SEMI AUX030-0624
CODES FOR REFERENCING GASES, GAS MIXTURES AND VAPORIZABLE MATERIALS USED IN DIGITAL MASS FLOW CONTROLLERS

NOTE: The material in this Auxiliary Document is referenced in SEMI E6, SEMI E54.18, SEMI E54.22, SEMI F79, and SEMI F105.

The codes listed in these Tables are included for the convenience of the industry and are maintained by SEMI. Request for new gas code should be submitted along with a Material Safety Data Sheet (MSDS). Changes or additions to these tables are the responsibility of companies in the semiconductor industry, and should be addressed to:

Standards Coordinator, Facilities and Gases Committees
SEMI
673 S. Milpitas Blvd.
Milpitas, CA 95035

These tables are frequently updated.

1 Purpose

1.1 To provide a numerical index of gases and gas mixtures used in the semiconductor industry that will give an ordered reference for the gases and gas mixtures when used in mass flow devices. This index or list will facilitate the production and use of digital mass flow devices.

2 Scope

2.1 The list includes gases, gas mixtures, and vaporizable materials that can be used in mass flow devices. The list will supplement, not replace, existing DOT/OSHA or other identification systems. For ease of use, the list is presented sorted by gas code, gas name, and symbol for gases and vaporizable materials and by code and mixture percentage for gas mixtures.

NOTICE: SEMI Standards and Safety Guidelines do not purport to address all safety issues associated with their use. It is the responsibility of the users of the Documents to establish appropriate safety and health practices, and determine the applicability of regulatory or other limitations prior to use.

3 Limitations

3.1 This list does not provide information related to the safe use and intended application of listed materials.

4 Referenced Standards and Documents

4.1 *NIST® Standards*[1]

NIST AD732-043 — JANAF Thermochemical Tables, 2nd Edition

4.2 *Miscellaneous Publications*

Dangerous Properties of Industrial Materials, 5th Edition, N. Irving Sax, © 1979[2]

Encyclopedia of Gas, Air Liquide, © 1976[3]

Matheson Gas Data Book, 6th Edition, © 1980[4]

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[1] National Institute of Standards and Technology, 100 Bureau Drive, Stop 3460, Gaithersburg, MD 20899-3460, USA; Telephone: +1.301.975.2000, http://www.nist.gov. NIST trademark is owned by National Institute of Standards and Technology.

[2] CRC Press LLC, (Headquarters) 2000 Corporate Blvd., NW, Boca Raton, FL 33431, USA. Telephone: +1.561.994.0555.

[3] Litton Publishing.

[4] Matheson Gas Products, Inc., 959 Route 46 East, P.O. Box 624, Parsippany, NJ 07054, USA. Telephone: +1.973.257.1100.

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The Merck Manual Index, 6th Edition[5]

4.3 *Data Sheets*

Air Products & Chemicals Data Sheet, © 1991[6]

American Cyanamid Data Sheet[7]

Callery Chemical Borazine Data Sheet, © 1984[8]

DuPont Data Sheet[9]

Schumacher Material Safety Data Sheet, No. R&D 49.3 JN, Revision Date 1/95[10]

Schumacher Product Data Sheet, No. 23, Revision 3[10]

Air Liquide/Aloha Product Data Sheet March 2005[11]

4.4 *Handbooks*

Chemical Engineers' Handbook, 5th Edition[12]

CRC Handbook of Chemistry and Physics, 75th Edition, © 1994[13]

4.5 *Other Documents*

Nomenclature of Organic Chemistry, authored by International Union of Pure and Applied Chemistry (IUPAC), edited by J. Rigaudy, © 1979[14]

Chemical Book — Online directory of Chemicals[15]

NOTICE: Unless otherwise indicated, all documents cited shall be the latest published versions.

5 Terminology

5.1 *Definitions*

5.1.1 *formula* — the structural representation of a gas, indicating the molecular groupings. Formulas are unique and unambiguous except in the case of isomers.

5.1.2 *gas code* — an integer that is uniquely associated with a particular gas.

5.1.3 *gas name* — the accepted name for a gas as specified in *Nomenclature of Organic Chemistry*.

5.1.4 *symbol* — commonly accepted, unambiguous, and unique identification using ASCII characters with no subscripts, superscripts, or parentheses.

[5] This publication is available from Franklin Electronic Publishers, 1 Franklin Plaza, Burlington, NJ 08060, USA. Telephone: +1.800.266.5626.

[6] Air Products & Chemicals Inc., Rural Route 1, Tamaqua, PA 18252, USA. Telephone: +1.717.467.2981.

[7] American Cyanamid Company, CALI Corporation Center, 50 Tice Blvd., Woodcliff Lake, NJ 07675, USA. Telephone: +1.201.930.0455.

[8] Callery Chemical Company, P.O. Box 429, Pittsburgh, PA 15230, USA. Telephone: +1.412.967.4100.

[9] E.I. du Pont de Nemours and Company, 1007 Market St., Wilmington, DE 19898, USA. Telephone: +1.302.774.1000.

[10] Schumacher, 1969 Palomar Oaks Way, Carlsbad, CA 92009-1307, USA. Telephone: +1.619.931.9555.

[11] AIR LIQUIDE S.A., Tour AREVA 1 place de la Coupole, 92084, Paris.

[12] McGraw-Hill Inc., Princeton Rd., Hightstown, NJ 08520, USA. Telephone: +1.609.426.5934.

[13] CRC Press LLC Headquarters,2000 NW Corporate Blvd, Boca Raton,FL 33431, USA. Telephone: +1.561.994.0555; Fax: +1.561.989.9732.

[14] This publication is available from Franklin Book Company, 7804 Montgomery Ave., Elkon's Park, PA 19027, USA. Telephone: +1.215.635.5252.

[15] http://www.chemicalbook.com

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6 Gas Table Sorted by Code

Table 1 Gases Sorted by Code

Code	*Gas Name*	*Symbol*	*Formula*	*Synonym*	*Ref*
1	Helium	He	He		1
2	Neon	Ne	Ne		1
3	Radon	Rn	Rn		2
4	Argon	Ar	Ar		1
5	Krypton	Kr	Kr		1
6	Xenon	Xe	Xe		1
7	Hydrogen	H2	H_2		1
8	Air	Air			1
9	Carbon Monoxide	CO	CO		1
10	Hydrogen Bromide	HBr	HBr		1
11	Hydrogen Chloride	HCl	HCl		1
12	Hydrogen Fluoride	HF	HF		1
13	Nitrogen	N2	N_2		1
14	Deuterium	D2	H_2^2	D2	2
15	Oxygen	O2	O_2		1
16	Nitric Oxide	NO	NO		2
17	Hydrogen Iodide	HI	HI		1
18	Fluorine	F2	F_2		1
19	Chlorine	Cl2	Cl_2		1
20	Water Vapor	H2O	H_2O		2
21	Bromine	Br2	Br_2		2
22	Hydrogen Sulfide	H2S	H_2S		1
23	Hydrogen Selenide	H2Se	H_2Se		1
24	Hydrogen Cyanide	HCN	HCN		1
25	Carbon Dioxide	CO2	CO_2		1
26	Nitrogen Dioxide	NO2	NO_2		1
27	Nitrous Oxide	N2O	N_2O		1
28	Methane	CH4	CH_4		1
29	Ammonia	NH3	NH_3		1
30	Ozone	O3	O_3		1
31	Phosphine	PH3	PH_3		1
32	Sulfur Dioxide	SO2	SO_2		1
33	Methyl Fluoride	CH3F	CH_3F	Fluoromethane or Methane, Fluoro	1
34	Carbonyl Sulfide	COS	COS		1
35	Arsine	AsH3	AsH_3		1
36	Methyl Chloride	CH3Cl	CH_3Cl	Chloromethane or Methane, Chloro	1
37	Cyanogen Chloride	ClCN	ClCN		1
38	Ethylene	C2H4	$CH_2{=}CH_2$	Ethene	1

