

## Flavoring agents as food additives

In Japan synthetic flavoring agents are allowed to be used only when they are designated by the Minister of Health, Labour and Welfare as food additives. Currently, 78 substances (Table 1) and 18 groups (Table 2) are designated. For these 78 substances, compositional specifications are individually established. Each of the 18 groups contains substances that have similar in chemical structure.

Table 1. 78 designated flavouring substances

1	Ethyl Acetoacetate	41	Cinnamyl Alcohol (Cinnamic Alcohol)
2	Acetophenone	42	Cinnamaldehyde (Cinnamic Aldehyde)
3	Anisaldehyde	43	Decanal (Decyl Aldehyde)
4	$\alpha$ -Amyl Cinnamaldehyde	44	Decanol (Decyl Alcohol)
5	Methyl anthranilate	45	Ethyl Dicanoate (Ethyl Caprate)
6	Ionone	46	Terpineol
7	Isoeugenol	47	$\gamma$ -Nonalactone (Nonalactone)
8	Isoamyl Isovalerate	48	Vanillin
9	Ethyl Isovalerate	49	p-Methylacetophenone
10	Allyl Isothiocyanate	50	Hydroxycitonellal
11	$\gamma$ -Undecalactone	51	Hydroxycitronellal Dimethylacetate
12	Ethylvanill	52	Piperonal (Heliotropine)
13	Eugenol	53	Isoamyl Phenylacetate
14	Octanal	54	Isobutyl Phenylacetate
15	Ethyl Octanoate	55	Ethyl Phenylacetate
16	Isoamyl Formate	56	Propionic Acid
17	Geranyl Formate	57	Isoamyl Propionate
18	Citronellyl Formate	58	Ethyl Propionate
19	Cinnamic Acid	59	Benzyl Propionate
20	Ethyl Cinnamate	60	Hexanoic Acid (Caproic Acid)
21	Methyl Cinnamate	61	Allyl Hexanoate (Allyl Caproate )
22	Geraniol	62	Ethyl Hexanoate (Ethyl Caproate)
23	Isoamyl Acetate	63	Ethyl Heptanoate (Ethyl Oenanthe)
24	Ethyl Acetate	64	<i>l</i> -Perillaldehyde
25	Geranyl Acetate	65	Benzyl Alcohol
26	Cyclohexyl Acetate	66	Benzaldehyde
27	Citronellyl Acetate	67	d-Borneol
28	Cinnamyl Acetate	68	Maltol
29	Terpinyl Acetate	69	Methyl N-Methylantranilate
30	Phenethyl Acetate (Phenylethyl Acetate)	70	Methyl b-Naphthyl Ketone
31	Butyl Acetate	71	<i>d</i> -Menthol (dl-Peppermint Camphor)
32	Benzyl Acetate	72	<i>l</i> -Menthol (Peppermint Camphor)

33	l-Menthyl Acetate	73	Butyric Acid
34	Linalyl Acetate	74	Isoamyl Butylate
35	Methyl Salicylate	75	Ethyl Butyrate
36	Allyl Cyclohexylpropionate	76	Cyclohexyl Butyrate
37	Citral	77	Butyl Butyrate
38	Citronellal	78	Linalool (Linalol)
39	Citronellol		
40	1,8-Cineole (Eucalyptol)		

Table 2. 18 Groups of flavouring substances

1	Isothiocyanates (except for those generally recognized as toxic)
2	Indole and its derivatives
3	Ethers
4	Esters
5	Ketones
6	Fatty Acids
7	Aliphatic Higher Alcohols
8	Aliphatic Higher Aldehydes (except for those generally recognized as toxic)
9	Aliphatic Higher Hydrocarbons (except for those generally recognized as toxic)
10	Thioethers (except for those generally recognized as toxic)
11	Thiols(Thioalcohols) (except for those generally recognized as toxic)
12	Terpens
13	Phenol Ethers (except for those generally recognized as toxic)
14	Phenols (except for those generally recognized as toxic)
15	Furfural and its derivatives (except for those generally recognized as toxic)
16	Aromatic Alcohols
17	Aromatic Aldehydes (except for those generally recognized as toxic)
18	Lactones (except for those generally recognized as toxic)

Table 3 and 4 show substances that are categorized in one of the 18 groups and used in Japan. The substances in Table 3 have been confirmed as the result of an investigation conducted by the Japan Flavor & Fragrance Materials Association in the 2000 Health Sciences Research Program. The substances in Table 4 have been additionally confirmed in 2003.

## List of flavouring substances used in Japan

(Isothiocyanates : except for those generally recognized as toxic)

SEQ	Name	CAS No.
111	allyl isothiocyanate	57-06-7
155	amyl isothiocyanate	629-12-9
228	benzyl isothiocyanate	622-78-6
264	3-butenyl isothiocyanate	3386-97-8
290	butyl isothiocyanate	592-82-5
291	sec-butyl isothiocyanate	4426-79-3
1168	5-hexenyl isothiocyanate	49776-81-0
1207	hexyl isothiocyanate	6803-40-3
1301	isoamyl isothiocyanate	628-03-5
1349	isobutyl isothiocyanate	591-82-2
1412	isopropyl isothiocyanate	2253-73-8
1882	6-methylthiohexyl isothiocyanate	4430-39-1
1891	3-methylthiopropyl isothiocyanate	505-79-3
2086	4-pentenyl isothiocyanate	18060-79-2
2114	phenethyl isothiocyanate	2257-09-2

The result of an investigation conducted by the Japan Flavor & Fragrance Materials Association in the 2000 Health Sciences Research Program

## List of flavouring substances used in Japan

(Indole and its derivatives)

SEQ	Name	CAS No.
1278	indole	120-72-9
1848	2-methylindole	95-20-5
2292	skatole	83-34-1

The result of an investigation conducted by the Japan Flavor & Fragrance Materials Association in the 2000 Health Sciences Research Program

## List of flavouring substances used in Japan

(Ethers)

SEQ	Name	CAS No.
1	acetaldehyde 2,3-butanediol acetal	3299-32-9
2	acetaldehyde amyl butyl acetal	
3	acetaldehyde amyl hexyl acetal	
4	acetaldehyde amyl methyl acetal	73142-32-2
5	acetaldehyde benzyl ethyl acetal	66222-24-0
6	acetaldehyde benzyl hexyl acetal	
7	acetaldehyde benzyl methoxyethyl acetal	7492-39-9
8	acetaldehyde butyl ethyl acetal	57006-87-8
9	acetaldehyde butyl hexyl acetal	
10	acetaldehyde butyl methyl acetal	75677-94-0
11	acetaldehyde butyl phenethyl acetal	64577-91-9
12	acetaldehyde di(2-methylbutyl) acetal	13535-43-8
13	acetaldehyde diamyl acetal	13002-08-9
14	acetaldehyde dibenzyl acetal	23556-90-3
15	acetaldehyde dibutyl acetal	871-22-7
16	acetaldehyde di-cis-3-hexenyl acetal	63449-64-9
17	acetaldehyde diethyl acetal	105-57-7
18	acetaldehyde difurfuryl thioacetal	
19	acetaldehyde dihexyl acetal	5405-58-3
20	acetaldehyde diisoamyl acetal	13002-09-0
21	acetaldehyde diisobutyl acetal	5669-09-0
22	acetaldehyde diisopropyl acetal	4285-59-0
23	acetaldehyde dimethyl acetal	534-15-6
24	acetaldehyde dipropyl acetal	105-82-8
25	acetaldehyde ethyl 3-hexenyl acetal	28069-74-1
26	acetaldehyde ethyl amyl acetal	59184-43-9
27	acetaldehyde ethyl hexyl acetal	54484-73-0
28	acetaldehyde ethyl isoamyl acetal	13442-90-5
29	acetaldehyde ethyl linalyl acetal	40910-49-4
30	acetaldehyde ethyl phenethyl acetal	2556-10-7
31	acetaldehyde ethyl trans-2-hexenyl acetal	
32	acetaldehyde ethyl vanillin acetal	
33	acetaldehyde glyceryl acetal	3674-21-3
34	acetaldehyde hexyl isoamyl acetal	
35	acetaldehyde isoamyl isobutyl acetal	75048-15-6
36	acetaldehyde phenethyl propyl acetal	7493-57-4
37	acetaldehyde propylene glycol acetal	3390-12-3
42	acetoin dimethyl acetal	
43	acetoin propylene glycol acetal	94089-23-3
46	acetone glyceryl acetal	
47	acetone propyleneglycol acetal	1193-11-9
49	acetophenone diethyl acetal	
50	acetophenone propylene glycol acetal	
53	4-acetoxy-3-pentyl-tetrahydropyran	18871-14-2
87	acrolein diethyl acetal	3054-95-3
137	ambroxan	6790-58-5
145	amyl benzyl ether	
169	2-amylcinnamaldehyde diethyl acetal	60763-41-9
170	alpha-amylcinnamaldehyde dimethyl acetal	91-87-2
181	anisaldehyde diethyl acetal	2403-58-9
182	anisaldehyde dimethyl acetal	2186-92-7
183	anisaldehyde hexylene glycol acetal	
184	anisaldehyde propylene glycol acetal	
201	benzaldehyde dibutyl acetal	
202	benzaldehyde diethyl acetal	774-48-1
203	benzaldehyde diisoamyl acetal	
204	benzaldehyde dimethyl acetal	1125-88-8
205	benzaldehyde glyceryl acetal	1319-88-6
206	benzaldehyde propylene glycol acetal	2568-25-4
217	benzyl butyl ether	588-67-0
222	benzyl ethyl ether	539-30-0

