

GAS GROUPS

Material Name	Formula	MW	Vapour Density relative to air (air=1)	Flash Point (°C)	Auto-Ignition Point (°C)	Boiling Point (°C)	Melting Point (°C)	Flammable Range (Vol. %)	European Gas Group	US Gas Group
Acetaldehyde	C ₂ H ₄ O	44.06	1.52	-38	175	21.1	-123.5	4.0 to 60	IIA	D
Acetic Acid	C ₂ H ₄ O ₂	60.06	2.07	39	427	118	16.6	5.0 to 16.0	IIA	D
Acetic Anhydride	C ₄ H ₆ O ₃	102.1	3.53	49	316	140	-73	2.7 to 10.3	IIA	D
Acetone	C ₃ H ₆ O	58.08	2.00	-18	465	56.2	-95.4	2.5 to 13.0	IIA	D
Acetonitrile	C ₂ H ₃ N	41.06	1.41	12	524	82	-46	3.0 to 16.0	IIA	D
Acetyl Chloride	C ₂ H ₃ OCl	78.5	2.70	5	390	51	-112	7.3 to 19.0	IIA	D
Acetyl Acetone	C ₅ H ₈ O ₂	100.1	3.45	34	340	140	-23	2.4 to 11.6	IIA	D
Acetylene	C ₂ H ₂	26.04	0.90	Gas	335	-85	-81	2.5 to 100	IIC*	A
Acrolein	C ₃ H ₄ O	56.06	1.94	-26	235	52.5	-87	2.8 to 31.0	IIB3	C
Acrylic Acid	C ₃ H ₄ O ₂	72.06	2.49	54	360	141	13	2.0 to 8.0	IIA	D
Acrylonitrile	C ₃ H ₃ N	53.06	1.83	-1	481	77	-84	3.0 to 17.0	IIB1	C
Allyl Alcohol	C ₃ H ₆ O	58	2.00	21	378	97	-129	2.5 to 18	IIB2	C
Allyl Bromide	C ₃ H ₅ Br	121	4.19	-2	294	71	-119	4.4 to 7.3	IIA	D
Allyl Chloride	C ₃ H ₅ Cl	76.5	2.65	-32	390	45	-135	2.9 to 11.2	IIA	D
Allylene	C ₃ H ₄	40.06	1.38	Gas		-23	-103	2.4 to 11.7	IIB3	C
Ammonia	NH ₃	17.04	0.59	Gas	651	-33	-78	15 to 28	IIA	D
n-Amyl Acetate	C ₇ H ₁₄ O ₂	130.2	4.50	38	379	149	-71	1.1 to 7.5	IIA	D
n-Amyl Alcohol	C ₅ H ₁₂ O	88.2	3.05	33	300	133	-8	1.2 to 10.0	IIA	D
Aniline	C ₆ H ₇ N	93.13	3.22	76	615	185	-6	1.2 to 11.0	IIA	D
Anisole	C ₇ H ₈ O	108.1	3.74	52	475	155	-37		IIB2	D
Benzene	C ₆ H ₆	78.12	2.70	-11	498	80	5.5	1.3 to 8.0	IIA	D
Benzonitrile	C ₆ H ₅ CN	103.1	3.57	72	550	190	-13	1.4 to 7.2	IIA	D
Benzyl Acetate	C ₉ H ₁₀ O ₂	150.2	5.20	90	460	212	-51	0.9 to 8.4	IIA	D
Benzaldehyde	C ₆ H ₅ CHO	106.1	3.67	62	190	179	-26	1.4 to 13.5	IIA	D
Benzyl Chloride	C ₇ H ₇ Cl	126.5	4.38	67	585	179	-43	1.1 to 14.0	IIA	D
Bromobenzene	C ₆ H ₅ Br	157	5.43	51	566	156	-31	6.0 to 36.5	IIA	D
1-Bromobutane	C ₄ H ₉ Br	137	4.74	14	265	104	-112	2.8 to 6.6	IIA	D
Bromoethane	C ₂ H ₅ Br	109	3.77	-20	511	38.4	-119	6.8 to 11.0	IIA	D
1,3-Butadiene	C ₄ H ₆	54.1	1.87	Gas	414	-4.4	-109	1.1 to 16.3	IIB2	B
n-Butane	C ₄ H ₁₀	58.1	2.01	Gas	287	-0.5	-138	1.9 to 8.5	IIA	D
1-Butanol (n-Butanol)	C ₄ H ₁₀ O	74.1	2.56	29	340	118	-89	1.4 to 11.3	IIB1	D