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Code	*Gas Name*	*Symbol*	*Formula*	*Synonym*	*Ref*
39	Silane	SiH4	SiH_4		1
40	Carbon Disulfide	CS2	CS_2		2
41	Oxygen Difluoride	OF2	OF_2		1
42	Acetylene	C2H2	$HC{\equiv}CH$	Ethyne	1
43	Germane	GeH4	GeH_4		1
44	Methyl Bromide	CH3Br	CH_3Br	Bromomethane or Methane, Bromo	1
45	Ethylene Oxide	C2H4O	C_2H_4O	Oxirane, 1,2-epoxyethane	1
46	Carbonyl Fluoride	CF2O	CF_2O		1
47	Methyl Mercaptan	CH4S	CH_3SH		1
48	Boron Trifluoride	BF3	BF_3		1
49	Fluoroform	CHF3	CHF_3	Trifluoromethane or Methane, Trifluoro, F-23, R-23	1
50	Hydrazine	N2H4	H_2NNH_2		2
51	Vinyl Fluoride	C2H3F	$H_2C{=}CHF$		1
52	Methylamine	CH5N	CH_3NH_2	Amino Methane, Monomethylamine	2
53	Nitrogen Trifluoride	NF3	NF_3		1
54	Ethane	C2H6	CH_3CH_3		1
55	Vinyl Chloride	C2H3Cl	$CH_2{=}CHCl$	Chloroethylene	1
56	Vinyl Bromide	C2H3Br	$CH_2{=}CHBr$		1
57	Chlorodifluoromethane	CHClF2	$CClHF_2$	F-22, R-22	1
58	Diborane	B2H6	B_2H_6		1
59	Cyanogen	C2N2	NCCN	Oxalodinitrile	1
60	Phosgene	CCl2O	CCl_2O	Carbonyl chloride	1
61	Cyclopropane	C3H6	C_3H_6		1
62	Phosphorus Trifluoride	PF3	PF_3		1
63	Carbon Tetrafluoride	CF4	CF_4	Tetrafluoromethane or Methane, Tetrafluoro	1
64	Difluoroethylene	C2H2F2	$CH_2{=}CF_2$	G-1132A,Vinylidenefluoride	1
65	Dichlorofluoromethane	CHCl2F	$CHCl_2F$	F-21, R-21	1
66	Allene	C3H4	$CH_2{=}C{=}CH_2$	Propadiene	1
67	Dichlorosilane	SiH2Cl2	SiH_2Cl_2		1
68	Methyl Acetylene	C3H4	$CH_3C{\equiv}CH$	Propyne	1
69	Propylene	C3H6	$CH_3CH{=}CH_2$	Propene	1
70	Boron Trichloride	BCl3	BCl_3		1
71	Chloroform	CHCl3	$CHCl_3$	Trichloromethane or Methane, Trichloro	2
72	Perchloryl Fluoride	ClO3F	ClO_3F		1
73	Dimethyl Ether	C2H6O	CH_3OCH_3	Methyl ether	1
74	Chlorotrifluoromethane	CClF3	$ClCF_3$	F-13, R-13	1
75	Ethyl Chloride	C2H5Cl	C_2H_5Cl	Chloroethane or Ethane, Chloro or Ethyl Chloride	1
76	Bromine Trifluoride	BrF3	BrF_3		1

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Code	*Gas Name*	*Symbol*	*Formula*	*Synonym*	*Ref*
77	Chlorine Trifluoride	ClF3	ClF_3		1
78	Nitrogen Trioxide	N2O3	N_2O_3		1
79	Boron Tribromide	BBr3	BBr_3		1
80	Bromotrifluoromethane	CBrF3	$BrCF_3$	F-13B1, R-13B1	1
81	Methyl vinyl ether	C3H6O	$H_3C\text{-}O\text{-}CH{=}CH_2$		1
82	Difluoroethane	C2H4F2	CH_3CHF_2	Ethylidene Fluoride, R-152A	1
83	Tribromomethane	CHBr3	$CHBr_3$	Bromoform	2
84	Dichlorodifluoromethane	CCl2F2	CCl_2F_2	F-12, R-12	1
85	Dimethylamine	C2H7N	$(CH_3)_2NH$		1
86	Sulfur Tetrafluoride	SF4	SF_4		1
87	Sulfuryl Fluoride	SO2F2	SO_2F_2		1
88	Silicon Tetrafluoride	SiF4	SiF_4		1
89	Propane	C3H8	$CH_3CH_2CH_3$		1
90	Intentionally Left Blank				
91	Trichlorofluoromethane	CCl3F	CCl_3F	F-11, R-11	1
92	Intentionally Left Blank				
93	Ethyl Acetylene	C4H6	$CH_3CH_2C{\equiv}CH$		1
94	Tetrafluorethylene	C2F4	$F_2C{=}CF_2$		1
95	Nitrogen Tetroxide	N2O4	N_2O_4	Dinitrogenoxide	2
96	Arsenic Pentafluoride	AsF5	AsF_5		2
97	Disilane	Si2H6	Si_2H_6		2
98	Transbutene	C4H8	$CH_3CH{=}CHCH_3$		2
99	Germanium Tetrafluoride	GeF4	GeF_4	Tetrafluorogermane	2
100	Butadiene	C4H6	$CH_2{=}CH\text{-}CH{=}CH_2$	1,3-butadiene	1
101	Carbon Tetrachloride	CCl4	CCl_4	Tetrachloromethane or Methane, Tetrachloro	2
102	Phosphorous Oxychloride	POCl3	$POCl_3$		2
103	Difluorochloroethane	C2H3ClF2	CF_2ClCH_3	F-142B, R-142B	1
104	Butene	C4H8	$CH_3CH_2CH{=}CH_2$	1-Butene	1
105	Bromotrifluoroethylene	C2BrF3	CF_2CFBr		1
106	Isobutene	C4H8	$(CH_3)_2C{=}CH_2$	Isobutylene,Methylpropene	2
107	Cisbutene	C4H8	$CH_3CH{=}CHCH_3$	Cis-2-Butene	2
108	Silicon Tetrachloride	SiCl4	$SiCl_4$	Tetrachlorosilane	2
109	Trimethylamine	C3H9N	$(CH_3)_3N$		1
110	Sulfur Hexafluoride	SF6	SF_6		1
111	Isobutane	C4H10	$(CH_3)_2CHCH_3$	2-Methylpropane or Propane, 2-Methyl	1
112	Trichloroethane	C2H3Cl3	CH_3CCl_3	TCA, Methylchloroform	2
113	Germanium Tetrachloride	GeCl4	$GeCl_4$	Tetrachlorogermane	2
114	Titanium Tetrachloride	TiCl4	$TiCl_4$		2
115	Iodine Pentafluoride	IF5	IF_5		1
116	Bromine Pentafluoride	BrF5	BrF_5		1
117	Butane	C4H10	$CH_3(CH_2)_2CH_3$		1

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Code	Gas Name	Symbol	Formula	Synonym	Ref
118	Hexafluoroethane	C2F6	F_3CCF_3	F-116, Perfluoroethane	1
119	Chloropentafluoroethane	C2ClF5	$ClCF_2CF_3$	F-115, R-115	1
120	Methylbutene	C5H10	$CH_3CH_2CCH_3{=}CH_2$	2-Methyl-1-Butene	1
121	Tungsten Hexafluoride	WF6	WF_6		2
122	Dimethylpropane	C5H12	$(CH_3)_4C$	Neopentane	2
123	Uranium Hexafluoride	UF6	UF_6		2
124	Molybdenum Hexafluoride	MoF6	MoF_6		2
125	Dichlorotetrafluoroethane	C2Cl2F4	F_3CCCl_2F	F-114, R-114	1
126	Trichlorotrifluoroethane	C2Cl3F3	CF_2ClCCl_2F	F-113, R-113	1
127	Hexane	C6H14	$CH_3(CH_2)_4CH_3$		2
128	Perfluoropropane	C3F8	$CF_2(CF_3)_2$		1
129	Octafluorocyclobutane	C4F8	$(CF_2)_4$	Perfluorocyclobutane or Cyclobutane, Perfluoro	1
130	Dibromotetrafluorethane	C2Br2F4	BrF_2CCF_2Br	F-114B2, R-114B2	1
131	Trimethoxyborine	C3H9BO3	$B(OCH_3)_3$	TMB, Trimethyl borate	2
132	Trimethylphosphorous	C3H9P	$(CH_3)_3P$	Trimethylphosphine, TMP	2
133	Trimethyl phosphite	C3H9PO3	$(CH_3O)_3P$	TMPi, Trimethoxyphosphine	2
134	Difluorosilane	SiH2F2	SiH_2F_2		10
135	Dimethylzinc	C2H6Zn	$(CH_3)_2Zn$		3
136	Ethanol	C2H6O	CH_3CH_2OH		2
137	Halothane	C2HBrClF3	$BrClHCCF_3$		6
138	Hexafluoropropylene	C3F6	$CF_3CF{=}CF_2$	Perfluoropropylene or Propylene, Perfluoro	1
139	Hexamethyldisilane	C6H18Si2	$(CH_3)_3Si_2(CH_3)_3$	HMDSi, HMDS	3
140	Nickel Carbonyl	C4O4Ni	$Ni(CO)_4$		1
141	Nitrosyl Chloride	NOCl	NOCl		1
142	Pentaborane	B5H9	B_5H_9		2
143	Phosphorus Pentafluoride	PF5	PF_5		1
144	Tetraethoxysilane	C8H20O4Si	$(C_2H_5O)_4Si$	TEOS	2
145	Tin Tetrachloride	SnCl4	$SnCl_4$	Tetrachlorostannane	2
146	Tributylaluminum	C12H27Al	$(CH_3CH_2CH_2CH_2)_3Al$	TBAl	3
147	Trichlorosilane	SiHCl3	$SiHCl_3$		5
148	Triethylgallium	C6H15Ga	$(C_2H_5)_3Ga$	TEGa	4
149	Trimethylaluminum	C3H9Al	$Al(CH_3)_3$	TMA, TMAl	4
150	Trimethylantimony	C3H9Sb	$(CH_3)_3Sb$	Trimethylstibene	2
151	Trimethylarsenic	C3H9As	$(CH_3)_3As$	Trimethylarsine, TMAs	2
152	Trimethylgallium	C3H9Ga	$Ga(CH_3)_3$	TMGa	4
153	Trimethylindium	C3H9In	$(CH_3)_3In$	TMIn	3
154	Diethylsilane	C4H12Si	$(C_2H_5)_2SiH_2$		2
155	Pentafluoroethane	C2HF5	CF_3CHF_2	F-125, R-125	9
156	Tetrafluoroethane	C2H2F4	CH_2FCF_3	R-134A, F-134A	2
157	Tetrafluorohydrazine	N2F4	F_2NNF_2	Dinitrogen Tetrafluoride	1
158	Tetramethylcyclotetra-siloxane	C4H16Si4O4	$(CH_3)_4H_4(SiO)_4$	TOMCATS	7