SEQ	Name	CAS No.
235	benzyl methyl ether	538-86-3
245	bis(2-furyl)methane	1197-40-6
259	butanal diethyl acetal	3658-95-5
285	2-butyl ethyl ether	2679-87-0
298	butyl methyl ketone propylene glycol acetal	
317	2-sec-butyl-3-methoxypyrazine	24168-70-5
323	2-butylfuran	4466-24-4
329	butyraldehyde dimethyl acetal	114-3-1
362	beta-caryophyllene oxide	1139-30-6
371	1,4-cineole	470-67-7
372	1,8-cineole	470-82-6
374	cinnamaldehyde diethyl acetal	1176-1-2
375	cinnamaldehyde dimethyl acetal	4364-06-1
376	cinnamaldehyde propylene glycol acetal	865-1-2
393	citral diethyl acetal	7492-66-2
394	citral dimethyl acetal	7549-37-3
395	citral hexylene glycol acetal	
396	citral propylene glycol acetal	10444-50-5
399	citronellal diethyl acetal	
400	citronellal dimethyl acetal	
401	citronellal ethylene glycol acetal	
402	citronellal propylene glycol acetal	
425	p-cresyl ethyl ether	622-60-6
444	cyclohexanone diethyl acetal	1670-47-9
492	decanal diethyl acetal	34764-02-8
493	decanal dimethyl acetal	7779-41-1
494	decanal propylene glycol acetal	5421-12-5
538	dibenzyl ether	103-50-4
558	2,5-diethyltetrahydrofuran	41239-48-9
560	difurfuryl ether	4437-22-3
590	2,5-dihydroxy-2,5-di(hydroxymethyl)-1,4-dioxane	96-26-4
594	diisoamyl ether	544-01-4
635	4,5-dimethyl-2-ethyloxazole	53833-30-0
640	4,5-dimethyl-2-isopropyloxazole	19519-45-0
641	4,5-dimethyl-2-propyloxazole	53833-32-2
650	2,2-dimethyl-5-(1-methylprop-1-enyl)tetrahydrofuran	7416-35-5
651	2,6-dimethyl-5-heptenal propylene glycol acetal	
663	2,5-dimethylfuran	625-86-5
671	2,5-dimethyltetrahydrofuran	1003-38-9
695	dodecanal diethyl acetal	53405-98-4
696	dodecanal dihexyl acetal	
697	dodecanal dimethyl acetal	14620-52-1
718	7,15-epoxy-3-caryophyllene	1139-30-6
725	2-ethoxy-3,5 or 6-methylpyrazine	32737-14-7
726	2-ethoxy-3-ethylpyrazine	35243-43-7
727	2-ethoxy-3-isopropylpyrazine	72797-16-1
761	ethyl 2-methoxybenzyl ether	
831	ethyl furan	3208-16-0
834	ethyl geranyl ether	40267-72-9
846	ethyl levulinate diethyl acetal	
852	ethyl methyl ketone propylene glycol acetal	
898	2-ethyl-3-methoxypyrazine	25680-58-4
900	2-ethyl-4-methyl-1,3-dioxolane	4359-46-0
902	2-ethyl-5-methyl-1,3-dioxolanone-4	88-41-5
918	2-ethylhexanal diethyl acetal	
938	ethylvanillin propylene glycol acetal	68527-76-4
956	formadehyde diethyl acetal	462-95-3
963	furfural diisoamyl acetal	18091-14-0
964	furfural glyceryl acetal	
965	furfural propylene glycol acetal	4359-54-0
977	furfuryl methyl ether	13679-46-4
1022	heliotropin propylene glycol acetal	61683-99-6
1031	heptanal propylene glycol acetal	4351-10-4
1032	heptanal dibutyl acetal	

SEQ	Name	CAS No.
1033	heptanal diethyl acetal	688-82-4
1034	heptanal dimethyl acetal	10032-05-0
1035	heptanal glyceryl acetal	72854-42-3
1042	2-heptanone propylene glycol acetal	
1048	4-heptenal diethyl acetal	18492-65-4
1068	heptyl methyl ketone propylene glycol acetal	
1088	hexanal diamyl acetal	
1089	hexanal dibutyl acetal	93892-07-0
1090	hexanal diethyl acetal	3658-93-3
1091	hexanal dihexyl acetal	33673-65-3
1092	hexanal diisoamyl acetal	
1093	hexanal dimethyl acetal	1599-47-9
1094	hexanal ethyl isoamyl acetal	
1095	hexanal glyceryl acetal	4379-20-8
1096	hexanal hexyl isoamyl acetal	
1097	hexanal propyleneglycol acetal	1599-49-1
1113	cis-3-hexenal diethyl acetal	73545-18-3
1114	trans-2-hexenal diethyl acetal	67746-30-9
1116	trans-2-hexenal dimethyl acetal	18318-83-7
1117	trans-2-hexenal glyceryl acetal	
1118	trans-2-hexenal propylene glycol acetal	94089-21-1
1211	hexyl methyl ether	4747-07-3
1222	2-hexyl-3-methoxypyrazine	
1230	hydratropaldehyde diethyl acetal	
1231	hydratropaldehyde ethylene glycol acetal	4362-22-5
1232	hydratropaldehyde glyceryl acetal	
1233	hydratropic aldehyde dimethyl acetal	90-87-9
1236	hydratropyl methyl ether	
1238	5-(5-hydroxy)-decanoyloxy-2,2-dimethyl-1,3-dioxane	
1267	hydroxycitronellal dibutyl acetal	
1270	hydroxycitronellal ethylene glycol acetal	
1271	hydroxycitronellal propylene glycol acetal	
1311	isoamyl phenethyl ether	93951-34-9
1327	isobutanal diethyl acetal	1741-41-9
1328	isobutanal propyleneglycol acetal	67879-60-1
1370	2-isobutyl-3-methoxypyrazine	24683-00-9
1376	isobutyraldehyde dimethyl acetal	
1399	2-isopropoxy-3-methylpyrazine	94089-22-2
1418	isopropyl methyl ketone propylene glycol acetal	
1429	2-isopropyl-(3,5 or 6)-methoxypyrazine	25773-40-4
1433	2-isopropyl-4,5-dimethyl-1,3-dioxolane	
1445	isovaleraldehyde dibutyl acetal	
1446	isovaleraldehyde diethyl acetal	3842-03-3
1447	isovaleraldehyde dimethyl acetal	
1448	isovaleraldehyde dipropyl acetal	
1449	isovaleraldehyde glycerin acetal	
1450	isovaleraldehyde propylene glycol acetal	18433-93-7
1463	lime oxide	7392-19-0
1468	d-limonene oxide	1195-92-2
1471	linalool ethyl ether	
1472	linalool oxide	1365-19-1
1496	m-cresyl methyl ether	128-1-10
1510	menthofuran	494-90-6
1551	methional diethyl acetal	
1552	methional glycerin acetal	
1553	methional propylene glycol acetal	
1557	2-methoxy-(3,5 or 6)-methylpyrazine	68378-13-2
1559	2-methoxy-2-methylpropane	1634-04-4
1560	2-methoxy-3,5-dimethylpyrazine	
1561	2-methoxy-3-isopropylpyrazine	93905-03-4
1576	2-methoxypyrazine	3149-28-8
1621	methyl 5-methyl-2-furyl sulfide	13678-59-6
1645	methyl diphenyl ether	1706-12-3
1656	methyl heptenone propylene glycol acetal	68258-95-7

SEQ	Name	CAS No.
1700	methyl phenethyl ether	3558-60-9
1754	4-methyl-2-propyl-1,3-dioxolane	4352-99-2
1774	2-methyl-3-methylthiofuran	63012-97-5
1781	2-methyl-4-propyl-1,3-oxathiane	67715-80-4
1787	2-methyl-6-propoxy-pyrazine	67845-28-7
1803	2-methylbutanal diethyl acetal	3658-94-4
1804	2-methylbutanal propylene glycol acetal	
1833	2-methylfuran	534-22-5
1861	4-methylphenylacetaldehyde propylene glycol acetal	
1864	2-methyltetrahydrofuran	96-47-9
1896	2-methylundecanal diethyl acetal	
1897	2-methylundecanal dimethyl acetal	68141-17-3
1924	nerol oxide	1786-08-9
1939	N-furfurylpyrrole	1438-94-4
1946	2,6-nonadienal diethyl acetal	67674-36-6
1955	nonanal diethyl acetal	54815-13-3
1956	nonanal dimethyl acetal	18824-63-0
1957	nonanal propylene glycol acetal	68391-39-9
1996	ocimene oxide	69103-20-4
2013	octanal diethyl acetal	54889-48-4
2014	octanal dimethyl acetal	10022-28-3
2015	octanal ethylene glycol acetal	
2016	octanal propylene glycol acetal	74094-61-4
2074	paraldehyde	123-63-7
2091	2-pentylfuran	3777-69-3
2095	perillaldehyde propylene glycol acetal	121199-28-8
2147	phenylacetaldehyde diethyl acetal	6314-97-2
2148	phenylacetaldehyde diisobutyl acetal	68345-22-2
2149	phenylacetaldehyde dimethyl acetal	101-48-4
2150	phenylacetaldehyde glyceryl acetal	29895-73-6
2151	phenylacetaldehyde propylene glycol acetal	5468-05-3
2156	3-phenylpropanal dimethyl acetal	30076-98-3
2157	2-phenylpropanal propylene glycol acetal	67634-23-5
2185	piperonal dimethyl acetal	59259-10-4
2195	prenyl ethyl ether	22094-00-4
2200	propionaldehyde diethyl acetal	4744-08-5
2201	propionaldehyde diisobutyl acetal	
2202	propionaldehyde propylene glycol acetal	4395-46-0
2255	2-propylfuran	4229-91-8
2278	rose oxide	16409-43-1
2295	spiro[2,4-dithia-1-methyl-8-oxabicyclo[3,3,0]octane-3,3'-(1'-oxa-2'-methyl)cyclopentane]and spiro[2,4-dithia-6-methyl-7-oxabicyclo[3,3,0]octane-3,3'-(1'-oxa-2'-methyl)cyclopentane]	38325-25-6
2324	terpineol ethyl ether	
2354	tetrahydrofurfuryl alcohol	97-99-4
2368	theaspirane	36431-72-8
2397	tolualdehyde glyceryl acetal	1333-09-1
2398	p-tolualdehyde propylene glycol acetal	58244-29-4
2408	tridecanal diethyl acetal	72934-16-8
2416	triethyl orthoformate	122-51-0
2422	2,4,5-trimethyl-3-oxazoline	22694-96-8
2423	2,2,5-trimethyl-4-hexenal dimethyl acetal	
2435	3,5,5-trimethylhexanal diethyl acetal	
2442	trimethyloxazole	20662-84-4
2454	undecanal diethyl acetal	53405-97-3
2455	undecanal dimethyl acetal	52517-67-6
2456	undecanal propylene glycol acetal	74094-62-5
2467	10-undecenal diethyl acetal	
2468	10-undecenal dimethyl acetal	
2478	valeraldehyde dibutyl acetal	
2479	valeraldehyde diethyl acetal	3658-79-5
2480	valeraldehyde dihexyl acetal	
2481	valeraldehyde dimethyl acetal	26450-58-8
2482	valeraldehyde propylene glycol acetal	74094-60-3

SEQ	Name	CAS No.
2508	vitispirane	65416-59-3

The result of an investigation conducted by the Japan Flavor & Fragrance Materials Association in the 2000 Health Sciences Research Program

## List of flavouring substances used in Japan

(Esters)

