



Nicolet TGA Vapor Phase

Library Listing – 460 spectra

This library includes spectra of compounds likely to evolve during TGA/FT-IR experiments. It is an extremely valuable tool for chemists studying composition and decomposition properties of materials.

The TGA Vapor Phase Library contains 460 spectra FT-IR of compounds commonly found when running TGA/FT-IR studies. The spectra in the library will help identify most low molecular weight gases. However, investigators searching for spectra of more exotic species or for more combinations of functional groups should consider the Nicolet FT-IR Vapor Phase Library.

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<u>Index</u>	<u>Compound Name</u>	<u>Index</u>	<u>Compound Name</u>
374	(2-Butyl)benzene	123	1-Decanol; Decyl alcohol
108	(E)-1,2-Dichloroethylene	32	1-Decene
143	(E)-2-Buten-1-ol; Crotyl alcohol	120	1-Heptanol; Heptyl alcohol
33	(E)-2-Butene	31	1-Heptene
35	(E)-2-Hexene	181	1-Hexanethiol; Hexyl mercaptan
67	(E)-2-Methyl-1,3-pentadiene	119	1-Hexanol; Hexyl alcohol
250	(E)-2-Methyl-2-butenic acid; Tiglic acid	30	1-Hexene
252	(E)-2-Methyl-2-pentenoic acid	75	1-Methyl-1-cyclohexene
39	(E)-2-Nonene	338	1-Methyl-2-pyrrolidinone
249	(E)-2-Pentenoic acid	315	1-Monoacetin; 1-Glycerol monoacetate
37	(E)-3-Heptene	208	1-Nitropropane
36	(E)-3-Hexene	122	1-Nonanol; Nonyl alcohol
40	(E)-3-Nonene	121	1-Octanol; Octyl alcohol
38	(E)-3-Octene	180	1-Pentanethiol; Pentyl mercaptan; Amyl mercaptan
61	(E)-Piperylene; (E)-1,3-Pentadiene	118	1-Pentanol; Amyl alcohol
387	(E)-b-Methylstyrene; (E)-1-Phenylpropene; (E)-Propenylbenzene	29	1-Pentene
64	(E,E)-2,4-Hexadiene	178	1-Propanethiol; Propyl mercaptan
92	1,1,1-Trichloroethane	116	1-Propanol; Propyl alcohol
102	1,1,2-Trichlorotrifluoroethane; CFC-113b	25	2,2,4-Trimethylpentane
97	1,1-Dichloro-2,2,2-trifluoroethane; CFC-123	136	2,2-Dimethyl-1,3-propanediol
107	1,1-Dichloroethylene; Vinylidene chloride	21	2,2-Dimethylbutane
106	1,1-Difluoroethylene; Vinylidene fluoride; CFC-1132	239	2,2-Dimethylbutyric acid
194	1,1-Dimethylethylamine; t-Butylamine	23	2,2-Dimethylpentane
383	1,2,3,5-Tetramethylbenzene; Isodurene	140	2,3-Butanediol
380	1,2,3-Trimethylbenzene	55	2,3-Dimethyl-1-butene
384	1,2,4,5-Tetramethylbenzene; Durene	57	2,3-Dimethyl-2-butene
381	1,2,4-Trimethylbenzene	22	2,3-Dimethylbutane
101	1,2-Dibromotetrafluoroethane	58	2,4-Dimethyl-1-pentene
399	1,2-Dichlorobenzene	24	2,5-Dimethylhexane
86	1,2-Dichloroethane; Ethylene dichloride	406	2,6-Di-t-butyl-4-methylphenol; BHT
87	1,2-Dichloropropane	405	2,6-Di-t-butylphenol
100	1,2-Dichlorotetrafluoroethane; CFC-114	165	2-(2-Ethoxyethoxy)ethanol; Diethylene glycol monoethyl ether
153	1,2-Diethoxyethane; Ethylene glycol diethyl ether	164	2-(2-Methoxyethoxy)ethanol; Diethylene glycol monomethyl ether
152	1,2-Dimethoxyethane; Ethylene glycol dimethyl ether	200	2-(Diethylamino)ethanol; N,N-Diethylethanolamine
169	1,2-Epoxybutane	192	2-Aminobutane; 1-Methylpropylamine; 2-Butylamine
134	1,2-Ethanediol; Ethylene glycol	191	2-Aminopropane; 1-Methylethylamine; Isopropylamine
135	1,2-Propanediol; Propylene glycol	84	2-Bromopropane; Isopropyl bromide
382	1,3,5-Trimethylbenzene; Mesitylene	126	2-Butanol
441	1,3,7-Trimethylxanthine; Caffeine	211	2-Butanone; Methyl ethyl ketone
60	1,3-Butadiene; Bivinyll	163	2-Butoxyethanol
139	1,3-Butanediol	83	2-Chloropropane; Isopropyl chloride
138	1,4-Butanediol	161	2-Ethoxyethanol
400	1,4-Dichlorobenzene	45	2-Ethyl-1-butene
175	1,4-Dioxane	241	2-Ethylbutyric acid
63	1,4-Hexadiene, (E) + (Z)	440	2-Furaldehyde; Furan-2-carboxaldehyde; Furfural
62	1,4-Pentadiene	130	2-Heptanol
141	1,5-Pentenediol	129	2-Hexanol
193	1-Amino-2-methylpropane; 2-Methylpropylamine; Isobutylamine	420	2-Hydroxybenzoic acid; Salicylic acid
179	1-Butanethiol; Butyl mercaptan	316	2-Hydroxyethyl methacrylate
117	1-Butanol; Butyl alcohol	137	2-Hydroxymethyl-2-methyl-1,3-propanediol
28	1-Butene	160	2-Methoxyethanol