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Code	*Gas Name*	*Symbol*	*Formula*	*Synonym*	*Ref*
159	Tritium	T2	H_3^2	T2	2
160	Difluoromethane	CH2F2	CH_2F_2	Methylene Fluoride	2
161	Tertiarybutylarsine	C4H11As	$C(CH_3)_3AsH_2$	TBA	8
162	Tertiarybutylphosphine	C4H11P	$C(CH_3)_3PH_2$	TBP	8
163	Triethyl borate	C6H15O3B	$B(OC_2H_5)_3$	TEB, Triethoxyborane	2
164	Dimethylaluminum hydride	C2H7Al	$(CH_3)_2AlH$	DMAH	14
165	Trimethylamineralane	C3H12AlN	$(CH_3)_3NAlH_3$	TMAA	12
166	Dimethylethylamineralane	C4H14NAl	$(CH_3)_2C_2H_5NAlH_3$	DMEAA	11
167	Nitric Acid	HNO3	HNO_3		2
168	Tetrachloroethylene	C2Cl4	$Cl_2C{=}CCl_2$	Perchloroethylene orEthylene, Perchloro	2
169	Ethyleneglycol	C2H6O2	$HOCH_2CH_2OH$	Ehtanediol, Glycol	2
170	Hexanediol-1,6	C6H14O2	$HO(CH_2)_6OH$	Hexyleneglycol, Hexamethyleneglycol	2
171	Sulfuric Acid	H2SO4	H_2SO_4		2
172	Chlorobenzene	C6H5Cl	C_6H_5Cl	Chlorobenzol, Phenylchloride	2
173	Acetonitrile	C2H3N	CH_3CN		2
174	Ethylbenzene	C8H10	$C_6H_5C_2H_5$		2
175	Intentionally Left Blank				
176	Methanol	CH4O	CH_3OH	Methyl Alcohol	2
177	Methylcyclohexane	C7H14	$CH_3C_6H_{11}$	Hexahydrotoluene	2
178	4-Methyl, 1-Pentene	C6H12	$(CH_3)_2CHCH_2CH{=}CH_2$		2
179	o-Xylene	C8H10	$1,2\text{-}(CH_3)_2C_6H_4$	1,2-Dimethylbenzene	2
180	Phenol	C6H6O	C_6H_5OH		2
181	Toluene	C7H8	$C_6H_5CH_3$	Methylbenzene	2
182	Tetrahydrofuran	C4H8O	C_4H_8O		2
183	Methyltrichlorosilane	CH3Cl3Si	CH_3SiCl_3	MTS	2
184	Acetone	C3H6O	CH_3COCH_3		2
185	Methylsilane	CH6Si	CH_3SiH_3	Monomethylsilane	2
186	2,2 Dichloro 1,1,1 Trifluoroethane	C2HCl2F3	$CHCl_2\text{-}CF_3$	Freon 123, Suva 123	2
187	Isopropyl Alcohol	C3H8O	$(CH_3)_2CHOH$	2-Propanol	2
188	Diethoxydimethylsilane	C6H16O2Si	$(C_2H_5O)_2Si(CH_3)_2$		2
189	Sulfur Monochloride	S2Cl2	S_2Cl_2		2
190	Trimethylsilane	C3H10Si	$(CH_3)_3SiH$		2
191	Dichloroethylene -trans	C2H2Cl2	$CHCl{=}CHCl$		2
192	Hexafluorobenzene	C6F6	C_6F_6		2
193	Phosphorus Trichloride	PCl3	PCl_3		2
194	Titanium Tetraisopropoxide	C12H28OTi	$Ti(OC_3H_7)_4$		1
195	Arsenic Trifluoride	AsF3	AsF_3		2
196	Arsenic Triiodine	AsI3	AsI_3		2
197	Benzene	C6H6	C_6H_6		2
198	Borazine	B3N3H6	$H_3B_3N_3H_3$		11
199	Bromochlorodifluoromethane	CBrClF2	$BrClCF_2$		2

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Code	Gas Name	Symbol	Formula	Synonym	Ref
200	Carbon Tetrabromide	CBr4	CBr_4		2
201	Chlorine Dioxide	ClO2	ClO_2		2
202	Chlorine Pentafluoride	ClF5	ClF_5		2
203	Chlorodifluoroethane	C2H3ClF2	CH_3-CF_2Cl	R-142b	4
204	Chlorodifluoroethylene	C2HClF2	CF_2=CHCl	R-1122, FREON-1122	4
205	Chlorosilane	SiH3Cl	SiH_3Cl		2
206	Chlorotrifluoroethylene	C2ClF3	FCCl=CF_2	R-1113, FREON-1113	2
207	Cyclobutane	C4H8	C_4H_8	Tetramethylene	2
208	Diazomethane	CH2N2	CH_2N_2	Acomethylene	2
209	Dibromodifluoromethane	CBr2F2	Br_2CF_2	R-12B2, FREON-12B2	2
210	Dichloroethylene	C2H2Cl2	CH_2=CCl_2	Vinylidene Chloride	2
211	Dichloroethylene -cis	C2H2Cl2	CHCl=CHCl		2
212	Dichlorodimethylsilane	C2H6SiCl2	$(CH_3)_2SiCl_2$		2
213	Diethylamine	C4H11N	$(C_2H_5)_2NH$		2
214	Diethylzinc	C4H10Zn	$Zn(C_2H_5)_2$		2
216	Arsenic Trichloride	AsCl3	$AsCl_3$		2
217	Digermane	Ge2H6	Ge_2H_6		2
218	Dimethylcadmium	C2H6Cd	$(CH_3)_2Cd$		2
219	Dimethylsilane	C2H8Si	$(CH_3)_2SiH_2$		2
220	Dimethyltellurium	C2H6Te	$(CH_3)_2Te$		2
221	Ethyl Fluoride	C2H5F	CH_3CH_2F	Fluoroethane, R-161, FREON-161	2
222	Ethylene Dichloride	C2H4Cl2	$ClCH_2CH_2Cl$	1,2 Dichloroethane	2
223	Fluoroacetylene	C2HF	FC≡CH		2
224	Fluorotriethoxysilane	C6H15OSiF	$(C_2H_5O)_3SiF$		2
225	Hexafluoroacetone	C3F6O	$(CF_3)_2CO$		2
226	Aluminum Trifluoride	AlF3	AlF_3		2
227	Hexamethyldisilazane	C6H19Si2N	$(CH_3)_6Si_2NH$		2
228	Hexamethyldisiloxane	C6H18Si2O	$(CH_3)_6Si_2O$		2
229	Hydrogen telluride	H2Te	H_2Te		2
230	Iron Carbonyl	C5O5Fe	$Fe(CO)_5$		2
231	Isopentane	C5H12	$CH_3CH_2CH(CH_3)_2$	2-Methylbutane	2
232	Difluoroamidogen	NF2	NF_2		2
233	Monoethylamine	C2H7N	$C_2H_5NH_2$		2
234	Monomethyl Hydrazine	CH6N2	$CH_3N_2H_3$		2
235	Nitromethane	CH3NO2	CH_3NO_2		2
236	Octafluorobutene	C4F8	C_4F_8	Octafluorobut-2-ene	3
237	Octane	C8H18	$CH_3(CH_2)_6CH_3$		2
238	Oxygen Dichloride	OCl2	OCl_2		2
239	Pentaborane(11)	B5H11	B_5H_{11}		2
240	Pentane	C5H12	$CH_3(CH_2)_3CH_3$		2
241	Perfluorobutane	C4F10	C_4F_{10}		3