SEQ	Name	CAS No.
41	acetoin acetate	4906-24-5
52	2-acetoxy-1-methylpropyl butyrate	
59	acetyl vanillin	881-68-5
90	allyl 10-undecenoate	7493-76-7
91	allyl 2-ethylbutyrate	7493-69-8
92	allyl 2-furoate	4208-49-5
93	allyl 2-methylbutoxyacetate	
94	allyl 2-methylbutyrate	
95	allyl acetate	591-87-7
96	allyl acetoacetate	
97	allyl anthranilate	7493-63-2
98	allyl butyrate	2051-78-7
99	allyl cinnamate	1866-31-5
100	allyl crotonate	20474-93-5
101	allyl cyclohexaneacetate	4728-82-9
102	allyl cyclohexanepropionate	2705-87-5
103	allyl cyclohexyloxypropionate	
104	allyl decanoate	57856-81-2
105	allyl formate	1838-59-1
106	allyl heptanoate	142-19-8
107	allyl hexanoate	123-68-2
108	allyl isoamyloxyacetate	67634-00-8
109	allyl isobutyrate	
110	allyl isohexanoate	
112	allyl isovalerate	2835-39-4
113	allyl levulinate	1070-35-5
118	allyl nonanoate	7493-72-3
119	allyl octanoate	4230-97-1
120	allyl phenoxyacetate	7493-74-5
121	allyl phenylacetate	1797-74-6
122	allyl pivalate	
123	allyl propionate	2408-20-0
127	allyl pyruvate	
128	allyl sorbate	7493-75-6
129	allyl thiopropionate	41820-22-8
130	allyl tiglate	7493-71-2
131	allyl valerate	
139	amyl 2-furoate	1334-82-3
140	amyl 2-methylbutyrate	68039-26-9
141	amyl acetate	628-63-7
142	amyl angelate	7785-63-9
143	amyl anthranilate	
144	amyl benzoate	2049-96-9
146	amyl butyrate	540-18-1
147	amyl cinnamate	3487-99-8
148	amyl crotonate	
149	amyl decanoate	5933-87-9
150	amyl formate	638-49-3
151	amyl heptanoate	7493-82-5
152	amyl hexanoate	540-07-8
153	amyl isobutyrate	2445-72-9
154	amyl isohexanoate	
156	amyl isovalerate	25415-62-7
157	amyl lactate	6382-06-5
158	amyl laurate	5350-03-8
159	amyl levulinate	
160	amyl nonanoate	
161	amyl octanoate	638-25-5
162	amyl phenylacetate	5137-52-0
163	amyl propionate	624-54-4
164	amyl salicylate	2050-08-0

SEQ	Name	CAS No.
165	amyl tigrate	
166	amyl valerate	2173-56-0
171	alpha-amylcinnamyl acetate	7493-78-9
173	alpha-amylcinnamyl isovalerate	7493-80-3
187	anisyl acetate	104-21-2
190	anisyl butyrate	6963-56-0
192	anisyl formate	122-91-8
193	anisyl hexanoate	6624-60-8
194	anisyl isobutyrate	
195	anisyl isovalerate	
197	anisyl phenylacetate	102-17-0
198	anisyl propionate	7549-33-9
199	anisyl valerate	
212	benzyl 2-methylbutyrate	56423-40-6
213	benzyl acetate	140-11-4
214	benzyl acetoacetate	5396-89-4
216	benzyl benzoate	120-51-4
218	benzyl butyrate	103-37-7
219	benzyl cinnamate	103-41-3
220	benzyl crotonate	65416-24-2
221	benzyl decanoate	42175-41-7
224	benzyl formate	104-57-4
225	benzyl hexanoate	6938-45-0
227	benzyl isobutyrate	103-28-6
229	benzyl isovalerate	103-38-8
230	benzyl lactate	2051-96-9
231	benzyl laurate	140-25-0
232	benzyl levulinate	6939-75-9
237	benzyl nonanoate	6471-66-5
238	benzyl octanoate	10276-85-4
239	benzyl phenylacetate	102-16-9
240	benzyl propionate	122-63-4
241	benzyl salicylate	118-58-1
242	benzyl tiglate	37526-88-8
243	benzyl valerate	10361-39-4
252	bornyl acetate	76-49-3
253	bornyl butyrate	13109-70-1
254	bornyl formate	7492-41-3
255	bornyl isovalerate	76-50-6
256	bornyl propionate	
257	bornyl valerate	7549-41-9
260	2,3-butanediol diacetate	1114-92-7
266	butyl 2-butenate	591-63-9
267	butyl 2-decenoate	7492-45-7
268	butyl 2-hexenoate	13416-74-5
269	butyl 2-methylbutyrate	15706-73-7
270	butyl 3-hexenoate	
271	2-butyl 3-methylbutanthioate	2432-91-9
272	butyl 3-methylthiopropionate	
273	sec-butyl acetate	105-46-4
274	butyl acetate	123-86-4
275	butyl acetoacetate	591-60-6
276	butyl angelate	7785-64-0
277	butyl anthranilate	7756-96-9
278	butyl benzoate	136-60-7
279	butyl butyrate	109-21-7
280	butyl butyrolactate	7492-70-8
281	butyl butyrylacetate	
282	butyl cinnamate	538-65-8
283	butyl crotonate	7299-91-4
284	butyl decanoate	30673-36-0
286	butyl formate	592-84-7
287	butyl heptanoate	5454-28-4
288	butyl hexanoate	626-82-4

SEQ	Name	CAS No.
289	butyl isobutyrate	97-87-0
292	butyl isovalerate	109-19-3
293	butyl lactate	138-22-7
294	butyl laurate	106-18-3
295	butyl levulinate	2052-15-5
296	butyl methacrylate	
299	butyl methylphenylglycidate	
300	butyl myristate	110-36-1
301	butyl nonanoate	50623-57-9
302	butyl octanoate	589-75-3
303	butyl oleate	142-77-8
304	butyl palmitate	111-06-8
305	butyl phenylacetate	122-43-0
306	butyl p-hydroxybenzoate	94-26-8
307	butyl pivalate	
308	butyl propionate	590-01-2
310	butyl salicylate	2052-14-4
311	butyl sorbate	7367-78-4
312	butyl stearate	123-95-5
313	butyl tiglate	7785-66-2
314	butyl undecanoate	
315	butyl undecylenate	109-42-2
316	butyl valerate	591-68-4
320	butylcellosolve acetate	112-07-2
348	carvyl 2-methylbutyrate	
349	cis-carvyl acetate	1205-42-1
350	carvyl acetate	97-42-7
351	carvyl butyrate	93919-04-1
352	carvyl formate	29239-07-4
353	carvyl hexanoate	
354	carvyl isobutyrate	
355	carvyl isovalerate	
356	carvyl propionate	97-45-0
357	carvyl valerate	
360	caryophyllene acetate	32214-91-8
368	cedryl acetate	77-54-3
370	cetyl acetate	629-70-9
378	cinnamyl acetate	103-54-8
380	cinnamyl anthranilate	87-29-6
381	cinnamyl benzoate	5320-75-2
382	cinnamyl butyrate	103-61-7
383	cinnamyl cinnamate	122-69-0
384	cinnamyl formate	104-65-4
385	cinnamyl hexanoate	
386	cinnamyl isobutyrate	103-59-3
387	cinnamyl isovalerate	140-27-2
388	cinnamyl phenylacetate	7492-65-1
389	cinnamyl propionate	103-56-0
390	cinnamyl tiglate	61792-12-9
391	cinnamyl valerate	10482-65-2
397	citronellyl propionate	141-14-0
406	citronellyl acetate	150-84-5
407	citronellyl butyrate	141-16-2
408	citronellyl decanoate	
409	citronellyl formate	105-85-1
410	citronellyl hexanoate	10580-25-3
411	citronellyl isobutyrate	97-89-2
412	citronellyl isovalerate	68922-10-1
413	citronellyl octanoate	72934-05-5
415	citronellyl phenylacetate	139-70-8
416	citronellyl tiglate	24717-85-9
417	citronellyl valerate	7540-53-6
424	p-cresyl butyrate	14617-92-6
426	p-cresyl hexanoate	

SEQ	Name	CAS No.
427	p-cresyl isobutyrate	103-93-5
428	p-cresyl phenylacetate	101-94-0
429	p-cresyl valerate	10415-86-8
432	cuminyl acetate	59230-57-8
436	cyclodecyl acetate	32210-23-4
437	cyclodecyl propionate	
438	cyclododecyl formate	
445	cyclohexyl acetate	622-45-7
446	cyclohexyl acetoacetate	
447	cyclohexyl anthranilate	7779-16-0
448	cyclohexyl benzoate	
449	cyclohexyl butyrate	1551-44-6
450	cyclohexyl cinnamate	7779-17-1
451	cyclohexyl formate	4351-54-6
452	cyclohexyl hexanoate	6243-10-3
453	cyclohexyl isobutyrate	1129-47-1
454	cyclohexyl isovalerate	7774-44-9
456	cyclohexyl phenylacetate	42288-75-5
457	cyclohexyl propionate	6222-35-1
458	cyclohexyl salicylate	25485-88-5
459	cyclohexyl valerate	1551-43-5
461	2-cyclohexylethyl acetate	21722-83-8
462	cyclohexylethyl benzoate	
463	cyclohexylethyl butyrate	
464	cyclohexylethyl formate	
465	cyclohexylethyl isobutyrate	
466	cyclohexylethyl isovalerate	
467	cyclohexylethyl propionate	
468	cyclohexylethyl valerate	
476	cyclotene butyrate	68227-51-0
477	cyclotene isobutyrate	68084-07-
478	cyclotene propionate	87-55-8
517	9-decenyl acetate	50816-18-7
518	2-decenyl acetate	19487-61-7
519	decyl acetate	112-17-4
520	decyl butyrate	5454-09-1
521	decyl formate	5451-52-5
522	decyl hexanoate	
523	decyl isobutyrate	なし
524	decyl isovalerate	72928-48-4
526	decyl nonanoate	
527	decyl octanoate	2306-89-0
528	decyl propionate	5454-19-3
540	dibutyl malate	1587-18-4
541	dibutyl sebacate	109-43-3
542	dibutyl succinate	141-03-7
545	diethyl adipate	141-28-6
546	diethyl carbonate	105-58-8
548	diethyl dodecanedioate	10471-28-0
549	diethyl fumarate	623-91-6
550	diethyl malate	7554-12-3
551	diethyl maleate	141-05-9
552	diethyl malonate	105-53-3
553	diethyl oxalate	95-92-1
554	diethyl sebacate	110-40-7
555	diethyl succinate	123-25-1
557	diethyl tartrate	87-91-2
570	dihydrocarvyl acetate	20777-49-5
571	dihydrocarvyl butyrate	
572	dihydrocarvyl formate	93892-04-7
573	dihydrocarvyl hexanoate	
574	dihydrocarvyl isobutyrate	
575	dihydrocarvyl isovalerate	93892-05-8
576	dihydrocarvyl propionate	

