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Physical Properties

Gas	Chemical formula	Mol. wt	Gas density kg/m^3	SG vapour	Boiling point °C	Critical temp °C	Critical press bar	VP @ 20°C	Lel %	Uel %
Acetylene	C2H2	26.0	1.11	0.91	-84.0?	35.2	61.9	44	2.4	83.0
Air	-	29.0	1.29	1.0	-194.5	-140.6	37.7	n/a	n/a	n/a
Allene	C3H4	40.1	1.81	1.4	-34.5	120	51.4	6.0	2.16	§
Ammonia	NH3	17.0	0.73	0.60	-33.4	132.4	113.0	8.6	15	302
Argon	Ar	39.9	1.69	1.38	-186	-122	49.0	n/a	n/a	n/a
Arsine	AsH3	78.0	3.52	2.73	-62.5	99.9	66	15	3.9	77.8
Boron trichloride	BCl3	117.2	n/a	n/a	12.5	178.8	38.7	1.6	n/a	n/a
Boron trifluoride	BF3	67.8	2.90	2.37	-100.3	-12.2	49.6	n/a	n/a	n/a
Boron 11 trifluoride	11BF3	67.9	2.90	2.37	-100.3	-12.2	49.6	n/a	n/a	n/a
1,3-Butadiene	C4H6	54.1	2.35	1.92	-4.5	152	43.2	2.4	1.4	16.3
n-Butane	C4H10	58.1	2.59	2.11	-0.5	152	38.0	2.1	1.5	8.5
1-Butene	C4H8	56.1	2.45	2.00	-6.2	146.4	39.3	2.6	1.6	10.0
cis Butene 2-	C4H8	56.1	n/a	n/a	3.8	162.4	42.1	1.8	1.6	10.0
trans Butene 2-	C4H8	56.1	n/a	n/a	0.9	155.5	41.0	2.0	1.6	10.0
Carbon dioxide	CO2	44.0	1.87	1.53	-78.5?	30.1	73.8	57+3	n/a	n/a
Carbon monoxdde	CO	28.0	1.18	0.97	-192	-140.2	35.0	n/a	12.5	74.0
Carbonyl fluoride	CF2O	66.0	§	§	-83.1	14.7	§	§	n/a	n/a
Carbonyl sulphide	COS	60.1	2.72	2.10	-50.2	102	58.8	11.0	11.9	29.0
Chlorine	Cl2	70.9	3.05	2.49	-34.1	144	77.0	6.7	n/a	n/a
2-Chloro 1,1,1,2-tetrafluoroethane (R124)	C2HClF4	136.5	6.08	4.7	-11.0	122	34.7	2.1	n/a	n/a
Cyanogen	C2N2	52.0	223	1.82	-212	127	59	4.8	3.9	36.6
Cyclopropane	C3H6	42.1	1.78	1.45	-32.9	125	55.8	6.4	2.4	10.4
Ethane	C2H6	30.1	129	1.05	-88.6	32.3	48.8	37.8	3.0	15.5
Ethyl acetylene	C4H6	54.1	n/a	n/a	8.1	190	47.1	1.6	§	§
Ethyl chloride	C2H5Cl	64.5	n/a	n/a	12.3	187.2	52.7	1.3	3.6	14.8
Ethylene	C2H4	28.1	120	0.97	-104	9.2	50.2	§	2.7	34.0
Ethylene oxide	C2H4O	44.1	n/a	n/a	10.5	195.8	71.9	1.44	2.6	100
Fluorine	F2	38.0	1.61	1.31	-188.1	-129	55.7	n/a	n/a	n/a
Fluorocarbon 14 (Tetrafluoromethane)	CF4	88.0	3.70	3.0	-128	-45.7	37.5	n/a	n/a	n/a
Flurocarbon 152a (1,1-Difluorethane)	C2H4F2	66.0	2.80	2.28	-25	113.5	44.9	5.10	4.9	20.2
FREON 11 (Trichlorofluoromethane)	CCl3F	137.4	n/a	n/a	23.8	198	44	0.9ab	n/a	n/a

