

Regulator Recommendations for Semiconductor Gases

Point of Use and Gas Cabinet Applications

DEBUL1812X012

GAS	SPECIFIC GRAVITY (AIR = 1)	CYLINDER PRESSURE psig / bar at 70°F / 21°C	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 ₃	0.593	114 / 7.9	Toxic Flammable Corrosive	660 / 720	Liquefied Gas	64-2600	74-2400 12-1	64-3200	74-3000 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 23-3	64-2600	74-2400
Arsine AsH ₃	2.718	205 / 14.1	Toxic Flammable	350 / 632	Liquefied Gas	64-2600	74-2400 12-1			64-2800	74-2400
Boron Trichloride BCl ₃	4.045	4.4 / 0.30	Toxic Corrosive	660 / 634	Liquefied Gas	64-5000	74-2400 12-1		74-300A	64-5000H	74-300AH
Boron Trifluoride BF ₃	2.32	1000 / 69.0	Toxic	330 / 642	Compressed Gas	64-2600	74-2400 12-1			64-2800	74-2400
Boron-11 Trifluoride Enriched B ₁₁ F ₃	2.37	850 / 58.6	Toxic Corrosive	330 / 642	Compressed Gas	64-2600	74-2400 12-1			64-2800	74-2400
Carbon Dioxide CO ₂	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	1650 / 114	Toxic Flammable	350 / 724	Compressed Gas	64-2600	74-2400 12-1			64-2800	74-2400
Chlorine Cl ₂	2.479	86 / 5.9	Toxic Corrosive	660 / 728	Liquefied Gas	64-2600	74-2400 12-1	64-3200	74-3000 23-3	64-2800	74-2400
Diborane B ₂ H ₆	0.95	2200 / 152	Toxic Flammable	350 / 632	Compressed Gas	64-2600	74-2400 12-1			64-3400	
Dichlorosilane SiH ₂ Cl ₂	3.52	9.5 / 0.66	Toxic Flammable Corrosive	678 / 636	Liquefied Gas	64-5000	74-2400 12-1		74-300A	64-5000H	74-300AH
Disilane Si ₂ H ₆	2.38	33 / 2.3	Flammable	510 / 632	Liquefied Gas	64-2600	74-2400 12-1			64-2800	74-2400
Fluorine F ₂	1.312	400 / 27.6	Toxic Corrosive Oxidizer	679	Compressed Gas	NO RECOMMENDATION					
Germane GeH ₄	2.7	52 / 3.6	Toxic Flammable	350 / 632	Compressed Gas	64-2600	74-2400 12-1			64-2800	74-2400
Halocarbon-12 Dichlorodifluoromethane CCl ₂ F ₂	4.262	70 / 4.8	Asphyxiant	660 / 716	Liquefied Gas	64-2600	74-2400 12-1			64-2800	74-2400
Halocarbon-13 Chlorotrifluoromethane CClF ₃	3.61	460 / 31.7	Asphyxiant	660 / 716	Liquefied Gas	64-2600	74-2400 12-1			64-2600	74-2400
Halocarbon-14 Tetrafluoromethane CF ₄	3.05	2000 / 138	Asphyxiant	320 / 716	Compressed Gas	64-2600	74-2400 12-1			64-2600	74-2400
Halocarbon-23 Fluoroform CHF ₃	2.436	635 / 43.8	Asphyxiant	660 / 716	Liquefied Gas	64-2600	74-2400 12-1			64-2600	74-2400
Halocarbon-115 Chloropentafluoroethane C ₂ ClF ₅	5.568	102 / 7.0	Asphyxiant	660 / 716	Liquefied Gas	64-2600	74-2400 12-1			64-2600	74-2400
Halocarbon-116 Hexafluoroethane C ₂ F ₆	4.82	445 / 30.7	Asphyxiant	660 / 716	Liquefied Gas	64-2600	74-2400 12-1			64-2600	74-2400
Helium He	0.138	2640 / 182	Asphyxiant	580 / 718	Compressed Gas	64-2600	74-2400 12-1	64-3200 64-5400	74-3000 23-3	64-2800	74-2400
Hydrogen H ₂	0.07	2400 / 165	Flammable	350 / 724	Compressed Gas	64-2600	74-2400 12-1	64-3200 64-5400	74-3000 23-3	64-2800	74-2400