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Code	Gas Name	Symbol	Formula	Synonym	Ref
242	Arsenic Tribromide	AsBr3	$AsBr_3$		2
243	Rhenium Hexafluoride	ReF6	ReF_6		2
244	Deuteriumsilane	SiD4	$SiH^2{}_4$		2
245	Stibine	SbH3	SbH_3		2
246	Sulfur Trioxide	SO3	SO_3		2
247	Tellurium Hexafluoride	TeF6	TeF_6		2
248	Tetrachlorodiborane	B2Cl4	B_2Cl_4		2
249	Tetrafluorodiborane	B2F4	B_2F_4		2
250	Tetramethylgermanium	C4H12Ge	$(CH_3)_4Ge$		2
251	Tetramethylsilane	C4H12Si	$(CH_3)_4Si$		2
252	Tetramethyltin	C4H12Sn	$(CH_3)_4Sn$		2
253	Tetrasilane	Si4H10	Si_4H_{10}		2
254	Titanium Tetraiodide	TiI4	TiI_4		2
255	Tribromostibine	SbBr3	$SbBr_3$		2
256	Trichlorostibine	SbCl3	$SbCl_3$		2
257	Triethylaluminum	C6H15Al	$(C_2H_5)_3Al$		2
258	Triethylantimony	C6H15Sb	$(C_2H_5)_3Sb$		2
259	Trifluoroacetic Acid	CF3CO2H	CF_3CO_2H		2
260	Trifluoroacetonitrile	C2F3N	F_3CCN		2
261	Trifluorosilane	SiHF3	$SiHF_3$		2
262	Triisobutylaluminum	C12H27Al	$(C_4H_9)_3Al$		2
263	Xylene m-	C8H10	$1,3\text{-}(CH_3)_2C_6H_4$	1,3 Dimethyl Benzene	3
264	Xylene p-	C8H10	$1,4\text{-}(CH_3)_2C_6H_4$	1,4 Dimethyl Benzene	3
265	Dichloromethane	CH2Cl2	CH_2Cl_2		
266	Octafluorocyclopentene	C5F8	$CF_2{=}C(CF_3)\text{-}CF{=}CF_2$		3
267	1,1,1,2,2,3-Hexafluoropropane	CH2FCF2CF3	$C_3H_2F_6$	HFC-236cb	2
268	Methylene Bromide	CH2Br2	CH_2Br_2	UN 2664; Methyl dibromide, Dibromomethane	1
269	Hydrazoic Acid	HN3	HN_3		1
270	Hexafluoro-2-Butyne	C4F6	$CF_3C{\equiv}CCF_3$	Bis(trifluoromethyl)acetylene; Perfluoro-2-butyne	3
271	Butanol-1	C4H10O	$CH_3CH_2CH_2CH_2OH$	1-butanol	3
272	Hexafluoroacetylacetone	C5H2F6O2	$C_5H_2F_6O_2$		1
273	Tungsten Hexacarbonyl	C6O6W	$W(CO)_6$		1
274	Triethyl Arsenate	C6H15O4As	$(C_2H_5O)_3AsO$	TEAsat	1
275	Hafnium Tetranitrate	HfN4O12	$Hf(NO_3)_4$	Hafnium nitrate	1
276	Acrylonitrile	C3H3N	$CH_2{=}CHCN$	Acrylon; Propenenitrile	3
277	Trimethylborane	C3H9B	$(CH_3)_3B$		2
278	Silicon Tetrabromide	Br4Si	Br_4Si	SiBr4; Tetrabromosilane; Silicon (IV) bromide	2
279	Tantalum (V) Ethoxide	C10H25O5Ta	$Ta(OC_2H_5)_5$	Ta(OEt)5	2
280	Diphenylmethylenediamine	C13H14N2	$C_{13}H_{14}N_2$		2

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Code	Gas Name	Symbol	Formula	Synonym	Ref
281	Diphenylmethan-4,4'-diisocyanat	C15H10N2O	$C_{15}H_{10}N_2O$	UN 2489; Benzene,1,1'-methylenebis(isocyanatophenyl)	2
282	Tetrakis(diethylamido)titanium	C16H40N4Ti	$Ti(N(CH_3)_2)_4$	TDEAT	2
283	Acetic Acid	C2H4O2	CH_3COOH	Ethanoic acid; UN 2789	2
284	Dimethyl Selenide	C2H6Se	C_2H_6Se	(CH3)2Se; Selenium dimethyl; Dimethylselenium	2
285	Ethoxysilane	C2H8OSi	C_2H_8OSi		2
286	Hexafluoropropylene Oxide	C3F6O	C_3F_6O	Hexafluoroepoxypropane	2
287	Trimethoxysilane	C3H10O3Si	$C_3H_{10}O_3Si$		2
288	Pentafluoropropanol	C3H3F5O	$C_2F_5CH_2OH$	Perfluorodihydropropanol, 1,1,1,2,2-Pentafluoropropane	2
289	Acrylic Acid	C3H4O2	$C_3H_4O_2$	2-Propenoic acid; CH2=CHCOOH	2
290	Trifluoropropane	C3H5F3	$C_3H_5F_3$	1,1,1-Trifluoropropane; CH3CH2CF3	2
291	Ethyl Formate	C3H6O2	$HCO_2C_2H_5$	Ethyl ester formic acid; HC00C2H5	3
292	Methyl Acetate	C3H6O2	$CH_3CO_2CH_3$	Methyl ester acetic acid; UN 1231	3
293	Propenamine	C3H7N	C_3H_7N	Allylamine; Monoallylamine; UN 2334	2
294	Trimethyl Ester Phosphoric Acid	C3H9O4P	$C_3H_9O_4P$	Trimethyl phosphate; Trimethoxyphosphine oxide	2
295	Heptafluoropropane	C3HF7	C_3HF_7	1,1,1,2,3,3,3-Heptafluoropropane, Freon 227	2
296	Hexafluorocyclobutene	C4F6	C_4F_6	Perfluorocyclobutene; 1,2,3,3,4,4-Hexafluorocyclobutene	3
297	Hexafluoro Butadiene-1,3	C4F6	$CF_2=CF-CF=CF_2$	Perfluorobutadiene-1,3	3
298	Diethyl Sulfide	C4H10S	$C_4H_{10}S$	UN 2375; Ethyl sulfide	2
299	Tetramethoxygermanium	C4H12GeO4	$(CH_3O)_4Ge$	Ge(OMe)4	2
300	Dimethoxydimethylsilane	C4H12O2Si	$C_4H_{12}O_2Si$	KBM 22 $Si(OCH_3)_2(CH_3)_2$; Dimethyldimethoxysilane; DMDMOS	2
301	Tetramethoxysilane	C4H12O4Si	$(CH_3O)_4Si$	Silicic Acid (H4SiO4); Tetramethyl ester; Tetramethyl silicate	2
302	Tetramethyllead	C4H12Pb	$(CH_3)_4Pb$	(CH3)4Pb; Plumbane, tetramethyl	2
303	Trimethylvinylsilane	C5H12Si	$(CH_3)_3SiCH=CH_2$	Vinyltrimethylsilane; CH2=CHSi(CH3)3	2
304	Pyridine	C5H5N	C_5H_5N	Azabenzene; Azine	2
305	Methyl Methacrylate Polymer	C5H8O2	$CH_2=C(CH_3)COOCH_3$	Poly(methyl methacrylate); 2-Methyl1-2-propenoic acid	2
306	Triethyarsine	C6H15As	$(C_2H_5)_3As$	Triethylarsenic	2
307	Triethoxyarsine	C6H15AsO3	$(C_2H_5O)_3As$	Triethyl ester arsenous acid; Triethyl arsenite	2