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FREON 12 (Dichlorodifluoromethane)	CCl2F2	120.9	5.22	4.26	-29.8	112	41.1	5.67	n/a	n/a
FREON 13 (Chlorotrifluoromethane)	CClF3	104.5	4.72	3.65	-81.9	28.8	38.6	31.8	n/a	n/a
FREON 13B1 (Bromotrifluoromethane)	CBrF3	148.9	6.77	5.24	-57.9	66.8	39.6	14.2	n/a	n/a
FREON 22 (Chlorodifluoromethane)	CHClF2	86.5	3.68	3.00	-40.9	96.2	49.9	9.1	n/a	n/a
FREON 113 (Trichlorotrifluoroethane)	C2Cl3F3	187.4	n/a	n/a	47.6	214.4	34.1	O.4ab	n/a	n/a
FREON 114 (Dichlorotetrafluoroethane)	C2Cl2F4	170.9	n/a	n/a	3.5	145.7	32.6	1.83	n/a	n/a
FREON 115 (Chloropentafluoroethane)	C2ClF5	154.5	7.10	5.49	-39.1	80	31.2	7.9	n/a	n/a
FREON 500 (74% R12/26% R152a)	-	99.3	4.40	3.4	-33.5	105	43.2	5.8	n/a	n/a
FREON 502 (49% R22/51% R115)	-	111.6	5.04	3.9	-45.4	82	39.7	9.1	n/a	n/a
FREON 503 (40% R23/60% R13)	-	87.3	3.88	3.0	-88.7	19	42.6	n/a	n/a	
Germane	GeH4	76.6	3.45	2.67	-88.5	34.8	55.5	§	§	§
Germanium tetrafluoride	GeF4	148.6	n/a	n/a	37?	§	§	§	n/a	n/a
Halocarbon 116 (Hexafluroethane)	C2F6	138.0	6.25	4.84	-78.2	19.7	33.0	n/a	n/a	n/a
Helium	He	4.0	0.17	0.14	-269	-268	2.3	n/a	n/a	n/a
Helium 3	3He	3.0			-270	-270	1.2	n/a	n /a	n/a
Hydrogen	H2	2.0	0.09	0.07	-252.8	239.9	130	n/a	4	75.6
Hydrogen bromide	HBr	80.9	3.45	2.82	-66.7	89.9	85	21.0	n/a	n/a
Hydrogen chloride	H Cl	36.5	1.56	127	-85.0	51.5	83.4	42.6	n/a	n/a
Hydrogen fluoride	HF	20.0	n/a	n/a	19.5	188	64.9	1.03	n/a	n/a
Hydrogen selenide	H2Se	81.0	3.47	2.83	-41.4	138	892	9.5	§	§
Hydrogen sulfide	H2S	34.1	1.46	1.19	-60.7	100.1	89.4	18.8	4.3	45.5
Isobutane	C4H10	58.1	2.51	2.05	-11.7	135	36.5	3.04	1.8	8.5
Isobutene	C4H8	56.1	2.45	2.00	-7.1	144.7	40.0	2.59	1b	10.0
Isopentane	C5H12	72.1	n/a	n/a	27.8	187	32.3	0.8ab	1.4	7.6
Krypton	Kr	83.8	3.55	2.9	-153	-64	54.9	n/a	n/a	n/a
Methane	CH4	16.0	0.68	0.55	-162	-82.6	45.9	n/a	5.0	15.0
Methyl acetylene	C3H4	40.1	1.83	1.42	-23.2	129	56.3	5.1	2.3	16.8
Methyl bromide (R40BI)	CH3Br	94.9	n/a	n/a	3.6	194	52.3	1.9	8.6	20.0
Methyl 3 butene 1	C5H10	70.1	n/a	n/a	20.1	171.5	34.1	1.1ab	1.5	8.7
Methyl chloride	CH3Cl	50.5	2.19	1.79	-23.8	143	66.7	4.9	7.6	19.0
Methyl mercarptan	CH3SH	48.1	n/a	n/a	6.25	196.8	72.4	1.71	4.1	21
Monoethylamine	C2H7N	45.1	n/a	n/a	16.6	183A	56.3	1.16	3.5	14.0