2-Butanol	C ₄ H ₁₀ O	74.1	2.56	24	390	99	-89	1.7 to 9.8	IIA	D
1-Butene	C ₄ H ₈	56.12	1.94	Gas	384	-6	-185	1.6 to 9.3	IIA	D
2-Butene	C ₄ H ₈	56.12	1.94	Gas	313	1	-140	1.7 to 9.3	IIB1	D
n-Butyl Acetate	C ₆ H ₁₂ O ₂	116.2	4.02	22	425	126	-77	1.7 to 7.6	IIA	D
Butyl Acrylate	C ₇ H ₁₂ O ₂	128.2	4.43	37	267	149	-64	1.3 to 9.9	IIB1	D
Butyl Chloride	C ₄ H ₉ Cl	92.58	3.20	-9	240	78	-123	1.8 to 10.1	IIA	D
n-Butylamine	C ₄ H ₁₁ N	73.14	2.53	-12	312	78	-49	1.7 to 9.8	IIA	D
n-Butyraldehyde	C ₄ H ₈ O	72.12	2.49	-7	230	76	-96	2.5 to 12.5	IIA	D
Carbon Disulphide	CS ₂	76.14	2.63	-30	80	46.1	-111	1.3 to 50.0	IIC*	B
Carbon Monoxide	CO	28.01	0.97	Gas	609	-191	-205	12.5 to 74.2	IIB3	C
Chlorobenzene	C ₆ H ₅ Cl	112.6	3.89	28	593	132	-46	1.3 to 7.1	IIA	D
1-Chlorobutane	C ₄ H ₉ Cl	92.58	3.20	-9	240	78	-123	1.8 to 10.1	IIA	D
Chloroethanol	C ₂ H ₅ OCl	80.5	2.79	60	425	130	-67	4.9 to 16	IIA	D
Chloromethane - (Methyl Chloride)	CH ₃ Cl	50.49	1.75	-45	632	-24	-97	8.1 to 17.2	IIA	D
1-Chloropropane	C ₃ H ₇ Cl	78.54	2.72	-18	520	47	-123	2.6 to 11.1	IIA	D
Chloroethane - (Ethyl Chloride)	C ₂ H ₅ Cl	64.5	2.23	-50	519	12	-139	3.8 to 15.4	IIA	D
m-Cresol	C ₇ H ₈ O	108.2	3.74	86	626	202	11	1.1 to 1.4	IIA	D
Crotonaldehyde	C ₄ H ₆ O	70.09	2.43	13	232	102	-76.5	2.1 to 15.5	IIB2	C
Cumene	C ₉ H ₁₀	120.2	4.16	36	424	152	-96	0.9 to 6.5	IIA	D
Cyclohexane	C ₆ H ₁₂	84.16	2.91	-18	260	81	6.5	1.3 to 8.4	IIA	D
Cyclohexene	C ₆ H ₁₀	82.15	2.84	-20	244	83	-104		IIA	D
Cyclopentane	C ₅ H ₁₀	70.15	2.43	-37	361	49	-94	1.1 to 8.7	IIA	D
Cyclopropane	C ₃ H ₆	42.08	1.46	Gas	498	-33	-128	2.4 to 10.4	IIA	C
n-Decane	C ₁₀ H ₂₂	142.3	4.92	46	210	174	-30	0.8 to 5.4	IIA	D
n-Decanol	C ₁₀ H ₂₂ O	158.3	5.48	82	288	231	7		IIA	D
Dekalin	C ₁₀ H ₁₈	138.1	4.78	58	250	194	-43	0.7 to 49	IIA	D
n-Dibutyl Amine	C ₈ H ₁₉ N	129.3	4.47	47	312	159	-60		IIA	D
1,2-Dichlorobenzene	C ₆ H ₄ Cl ₂	147.0	5.07	66	648	180	-17	2.2 to 9.2	IIA	D
1,2-Dichloroethane	C ₂ H ₄ Cl ₂	98.96	3.42	13	413	83	-35	6 to 16	IIA	D
1,2-Dichloroethylene	C ₂ H ₂ Cl ₂	96.95	3.35	2	460	60	-50	5.6 to 12.8	IIA	D

GAS GROUPS

Material Name	Formula	MW	Vapour Density relative to air (air=1)	Flash Point (°C)	Auto-Ignition Point (°C)	Boiling Point (°C)	Melting Point (°C)	Flammable Range (Vol. %)	European Gas Group	US Gas Group
