74-2400
CHLORINE CL <sub>2</sub>	2.479	86 (5.9)	TOXIC CORROSIVE	660 (728)	LIQUEFIED GAS	64-2600	74-2400 12-1	64-3200	23-3	64-2800	74-2400
DIBORANE B <sub>2</sub> H <sub>6</sub>	0.95	2200 (151.7)	FLAMMABLE TOXIC	350 (632)	COMPRESSED GAS	64-2600	74-2400 12-1			64-3400	
DICHLOROSILANE SiH <sub>2</sub> CL <sub>2</sub>	3.52	9.5 (.65)	TOXIC FLAMMABLE CORROSIVE	678 (636)	LIQUEFIED GAS	64-5000	74-2400 12-1		74-300A	64-5000H	74-300AH
DISILANE Si <sub>2</sub> H <sub>6</sub>	2.38	33 (2.2)	FLAMMABLE	510 (632)	LIQUEFIED GAS	64-2600	74-2400 12-1			64-2800	74-2400

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FLUORINE F <sub>2</sub>	1.312	400 (27.6)	TOXIC CORROSIVE OXIDIZER	679	COMPRESSED GAS	NO RECOMMENDATION	NO RECOMMENDATION	NO RECOMMENDATION	NO RECOMMENDATION	NO RECOMMENDATION	NO RECOMMENDATION
GERMANE GeH <sub>4</sub>	2.7	132 (8.9)	TOXIC FLAMMABLE	660 (632)	COMPRESSED GAS	64-2600	74-2400 12-1			64-2800	74-2400
HALOCARBON-12 DICHLORODIFLUOROMETHANE CCL <sub>2</sub> F <sub>2</sub>	4.262	70 (4.8)	ASPHYXIANT	660 (716)	LIQUEFIED GAS	64-2600	74-2400 12-1			64-2800	74-2400
HALOCARBON-13 CHLOROTRIFLUOROMETHANE CCLF <sub>3</sub>	3.61	460 (31.3)	ASPHYXIANT	660 (716)	LIQUEFIED GAS	64-2600	74-2400 12-1			64-2600	74-2400
HALOCARBON-14 TETRAFLUOROMETHANE CF <sub>4</sub>	3.05	2000 (136)	ASPHYXIANT	320 (716)	COMPRESSED GAS	64-2600	74-2400 12-1			64-2600	74-2400
HALOCARBON-23 FLUOROFORM CHF <sub>3</sub>	2.436	635 (43.8)	ASPHYXIANT	660 (716)	LIQUEFIED GAS	64-2600	74-2400 12-1			64-2600	74-2400
HALOCARBON-115 CHLOROPENTAFLUROETHANE C <sub>2</sub> CLF <sub>5</sub>	5.568	102 (7.0)	ASPHYXIANT	660 (716)	LIQUEFIED GAS	64-2600	74-2400 12-1			64-2600	74-2400
HALOCARBON-116 HEXAFLUROETHANE C <sub>2</sub> F <sub>6</sub>	4.82	430 (29.7)	ASPHYXIANT	660 (716)	LIQUEFIED GAS	64-2600	74-2400 12-1			64-2600	74-2400
HELIUM He	0.138	2640 (182.1)	ASPHYXIANT	580 (718)	COMPRESSED GAS	64-2600	74-2400 12-1	64-3200 64-5400	74-3000 23-4	64-2800	74-2400
HYDROGEN H <sub>2</sub>	0.07	2400 (165.5)	FLAMMABLE	350 (724)	COMPRESSED GAS	64-2600	74-2400 12-1	64-3200 64-5400	74-3000 23-4	64-2800	74-2400
HYDROGEN BROMIDE HBr	2.71	320 (22.0)	TOXIC CORROSIVE	330 (634)	LIQUEFIED GAS	64-2600	74-2400 12-1			64-2800H	74-2400H
HYDROGEN CHLORIDE HCL	1.266	613 (42.3)	TOXIC CORROSIVE	330 (634)	LIQUEFIED GAS	64-2600H	74-2400 12-1	*449-254 *64-3200		64-2800H *449-254 *64-3200H	74-2400H