SEQ	Name	CAS No.
577	dihydrocarvyl valerate	
585	dihydrolinalyl acetate	
586	dihydrolinalyl butyrate	
595	diisoamyl succinate	818-04-2
596	diisobutyl adipate	141-04-8
598	diisopentyl thiomalate	68084-03-7
610	dimethyl anthranilate	85-91-6
613	dimethyl benzyl carbonyl butyrate	10094-34-5
614	dimethyl benzyl carbonyl crotonate	
615	dimethyl benzyl carbonyl formate	10058-43-2
616	dimethyl benzyl carbonyl isobutyrate	59354-71-1
617	dimethyl benzyl carbonyl propionate	67785-77-7
618	dimethyl malonate	108-59-8
620	dimethyl phenethyl carbonyl acetate	103-07-1
621	dimethyl phenethyl carbonyl isobutyrate	10031-71-7
622	dimethyl phenyl carbonyl isobutyrate	7774-60-9
623	dimethyl sebacate	106-79-6
624	dimethyl succinate	106-65-0
647	2,6-dimethyl-4-heptenyl acetate	
648	2,6-dimethyl-4-heptyl acetate	10250-45-0
654	1,1-dimethylallyl acetate	24509-88-4
657	1,1-dimethylbenzyl acetate	
658	2,4-dimethylbenzyl acetate	62346-96-7
660	dimethylbenzyl carbonyl acetate	151-05-3
661	1,1-dimethylbenzyl formate	
666	3,7-dimethyloctyl butyrate	67874-80-0
681	dipropyl adipate	106-19-4
683	dipropyl malonate	1117-19-7
685	dipropyl succinate	
707	2-dodecenyl acetate	38363-23-4
708	dodecyl butyrate	3724-61-6
709	dodecyl isobutyrate	6624-71-1
710	dodecyl isovalerate	
711	dodecyl lactate	6283-92-7
713	dodecyl propionate	6221-93-8
734	ethyl 10-undecenoate	692-86-4
735	ethyl 2-(methylthio)propionate	23747-43-5
736	ethyl 2-(methylthio)acetate	4455-13-4
737	ethyl 2,4-decadienoate	
738	ethyl 2-acetylcinnamate	620-80-4
739	ethyl 2-acetyldecanoate	24317-95-1
740	ethyl 2-acetyldodecanoate	40778-32-3
741	ethyl 2-acetylhexanoate	152548-73-7
742	ethyl 2-acetyloctanoate	29214-60-6
743	ethyl 2-acetylpropionate	609-14-3
744	ethyl 2-benzylacetoacetate	620-79-1
745	ethyl 2-ethoxybenzoate	
746	ethyl 2-ethyl-3-methyl-3-phenylglycidate	056630-76-3
747	ethyl 2-ethyl-3-phenylglycidate	
748	ethyl 2-ethyl-3-phenylpropionate	2983-36-0
749	ethyl 2-ethylbutyrate	2983-38-2
750	ethyl 2-ethylhexanoate	2983-37-1
751	ethyl 2-furfurylpropionate	
752	ethyl 2-furoate	614-99-3
754	ethyl 2-hexanoylhexanoate	
755	ethyl 2-hexenoate	1552-67-6
756	ethyl 2-hydroxy-3-phenylpropionate	
758	ethyl 2-hydroxyisocaproate	
759	ethyl 2-mercaptoacetate	623-51-8
760	ethyl 2-mercaptopropionate	19788-49-9
762	ethyl 2-methyl-3(4)-pentenoate	
763	ethyl 2-methyl-3,4-pentadienoate	60523-21-9
764	ethyl 2-methyl-3-pentenoate	1617-23-8
765	ethyl 2-methyl-4-pentenoate	53399-81-8

SEQ	Name	CAS No.
766	ethyl 2-methylbutyrate	7452-79-1
767	ethyl 2-methylpentanoate	39255-32-8
768	ethyl 2-methylthiopropionate	
769	ethyl 2-nonenoate	17462-01-3
770	ethyl 2-octenoate	7367-82-0
771	ethyl 2-oxo-3-phenylbutyrate	
772	ethyl 2-phenylfuran-3-carboxylate	50626-02-3
773	ethyl 3-(methylthio)propionate	13327-56-5
774	ethyl 3,5,5-trimethylhexanoate	67707-75-9
775	ethyl 3-acetoxy-2-methylbutyrate	139564-43-5
776	ethyl 3-acetoxybutyrate	
777	ethyl 3-acetoxyhexanoate	21188-61-4
778	ethyl 3-acetoxyoctanoate	8554-66-1
779	ethyl 3-furfurylthiopropionate	94278-27-0
780	ethyl 3-hexenoate	2396-83-0
781	ethyl 3-hydroxybutyrate	5405-41-4
782	ethyl 3-hydroxyhexanoate	2305-25-1
783	ethyl 3-hydroxyoctanoate	7367-90-0
784	ethyl 3-mercaptopropionate	5466-06-8
785	ethyl 3-methylpentanoate	5870-68-8
786	ethyl 3-nonenoate	
787	ethyl 3-octenoate	1117-65-3
788	ethyl 3-oxohexanoate	3249-68-1
789	ethyl 3-oxooctanoate	
790	ethyl 3-phenylpropionate	2021-28-5
791	ethyl 4-hydroxybenzoate	120-47-8
793	ethyl 4-octenoate	34495-71-1
794	ethyl 4-tolyloxybenzoate	
795	ethyl 5-acetoxydecanoate	
796	ethyl 5-acetoxyoctanoate	35234-10-1
797	ethyl 5-hexenoate	54653-25-7
798	ethyl 5-hydroxydecanoate	75587-06-3
799	ethyl 5-hydroxynonanoate	
800	ethyl 5-hydroxyoctanoate	
801	ethyl 5-oxodecanoate	
802	ethyl 5-oxooctanoate	
803	ethyl 9-decenoate	67233-91-4
804	ethyl 9-hexadecenoate	54546-22-4
805	ethyl acetate	141-78-6
806	ethyl acetoacetate	141-97-9
807	ethyl acetoacetate ethylene glycol acetal	
808	ethyl acetoacetate propylene glycol acetal	6290-17-1
809	ethyl acetylactate	2985-28-6
810	ethyl acrylate	140-88-5
811	ethyl alpha-ethyl-beta-hydroxyphenylpropionate	
812	ethyl alpha-methylcyclohexylspiroglycidate	
814	ethyl anisate	94-30-4
816	ethyl anthranilate	87-25-2
817	ethyl benzoate	93-89-0
818	ethyl benzoylacetate	94-02-0
819	ethyl beta-methylthioacrylate	136115-65-6
820	ethyl beta-phenylglycidate	121-39-1
822	ethyl butyrate	105-54-4
823	ethyl butyrylactate	71662-27-6
824	ethyl cinnamate	103-36-6
825	ethyl cis-4-decenoate	7367-84-2
826	ethyl crotonate	623-70-1
827	ethyl cyclohexanepropionate	10094-36-7
829	ethyl decanoate	110-38-3
830	ethyl formate	109-94-4
832	ethyl furylpropionate	10031-90-0
833	ethyl geranate	13058-12-3
835	ethyl heptadecanoate	14010-23-2
836	ethyl heptanoate	106-30-9

SEQ	Name	CAS No.
837	ethyl hexanoate	123-66-0
839	ethyl isobutyrate	97-62-1
841	ethyl isohexanoate	24515-67-2
842	ethyl isovalerate	108-64-5
843	ethyl lactate	97-64-3
844	ethyl laurate	106-33-2
845	ethyl levulinate	539-88-8
847	ethyl levurinate propyleneglycol acetal	941-43-5
848	ethyl linolate	544-35-4
849	ethyl linolenate	1191-41-9
851	ethyl methoxyacetate	
853	ethyl methylphenylglycidate	77-83-8
854	ethyl methyl-p-tolylglycidate	74367-97-8
855	ethyl myristate	124-06-1
856	ethyl nicotinate	614-18-6
857	ethyl nonadecanoate	18281-04-0
858	ethyl nonanoate	123-29-5
859	ethyl o-anisate	7335-26-4
860	ethyl octanoate	106-32-1
861	ethyl oleate	111-62-6
862	ethyl palmitate	628-97-7
863	ethyl pentadecanoate	41114-00-5
864	ethyl phenyl carbinyl butyrate	10031-86-4
865	ethyl phenylacetate	101-97-3
866	ethyl pivalate	3938-95-2
867	ethyl p-Methyl-beta-Phenylglycidate	52788-71-3
869	ethyl propionate	105-37-3
870	ethyl propionylactete	
872	ethyl pyruvate	617-35-6
873	ethyl ricinoleate	55066-53-0
874	ethyl safranate	35044-57-6
875	ethyl salicylate	118-61-6
876	ethyl sorbate	2396-84-1
877	ethyl stearate	111-61-5
878	ethyl thioacetate	625-60-5
879	ethyl tiglate	5837-78-5
880	ethyl trans-2,cis-4-decadienoate	3025-30-7
881	ethyl trans-2-decenoate	7367-88-6
882	ethyl trans-2-hexenoate	27829-72-7
883	ethyl trans-3-decenoate	82561-67-
884	ethyl trans-3-ethoxycrotonate	57592-45-7
885	ethyl trans-3-octenoate	26553-47-9
886	ethyl trans-4-decenoate	76649-16-6
887	ethyl trans-4-octenoate	78989-37-4
888	ethyl undecanoate	627-90-7
889	ethyl valerate	539-82-2
890	ethyl vanillate	617-05-0
893	1-ethyl-1-methyl-3-phenylpropyl acetate	72007-81-9
907	2-ethylbutyl acetate	10031-87-5
911	ethylene brassylate	105-95-3
912	ethylene glycol diacetate	111-55-7
913	ethylene glycol monoethyl ether acetate	111-15-9
920	2-ethylhexyl 3-mercaptopropionate	
921	2-ethylhexyl acetate	103-09-3
923	2-ethylhexyl benzoate	
924	2-ethylhexyl formate	5444-75-7
925	2-ethylhexyl hexanoate	6293-37-4
926	2-ethylhexyl propionate	118-60-5
927	ethylmaltol propionate	
928	ethylmaltol butyrate	93805-72-2
929	ethylmaltol isobutyrate	
937	ethylvanillin isobutyrate	188417-26-7
940	eugenyl acetate	93-28-7
941	eugenyl benzoate	531-26-0