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<u>Index</u>	<u>Compound Name</u>	<u>Index</u>	<u>Compound Name</u>
154	2-Methoxyethyl ether; Diethylene glycol dimethyl ether	407	4,4'-Isopropylidenediphenol; Bisphenol A
43	2-Methyl-1-butene	49	4-Methyl-1-pentene
54	2-Methyl-1-heptene	216	4-Methyl-2-pentanone; Methyl isobutyl ketone
53	2-Methyl-1-hexene	52	4-Methyl-2-pentene
47	2-Methyl-1-pentene	244	4-Methylpentanoic acid; Isocaproic acid
124	2-Methyl-1-propanol; Isobutyl alcohol	404	4-Methylphenol; p-Cresol
133	2-Methyl-2-butanol	445	4-Methylpyridine; 4-Picoline
46	2-Methyl-2-butene	391	4-Methylstyrene
50	2-Methyl-2-pentene	41	4-Nonene, (E) + (Z)
132	2-Methyl-2-propanol; t-Butanol	446	4-Vinylpyridine
17	2-Methylbutane; Isopentane	340	6-Aminohexanoic acid lactam; e-Caprolactam
238	2-Methylbutyric acid	219	Acetaldehyde; Ethanal
18	2-Methylpentane; Isohexane	328	Acetamide
242	2-Methylpentanoic acid; 2-Methylvaleric acid	229	Acetic acid; Ethanoic acid
402	2-Methylphenol; o-Cresol	321	Acetic anhydride
16	2-Methylpropane; Isobutane	342	Acetonitrile; Methyl cyanide
347	2-Methylpropenenitrile; Methacrylonitrile	322	Acetyl chloride
236	2-Methylpropionic acid; Isobutyric acid	447	Acetylene; Ethyne
345	2-Methylpropionitrile; Isobutyronitrile; Isopropyl cyanide	225	Acrolein; Propenal
443	2-Methylpyridine; 2-Picoline	330	Acrylamide; Propenoamide
389	2-Methylstyrene	245	Acrylic acid; Propenoic acid
209	2-Nitropropane	346	Acrylonitrile; Vinyl cyanide
131	2-Octanol	59	Allene; Propadiene
127	2-Pentanol	142	Allyl alcohol; 2-Propen-1-ol
213	2-Pentanone	356	Allyl isocyanate
34	2-Pentene, (E) + (Z)	388	Allylbenzene; 3-Phenylpropene
339	2-Piperidone; d-Valerolactam	448	Ammonia
182	2-Propanethiol; Isopropyl mercaptan	411	Aniline; Phenylamine; Benzeneamine
125	2-Propanol; Isopropyl alcohol	395	Anthracene
210	2-Propanone; Acetone	418	Benzaldehyde
183	2-Propene-1-thiol; Allyl mercaptan	369	Benzene
56	3,3-Dimethyl-1-butene	409	Benzenethiol; Thiophenol
240	3,3-Dimethylbutyric acid	419	Benzoic acid
144	3-Buten-1-ol	438	Benzonitrile
247	3-Butenoic acid; Vinylacetic acid	408	Benzyl alcohol
20	3-Ethylpentane	431	Benzyl butyl phthalate
65	3-Methyl-1,2-butadiene	392	Biphenyl
68	3-Methyl-1,3-pentadiene, (E) + (Z)	317	Bis(2-butoxyethyl) adipate; Bis(2-butoxyethyl) hexanedioate
44	3-Methyl-1-butene	434	Bis(2-butoxyethyl) phthalate
48	3-Methyl-1-pentene	433	Bis(2-ethoxyethyl) phthalate
212	3-Methyl-2-butanone; Methyl isopropyl ketone	289	Bis(2-ethylhexyl) adipate; Bis(2-ethylxexyl) hexanedioate
251	3-Methyl-2-butenic acid; 3-Methylcrotonic acid; Senecioic acid	269	Bis(2-ethylhexyl) carbonate
215	3-Methyl-2-pentanone	432	Bis(2-methoxyethyl) phthalate
51	3-Methyl-2-pentene, (E) + (Z)	398	Bromobenzene
237	3-Methylbutyric acid; Isovaleric acid	81	Bromoethane; Ethyl bromide
19	3-Methylpentane	78	Bromomethane; Methyl bromide
243	3-Methylpentanoic acid; 3-Methylvaleric acid	4	Butane
403	3-Methylphenol; m-Cresol	260	Butyl acetate
444	3-Methylpyridine; 3-Picoline	302	Butyl acrylate; Butyl propenoate
390	3-Methylstyrene	353	Butyl isocyanate
128	3-Pentanol	306	Butyl methacrylate; Butyl 2-methylpropenoate
214	3-Pentanone; Diethyl ketone	188	Butylamine
		373	Butylbenzene
		222	Butyraldehyde; Butanal