\* Use as a set, two stage pressure reduction

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HYDROGEN FLUORIDE HF	1.9	0.9 (.06)	TOXIC CORROSIVE	670 (638)	LIQUEFIED GAS	NO RECOMMENDATION	NO RECOMMENDATION	NO RECOMMENDATION	NO RECOMMENDATION	NO RECOMMENDATION	NO RECOMMENDATION
HYDROGEN SELENIDE H <sub>2</sub> Se	2.80	125 (8.5)	TOXIC FLAMMABLE	350 (632)	LIQUEFIED GAS	64-2600	74-2400 12-1			64-2800	74-2400
HYDROGEN SULFIDE H <sub>2</sub> S	1.192	253 (17.4)	TOXIC FLAMMABLE CORROSIVE	330 (722)	LIQUEFIED GAS	64-2600	74-2400 12-1			64-2800	74-2400
KRYPTON Kr	2.9	800 (54.4)	ASPHYXIANT	580 (718)	COMPRESSED GAS	64-2600	74-2400 12-1			64-2800	74-2400
METHANE CH <sub>4</sub>	0.555	2265 (154)	FLAMMABLE ASPHYXIANT	350	COMPRESSED GAS	64-2600	74-2400 12-1			64-2800	74-2400
METHYL CHLORIDE CH <sub>3</sub> CL	1.771	59 (4.1)	TOXIC FLAMMABLE	660	LIQUEFIED GAS	64-2600	74-2400 12-1			64-2800	74-2400
NEON Ne	0.696	850 (57.8)	ASPHYXIANT	580 (718)	COMPRESSED GAS	64-2600	74-2400 12-1			64-2800	74-2400
NITROGEN N <sub>2</sub>	0.967	2640 (182)	ASPHYXIANT	580 (718)	COMPRESSED GAS	64-2600	74-2400 12-1	64-3200 64-5400	74-3000 23-4	64-2800	74-2400
NITROGEN TRIFLOURIDE NF <sub>3</sub>	2.46	1450 (100)	TOXIC OXIDIZER	330 (640)	COMPRESSED GAS	64-2600	74-2400 12-1	64-3200		64-2800	74-2400
NITROUS OXIDE N <sub>2</sub> O	1.528	745 (51.4)	OXIDIZER	326 (712)	LIQUEFIED GAS	64-2600	74-2400 12-1			64-2800	74-2400
OXYGEN O <sub>2</sub>	1.105	2640 (182)	OXIDIZER	540 (714)	COMPRESSED GAS	64-2600	74-2400 12-1	64-3200 64-5400	74-3000, 74-3800 23-4	64-2800	74-2400
PERFLUOROPROPANE C <sub>3</sub> F <sub>8</sub>	6.49	100 (6.9)	ASPHYXIANT	660 (716)	LIQUEFIED GAS	64-2600	74-2400 12-1			64-2800	74-2400

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PHOSPHINE PH <sub>3</sub>	1.19	493 (33.5)	TOXIC FLAMMABLE	660 (632)	LIQUEFIED GAS	64-2600	74-2400 12-1			64-2800	74-2400
PHOSPHORUS PENTAFLUORIDE PF <sub>5</sub>	4.31	400 (27.6)	TOXIC CORROSIVE	330 (642)	COMPRESSED GAS	64-2600	74-2400 12-1			64-2800	74-2400
SILANE SiH <sub>4</sub>	1.1	1250 (86.2)	FLAMMABLE	350 (632)	COMPRESSED GAS	64-2600	74-2400 12-1	64-3200	74-3800, 23-3	64-2800	74-2400
SILICON TETRAFLUORIDE SiF <sub>4</sub>	3.57	1000 (69)	TOXIC CORROSIVE	330 (642)	COMPRESSED GAS	64-2600	74-2400 12-1			64-2800H	74-2400H
SULFUR DIOXIDE SO <sub>2</sub>	2.249	34 (2.4)	TOXIC CORROSIVE	660	LIQUEFIED GAS	64-2600	74-2400 12-1			64-2800H	74-2400H
SULFUR HEXAFLUORIDE SF <sub>6</sub>	5.105	298 (20.5)	ASPHYXIAN	590 (716)	LIQUEFIED GAS	64-2600	74-2400 12-1			64-2800	74-2400
SULFUR TETRAFLUORIDE SF <sub>4</sub>	3.71	140 (9.6)	TOXIC CORROSIVE	330	LIQUEFIED GAS	64-2600	74-2400 12-1			64-2800H	74-2400H
TUNGSTEN HEXAFLUORIDE WF <sub>6</sub>	10.674	2.4 (.16)	TOXIC CORROSIVE	670 (638)	LIQUEFIED GAS	64-5000			74-300AH	64-5000H	74-300AH
XENON Xe	4.558	645 (44.5)	ASPHYXIAN	580 (718)	COMPRESSED GAS	64-2600	74-2400 12-1			64-2800	74-2400

H = HASTELLOY TRIM

\*Note: Tescom may make recommendations for a product to use with a specific media. These recommendations will be based on technical compatibility resources both through associations and manufacturers.

Tescom does not guarantee the product to be compatible with the specific media - this is the responsibility of the user. Users must test under their own operating conditions to determine the suitability.