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Code	Gas Name	Symbol	Formula	Synonym	Ref
308	Triethoxyborane	C6H15BO3	$(C_2H_5O)_3B$	Boron triethoxide; triethyl borate	2
309	Triethylindium	C6H15In	$(C_2H_5)_3In$	Indium, triethyl	2
310	Triethylamine	C6H15N	$(C_2H_5)_3N$	UN 1296	2
311	Triethoxyphosphine	C6H15O3P	$(C_2H_5O)_3P$	Triethyl phosphite; UN 2323; Phosphorous acid, triethyl ester	2
312	Triethoxysilane	C6H16O3Si	$(C_2H_5O)_3SiH$		2
313	Triethylsilane	C6H16Si	$(C_2H_5)_3SiH$	(C2H5)3SiH, TES	2
314	Trimethylisoxazole	C6H9NO	$CH_3CH=CHCH=CHCONH_2$	3,4,5-Trimethylisoxazole, Sorbamide	3
315	Tetraethylgermane	C8H20Ge	$(C_2H_5)_4Ge$	(C2H5)4Ge; Germanium tetraethyl	2
316	Tetraethyl lead	C8H20Pb	$(C_2H_5)_4Pb$	Plumbane, tetraethyl; UN 1649	2
317	Tetraethylsilane	C8H20Si	$C_8H_{20}Si$	Tetraethylsilane; Tetraethylsilicon; (C2H5)4Si	2
318	Tetrakis(dimethylamido)titanium	C8H24N4Ti	$[(CH_3)_2N]_4Ti$	TDMAT	2
319	Styrene	C8H8	$C_6H_5CH=CH_2$	Ethenylbenzene; UN 2055	2
320	Triallylamine	C9H15N	$(CH_2=CHCH_2)_3N$	Tri-2-propenylamine	2
321	Trifluoromethylhypofluorite	CF4O	CF_3OF	CF3OF; Hypofluorous acid; trifuoromethyl ester	2
322	Formaldehyde	CH2O	HCHO	H2C0; UN 1198; BFV	2
323	Iodomethane	CH3I	CH_3I	Methyl iodide; UN 2644	2
324	Xenon difluoride	XeF2	XeF_2	F_2Xe; Xenon fluoride	2
325	Selenium hexafluoride	SeF6	SeF_6	UN 2194; Selenium fluoride	2
326	Disilane hexafluoride	Si2F6	$Si2F_6$	F_6Si_2; Hexafluorodisilane	2
327	Fluorosilane	SiH3F	SiH_3F	H_3FSi	2
328	Trisilane	Si3H8	Si_3H_8	Silicopropane; Trisilicane; H_8Si3	2
329	Mercury	Hg	Hg	UN 2809	2
330	Zinc	Zn	Zn	UN 1383	2
331	Acetaldehyde Methoxy	C3H6O2	CH_3OCH_2CHO		3
332	Acetone,hydroxyl	C3H6O2	$CH_3COCH2OH$	Acetol	3
333	Glycol Methylene Ether	C3H6O2	CH_2-O-CH_2-CH_2-O	1,3-Dioxolane, Formal glycol	3
334	Propanoic Acid	C3H6O2	$CH_3CH_2CO_2H$	Propionic acid	3
335	Glycidol	C3H6O2	CH_2CHCH_2OH	1-Propanol, 2,3 epoxy	3
336	Butanol-2	C4H10O	$CH_3CH_2CH(OH)CH_3$		3
337	Tertiary Butyl Alcohol	C4H10O	$(CH_3)_3COH$	TBA, t-Butanol, t-Butyl alcohol	3
338	Diethyl Ether	C4H10O	$C_2H_5OC_2H_5$		3
339	Methyl Propyl Ether	C4H10O	$CH_3OC_3H_7$		3
340	Methyl Isopropyl Ether	C4H10O	$(CH_3)_2CHOCH_3$		3
341	Isobutyl Alcohol	C4H10O	$(CH_3)_2CHCH_2OH$		3
342	3-one-2,5-dimethyl Hexadiene	C8H10	$CH_2=C(CH_3)C\underline{=}CC(CH_3)CH_2$		3
343	1,7-Octadiyne	C8H10	$HC\underline{=}C(CH_2)_4C\underline{=}CH$		3

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Code	Gas Name	Symbol	Formula	Synonym	Ref
344	2,6-Octadiyne	C8H10	$CH_3C{\equiv}CCH_2CH_2C{\equiv}CCH_3$		3
345	1,3,5,7-Octatetraene	C8H10	$CH_2{=}CHCH{=}CHCH{=}CHCH{=}CH_2$		3
346	Niobium Pentachloride	NbCl5	$NbCl_5$		3
347	Disilabutane	Si2C2H10	$Si_2C_2H_{10}$		3
348	Ethane,1,1,1-Trifluoro	C2H3F3	$C_2H_3F_3$	HFC-143a	3
349	Diselenium Dichloride	Se2Cl2	Se_2Cl_2		3
350	Deuterium Ammonia	ND3	ND_3		3
351	Perfluoro (Oxacyclopentane)	C4F8O	C_4F_8O		3
352	Aluminum Trichloride	AlCl3	$AlCl_3$	Trichloroalumane	13
353	Intentionally Left Blank				
354	2,2,3-trifluoro-3-(1,1,2,3,3-pentafluoroprop-2-enyl)oxirane	C5F8O	C_5F_80	Epoxyperfluorocyclopentene	13
355	Intentionally Left Blank				
356	Intentionally Left Blank				
357	Natural Gas	NG	NG		2
358	Sulfur Trioxide	SO3	SO_3	Sulfan	13
359	Tetrakis(ethylmethylamido) Hafnium	C12H32HfN4	$[(CH_3CH_2)(CH_3)N]4Hf$	TEMAH	13
360	Trifluoroiodomethane	CF3I	CF_3I		13
361	Methyl-(methylethyl)-cyclohenxadiene	C10H16		ATRP, Alpha-Terpinene	
362	MethylDiethoxySilane	C5H14O2Si	$CH_3SiH(OC_2H_5)_2$	mDEOE, DEMS	
363	Bicycloheptadiene	C7H8	C_7H_8	BCHD, Norbornadiene	
364	Octamethylcyclotetrasiloxane	C8H24O4Si4	$C_8H_{24}O_4Si_4$	OMCTS 2,2,4,4,6,6,8,8-Octamethyl-1,3,5,7,2,4,6,8-tetraoxatetrasilocane; octamethyl-1,3,5,7,2,4,6,8-tetraoxatetrasilocane; $[(CH_3)_2SiO]_4$	
365	Dichloromethylsilane	CH3SiHCl2	CH_3SiHCl_2	DCMS	2
366	Perfluoropropyl Iodide	C3F7I	C_3F_7I		2
367	Difluorodichlorosilane	SiF2Cl2	SiF_2Cl_2		2
368	Trisilylamine	H9NSi3	$N(SiH_3)_3$		3
369	Tetrakis(trifluorophosphorus) nickel	Ni(PF3)4	$Ni(PF_3)_4$		3
370	Heptafluorocyclopentene	C5HF7	C_5HF_7		15
371	Dimethylethylamine	C4H11N	$(CH_3)_2NCH_2CH_3$		15
372	Nitroethane	C2H5NO2	$C_2H_5NO_2$		15
373	Pentamethyl Silanamine	C5H15NSi	$C_5H_{15}NSi$	N,N-Dimethylamino Trimethylsilane	15
374	Dimethylethanolamine	C4H11NO	$C_4H_{11}NO$	N,N-Dimethylethanolamine	15
375	2-Chloro-1,1,1,2-Tetrafluoroethane	C2HC1F4	C_2HClF_4	R124	15
376	2-Chlorobutane	C4H9Cl	$C4H_9Cl$		15

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Code	Gas Name	Symbol	Formula	Synonym	Ref
377	Borane	H3B	BH3		15
378	Dimethylsulfide	C2H6S	C_2H_6S		15
379	Methacrolein	C4H6O	C_4H_6O	Methacrylaldehyde	15
380	Monoethanolamine	C2H7NO	C_2H_7NO	2-Amino-1-Ethanol, Glycinol	15
381	Perfluoromethyl-vinylether PMVE	C3H3F3O	CH_2=CO-CF_3		15
382	Trifluoropropene	C3H3F3	C(CH_3)F=CF_2		15
383	1,2-Propylene Oxide	C3H6O	CH_3CHCH_2O	Epoxypropane	15
384	1,1,2,2-Tetrafluoroethane (R-134)	C2H2F4	CF_2H-CF_2H	R-134	15
385	2,3,3,3-Tetrafloropropene	C3H2F4	CH2=CFCF3		15
386	Butyltin Trichloride	C4H9Cl3Sn	C4H9Cl3Sn	n-Butyltin Trichloride	15
387	2-Fluorobutane	C_4H_9F	C4H9F		15
388	Diazene	N2H2	H2N2	Diimine, Diimide	15
389	Formic Acid	CHOOH	CH2O2	Methanoic acid	15
390	Tetramethylethylenediamine	C6H16N2	$C_6H_{16}N_2$	TMEDA	
391	Tris(Dimethylamino)Silane	C6H19N3Si	$C_6H_{19}N_3Si$	3-DMAS, tris(dimethylamido)silane, tris(dimethylamido)silylhydride	
392	Tetravinylsilane	C8H12Si	$C_8H_{12}Si$	Tetraethenylsilane	
393	trans-1,3,3,3-tetrafluoropropene	C3H2F4	$C_3H_2F_4$	(1E)-1,3,3,3-tetrafluoro-1-propene	
394	Cyclohexane	C6H12	C_6H_{12}		
395	Intentionally Left Blank				
396	Butylamine	CH3(CH2)3NH	$C_4H_{11}N$		
397	Pyrrole	C4H5N	C_4H_5N		
398	Propylamine	CH3(CH2)2NH2	C_3H_9N		
399	Antimony pentafluoride	SbF5	SbF_5		
400	Trifluoroacetyl Fluoride	C2F4O	C_2F_4O		
401	2-Chloro-2-Methylpropane	C4H9Cl	C_4H_9Cl		
402	(E)-1,1,1,4,4,4-hexafluoro-2-butene	C4H2F6	CF_3-CH=CH-CF_3	HFO-1336mzz(E)	
403	Dimethylaluminum Chloride	C2H6AlCl	$(CH_3)_2AlCl$		
404	Molybdenum Pentachloride	MoCl5	$MoCl_5$	Molybdenum(V) chloride	
405	Octafluorotoluene	C7F8	C_7F_8	Perfluorotoluene	15
406	Molybdenum Dichloride Dioxide	MoO2Cl2	MoO_2Cl_2	Molybdenum(VI) dichloride dioxide	
407	Nitryl Fluoride	NO2F	NO_2F		
408	Iodotrifluoroethylene	C2F3I	C_2F_3I		
409	Hexafluoroisobutene	C4H2F6	$(CF_3)_2C$=CH_2	HFIB	
410	Iridium Hexafluoride	IrF6	IrF_6	Iridium(VI) fluoride	
411	Thionyl Chloride	SOCl2	$SOCl_2$	Thionyl dichloride, Sulfinyl chloride	
412	Molybdenum Hexacarbonyl	Mo(CO)6	$Mo(CO)_6$		
413	Diethyl Disulfide	C4H10S2	$C_4H_{10}S_2$		