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<u>Index</u>	<u>Compound Name</u>	<u>Index</u>	<u>Compound Name</u>
231	Butyric acid; Butanoic acid	155	Diethylene glycol diethyl ether; 2-Ethoxyethyl ether
344	Butyronitrile; Propyl cyanide	162	Diethylene glycol; 2-Hydroxyethyl ether
324	Butyryl chloride	288	Diisobutyl adipate; Diisobutyl hexanedioate
319	Carbon dioxide	428	Diisobutyl phthalate
320	Carbon disulfide	149	Diisopropyl ether; Isopropyl ether
318	Carbon monoxide	426	Diisopropyl phthalate
96	Carbon tetrachloride; Tetrachloromethane	159	Dimethoxymethane; Methylal; Formaldehyde dimethyl acetal
397	Chlorobenzene	285	Dimethyl adipate; Dimethyl hexanedioate
89	Chlorodifluoromethane; CFC-22	267	Dimethyl carbonate
80	Chloroethane; Ethyl chloride	309	Dimethyl fumarate; Dimethyl (E)-2-butenedioate
91	Chloroform; Trichloromethane	283	Dimethyl glutarate; Dimethyl pentanedioate
77	Chloromethane; Methyl chloride	308	Dimethyl maleate; Dimethyl (Z)-2-butenedioate
99	Chloropentafluoroethane; CFC-115	273	Dimethyl malonate
111	Chlorotrifluoroethylene; CFC-1113	270	Dimethyl oxalate
93	Chlorotrifluoromethane; CFC-13	423	Dimethyl phthalate
227	Crotonaldehyde; 2-Butenal	290	Dimethyl sebacate; Dimethyl decanedioate
246	Crotonic acid; 2-Butenoic acid	281	Dimethyl succinate
70	Cyclohexane	358	Dimethyl sulfone; Methyl sulfone
184	Cyclohexanethiol; Cyclohexyl mercaptan	357	Dimethyl sulfoxide; Methyl sulfoxide
145	Cyclohexanol; Cyclohexyl alcohol	196	Dimethylamine
217	Cyclohexanone	429	Dipentyl phthalate
74	Cyclohexene	287	Dipropyl adipate; Dipropyl hexanedioate
355	Cyclohexyl isocyanate	148	Dipropyl ether; Propyl ether
69	Cyclopentane	425	Dipropyl phthalate
73	Decahydronaphthalene, cis + trans; Decalin, cis + trans	11	Dodecane
10	Decane	15	Eicosane
454	Deuterium oxide; Water-d2	171	Epibromohydrin; 1-Bromo-2,3-epoxypropane; Glycidyl bromide
276	Di-t-butyl malonate	170	Epichlorohydrin; 1-Chloro-2,3-epoxypropane; Glycidyl chloride
430	Diallyl phthalate	2	Ethane
436	Diallyl terephthalate	177	Ethanethiol; Ethyl mercaptan
435	Dibutyl O-(phthaloyl)glycolate	115	Ethanol; Ethyl alcohol
150	Dibutyl ether; Butyl ether	266	Ethyl 2-methylpropanoate; Ethyl isobutyrate
313	Dibutyl fumarate	257	Ethyl acetate
312	Dibutyl maleate	301	Ethyl acrylate; Ethyl propenoate
275	Dibutyl malonate	254	Ethyl formate
272	Dibutyl oxalate	350	Ethyl isocyanate
427	Dibutyl phthalate	305	Ethyl methacrylate; Ethyl 2-methylpropenoate
291	Dibutyl sebacate; Dibutyl decanedioate	264	Ethyl propionate
94	Dichlorodifluoromethane; CFC-12	158	Ethyl vinyl ether; Ethoxyethene
90	Dichlorofluoromethane; CFC-21	186	Ethylamine
85	Dichloromethane; Methylene chloride	371	Ethylbenzene
286	Diethyl adipate; Diethyl hexanedioate	72	Ethylcyclohexane
280	Diethyl butylmalonate	292	Ethylene glycol diacetate; 1,2-Diacetoxyethane
268	Diethyl carbonate	167	Ethylene oxide; Oxirane
279	Diethyl diethylmalonate	26	Ethylene; Ethene
147	Diethyl ether; Ethyl ether; Ether	195	Ethylenediamine; 1,2-Diaminoethane
278	Diethyl ethylmalonate		
311	Diethyl fumarate		
284	Diethyl glutarate; Diethyl pentanedioate		
310	Diethyl maleate		
274	Diethyl malonate		
277	Diethyl methylmalonate		
271	Diethyl oxalate		
424	Diethyl phthalate		
282	Diethyl succinate		
197	Diethylamine		