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Hydrogen Bromide HBr	2.71	320 / 22.1	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	74-2400H 12-1	449-254* 64-3200H*		64-2800H 449-254* 64-3200H*	74-2400H
Hydrogen Fluoride HF	0.69	0.9 / 0.06	Toxic Corrosive	660 / 638	Gas	NO RECOMMENDATION					
Hydrogen Selenide H ₂ Se	2.8	125 / 8.6	Toxic Flammable	350 / 632	Gas	64-2600	74-2400 12-1			64-2800	74-2400
Hydrogen Sulfide H ₂ 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 / 55.2	Asphyxiant	580 / 718	Compressed Gas	64-2600	74-2400 12-1			64-2800	74-2400
Methane CH ₄	0.555	2265 / 156	Flammable Asphyxiant	350	Compressed Gas	64-2600	74-2400 12-1			64-2800	74-2400
Methyl Chloride CH ₃ 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 / 58.6	Asphyxiant	580 / 718	Compressed Gas	64-2600	74-2400 12-1			64-2800	74-2400
Nitrogen N ₂	0.967	2640 / 182	Asphyxiant	580 / 718	Compressed Gas	64-2600	74-2400 12-1	64-3200 64-5400	74-3000 23-3	64-2800	74-2400
Nitrogen Trifluoride NF ₃	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 ₂ O	1.528	745 / 51.4	Oxidizer	326 / 712	Liquefied Gas	64-2600	74-2400 12-1			64-2800	74-2400
Oxygen O ₂	1.105	2640 / 182	Oxidizer	540 / 714	Compressed Gas	64-2600	74-2400 12-1	64-3200 64-5400	74-3000, 74-3800 23-3		
Perfluoropropane C ₃ F ₈	6.49	100 / 6.9	Asphyxiant	660 / 716	Liquefied Gas	64-2600	74-2400 12-1			64-2800	74-2400
Phosphine PH ₃	1.19	592 / 40.8	Toxic Flammable	660 / 632	Liquefied Gas	64-2600	74-2400 12-1			64-2800	74-2400
Phosphorus Pentafluoride PF ₅	4.31	400 / 27.6	Toxic Corrosive	330 / 642	Compressed Gas	64-2600	74-2400 12-1			64-2800	74-2400
Silane SiH ₄	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 ₄	3.57	1000 / 69.0	Toxic Corrosive	330 / 642	Compressed Gas	64-2600	74-2400 12-1			64-2800H	74-2400H
Sulfur Dioxide SO ₂	2.249	34 / 2.3	Toxic Corrosive	660	Liquefied Gas	64-2600	74-2400 12-1			64-2800H	74-2400H
Sulfur Hexafluoride SF ₆	5.105	320 / 22.1	Asphyxiant	590 / 716	Liquefied Gas	64-2600	74-2400 12-1			64-2800	74-2400
Sulfur Tetrafluoride SF ₄	3.71	140 / 9.7	Toxic Corrosive	330	Liquefied Gas	64-2600	74-2400 12-1			64-2800H	74-2400H
Tungsten Hexafluoride WF ₆	10.674	2.4 / 0.17	Toxic Corrosive	670 / 638	Liquefied Gas	64-5000			74-300AH	64-5000H	74-300AH
Xenon Xe	4.558	645 / 44.5	Asphyxiant	580 / 718	Compressed Gas	64-2600	74-2400 12-1			64-2800	74-2400

H = Hastelloy Trim

*Use as a set, two-stage pressure reduction

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.

WARNING! Do not attempt to select, install, use or maintain this product until you have read and fully understood the **TESCOM Safety, Installation and Operation Precautions.**