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Code	Gas Name	Symbol	Formula	Synonym	Ref
414	Acetylene Sulfide	C2S	C_2S		
415	Bis(Dimethylamino)Methylsilane	C5H16N2Si	$C_5H_{16}N_2Si$		
416	Bis(Dimethylsilyl) Ether	C4H14OSi2	$C_4H_{14}OSi_2$	1,1,3,3-Tetramethyldisiloxane	
417	Dicarbonylcyclopentadienyl Cobalt(I)	C7H5CoO2	$C_7H_5CoO_2$	Cyclopentadienyl cobalt(I) dicarbonyl	
418	Dodecafluoropentane	C5F12	C_5F_{12}	Perfluoropentane (PFP)	
419	Molybdenum Dioxide	MoO2	MoO2	Molybdenum (IV) oxide	
420	Hexafluoroisopropanol	C3H2F6O	$(CF_3)_2CHOH$	HFIP,1,1,1,3,3,3-Hexafluoroisopropanol, 1,1,1,3,3,3-Hexafluoro-2-propanol	
421	Pentakis(Dimethylamino)Tantalum (V)	Ta(N(CH3)2)5	$Ta(N(CH_3)_2)_5$	PDMAT, TADMA, $Ta(NMe_2)_5$, Tantalum dimethylamide	
422	1,1,1,2,3,3-Hexafluoropropane	CF3CHFCHF2	$C_3H_2F_6$	HFC-236ea	15
423	Iodine Heptafluoride	IF7	IF_7		1

7 Gas Table Sorted by Name

Table 2 Gases Sorted by Name

Code	Gas Name	Symbol	Formula	Synonym	Ref
267	1,1,1,2,2,3-Hexafluoropropane	$CH_2FCF2CF3$	$C_3H_2F_6$	HFC-236cb	2
422	1,1,1,2,3,3-Hexafluoropropane	CF3CHFCHF2	$C_3H_2F_6$	HFC-236ea	15
384	1,1,2,2-Tetrafluoroethane (R-134)	C2H2F4	$CF_2H\text{-}CF_2H$	R-134	15
383	1,2-Propylene Oxide	C3H6O	CH_3CHCH_2O	Epoxypropane	15
345	1,3,5,7-Octatetraene	C8H10	$CH_2{=}CHCH{=}CHCH{=}CHCH{=}CH_2$		3
343	1,7-Octadiyne	C8H10	$HC{\equiv}C(CH_2)_4C{\equiv}CH$		3
401	2-Chloro-2-Methylpropane	C4H9Cl	C_4H_9Cl		
186	2,2 Dichloro 1,1,1 Trifluoroethane	C2HCl2F3	$CHCl_2\text{-}CF_3$	Freon 123, Suva 123	2
354	2,2,3-trifluoro-3-(1,1,2,3,3-pentafluoroprop-2-enyl)oxirane	C5F8O	C_5F_80	Epoxyperfluorocyclopentene	13
385	2,3,3,3-Tetrafloropropene	C3H2F4	CH2=CFCF3		15
344	2,6-Octadiyne	C8H10	$CH_3C{\equiv}CCH_2CH_2C{\equiv}CCH_3$		3
375	2-Chloro-1,1,1,2-Tetrafluoroethane	C2HC1F4	C_2HClF_4	R124	15
376	2-Chlorobutane	C4H9Cl	$C4H_9Cl$		15
387	2-Fluorobutane	C_4H_9F	C4H9F		15
342	3-one-2,5-dimethyl hexadiene	C8H10	$CH_2{=}C(CH_3)C{\equiv}CC(CH_3)CH_2$		3
178	4-Methyl, 1-Pentene	C6H12	$(CH_3)_2CHCH_2CH{=}CH_2$		2
331	Acetaldehyde Methoxy	C3H6O2	CH_3OCH_2CHO		3
283	Acetic Acid	C2H4O2	CH_3COOH	Ethanoic acid; UN 2789	2

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Code	Gas Name	Symbol	Formula	Synonym	Ref
184	Acetone	C3H6O	CH_3COCH_3		2
332	Acetone,hydroxyl	C3H6O2	$CH_3COCH2OH$	Acetol	3
173	Acetonitrile	C2H3N	CH_3CN		2
42	Acetylene	C2H2	HC≡CH	Ethyne	1
414	Acetylene Sulfide	C2S	C_2S		
289	Acrylic Acid	C3H4O2	$C_3H_4O_2$	2-Propenoic acid; CH2=CHCOOH	2
276	Acrylonitrile	C3H3N	CH_2=CHCN	Acrylon; Propenenitrile	3
8	Air	Air			1
66	Allene	C3H4	$CH_2=C=CH_2$	Propadiene	1
352	Aluminum Trichloride	AlCl3	$AlCl_3$	Trichloroalumane	13
226	Aluminum Trifluoride	AlF3	AlF_3		2
29	Ammonia	NH3	NH_3		1
399	Antimony pentafluoride	SbF5	SbF_5		
4	Argon	Ar	Ar		1
96	Arsenic Pentafluoride	AsF5	AsF_5		2
242	Arsenic Tribromide	AsBr3	$AsBr_3$		2
216	Arsenic Trichloride	AsCl3	$AsCl_3$		2
195	Arsenic Trifluoride	AsF3	AsF_3		2
196	Arsenic Triiodine	AsI3	AsI_3		2
35	Arsine	AsH3	AsH_3		1
197	Benzene	C6H6	C_6H_6		2
363	Bicycloheptadiene	C7H8	C_7H_8	BCHD, Norbornadiene	
415	Bis(Dimethylamino) Methylsilane	C5H16N2Si	$C_5H_{16}N_2Si$		
416	Bis(Dimethylsilyl) Ether	C4H14OSi2	$C_4H_{14}OSi_2$	1,1,3,3-Tetramethyldisiloxane	
377	Borane	H3B	BH3		15
198	Borazine	B3N3H6	$H_3B_3N_3H_3$		11
79	Boron Tribromide	BBr3	BBr_3		1
70	Boron Trichloride	BCl3	BCl_3		1
48	Boron Trifluoride	BF3	BF_3		1
21	Bromine	Br2	Br_2		2
116	Bromine Pentafluoride	BrF5	BrF_5		1
76	Bromine Trifluoride	BrF3	BrF_3		1
199	Bromochlorodifluoromethane	CBrClF2	$BrClCF_2$		2
105	Bromotrifluoroethylene	C2BrF3	CF_2CFBr		1
80	Bromotrifluoromethane	CBrF3	$BrCF_3$	F-13B1, R-13B1	1
100	Butadiene	C4H6	CH_2=CH-CH=CH_2	1,3-butadiene	1
117	Butane	C4H10	$CH_3(CH_2)_2CH_3$		1
271	Butanol-1	C4H10O	$CH_3CH_2CH_2CH_2OH$	1-butanol	3
336	Butanol-2	C4H10O	$CH_3CH_2CH(OH)CH_3$		3
104	Butene	C4H8	$CH_3CH_2CH=CH_2$	1-Butene	1
396	Butylamine	CH3(CH2)3NH	$C_4H_{11}N$		