1,2-Dichloropropane	C ₃ H ₆ Cl ₂	113	3.91	16	557	96	-100	3.4 to 14.5	IIA	D
Dicyclopentadiene	C ₁₀ H ₁₂	132.2	4.57	33	680	170	33	0.8 to 6.3	IIB1	D
Diethyl Amine	C ₄ H ₁₁ N	73.14	2.53	-28	312	55	-50	1.8 to 10.1	IIA	D
Diethylene Glycol	C ₄ H ₁₀ O ₃	106.1	3.67	124	229	245	-10	1.8 to 12.2	IIA	D
Diethylene Glycol - Monoethyl Ether	C ₆ H ₁₄ O ₃	134.2	4.64	96	204	196	-76		IIB1	
Diethylene Glycol - Monomethyl Ether	C ₅ H ₁₂ O ₃	120.2	4.16	93	215	193	-69	1.6 to 18.1	IIB1	
Diethyl Ether	C ₄ H ₁₀ O	74.14	2.56	-45	160	35	-116	1.7 to 48	IIB1	C
Diethyl Ketone	C ₅ H ₁₀ O	86.1	2.98	7	425	102	-42	1.6 to 7.7	IIB1	
Dimethyl Ether	C ₂ H ₆ O	46.08	1.59	Gas	350	-25	-141	3.4 to 26.7	IIB2	D
Dimethylamine	C ₂ H ₇ N	45.1	1.56	Gas	402	7	-92	2.8 to 14.4	IIA	D
Dimethyl Formamide	C ₂ H ₇ NO	73.1	2.53	58	445	153	-60	2.2 to 15.2	IIA	D
Dimethyl Sulphide	C ₂ H ₆ S	62.1	2.15	-49	205	37	-98	2.2 to 19.7	IIA	
Di-isopropyl Ether	C ₆ H ₁₄ O	102.2	3.54	-28	443	69	-60	1.4 to 7.9	IIA	D
1,4-Dioxane	C ₄ H ₈ O ₂	88.11	3.05	12	180	101	12	2.0 to 22.0	IIB3	C
Diketene	C ₄ H ₄ O ₂	84.1	2.91	33	275	127	-7	2.0 to 11.7	IIB3	
Epichlorhydrin	C ₃ H ₅ ClO	92.5	3.20	34	385	116	-48	2.3 to 34.4	IIB3	
Ethane	C ₂ H ₆	30.1	1.04	Gas	472	-89	-183	3.0 to 12.5	IIA	D
Ethanol	C ₂ H ₆ O	46.1	1.59	13	363	79	-117	3.3 to 19.0	IIB1	D
Ethanolamine	C ₂ H ₇ NO	61.1	2.11	85	410	85	171	5.5 to 17.0	IIA	D
2-Ethoxyethanol	C ₄ H ₁₀ O ₂	90.1	3.12	44	235	135	-70	1.7 to 15.6	IIB2	C
Ethyl Acetate	C ₄ H ₈ O ₂	88.1	3.05	-4	427	77	-84	2.2 to 11.5	IIA	D
Ethyl Acetoacetate	C ₄ H ₁₀ O ₃	130.1	4.50	70	295	181	-45	1.0 to 54.0	IIA	D
Ethyl Acrylate	C ₅ H ₈ O ₂	100.1	3.45	9	345	99	-71	1.4 to 14.0	IIB1	C
Ethyl Formate	C ₂ H ₆ O ₂	74.1	2.56	-20	440	53	-80	2.7 to 16.5	IIA	D
Ethyl Mercaptan	C ₂ H ₆ S	62.13	2.15	-48	299	36	-144	2.8 to 18.2	IIA	D
Ethyl Methacrylate	C ₅ H ₁₀ O ₂	114.2	3.95	20	393	117	-75	1.8 to ?	IIA	D
Ethylbenzene	C ₈ H ₁₀	106.2	3.67	18	432	136	-95	1.0 to 6.7	IIA	D
Ethylene	C ₂ H ₄	28	0.97	Gas	490	-104	-169	2.7 to 36.0	IIB3	C
Ethylenediamine	C ₂ H ₈ N ₂	60.1	2.08	34	385	116	-8.5	2.7 to 16.6	IIA	D
Ethylene Glycol	C ₂ H ₆ O	62.1	2.15	111	398	198	-13	3.2 to 15.3	IIB1	
Ethylene Glycol - Monomethyl Ether	C ₃ H ₈ O ₂	76.1	2.63	39	285	125	-85	1.8 to 14	IIB2	
Ethylene Oxide	C ₂ H ₄ O	44.1	1.53	Gas	429	11	-111	3.0 to 100	IIB	