SEQ	Name	CAS No.
942	eugenyl formate	10031-96-6
943	eugenyl phenylacetate	10402-33-2
944	evernyl	4707-47-5
949	farnesyl acetate	29548-30-9
953	fenchyl acetate	13851-11-1
955	fenchyl butyrate	
960	furaneol acetate	4166-20-5
966	furfuryl 2-methylpropionate	6270-55-9
967	furfuryl acetate	623-17-6
969	furfuryl butyrate	623-21-2
970	furfuryl decanoate	
971	furfuryl formate	13493-97-5
972	furfuryl heptanoate	39481-28-2
973	furfuryl hexanoate	39252-02-3
975	furfuryl isovalerate	13678-60-9
980	furfuryl octanoate	39252-03-4
981	furfuryl propionate	623-19-8
982	furfuryl thioacetate	13678-68-7
983	furfuryl thiopropionate	59020-85-8
984	furfuryl valerate	36701-01-6
986	furfurylthio formate	59020-90-5
996	geranyl 2-methylbutyrate	68705-63-5
997	geranyl acetate	105-87-3
998	geranyl acetoacetate	10032-00-5
1000	geranyl anthranilate	67874-69-5
1001	geranyl benzoate	94-48-4
1002	geranyl butyrate	106-29-6
1003	geranyl crotonate	56172-46-4
1004	geranyl formate	105-86-2
1005	geranyl hexanoate	10032-02-7
1006	geranyl isobutyrate	2345-26-8
1007	geranyl isovalerate	109-20-6
1009	geranyl phenylacetate	102-22-7
1010	geranyl propionate	105-90-8
1011	geranyl tiglate	7785-33-3
1012	geranyl valerate	10402-47-8
1013	2-geranylcyclopentanone	68133-79-9
1015	glyceryl 5-hydroxydecanoate	26446-31-1
1016	glyceryl 5-hydroxydodecanoate	26446-32-2
1018	guaiaacyl acetate	613-70-7
1019	guaiaacyl phenylacetate	4112-89-4
1021	guaiyl acetate	134-28-1
1053	2-heptenyl acetate	16939-73-4
1054	heptyl 2-methylbutyrate	50862-12-9
1055	2-heptyl acetate	5921-82-4
1056	heptyl acetate	112-06-1
1057	heptyl butyrate	5870-93-9
1058	heptyl butyryllactate	
1059	heptyl cinnamate	10032-08-3
1060	heptyl decanoate	
1061	heptyl formate	112-23-2
1062	heptyl heptanoate	624-09-9
1063	heptyl hexanoate	6976-72-3
1064	heptyl isobutyrate	2349-13-5
1065	heptyl isocaproate	
1066	heptyl isovalerate	56423-43-9
1069	heptyl nonanoate	
1070	heptyl octanoate	4265-97-8
1071	heptyl propionate	2216-81-1
1081	2,4-hexadienyl acetate	1516-17-2
1130	3-hexenyl 2-ethylbutyrate	94071-12-2
1131	cis-3-hexenyl 2-furoate	
1132	3-hexenyl 2-hexenoate	53398-87-1
1133	cis-3-hexenyl 2-methylbutyrate	53398-85-9

SEQ	Name	CAS No.
1134	3-hexenyl 2-methylbutyrate	10094-41-4
1135	trans-2-hexenyl 2-methylbutyrate	94089-01-7
1136	cis-3-hexenyl 2-methylvalerate	
1137	3-hexenyl 3-hexenoate	61444-38-0
1138	3-hexenyl 4-methylpentanoate	
1139	2-hexenyl acetate	10094-40-3
1140	cis-2-hexenyl acetate	2497-18-9
1141	cis-3-hexenyl acetate	3681-71-8
1142	trans-2-hexenyl acetate	2497-18-9
1143	1-hexenyl acetate	32797-50-5
1144	trans-3-Hexenyl acetate	
1145	5-hexenyl acetate	5048-26-0
1146	cis-3-hexenyl acetoacetate	84434-20-8
1147	cis-3-hexenyl anisate	121432-33-5
1148	cis-3-hexenyl anthranilate	65405-76-7
1149	cis-3-hexenyl benzoate	25152-85-6
1150	trans-2-hexenyl benzoate	
1151	cis-3-hexenyl butyrate	16491-36-4
1152	trans-2-hexenyl butyrate	53398-83-7
1153	cis-4-hexenyl butyrate	
1154	cis-3-hexenyl cinnamate	68133-75-5
1155	trans-2-hexenyl cinnamate	
1156	cis-3-hexenyl crotonate	65405-80-3
1157	cis-3-hexenyl decanoate	85554-69-4
1158	trans-2-hexenyl decanoate	
1159	cis-3-hexenyl formate	33467-73-1
1160	trans-2-hexenyl formate	53398-78-0
1161	cis-3-hexenyl heptanoate	61444-39-1
1162	cis-3-hexenyl hexanoate	31501-11-8
1163	trans-3-hexenyl hexanoate	56922-82-8
1164	trans-2-hexenyl hexanoate	53398-86-0
1165	cis-2-hexenyl hexanoate	56922-79-3
1166	trans-2-hexenyl isobutyrate	
1167	cis-3-hexenyl isobutyrate	41519-23-7
1169	3-hexenyl isovalerate	10032-11-8
1170	cis-3-hexenyl isovalerate	35154-45-1
1171	trans-2-hexenyl isovalerate	
1172	cis-3-hexenyl lactate	61931-81-5
1173	trans-2-hexenyl lactate	629-56-1
1174	cis-3-hexenyl levulinate	85554-70-7
1175	cis-3-hexenyl methyl carbonate	67633-96-9
1176	cis-3-hexenyl nonanoate	88191-46-2
1177	cis-3-hexenyl octanoate	61444-41-5
1178	trans-2-hexenyl octanoate	85554-72-9
1179	cis-3-hexenyl phenylacetate	42436-07-7
1180	trans-2-hexenyl phenylacetate	68133-78-8
1181	cis-3-hexenyl propionate	33467-74-2
1182	trans-2-hexenyl propionate	53398-80-4
1183	cis-3-hexenyl pyruvate	68133-76-6
1184	cis-3-hexenyl salicylate	65405-77-8
1185	trans-2-hexenyl salicylate	
1186	cis-3-hexenyl tiglate	67883-79-8
1187	cis-3-hexenyl valerate	35852-46-1
1188	trans-2-hexenyl valerate	56922-74-8
1190	hexyl 2-ethylbutyrate	
1191	hexyl 2-furoate	39251-86-0
1192	hexyl 2-methylbutyrate	10032-15-2
1193	hexyl 2-methylvalerate	
1194	2-hexyl acetate	5953-49-1
1195	hexyl acetate	142-92-7
1196	hexyl benzoate	6789-88-4
1197	hexyl butyrate	2639-63-6
1198	hexyl cinnamate	3488-00-4
1199	hexyl crotonate	19089-92-0

SEQ	Name	CAS No.
1201	hexyl decanoate	10448-26-7
1202	hexyl formate	629-33-4
1203	hexyl heptanoate	1119-06-8
1204	hexyl hexanoate	6378-65-0
1205	hexyl isobutyrate	2349-07-7
1206	hexyl isocaproate	
1208	hexyl isovalerate	10032-13-0
1209	hexyl lactate	20279-51-0
1210	hexyl levulinate	
1212	hexyl nonanoate	6561-39-3
1213	hexyl octanoate	1117-55-1
1214	hexyl phenylacetate	5421-17-0
1215	hexyl pivalate	
1216	hexyl propionate	2445-76-3
1217	hexyl salicylate	6259-76-3
1218	hexyl sorbate	
1219	hexyl tiglate	16930-96-4
1220	hexyl trans-2-hexenoate	33855-57-1
1221	hexyl valerate	1117-59-5
1235	hydratropyl butyrate	80866-83-7
1237	delta-Hydroxy decanoate	
1239	2-hydroxy-1-methylpropyl 2-methylbutyrate	
1240	2-hydroxy-1-methylpropyl butyrate	59517-17-8
1261	4-hydroxybenzyl acetate	
1273	hydroxycitronellyl acetate	
1284	isoamyl acetoacetate	2308-18-1
1285	isoamyl 2-butenolate	25415-77-4
1286	isoamyl 2-furoate	615-12-3
1287	isoamyl 2-methylbutyrate	27625-35-0
1288	isoamyl 2-methylvalerate	
1289	isoamyl 3-methylvalerate	
1290	isoamyl acetate	123-92-2
1291	isoamyl anthranilate	
1292	isoamyl benzoate	94-46-2
1293	isoamyl butyrate	106-27-4
1294	isoamyl cinnamate	7779-65-9
1295	isoamyl decanoate	2306-91-4
1297	isoamyl formate	110-45-2
1298	isoamyl heptanoate	109-25-1
1299	isoamyl hexanoate	2198-61-0
1300	isoamyl isobutyrate	2050-01-3
1302	isoamyl isovalerate	659-70-1
1303	isoamyl lactate	19329-89-6
1304	isoamyl laurate	6309-51-9
1305	isoamyl levulinate	71172-75-3
1307	isoamyl myristate	62488-24-8
1308	isoamyl nonanoate	7779-70-6
1309	isoamyl octanoate	2035-99-6
1310	isoamyl palmitate	81974-61-0
1312	isoamyl phenylacetate	102-19-2
1313	isoamyl propionate	105-68-0
1314	isoamyl pyruvate	7779-72-8
1315	isoamyl salicylate	87-20-7
1316	isoamyl sorbate	
1317	isoamyl tiglate	10482-55-0
1318	isoamyl undecanoate	
1319	isoamyl undecylenate	12262-03-2
1320	isoamyl valerate	2050-09-1
1322	isobornyl acetate	125-12-2
1323	isobornyl butyrate	58479-55-3
1324	isobornyl formate	1200-67-5
1325	isobornyl isovalerate	7779-73-9
1326	isobornyl propionate	2756-56-1
1329	isobutyl 2-methylbutyrate	2445-67-2

SEQ	Name	CAS No.
1330	isobutyl 2-methylpentanoate	
1331	isobutyl 2-methylvalerate	
1332	isobutyl 3-(methylthio)butyrate	
1333	isobutyl 4-decenoate	106450-11-7
1334	isobutyl acetate	110-19-0
1335	isobutyl acetoacetate	7779-75-1
1336	isobutyl angelate	7779-81-9
1337	isobutyl anthranilate	7779-77-3
1338	isobutyl benzoate	120-50-3
1340	isobutyl butyrate	539-90-2
1341	isobutyl cinnamate	122-67-8
1342	isobutyl crotonate	589-66-2
1343	isobutyl decanoate	30673-38-2
1344	isobutyl formate	542-55-2
1345	isobutyl furylpropionate	105-01-1
1346	isobutyl heptanoate	7779-80-8
1347	isobutyl hexanoate	105-79-3
1348	isobutyl isobutyrate	97-85-8
1350	isobutyl isovalerate	589-59-3
1351	isobutyl lactate	585-24-0
1352	isobutyl laurate	37811-72-6
1353	isobutyl levulinate	3757-32-2
1354	isobutyl myristate	25263-97-2
1355	isobutyl N-methylantranilate	65505-24-0
1356	isobutyl nonanoate	30982-03-7
1357	isobutyl octanoate	5461-06-3
1358	isobutyl palmitate	110-34-9
1359	isobutyl phenoxyacetate	5432-66-6
1360	isobutyl phenylacetate	102-13-6
1361	isobutyl pivalate	
1362	isobutyl propionate	540-42-1
1363	isobutyl pyruvate	
1364	isobutyl salicylate	87-19-4
1365	isobutyl stearate	646-13-9
1366	isobutyl tiglate	61692-84-0
1367	isobutyl trans-3-hexenoate	
1368	isobutyl undecenoate	
1369	isobutyl valerate	10588-10-0
1379	isodecyl acetate	69103-94-8
1383	isoeugenyl acetate	93-29-8
1385	isoeugenyl formate	7774-96-1
1386	isoeugenyl phenylacetate	120-24-1
1388	isoheptyl butyrate	
1390	isohexyl benzoate	
1391	isohexyl isohexanoate	
1395	isononyl acetate	40379-24-6
1396	isopentyl (3-methylthio)propionate	93762-35-7
1400	isopropyl 2-methylbutyrate	66576-71-4
1401	isopropyl acetate	108-21-4
1402	isopropyl acetoacetate	542-08-5
1403	isopropyl benzoate	939-48-0
1404	isopropyl butyrate	638-11-9
1405	isopropyl cinnamate	7780-06-5
1406	isopropyl crotonate	6284-46-4
1407	isopropyl decanoate	2311-59-3
1408	isopropyl formate	625-55-8
1409	isopropyl heptanoate	
1410	isopropyl hexanoate	2311-46-8
1411	isopropyl isobutyrate	617-50-5
1413	isopropyl isovalerate	32665-23-9
1414	isopropyl lactate	
1415	isopropyl laurate	10233-13-3
1416	isopropyl levulinate	21884-26-4
1419	isopropyl methylantranilate	