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<u>Index</u>	<u>Compound Name</u>	<u>Index</u>	<u>Compound Name</u>
76	Fluoromethane; Methyl fluoride	71	Methylcyclohexane
95	Fluorotrchloromethane; CFC-11	205	Morpholine
218	Formaldehyde; Formalin	336	N,N-Diethylacetamide
327	Formamide	334	N,N-Diethylformamide
228	Formic acid	335	N,N-Dimethylacetamide
146	Glycerol; 1,2,3-Propanetriol; Glycerine	413	N,N-Dimethylaniline
172	Glycidol; 2,3-Epoxy-1-propanol	333	N,N-Dimethylformamide
7	Heptane	332	N-Methylacetamide
113	Hexachloro-1,3-butadiene	412	N-Methylaniline
13	Hexadecane	331	N-Methylformamide
98	Hexafluoroethane; CFC-116	394	Naphthalene
368	Hexamethylphosphoric triamide	451	Nitric oxide
364	Hexamethylphosphorous triamide	417	Nitrobenzene
224	Hexanal; Caproaldehyde	207	Nitroethane
6	Hexane	452	Nitrogen dioxide
233	Hexanoic acid; Caproic acid	206	Nitromethane
262	Hexyl acetate	450	Nitrous oxide; Dinitrogen monoxide
190	Hexylamine	9	Nonane
449	Hydrazine	235	Nonanoic acid; Pelargonic acid
460	Hydrogen bromide	14	Octadecane
459	Hydrogen chloride	8	Octane
341	Hydrogen cyanide	234	Octanoic acid; Caprylic acid
455	Hydrogen fluoride	5	Pentane
456	Hydrogen sulfide	232	Pentanoic acid; Valeric acid
393	Indene	261	Pentyl acetate; Amyl acetate
82	Iodoethane; Ethyl iodide	189	Pentylamine; Amylamine
79	Iodomethane; Methyl iodide	396	Phenanthrene
42	Isobutene; 2-Methylpropene	401	Phenol
303	Isobutyl acrylate; 2-Methylpropyl propenoate	439	Phenyl isocyanate
307	Isobutyl methacrylate; 2-Methylpropyl 2-methylpropenoate	326	Phosgene; Carbonyl dichloride
375	Isobutylbenzene	437	Phthalic anhydride; 1,3-Dihydro-1,3-dioxoisobenzofuran
221	Isobutyraldehyde; 2-Methylpropanal	204	Piperazine
325	Isobutyryl chloride; 2-Methylpropionyl chloride	203	Piperidine
348	Isocyanic acid	3	Propane
66	Isoprene; 2-Methyl-1,3-butadiene	220	Propionaldehyde; Propanal
259	Isopropyl acetate	329	Propionamide
255	Isopropyl formate	230	Propionic acid; Propanoic acid
352	Isopropyl isocyanate	343	Propionitrile; Ethyl cyanide
226	Methacrolein; 2-Methylpropenal	323	Propionyl chloride
248	Methacrylic acid; 2-Methylpropenoic acid	258	Propyl acetate
1	Methane	351	Propyl isocyanate
176	Methanethiol; Methyl mercaptan	187	Propylamine
114	Methanol; Methyl alcohol	372	Propylbenzene
422	Methyl 2-hydroxybenzoate; Methyl salicylate	168	Propylene oxide; 1,2-Epoxypropane
265	Methyl 2-methylpropanoate; Methyl isobutyrate	27	Propylene; Propene
256	Methyl acetate	442	Pyridine
300	Methyl acrylate; Methyl propenoate	202	Pyrrolidine; Tetrahydropyrrole
421	Methyl benzoate	385	Styrene; Vinylbenzene
253	Methyl formate	457	Sulfur dioxide
349	Methyl isocyanate	458	Sulfur trioxide
304	Methyl methacrylate; Methyl 2-methylpropenoate	112	Tetrachloroethylene
263	Methyl propionate	12	Tetradecane
185	Methylamine	157	Tetraethylene glycol dimethyl ether; Bis(2-(2-methoxyethoxy)ethyl) et
		110	Tetrafluoroethylene; CFC-1114
		173	Tetrahydrofuran
		174	Tetrahydropyran
		359	Tetrahydrothiophene-1,1-dioxide; Tetramethylene sulfone; Sulfolane