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Code	Gas Name	Symbol	Formula	Synonym	Ref
386	Butyltin Trichloride	C4H9Cl3Sn	C4H9Cl3Sn	n-Butyltin Trichloride	15
25	Carbon Dioxide	CO2	CO_2		1
40	Carbon Disulfide	CS2	CS_2		2
9	Carbon Monoxide	CO	CO		1
200	Carbon Tetrabromide	CBr4	CBr_4		2
101	Carbon Tetrachloride	CCl4	CCl_4	Tetrachloromethane or Methane, Tetrachloro	2
63	Carbon Tetrafluoride	CF4	CF_4	Tetrafluoromethane or Methane, Tetrafluoro	1
46	Carbonyl Fluoride	CF2O	CF_2O		1
34	Carbonyl Sulfide	COS	COS		1
19	Chlorine	Cl2	Cl_2		1
201	Chlorine Dioxide	ClO2	ClO_2		2
202	Chlorine Pentafluoride	ClF5	ClF_5		2
77	Chlorine Trifluoride	ClF3	ClF_3		1
172	Chlorobenzene	C6H5Cl	C_6H_5Cl	Chlorobenzol, Phenylchloride	2
203	Chlorodifluoroethane	C2H3ClF2	CH_3-CF_2Cl	R-142b	4
204	Chlorodifluoroethylene	C2HClF2	CF_2=CHCl	R-1122, FREON-1122	4
57	Chlorodifluoromethane	CHClF2	$CClHF_2$	F-22, R-22	1
71	Chloroform	CHCl3	$CHCl_3$	Trichloromethane or Methane, Trichloro	2
119	Chloropentafluoroethane	C2ClF5	$ClCF_2CF_3$	F-115, R-115	1
205	Chlorosilane	SiH3Cl	SiH_3Cl		2
206	Chlorotrifluoroethylene	C2ClF3	FCCl=CF_2	R-1113, FREON-1113	2
74	Chlorotrifluoromethane	CClF3	$ClCF_3$	F-13, R-13	1
107	Cisbutene	C4H8	CH_3CH=$CHCH_3$	Cis-2-Butene	2
59	Cyanogen	C2N2	NCCN	Oxalodinitrile	1
37	Cyanogen Chloride	ClCN	ClCN		1
207	Cyclobutane	C4H8	C_4H_8	Tetramethylene	2
394	Cyclohexane	C6H12	C_6H_{12}		
61	Cyclopropane	C3H6	C_3H_6		1
14	Deuterium	D2	H_2^2	D2	2
350	Deuterium Ammonia	ND3	ND_3		3
244	Deuteriumsilane	SiD4	$SiH^2{}_4$		2
388	Diazene	N2H2	H2N2	Diimine, Diimide	15
208	Diazomethane	CH2N2	CH_2N_2	Acomethylene	2
58	Diborane	B2H6	B_2H_6		1
209	Dibromodifluoromethane	CBr2F2	Br_2CF_2	R-12B2, FREON-12B2	2
130	Dibromotetrafluorethane	C2Br2F4	BrF_2CCF_2Br	F-114B2, R-114B2	1
84	Dichlorodifluoromethane	CCl2F2	CCl_2F_2	F-12, R-12	1
212	Dichlorodimethylsilane	C2H6SiCl2	$(CH_3)_2SiCl_2$		2
210	Dichloroethylene	C2H2Cl2	CH_2=CCl_2	Vinylidene Chloride	2
211	Dichloroethylene -cis	C2H2Cl2	CHCl=CHCl		2

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191	Dichloroethylene -trans	C2H2Cl2	CHCl=CHCl		2
65	Dichlorofluoromethane	CHCl2F	$CHCl_2F$	F-21, R-21	1
265	Dichloromethane	CH2Cl2	CH_2Cl_2		
365	Dichloromethylsilane	CH3SiHCl2	CH_3SiHCl_2	DCMS	2
67	Dichlorosilane	SiH2Cl2	SiH_2Cl_2		1
125	Dichlorotetrafluoroethane	C2Cl2F4	F_3CCCl_2F	F-114, R-114	1
417	Dicarbonylcyclopentadienyl Cobalt(I)	C7H5CoO2	$C_7H_5CoO_2$	Cyclopentadienyl cobalt(I) dicarbonyl	
188	Diethoxydimethylsilane	C6H16O2Si	$(C_2H_5O)_2Si(CH_3)_2$		2
413	Diethyl Disulfide	C4H10S2	$C_4H_{10}S_2$		
338	Diethyl Ether	C4H10O	$C_2H_5OC_2H_5$		3
298	Diethyl Sulfide	C4H10S	$C_4H_{10}S$	UN 2375; Ethyl sulfide	2
213	Diethylamine	C4H11N	$(C_2H_5)_2NH$		2
154	Diethylsilane	C4H12Si	$(C_2H_5)_2SiH_2$		2
214	Diethylzinc	C4H10Zn	$Zn(C_2H_5)_2$		2
232	Difluoroamidogen	NF2	NF_2		2
103	Difluorochloroethane	C2H3ClF2	CF_2ClCH_3	F-142B, R-142B	1
367	Difluorodichlorosilane	SiF2Cl2	SiF_2Cl_2		2
82	Difluoroethane	C2H4F2	CH_3CHF_2	Ethylidene Fluoride, R-152A	1
64	Difluoroethylene	C2H2F2	$CH_2=CF_2$	G-1132A,Vinylidenefluoride	1
160	Difluoromethane	CH2F2	CH_2F_2	Methylene Fluoride	2
134	Difluorosilane	SiH2F2	SiH_2F_2		10
217	Digermane	Ge2H6	Ge_2H_6		2
300	Dimethoxydimethylsilane	C4H12O2Si	$C_4H_{12}O_2Si$	KBM 22 $Si(OCH_3)_2(CH_3)_2$; Dimethyldimethoxysilane; DMDMOS	2
73	Dimethyl Ether	C2H6O	CH_3OCH_3	Methyl ether	1
284	Dimethyl Selenide	C2H6Se	C_2H_6Se	(CH3)2Se; Selenium dimethyl; Dimethylselenium	2
403	Dimethylaluminum Chloride	C2H6AlCl	$(CH_3)_2AlCl$		
164	Dimethylaluminum Hydride	C2H7Al	$(CH_3)_2AlH$	DMAH	14
85	Dimethylamine	C2H7N	$(CH_3)_2NH$		1
218	Dimethylcadmium	C2H6Cd	$(CH_3)_2Cd$		2
374	Dimethylethanolamine	C4H11NO	$C_4H_{11}NO$	N,N-Dimethylethanolamine	15
371	Dimethylethylamine	C4H11N	$(CH_3)_2NCH_2CH_3$		15
166	Dimethylethylamineralane	C4H14NAl	$(CH_3)_2C_2H_5NAlH_3$	DMEAA	11
122	Dimethylpropane	C5H12	$(CH_3)_4C$	Neopentane	2
219	Dimethylsilane	C2H8Si	$(CH_3)_2SiH_2$		2
378	Dimethylsulfide	C2H6S	C_2H_6S		15
220	Dimethyltellurium	C2H6Te	$(CH_3)_2Te$		2
135	Dimethylzinc	C2H6Zn	$(CH_3)_2Zn$		3
281	Diphenylmethan-4,4'-diisocyanat	C15H10N2O	$C_{15}H_{10}N_2O$	UN 2489; Benzene,1,1'-methylenebis(isocyanatophenyl)	2