SEQ	Name	CAS No.
1420	isopropyl myristate	110-27-0
1421	isopropyl nonanoate	28267-32-5
1422	isopropyl octanoate	5458-59-3
1423	isopropyl palmitate	142-91-6
1424	isopropyl phenylacetate	4861-85-2
1425	isopropyl propionate	637-78-5
1426	isopropyl sorbate	44987-75-9
1427	isopropyl tiglate	1733-25-1
1428	isopropyl valerate	18362-97-5
1438	4-isopropylcyclohexyl acetate	15876-32-1
1444	isopulegyl acetate	57576-09-7
1455	2-keto-3,3-dibutanoyloxybutane	71808-61-2
1458	lauryl acetate	112-66-3
1460	lavandulyl acetate	25905-14-0
1464	limonen-9-yl acetate	15111-97-4
1473	linalool oxide(5) acetate	56469-39-7
1474	linalyl acetate	115-95-7
1475	linalyl acetate epoxide	
1476	linalyl anthranilate	7149-26-0
1477	linalyl benzoate	126-64-7
1478	linalyl butyrate	78-36-4
1479	linalyl cinnamate	78-37-5
1480	linalyl formate	115-99-1
1481	linalyl hexanoate	7779-23-9
1482	linalyl isobutyrate	78-35-3
1483	linalyl isovalerate	1118-27-0
1484	linalyl octanoate	10024-64-3
1485	linalyl phenylacetate	7143-69-3
1486	linalyl propionate	144-39-8
1492	maltol butyrate	67860-01-9
1493	maltol isobutyrate	65416-14-0
1494	maltol propionate	
1508	p-menthan-8-yl acetate	58985-18-5
1516	l-menthyl 2-methylbutyrate	53004-93-6
1517	menthyl 3-hydroxybutyrate	
1518	dl-menthyl acetate	89-48-5 29066-34-0
1519	l-menthyl acetate	2623-23-6
1520	menthyl acetate	16409-45-3
1521	l-menthyl butyrate	6070-14-0
1522	l-menthyl crotonate	
1523	l-menthyl ethoxyacetate	
1524	menthyl formate	2230-90-2
1525	menthyl hexanoate	6070-16-2
1526	l-menthyl isobutyrate	68366-65-4
1527	menthyl isovalerate	16409-46-4
1528	l-menthyl lactate	59259-38-0
1529	l-menthyl phenylacetate	26171-78-8
1530	l-menthyl propionate	4951-48-8
1531	menthyl salicylate	89-46-3
1532	l-menthyl tigrate	
1533	menthyl valerate	89-47-4
1538	3-mercapto-3-methylbutyl formate	50746-10-6
1543	3-mercaptohexyl acetate	136954-20-6
1549	methanethiol acetate	1534-08-3
1555	methionyl phenylacetate	
1556	methionyl thioglycolate	
1569	2-methoxyethyl acetoacetate	22502-03-0
1577	methy 2-acetoxypropanethioate	74586-09-7
1578	methyl (methylthio)acetate	16630-66-3
1579	methyl 10-undecenate	111-81-9
1581	methyl 2-(methylthio)butyrate	51534-66-8
1582	methyl 2-(propionyloxy)propanethioate	999999-90-9
1583	methyl 2,4-decadienoate	4493-42-9
1584	methyl 2-decenoate	2482-39-5

SEQ	Name	CAS No.
1585	methyl 2-ethylbutyrate	816-11-5
1586	methyl 2-furoate	611-13-2
1587	methyl 2-hexenoate	2396-77-2
1588	methyl 2-hydroxy-4-methylpentanoate	40348-72-9
1589	methyl 2-methoxybenzoate	606-45-1
1591	methyl 2-methylbutyrate	868-57-5
1592	methyl 2-methylvalerate	2177-77-7
1593	methyl 2-octenoate	2396-85-2
1594	methyl 2-oxopropionate	600-22-6
1596	methyl 2-thiofuroate	13679-61-3
1597	methyl 3-(furfurylthio)propionate	94278-26-9
1598	methyl 3-(methylthio)propionate	13532-18-8
1599	methyl 3-acetoxy-2-methylbutyrate	139564-42-4
1600	methyl 3-acetoxybutyrate	89422-42-4
1601	methyl 3-acetoxyhexanoate	77118-93-5
1602	methyl 3-acetoxyoctanoate	35234-21-0
1603	methyl 3-hexenoate	2396-78-3
1604	methyl 3-hydroxybutyrate	1487-49-6
1605	methyl 3-hydroxyhexanoate	21188-58-9
1606	methyl 3-mercapto-2-methylpropionate	
1607	methyl 3-methyl-3-phenylglycidate	なし
1608	methyl 3-nonenoate	13481-87-3
1609	methyl 3-octenoate	74023-04-4
1610	methyl 3-oxohexanoate	30414-54-1
1611	methyl 3-phenylpropionate	103-25-3
1612	methyl 4-(methylthio)butyrate	53053-51-3
1613	methyl 4-decenoate	7367-83-1
1614	methyl 4-hydroxybenzoate	
1615	methyl 4-methylvalerate	2412-80-8
1616	methyl 5-acetoxydecanoate	
1617	methyl 5-acetoxydodecanoate	
1618	methyl 5-acetoxyhexanoate	35234-22-1
1619	methyl 5-formoxydodecanoate	
1620	methyl 5-hydroxydecanoate	101853-47-8
1623	methyl 5-oxododecanoate	
1624	methyl acetate	79-20-9
1625	methyl acetoacetate	105-45-3
1626	methyl acrylate	96-33-3
1629	methyl anisate	121-98-2
1630	methyl anthranilate	134-20-3
1631	methyl benzoate	93-58-3
1632	methyl beta-4-tolylglycidate	
1633	methyl beta-phenylglycidate	37161-74-3
1634	methyl butanethioate	2432-51-1
1636	methyl butyrate	623-42-7
1637	methyl cinnamate	103-26-4
1638	methyl cis-4-octenoate	21063-71-8
1639	methyl citronellate	2270-60-2
1640	methyl crotonate	623-43-8
1641	methyl cyclohexanecarboxylate	4630-82-4
1642	methyl decanoate	110-42-9
1643	methyl delta-acetoxyoctanoate	
1644	methyl dihydrojasmonate	24851-98-7
1650	methyl formate	107-31-3
1653	methyl geranate	2349-14-6
1654	methyl glycolate	
1655	methyl heptanoate	106-73-0
1658	methyl hexanoate	106-70-7
1664	methyl isobutyrate	547-63-7
1666	methyl isohexyl carbonyl acetate	67952-57-2
1668	methyl isovalerate	556-24-1
1669	methyl jasmonate	1211-29-6
1670	methyl lactate	547-64-8
1671	methyl laurate	111-82-0

SEQ	Name	CAS No.
1672	methyl levulinate	624-45-3
1673	methyl linolate oxide	
1674	methyl linoleate	112-63-0
1675	methyl linolenate	301-00-8
1677	methyl methacrylate	80-62-6
1678	methyl methanethiosulfonate	2949-92-0
1679	methyl methyl-p-tolyglycidete	
1680	methyl myristate	124-10-7
1681	methyl N,N-dimethylantranilate	10072-05-6
1682	methyl N-acetylantranilate	2719-08-6
1685	methyl N-ethylantranilate	17318-49-9
1686	methyl N-formylantranilate	41270-80-8
1687	methyl nicotinate	93-60-7
1688	methyl nonanoate	1731-84-6
1690	methyl nonylenate	111-79-5
1691	methyl N-phenylacetylantranilate	
1692	methyl octanoate	111-11-5
1693	methyl octine carbonate	111-80-8
1696	methyl oleate	112-62-9
1698	methyl palmitate	112-39-0
1699	methyl pentadecanoate	
1702	methyl phenylacetate	101-41-7
1704	methyl pivalate	598-98-1
1705	methyl p-methylbenzoate	99-75-2
1706	methyl propionate	554-12-1
1707	methyl propionylantranilate	15628-84-6
1712	methyl p-tert-butylphenylacetate	3549-23-3
1713	methyl salicylate	119-36-8
1714	methyl sorbate	689-89-4
1715	methyl stearate	112-61-8
1716	methyl thioglycolate	
1717	methyl thiohexanoate	2432-77-1
1718	methyl thioisobutyrate	42075-42-3
1719	methyl thioisovalerate	23747-45-7
1720	methyl tiglate	6622-76-0
1721	methyl trans-2-octenoate	7367-81-9
1722	methyl tridecanoate	1731-88-0
1723	methyl undecanoate	1731-86-8
1725	methyl undecylenate	5760-50-9
1726	methyl valerate	624-24-8
1728	methyl vanillate	3943-74-6
1731	2-methyl-2-butenyl acetate	19248-94-3
1732	3-methyl-2-butyl butyrate	
1764	3-methyl-3-butenyl acetate	5205-07-2
1765	3-methyl-3-butenyl butyrate	
1766	5-methyl-3-butyltetrahydropyran-4-yl acetate	38285-49-3
1789	2-methylallyl 2-methylvalerate	
1790	2-methylallyl butyrate	7149-29-3
1791	2-methylallyl hexanoate	
1792	2-methylallyl isobutyrate	
1793	2-methylallyl propionate	
1797	o-methylbenzyl acetate	17373-93-2
1798	4-methylbenzyl acetate	
1800	4-methylbenzyl butyrate	
1807	2-methylbutyl 2-methylbutyrate	2445-78-5
1808	2-methylbutyl acetate	624-41-9
1809	2-methylbutyl benzoate	52513-03-8
1810	2-methylbutyl butyrate	51115-64-1
1811	2-methylbutyl cinnamate	4654-29-9
1812	2-methylbutyl formate	35073-27-9
1813	2-methylbutyl heptanoate	
1814	2-methylbutyl hexanoate	2601-13-0
1815	2-methylbutyl isobutyrate	2445-69-4
1816	2-methylbutyl isovalerate	2445-77-4