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Monamethylamine	CH5N	31.1	1.32	1.08	-6.3	156.9	74.1	3.00	4.9	20.7
Neon	Ne	202	0.85	0.7	-246	-229	26.5	n/a	n/a	n/a
Nickel carbonyl	Ni(CO)4	170.8	n/a	n/a	42.4	200	29.4	0.4ab	2	
Nitric oxide	NO	30.0	1.27	1.04	-151.7	-92.9	65.4	n/a	n/a	n/a
Nitrogen	N2	28.0	1.18	0.97	-196	-147	340	n/a	n/a	n/a
Nitrogen dioxide	NO2	46.0	n/a	n/a	21.1	158	101.3	0.97ab	n/a	n/a
Nitrogen trifluoride	NF3	71.0	3.00	2.44	-129.0	39.3	44.1	n/a	n/a	n/a
Nitrus oxide	N20	44.0	1.88	1.53	-88.5	36.4	72.7	50.8	n/a	n/a
Oxygen	O2	32.0	1.35	1.11	-183	-118.4	50.8	n/a	n/a	n/a
Pentafluoroethane (R 125)	C2HF5	120.0	5.30	4.1	-48.5	66	34.2	10.5	n/a	n/a
Perfluoropropane (R218)	C3F8	188.0	8.63	6.68	-36.7	71.9	26.8	7.7	n/a	n/a
Phosgene	COCI2	98.9	n/a	n/a	7.4	182.3	57.2	1.6	n/a	n/a
Phosphine	PH3	34.0	1.45	1.18	-87.8	51.9	65.3	34.6	§	§
Propane	C3H8	44.1	1.91	1.55	-42.1	96.8	42.6	8.34	2.1	9.5
Propylene	C3H6	42.1	1.82	1.48	-47.7	92.4	46.6	10.2	2.0	11.1
Silane	SiH4	32.1	1.36	1.11	-111	-3.5	48.4	n/a	#	§
Silicon tetrachloride	SiCI4	169.9	n/a	n/a	57.6	235	34.9	0.2ab	n/a	n/a
Silicon tetrafluoride	SiF4	104.1	4.45	3.63	-95.2?	-14.1	37.1	n/a	n/a	n/a
Sulfur dioxide	SO2	64.1	2.77	226	-10	157.5	78.8	3.3	n/a	n/a
Sulfur hexafluoride	SF6	146	6.26	5.11	-63.8?	45.5	37.5	21	n/a	n/a
Sulfur tetrafluoride	SF4	108	4.68	3.62	-40.4	91	§	10	n/a	n/a
Sulfuryl fluoride	SO2F2	102.1	4.27	3.48	-55.4	§	§	§	n/a	n/a
SUVA HCFC-123 (1,1-Dichloro-2,2,2-trifluoroethane)	C2HCI2F3	152.9	n/a	n/a	27.9	185	37.9	0.76ab	n/a	n/a
SUVA HCFC-124 (2-chloro-1,1,1,2 tetrafluoroethane)	C2CIHF4	136.5	5.83	4.84	-11.0	1222	35.7	2.3	n/a	n/a
SUVA HFC-23 (Trifluoromethane)	CHF3	70.0	2.9	2.41	-82.2	26	48.3	40.8	n/a	n/a
SUVA HFC-125 (Pentofluorethane)	C2HF5	12.02	5.07	4.2	-48.1	66.3	35.2	11.1	n/a	n/a
SUVA HFC-134a (1,1,1,2 Tetrafluoroethane)	C2H2F4	102.0	4.27	3.5	-26.5	101.1	4.1	4.7	n/a	n/a
SUVA HP62	-	-	4.13	3.43	-46	72	37	10	n/a	n/a
SUVA HP80	-	-	4.28	3.56	-48	75	41	10.9	n/a	n/a
SUVA HP81	-	-	3.99	3.32	-46	83	44	10.1	n/a	n/a
SUVA MP39	-	-	4.00	3.32	33.1	106	42	5.7	n/a	n/a
SUVA M52	-	-	4.28	3.56	-22	111	41	4.7	n/a	n/a
SUVA MP66	-	-	3.93	3.26	3.7	106	47	6.1	n/a	n/a

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Trichlorosilane	SiHCl3	135	n/a	n/a	31.8	§	§	0.6ab	§	§
Trimethylamine	C3H9N	59.1	2.45	1.995	2.87	160.2	40.8	1.88	2.0	11.6
Tungsten hexafluoride	WF6	298	12.6	10.3	17.1	170	§	1.1	n/a	n/a
Vinyl chloride	C2H3Cl	62.5	2.64	2.16	-13.4	156.6	55.8	3.4	3.8	31.0
Vinyl methyl ether	C3H6O	58.1	n/a	n/a	6	171.6	31.9	1.7	2.2	28.2
Xenon	Xe	131.3	5.59	4.56	-108	17	59.0	n/a	n/a	n/a

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