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280	Diphenylmethylenediamine	C13H14N2	$C_{13}H_{14}N_2$		2
349	Diselenium Dichloride	Se2Cl2	Se_2Cl_2		3
347	Disilabutane	Si2C2H10	$Si_2C_2H_{10}$		3
97	Disilane	Si2H6	Si_2H_6		2
326	Disilane Hexafluoride	Si2F6	$Si2F_6$	F_6Si_2; Hexafluorodisilane	2
418	Dodecafluoropentane	C5F12	C_5F_{12}	Perfluoropentane (PFP)	
402	(E)-1,1,1,4,4,4-hexafluoro-2-butene	C4H2F6	CF_3-CH=CH-CF_3	HFO-1336mzz(E)	
54	Ethane	C2H6	CH_3CH_3		1
348	Ethane,1,1,1-Trifluoro	C2H3F3	$C_2H_3F_3$	HFC-143a	3
136	Ethanol	C2H6O	CH_3CH_2OH		2
285	Ethoxysilane	C2H8OSi	C_2H_8OSi		2
93	Ethyl Acetylene	C4H6	$CH_3CH_2C{\equiv}CH$		1
75	Ethyl Chloride	C2H5Cl	C_2H_5Cl	Chloroethane or Ethane, Chloro or Ethyl Chloride	1
221	Ethyl Fluoride	C2H5F	CH_3CH_2F	Fluoroethane, R-161, FREON-161	2
291	Ethyl Formate	C3H6O2	$HCO_2C_2H_5$	Ethyl ester formic acid; HC00C2H5	3
174	Ethylbenzene	C8H10	$C_6H_5C_2H_5$		2
38	Ethylene	C2H4	CH_2=CH_2	Ethene	1
222	Ethylene Dichloride	C2H4Cl2	$ClCH_2CH_2Cl$	1,2 Dichloroethane	2
45	Ethylene Oxide	C2H4O	C_2H_4O	Oxirane, 1,2-epoxyethane	1
169	Ethyleneglycol	C2H6O2	$HOCH_2CH_2OH$	Ehtanediol, Glycol	2
18	Fluorine	F2	F_2		1
223	Fluoroacetylene	C2HF	FC$\equiv$CH		2
49	Fluoroform	CHF3	CHF_3	Trifluoromethane or Methane, Trifluoro, F-23, R-23	1
327	Fluorosilane	SiH3F	SiH_3F	H_3FSi	2
224	Fluorotriethoxysilane	C6H15OSiF	$(C_2H_5O)_3SiF$		2
322	Formaldehyde	CH2O	HCHO	H2C0; UN 1198; BFV	2
389	Formic Acid	CHOOH	CH2O2	Methanoic acid	15
43	Germane	GeH4	GeH_4		1
113	Germanium Tetrachloride	GeCl4	$GeCl_4$	Tetrachlorogermane	2
99	Germanium Tetrafluoride	GeF4	GeF_4	Tetrafluorogermane	2
335	Glycidol	C3H6O2	CH_2CHCH_2OH	1-Propanol, 2,3 epoxy	3
333	Glycol Methylene Ether	C3H6O2	CH_2-O-CH_2-CH_2-O	1,3-Dioxolane, Formal glycol	3
275	Hafnium Tetranitrate	HfN4O12	$Hf(NO_3)_4$	Hafnium nitrate	1
137	Halothane	C2HBrClF3	$BrClHCCF_3$		6
1	Helium	He	He		1
370	Heptafluorocyclopentene	C5HF7	C_5HF_7		15
295	Heptafluoropropane	C3HF7	C_3HF_7	1,1,1,2,3,3,3-Heptafluoropropane, Freon 227	2
297	Hexafluoro Butadiene-1,3	C4F6	CF_2=CF-CF=CF_2	Perfluorobutadiene-1,3	3

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270	Hexafluoro-2-Butyne	C4F6	$CF_3C{\equiv}CCF_3$	Bis(trifluoromethyl)acetylene; Perfluoro-2-butyne	3
225	Hexafluoroacetone	C3F6O	$(CF_3)_2CO$		2
272	Hexafluoroacetylacetone	C5H2F6O2	$C_5H_2F_6O_2$		1
192	Hexafluorobenzene	C6F6	C_6F_6		2
296	Hexafluorocyclobutene	C4F6	C_4F_6	Perfluorocyclobutene; 1,2,3,3,4,4-Hexafluorocyclobutene	3
118	Hexafluoroethane	C2F6	F_3CCF_3	F-116, Perfluoroethane	1
409	Hexafluoroisobutene	C4H2F6	$(CF_3)_2C{=}CH_2$	HFIB	
420	Hexafluoroisopropanol	C3H2F6O	$(CF_3)_2CHOH$	HFIP,1,1,1,3,3,3-Hexafluoroisopropanol, 1,1,1,3,3,3-Hexafluoro-2-propanol	
138	Hexafluoropropylene	C3F6	$CF_3CF{=}CF_2$	Perfluoropropylene or Propylene, Perfluoro	1
286	Hexafluoropropylene Oxide	C3F6O	C_3F_6O	Hexafluoroepoxypropane	2
139	Hexamethyldisilane	C6H18Si2	$(CH_3)_3Si_2(CH_3)_3$	HMDSi, HMDS	3
227	Hexamethyldisilazane	C6H19Si2N	$(CH_3)_6Si_2NH$		2
228	Hexamethyldisiloxane	C6H18Si2O	$(CH_3)_6Si_2O$		2
127	Hexane	C6H14	$CH_3(CH_2)_4CH_3$		2
170	Hexanediol-1,6	C6H14O2	$HO(CH_2)_6OH$	Hexyleneglycol, Hexamethyleneglycol	2
50	Hydrazine	N2H4	H_2NNH_2		2
269	Hydrazoic Acid	HN3	HN_3		1
7	Hydrogen	H2	H_2		1
10	Hydrogen Bromide	HBr	HBr		1
11	Hydrogen Chloride	HCl	HCl		1
24	Hydrogen Cyanide	HCN	HCN		1
12	Hydrogen Fluoride	HF	HF		1
17	Hydrogen Iodide	HI	HI		1
23	Hydrogen Selenide	H2Se	H_2Se		1
22	Hydrogen Sulfide	H2S	H_2S		1
229	Hydrogen Telluride	H2Te	H_2Te		2
90	Intentionally Left Blank				
92	Intentionally Left Blank				
175	Intentionally Left Blank				
353	Intentionally Left Blank				
355	Intentionally Left Blank				
356	Intentionally Left Blank				
423	Iodine Heptafluoride	IF7	IF_7		1
115	Iodine Pentafluoride	IF5	IF_5		1
323	Iodomethane	CH3I	CH_3I	Methyl iodide; UN 2644	2
408	Iodotrifluoroethylene	C2F3I	C_2F_3I		
410	Iridium Hexafluoride	IrF6	IrF_6	Iridium(VI) fluoride	

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230	Iron Carbonyl	C5O5Fe	$Fe(CO)_5$		2
111	Isobutane	C4H10	$(CH_3)_2CHCH_3$	2-Methylpropane or Propane, 2-Methyl	1
106	Isobutene	C4H8	$(CH_3)_2C=CH_2$	Isobutylene,Methylpropene	2
341	Isobutyl Alcohol	C4H10O	$(CH_3)_2CHCH_2OH$		3
231	Isopentane	C5H12	$CH_3CH_2CH(CH_3)_2$	2-Methylbutane	2
187	Isopropyl Alcohol	C3H8O	$(CH_3)_2CHOH$	2-Propanol	2
5	Krypton	Kr	Kr		1
329	Mercury	Hg	Hg	UN 2809	2
379	Methacrolein	C4H6O	C_4H_6O	Methacrylaldehyde	15
28	Methane	CH4	CH_4		1
176	Methanol	CH4O	CH_3OH	Methyl Alcohol	2
292	Methyl Acetate	C3H6O2	$CH_3CO_2CH_3$	Methyl ester acetic acid; UN 1231	3
68	Methyl Acetylene	C3H4	$CH_3C\equiv CH$	Propyne	1
44	Methyl Bromide	CH3Br	CH_3Br	Bromomethane or Methane, Bromo	1
36	Methyl Chloride	CH3Cl	CH_3Cl	Chloromethane or Methane, Chloro	1
33	Methyl Fluoride	CH3F	CH_3F	Fluoromethane or Methane, Fluoro	1
340	Methyl Isopropyl Ether	C4H10O	$(CH_3)_2CHOCH_3$		3
47	Methyl Mercaptan	CH4S	CH_3SH		1
305	Methyl Methacrylate Polymer	C5H8O2	$CH_2=C(CH_3)COOCH_3$	Poly(methyl methacrylate); 2-Methyl1-2-propenoic acid	2
339	Methyl Propyl Ether	C4H10O	$CH_3OC_3H_7$		3
81	Methyl Vinyl Ether	C3H6O	$H_3C\text{-}O\text{-}CH=CH_2$		1
361	Methyl-(methylethyl)-cyclohenxadiene	C10H16		ATRP, Alpha-Terpinene	
52	Methylamine	CH5N	CH_3NH_2	Amino Methane, Monomethylamine	2
120	Methylbutene	C5H10	$CH_3CH_2CCH_3=CH_2$	2-Methyl-1-Butene	1
177	Methylcyclohexane	C7H14	$CH_3C_6H_{11}$	Hexahydrotoluene	2
362	MethylDiethoxySilane	C5H14O2Si	$CH_3SiH(OC_2H_5)_2$	mDEOE, DEMS	
268	Methylene Bromide	CH2Br2	CH_2Br_2	UN 2664; Methyl dibromide, Dibromomethane	1
185	Methylsilane	CH6Si	CH_3SiH_3	Monomethylsilane	2
183	Methyltrichlorosilane	CH3Cl3Si	CH_3SiCl_3	MTS	2
406	Molybdenum Dichloride Dioxide	MoO2Cl2	MoO_2Cl_2	Molybdenum(VI) dichloride dioxide	
419	Molybdenum Dioxide	MoO2	MoO2	Molybdenum (IV) oxide	
412	Molybdenum Hexacarbonyl	Mo(CO)6	$Mo(CO)_6$		
124	Molybdenum Hexafluoride	MoF6	MoF_6		2
404	Molybdenum Pentachloride	MoCl5	$MoCl_5$	Molybdenum(V) chloride	
380	Monoethanolamine	C2H7NO	C_2H_7NO	2-Amino-1-Ethanol, Glycinol	15

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