SEQ	Name	CAS No.
1817	2-methylbutyl lactate	638-33-5
1818	2-methylbutyl phenylacetate	61889-11-0
1819	2-methylbutyl propionate	2438-20-2
1820	2-methylbutyl salicylate	51115-63-0
1821	2-methylbutyl valerate	55590-83-5
1828	3-methylcyclohexyl acetate	
1842	methylheptine carbonate	111-12-6
1846	5-methylhexyl acetate	180348-60-1
1857	2-methylpentyl 2-methylpentanoate	90397-38-9
1858	2-methylpentyl butyrate	
1859	4-methylpentyl isovalerate	
1871	2-(methylthio)ethyl acetate	5862-47-5
1881	3-methylthiohexyl acetate	51755-85-2
1889	3-methylthiopropyl acetate	16630-55-0
1890	3-methylthiopropyl butyrate	16630-60-7
1901	mono-menth-3-yl succinate	77341-67-4
1905	myrcenyl acetate	1118-39-4
1906	myrcenyl propionate	
1910	myrtenyl acetate	1079-01-2
1911	myrtenyl formate	72928-52-0
1918	neodihydrocarvyl acetate	56422-50-5
1921	neomenthyl acetate	
1928	nerolidyl acetate	56001-43-5
1929	nerolidyl isobutyrate	2639-68-1
1930	neryl acetate	141-12-8
1931	neryl butyrate	999-40-6
1932	neryl crotonate	
1933	neryl formate	2142-94-1
1934	neryl isobutyrate	2345-24-6
1935	neryl isovalerate	3915-83-1
1936	neryl phenylacetate	
1937	neryl propionate	105-91-9
1938	neryl tiglate	
1951	trans-2,cis-6-nonadienyl acetate	67674-47-9
1958	1,3-nonanediol acetate	1322-17-4
1979	cis-6-nonenyl acetate	76238-22-7
1980	6-nonenyl butyrate	
1981	6-nonenyl isovalerate	
1982	6-nonenyl propionate	
1983	nonyl acetate	143-13-5
1984	nonyl butyrate	2639-64-7
1985	nonyl formate	
1986	nonyl hexanoate	
1987	nonyl isobutyrate	
1988	nonyl isovalerate	7786-47-2
1989	nonyl octanoate	7786-48-3
1990	nonyl pivalate	
1991	nonyl propionate	
1993	nopyl acetate	128-51-8
2001	octadecyl acetate	822-23-1
2008	trans-3,trans-5-Octadienyl acetate	85722-81-2
2026	1-octen-3-yl acetate	2442-10-6
2027	1-octen-3-yl butyrate	16491-54-6
2028	1-octen-3-yl isobutyrate	
2040	trans-2-octenyl butyrate	84642-60-4
2041	octyl 2-furoate	39251-88-2
2042	octyl 2-methylbutyrate	29811-50-5
2043	3-octyl 2-methylbutyrate	
2044	2-octyl acetate	2051-50-5
2045	3-octyl acetate	4864-61-3
2046	octyl acetate	112-14-1
2047	octyl acetoacetate	
2048	octyl butyrate	110-39-4
2049	3-octyl butyrate	

SEQ	Name	CAS No.
2050	octyl crotonate	22874-79-9
2051	octyl decanoate	2306-92-5
2052	octyl formate	112-32-3
2053	3-octyl formate	
2054	octyl heptanoate	5132-75-2
2055	octyl hexanoate	4887-30-3
2056	octyl isobutyrate	109-15-9
2057	octyl isovalerate	7786-58-5
2059	octyl nonanoate	5303-26-4
2060	octyl octanoate	2306-88-9
2061	octyl phenylacetate	122-45-2
2062	octyl pivalate	
2063	octyl propionate	142-60-9
2067	oleyl acetate	693-80-1
2068	3-oxobutan-2-yl butyrate	84642-61-5
2072	2-oxopropyl acetate	592-20-1
2088	2-pentyl acetate	626-38-0
2089	2-pentyl butyrate	60415-61-4
2097	perillyl acetate	15111-96-3
2099	phenethyl 2-ethylhexanoate	
2100	phenethyl 2-furoate	7149-32-8
2101	phenethyl 2-methylbutyrate	24817-51-4
2102	phenethyl acetate	103-45-7
2104	phenethyl anthranilate	133-18-6
2105	phenethyl benzoate	94-47-3
2106	phenethyl butyrate	103-52-6
2107	phenethyl cinnamate	103-53-7
2108	phenethyl crotonate	64181-20-0
2109	phenethyl decanoate	61810-55-7
2110	phenethyl formate	104-62-1
2111	phenethyl heptanoate	
2112	phenethyl hexanoate	6290-37-5
2113	phenethyl isobutyrate	103-48-0
2115	phenethyl isovalerate	140-26-1
2116	phenethyl lactate	10138-63-3
2118	phenethyl nonanoate	57943-67-6
2119	phenethyl octanoate	5457-70-5
2120	phenethyl phenylacetate	102-20-5
2121	phenethyl pivalate	67662-96-8
2122	phenethyl propionate	122-70-3
2123	phenethyl salicylate	87-22-9
2124	phenethyl senecioate	42078-65-9
2125	phenethyl tiglate	55719-85-2
2126	phenethyl valerate	7460-74-4
2130	2-phenoxyethyl acetate	6192-44-5
2131	2-phenoxyethyl butyrate	23511-70-8
2132	2-phenoxyethyl isobutyrate	103-60-6
2133	2-phenoxyethyl propionate	23495-12-7
2134	phenyl acetate	122-79-2
2135	phenyl butyrate	
2138	phenyl isobutyrate	20279-29-2
2139	phenyl propionate	
2140	phenyl salicylate	118-55-8
2155	2-phenylphenyl acetate	
2160	3-phenylpropyl acetate	122-72-5
2161	3-phenylpropyl benzoate	60045-26-3
2162	3-phenylpropyl butanoate	7402-29-1
2163	3-phenylpropyl cinnamate	122-68-9
2164	phenylpropyl decanoate	
2165	3-phenylpropyl formate	104-64-3
2166	3-phenylpropyl hexanoate	6281-40-9
2167	2-phenylpropyl isobutyrate	65813-53-8
2168	3-phenylpropyl isobutyrate	103-58-2
2169	3-phenylpropyl isovalerate	5452-07-3

SEQ	Name	CAS No.
2170	3-phenylpropyl propionate	122-74-7
2171	3-phenylpropyl salicylate	24781-13-3
2172	3-phenylpropyl valerate	5451-88-7
2174	phytyl acetate	10236-16-5
2175	2(10)-pinen-3-yl isobutyrate	
2186	piperonyl acetate	326-61-4
2189	piperonyl isobutyrate	5461-08-5
2193	prenyl acetate	1191-16-8
2194	prenyl benzoate	5205-11-8
2208	propyl 2-(2-cyclopentenyl)-4-pentenoate	172450-04-3
2209	propyl 2,4-decadienoate	28316-62-3
2210	propyl 2-cyclopentenylacetate	
2211	propyl 2-furoate	615-10-1
2212	propyl 2-methylbutyrate	37064-20-3
2213	propyl acetate	109-60-4
2214	propyl acetoacetate	
2216	propyl benzoate	2315-68-6
2217	propyl butyrate	105-66-8
2218	propyl cinnamate	7778-83-8
2219	propyl crotonate	10352-87-1
2220	propyl cyclohexanepropionate	
2221	propyl decanoate	30673-60-0
2223	propyl dodecanoate	3681-78-5
2224	propyl formate	110-74-7
2225	propyl heptanoate	7778-87-2
2226	propyl hexadecanoate	2239-78-3
2227	propyl hexanoate	626-77-7
2228	propyl isobutyrate	644-49-5
2229	propyl isohexanoate	25415-68-3
2230	propyl isovalerate	557-00-6
2231	propyl lactate	616-09-1
2232	propyl levulinate	645-67-0
2234	propyl nonanoate	6513-03-7
2235	propyl octanoate	624-13-5
2236	propyl phenylacetate	4606-15-9
2237	propyl p-hydroxybenzoate	94-13-3
2238	propyl pivalate	
2239	propyl propionate	106-36-5
2240	propyl pyruvate	
2241	propyl sorbate	10297-72-0
2242	propyl thioacetate	2307-10-0
2243	propyl tiglate	70475-38-6
2244	propyl valerate	141-06-0
2245	propylene glycol diacetate	623-84-7
2246	propylene glycol dibutyrate	50980-84-2
2247	propylene glycol dihexanoate	
2248	propylene glycol dioctanoate	7384-98-7
2249	propylene glycol dipropionate	10108-80-2
2250	propylene glycol lactate	
2251	propylene glycol mono 2-methylbutyrate	
2252	propylene glycol monobutyrate	29592-95-8
2253	propylene glycol monohexanoate	29592-92-5
2254	propylene glycol monopropionate	
2271	rhodinyl acetate	141-11-7
2272	rhodinyl butyrate	141-15-1
2273	rhodinyl formate	141-09-3
2274	rhodinyl isobutyrate	138-23-8
2275	rhodinyl isovalerate	7778-96-3
2276	rhodinyl phenylacetate	10486-14-3
2277	rhodinyl propionate	105-89-5
2279	S-(o-tolyl) thioacetate	
2281	sabinene hydrate acetate	
2286	santalyl acetate	1323-00-8
2287	santalyl phenylacetate	1323-75-7