Formaldehyde	CH ₂ O	30	1.04	Gas	430	-20	-92	7.0 to 73	IIB	C
Formic Acid	CH ₂ O ₂	46	1.59	69	520	101	8	18 to 51	IIA	D
Furan	C ₄ H ₄ O	68.1	2.36	-35		31	-86	2.3 to 14.3	IIB3	C
Furfural	C ₅ H ₄ O ₂	96.1	3.32	60	315	162	-36.5	2.1 to 19.3	IIB1	C
Gasoline			~3 to 4	250		20-200		1.3 to 7.1	IIA	D
Heptane	C ₇ H ₁₆	100.2	3.47	-4	285	98	-91	1.1 to 6.7	IIA	D
Hexane	C ₆ H ₁₄	86.2	2.98	-22	225	69	-95	1.1 to 7.5	IIA	D
2-Hexanol	C ₆ H ₁₄ O	102.2	3.54	41					IIA	D
2-Hexanone	C ₆ H ₁₂ O	100.2	3.47	23	423	126	-57	1.2 to 8.0	IIA	
1-Hexene	C ₆ H ₁₂	84.2	2.91	-26	253	63	-140	1.2 to 6.9	IIA	
Hydrogen	H ₂	2	0.07	Gas	560	-253		4.0 to 76	IIC	B
Hydrogen Sulphide	H ₂ S	34.1	1.18	Gas	260	-60	-85	4.3 to 46	IIB1	C
Isoprene	C ₅ H ₈	68.1	2.36	-54	220	34	-146	1.5 to 8.9	IIB2	
Methane	CH ₄	16	0.55	Gas	537	-161	-183	5.0 to 15.0	IIA	D
Methanol	CH ₄ O	32	1.11	12	464	65	-98	5.5 to 44.0	IIA	D
2-Methoxyethanol	C ₃ H ₈ O ₂	76.1	2.63	39	285	125	-85	1.8 to 14	IIB2	
Methyl Acetate	C ₃ H ₆ O ₂	74.1	2.56	-13	455	57	-98	3.1 to 16.0	IIA	D
Methyl Bromide	CH ₃ Br	94.9	3.28	Gas	537	4	-94	10 to 16	IIA	
Methyl Ethyl Ketone	C ₄ H ₈ O	72.1	2.49	-9	505	80	-86	1.8 to 11.5	IIB1	C
Methyl Formate	C ₂ H ₄ O ₂	60.1	2.08	-19	449	32	-100	5.0 to 23.0	IIA	D
Methyl Mercaptan	CH ₄ S	48.1	1.66	-18		6	-123	3.9 to 21.8	IIA	
Methyl Methacrylate	C ₅ H ₈ O ₂	100.1	3.46	10	421	101	-48	1.7 to 12.5	IIA	D
Methyl Tertiarybutyl Ether	C ₅ H ₁₂ O	88.2	3.05	-28	375	55	-109	1.6 to 15.1	IIA	
Methylene Chloride	CH ₂ Cl ₂	84.9	2.94		556	40	-95	12.0 to 25.0	IIA	D

GAS GROUPS

Material Name	Formula	MW	Vapour Density relative to air (air=1)	Flash Point (°C)	Auto-Ignition Point (°C)	Boiling Point (°C)	Melting Point (°C)	Flammable Range (Vol. %)	European Gas Group	US Gas Group
Naphthalene	C ₁₀ H ₈	128.2	4.43	79	567	218	80	0.9 to 5.9	IIA	D
Nitrobenzene	C ₆ H ₅ NO ₂	123.1	4.26	88	480	211	6	1.8 to 40	IIA	D
Nitroethane	C ₂ H ₅ NO ₂	75.1	2.60	28	414	114	-50		IIB2	C
Nitromethane	CH ₃ NO ₂	61.04	2.11	35	417	101	-29	7.3 to 63	IIA	D
1-Nitropropane	C ₃ H ₇ NO ₂	89.1	3.08	36	421	132	-108		IIB2	C
Nonane	C ₉ H ₂₀	128.2	4.43	31	205	151	-51	0.8 to 2.9	IIA	D
n-Octane	C ₈ H ₁₈	114.2	3.95	13	220	126	-57	1.0 to 6.5	IIA	D
1-Octene	C ₈ H ₁₆	112.2	3.88	21	230	121	-102	0.7 to 3.9	IIA	D