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<u>Index</u>	<u>Compound Name</u>	<u>Index</u>	<u>Compound Name</u>
370	Toluene; Methylbenzene	198	Trimethylamine
293	Triacetin; Glyceryl triacetate; Acetin	337	Urethane; Ethyl carbamate
296	Tributyl citrate acetate; Tributyl 2-acetoxy-1,2,3-propanetricarboxyl	223	Valeraldehyde; Pentanal
367	Tributyl phosphate; Butyl phosphate	297	Vinyl acetate
363	Tributyl phosphite	105	Vinyl bromide; Bromoethylene
294	Tributylin; Glyceryl tributyrinate; Butylin	299	Vinyl butyrate
109	Trichloroethylene	104	Vinyl chloride; Chloroethylene
201	Triethanolamine; 2,2',2''-Nitrilotriethanol	103	Vinyl fluoride; Fluoroethylene; CFC-1141
295	Triethyl citrate acetate; Triethyl 2-acetoxy-1,2,3-propanetricarboxyl	298	Vinyl propionate
314	Triethyl citrate; Triethyl 2-hydroxy-1,2,3-propanetricarboxylate	453	Water
366	Triethyl phosphate	386	a-Methylstyrene; 2-Phenylpropene; Isopropenylbenzene
361	Triethyl phosphite	410	a-Toluenethiol; Benzyl mercaptan
199	Triethylamine	415	m-Toluidine; 3-Methylaniline
156	Triethylene glycol dimethyl ether; 1,2-Bis(2-methoxyethoxy)ethane	378	m-Xylene; 1,3-Dimethylbenzene
166	Triethylene glycol; 1,2-Bis(2-hydroxyethoxy)ethane	414	o-Toluidine; 2-Methylaniline
88	Trifluoromethane; Fluoroform; CFC-23	377	o-Xylene; 1,2-Dimethylbenzene
362	Triisopropyl phosphite	416	p-Toluidine; 4-Methylaniline
365	Trimethyl phosphate	379	p-Xylene; 1,4-Dimethylbenzene
360	Trimethyl phosphite	354	t-Butyl isocyanate
		151	t-Butyl methyl ether; 1,1-Dimethyl-1-methoxyethane
		376	t-Butylbenzene