2,4-Pentadione	C ₅ H ₈ O ₂	100.1	3.46	34	340	140	-23	2.4 to 11.6	IIA	
n-Pentane	C ₅ H ₁₂	72.2	2.49	-49	309	36	-129	1.5 to 7.8	IIA	D
1-Pentanol	C ₅ H ₁₂ O	88.2	3.05	33	300	138	-79	1.2 to 10.5	IIA	D
Phenol	C ₆ H ₆ O	94.1	3.26	79	715	182	43	1.4 to 10.0	IIA	D
1-Propanol - (propyl alcohol)	C ₃ H ₈ O	60.1	2.08	15	371	97	-127	2.1 to 13.5	IIB1	D
2-Propanol - (iso-propyl alcohol)	C ₃ H ₈ O	60.1	2.08	12	456	83	-90	2.0 to 12.0	IIA	
n-Propyl Acetate	C ₅ H ₁₀ O ₂	102.1	3.53	14	450	102	-92	2.0 to 8.0	IIA	D
n-Propylamine	C ₃ H ₉ N	59.1	2.04	-37	317	48	-83	2.0 to 10.4	IIA	D
Propylene	C ₃ H ₆	42.1	1.46	Gas	460	-48	-185	2.4 to 10.3	IIA	D
Propylene Glycol - Monomethyl Ether	C ₄ H ₁₀ O ₂	90.1	3.12	38	270	120	-96	1.9 to 13.1	IIB1	
Propylene Oxide	C ₃ H ₆ O	58.1	2.01	-37	449	34	-104	2 to 38.5	IIB3	C
Pyridine	C ₅ H ₅ N	79.1	2.74	20	482	115	-42	1.8 to 12.4	IIA	D
Styrene	C ₈ H ₈	104.1	3.60	31	490	145	-31	0.9 to 6.8	IIA	D
Tetrahydrofuran	C ₄ H ₈ O	72.1	2.49	-14.5	321	66	108.5	2.0 to 11.8	IIB1	C
Tetrahydrofurfuryl Alcohol	C ₅ H ₁₀ O ₂	102.1	3.53	75	282	175	-80	1.5 to 9.7	IIB2	C
Tetrahydrothiophene	C ₄ H ₈ S	88.2	3.05	12	200	119	-96	1.1 to 12.3	IIA	D
Thiophene	C ₄ H ₄ S	84.1	2.91	-1	395	84	-38	1.5 to 12.5	IIA	D
Toluene	C ₇ H ₈	92.1	3.18	4	480	111	-95	1.1 to 7.1	IIA	D
m-Toluidine	C ₇ H ₉ N	107.2	3.71	86	482	203	-30	1.1 to 6.6	IIA	D
Trichloroethylene	C ₂ HCl ₃	131.4	4.55		410	87	-73	8.0 to 10.5	IIA	
Triethylamine	C ₆ H ₁₅ N	101.2	3.50	-17	230	89	-115	1.2 to 8.0	IIA	D
Trimethylamine	C ₃ H ₉ N	59.1	2.04	Gas	190	3	-117	2.0 to 11.6	IIA	D
Triethylene Glycol	C ₆ H ₁₄ O ₄	150.2	5.20	165	371	285	-7	0.9 to 9.2		
Trioxane			3.11	(45)	410				IIB3	C
Turpentine	C ₁₀ H ₁₆	136.3	4.71	30	220	220	-60	0.8 to 6.0	IIA	D
Vinyl Acetate	C ₄ H ₆ O ₂	86.1	2.98	-8	402	72	-93	2.6 to 13.4	IIA	D
Vinyl Bromide	C ₂ H ₃ Br	107	3.70	Gas	530	15.6	-139.5	9.0 to 15.0	IIA	
Vinyl Chloride	C ₂ H ₃ Cl	62.5	2.16	-78	472	-13	-154	3.6 to 33	IIA	
Vinyl Fluoride	C ₂ H ₃ F	46.1	1.60	Gas	385	-72	-161	2.6 to 21.7	IIA	
Vinylidene Chloride	C ₂ H ₂ Cl ₂	97	3.36	-25	570	32	-122	5.6 to 16	IIA	D
Vinylidene Fluoride	C ₂ H ₂ F ₂	64.04	2.21	Gas	640	-83	-144	5.5 to 21.3	IIA	
White Spirit				21	230	130-230		0.6 to 8.0	IIA	
o-Xylene	C ₈ H ₁₀	106.2	3.67	32	463	144	-25	0.9 to 6.7	IIA	D

*Excluded from EN12874:2001