SEQ	Name	CAS No.
2293	S-methyl benzothioate	5925-68-8
2298	styrallyl acetate	93-92-5
2299	styrallyl butyrate	3460-44-4
2300	styrallyl formate	7775-38-4
2301	styrallyl hexanoate	
2302	styrallyl isobutyrate	7775-39-5
2303	styrallyl isovalerate	
2304	styrallyl propionate	120-45-6
2306	sulfuryl acetate	656-53-1
2307	sulfuryl butyrate	94159-31-6
2308	sulfuryl decanoate	101426-31-7
2309	sulfuryl formate	6469-32-5
2310	sulfuryl heptanoate	
2311	sulfuryl hexanoate	94159-32-7
2312	sulfuryl isobutyrate	94021-42-8
2313	sulfuryl isovalerate	
2314	sulfuryl octanoate	102175-98-4
2315	sulfuryl propionate	94159-30-5
2326	alpha-terpinyl acetate	80-26-2
2327	terpinyl acetate	8007-35-0
2328	terpinyl butyrate	2153-28-8
2329	terpinyl cinnamate	10024-56-3
2330	alpha-terpinyl formate	2153-26-6
2331	4-terpinyl formate	
2332	terpinyl isobutyrate	7774-65-4
2333	terpinyl isovalerate	1142-85-4
2335	terpinyl propionate	80-27-3
2336	tert-amyl acetate	
2338	tert-butyl propionate	20487-40-5
2341	4-tert-butylcyclohexyl acetate	
2349	tetradecyl butyrate	
2351	tetrahydrocuminylyl acetate	
2352	tetrahydrofurfuryl 2-mercaptopropionate	
2353	tetrahydrofurfuryl acetate	637-64-9
2355	tetrahydrofurfuryl butyrate	2217-33-6
2356	tetrahydrofurfuryl cinnamate	65505-25-1
2357	tetrahydrofurfuryl propionate	637-65-0
2358	tetrahydrofuryl phenylacetate	5421-00-1
2360	tetrahydrogeranyl acetate	20780-49-8
2361	tetrahydrogeranyl formate	
2400	p-tolyl acetate	140-39-6
2401	p-tolyl isovalerate	55066-56-3
2402	p-tolyl octanoate	59558-23-5
2403	tributyl citrate	77-94-1
2404	tricyclodecenyl acetate	2500-83-6
2405	tricyclodecenyl propionate	17511-60-3
2415	triethyl citrate	77-93-0
2429	3,3,5-trimethylcyclohexyl acetate	67859-96-5
2430	3,3,5-trimethylcyclohexyl butyrate	
2431	3,3,5-trimethylcyclohexyl levulinate	
2432	3,3,5-trimethylcyclohexyl propionate	
2433	3,3,5-trimethylcyclohexyl salicylate	
2438	3,5,5-trimethylhexyl acetate	58430-94-7
2439	3,5,5-trimethylhexyl formate	67355-38-8
2440	3,5,5-trimethylhexyl isovalerate	
2441	3,5,5-trimethylhexyl propionate	
2473	10-undecenyl acetate	112-19-6
2474	10-undecenyl butyrate	
2475	undecyl acetate	1731-81-3
2476	undecyl butyrate	1300-67-0
2490	vanillin isobutyrate	20665-85-4
2501	verbenyl acetate	33522-69-9
2503	vetiveryl acetate	117-98-6

SEQ	Name	CAS No.
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The result of an investigation conducted by the Japan Flavor & Fragrance Materials Association in the 2000 Health Sciences Research Program

## List of flavouring substances used in Japan

(Ketones)

SEQ	Name	CAS No.
38	acetanisole	100-06-1
40	acetoin	513-86-0
44	acetol	116-09-6
45	acetone	67-64-1
48	acetophenone	98-86-2
51	acetovanillone	498-02-2
54	4-(p-acetoxyphenyl)-2-butanone	3572-06-3
55	acetyl butyryl	3848-24-6
56	acetyl isobutyryl	7493-58-5
57	acetyl isovaleryl	13706-86-0
58	acetyl propionyl	600-14-6
60	2-acetyl-1-methylpyrrole	932-16-1
61	2-acetyl-1-pyrroline	99583-29-6
62	5-acetyl-2,4-dimethylthiazole	38205-60-6
63	3-acetyl-2,5-dimethylfuran	10599-70-9
65	2-acetyl-2-thiazoline	29926-41-8
66	2-acetyl-3,4,5,6-tetrahydropyridine	27300-27-2
67	2-acetyl-3,5(3,6)-dimethylpyrazine	
68	2-acetyl-3,5-dimethylpyrazine	54300-08-2
69	2-acetyl-3-ethylpyrazine	32974-92-8
70	2-acetyl-3-methylpyrazine	23787-80-6
71	2-acetyl-4-methylthiazole	7533-07-05
72	2-acetyl-5-methylfuran	1193-79-9
73	2-acetyl-5-methylthiophene	13679-74-8
74	4-acetyl-6-t-butyl-1,1-dimethylindane	13171-00-1
75	acetylacetone	123-54-6
76	acetylcedrene	32388-55-9
77	2-acetylfuran	1192-62-7
78	acetylpyrazine	22047-25-2
79	2-acetylpyridine	1122-62-9
80	3-acetylpyridine	350-03-8
81	4-acetylpyridine	1122-54-9
82	2-acetylpyrrole	1072-83-9
83	2-acetylthiazole	24295-03-2
85	8-acetylthio-p-menthan-3-one	57074-34-7
133	alpha-allylionone	79-78-7
138	2-aminoacetophenone	551-93-9
167	2-amyl-2-cyclopentenone	25564-22-1
188	anisyl acetone	104-20-1
196	anisyl methyl ketone	122-84-9
208	benzoin	119-53-9
209	benzophenone	119-61-9
211	benzoyl acetone	93-91-4
226	benzyl isobutyl ketone	5349-62-2
244	benzylidene acetone	122-57-6
297	butyl methyl ketone	591-78-6
322	2-sec-butylcyclohexanone	14765-30-1
324	butylidene acetone	1119-44-4
332	butyrophenone	495-40-9
337	d-camphor	464-49-3
338	dl-camphor	76-22-2
339	camphor	464-49-3
344	d-carvone	2244-16-8
345	l-carvone	6485-40-1
346	carvone	99-49-0
347	carvone oxide	18383-49-8
369	celery ketone	3720-16-9
418	civetone	542-46-1
439	cycloheptanone	502-42-1
443	cyclohexanone	108-94-1
472	cyclopentanone	120-92-3

SEQ	Name	CAS No.
474	2-cyclopentylcyclopentanone	4884-24-6
475	cyclotene	80-71-7
481	alpha-damascenone	
482	beta-damascenone	23696-85-7
483	alpha-damascone	43052-87-5
484	beta-damascone	23726-92-3
485	delta-damascone	41436-42-4
498	3-decanone	928-80-3
500	3-decen-2-one	10519-33-2
525	decyl methyl ketone	6175-49-1
530	dehydronootkatone	
532	diacetone alcohol	123-42-2
533	diacetyl	431-03-8
539	dibenzyl ketone	102-04-5
562	4,5-dihydro-3(2H)-thiophenone	1003-04-9
563	2,3-dihydro-3,5-dihydroxy-6-methyl-4H-pyran-4-one	28564-83-2
565	dihydro-alpha-ionone	31499-72-6
567	dihydro-beta-ionone	17283-81-7
569	dihydrocarvone	5948-04-9
583	dihydrojasmone	1128-08-1
588	1,10-dihydronootkatone	20489-53-6
600	diisopropyl ketone	565-80-0
604	3,4-dimethoxyacetophenone	
619	dimethyl methoxy furanone	4077-47-8
630	3,4-dimethyl-1,2-cyclopentandione	13494-06-9
631	3,5-dimethyl-1,2-cyclopentandione	13494-07-0
643	2,5-dimethyl-3(2H)-furanone	14400-67-0
653	2,4-dimethylacetophenone	89-74-7
664	2,6-dimethylheptan-4-one	108-83-8
678	diosphenol	490-03-9
682	dipropyl ketone	123-19-3
753	ethyl 2-furyl ketone	3194-15-8
813	ethyl amyl ketone	106-68-3
815	ethyl anisylidene ketone	
821	ethyl butyl ketone	106-35-4
828	ethyl cyclopentenolone	21835-01-8
838	ethyl hexyl ketone	925-78-0
850	ethyl maltol	4940-11-8
871	ethyl propyl ketone	589-38-8
892	ethyl vinyl ketone	1629-58-9
899	5-ethyl-4-hydroxy-2-methyl-3(2H)-furanone	27538-09-6
950	farnesyl acetone	762-29-8
951	d-fenchone	4695-62-9
952	fenchone	1195-79-5
959	furaneol	3658-77-3
978	furfuryl methyl ketone	6975-60-6
985	furfurylidine acetone	623-15-4
987	1-(2-furfurylthio)propanone	58066-86-7
988	4-furfurylthio-4-methylpentanone-2	
999	geranyl acetone	689-67-8
1025	2-heptadecanone	2922-51-2
1036	2,3-heptanedione	96-04-8
1082	3,4-hexadione	4437-51-8
1084	hexahydrofarnesyl acetone	502-69-2
1104	5-hexen-2-one	109-49-9
1106	4-hexen-3-one	2497-21-4
1107	1-hexen-3-one	1629-60-3
1200	2-hexyl cyclopentanone	13074-65-2
1241	1-hydroxy-2-butanone	5077-67-8
1242	4-hydroxy-2-butanone	590-90-9
1243	2-hydroxy-2-cyclohexen-1-one	10316-66-2
1244	1-hydroxy-2-heptanone	17046-01-4
1245	3-hydroxy-2-octanone	37160-77-3
1246	2-hydroxy-3,4-dimethyl-2-cyclopenten-1-one	21835-00-7

SEQ	Name	CAS No.
1249	2-hydroxy-3-pentanone	5704-20-1
1251	1-hydroxy-4-methyl-2-pentanone	
1255	5-hydroxy-4-octanone	496-77-5
1256	1-hydroxy-5-methyl-2-hexanone	
1258	o-hydroxyacetophenone	118-93-4
1276	3-hydroxypentan-2-one	3142-66-3
1281	alpha-ionone	127-41-3
1282	beta-ionone	79-77-6
1283	alpha-irone	79-69-6
1296	isoamyl ethyl ketone	624-42-0
1392	isojasmone	11050-62-7
1393	isomenthone	491-07-6
1394	alpha-isomethyl ionone	127-51-5
1397	isophorone	78-59-1
1430	4-isopropyl-2-cyclohexenone	500-02-7
1432	5-isopropyl-3-nonene-2,8-dione	
1436	5-isopropyl-8-methyl-6,8-nonadien-2-one	1937-54-8
1437	p-isopropylacetophenone	645-13-6
1443	isopulegone	29606-79-9
1453	cis-jasmone	488-10-8
1454	trans-jasmone	6261-18-3
1491	maltol	118-71-8
1497	4,6,8-megastigmatrien-3-one	13215-88-8
1505	p-menthan-2-one	499-70-7
1513	menthone	89-80-5
1536	3-mercapto-2-butanone	40789-98-8
1537	3-mercapto-2-pentanone	67633-97-0
1548	mesityl oxide	141-79-7
1573	4-(p-methoxyphenyl)-3-buten-2-one	
1627	methyl amyl ketone	110-43-0
1628	alpha-methyl anisal acetone	104-27-8
1648	methyl ethyl ketone	78-93-3
1652	methyl gamma-decalactone	7011-83-8
1657	methyl heptyl ketone	821-55-6
1659	methyl hexyl ketone	111-13-7
1661	methyl ionone	1335-46-2
1662	methyl isoamyl ketone	110-12-3
1663	methyl isobutyl ketone	108-10-1
1667	methyl isopropyl ketone	563-80-4
1683	beta-methyl naphthyl ketone	93-08-3
1684	alpha-methyl naphtyl ketone	941-98-0
1689	methyl nonyl ketone	112-12-9
1694	methyl octyl ketone	693-54-9
1709	methyl propyl ketone	107-87-9
1724	methyl undecyl ketone	593-08-8
1729	methyl vinyl ketone	78-94-4
1733	3-methyl-2-cyclopetenone	2758-18-1
1735	1-(5-methyl-2-furyl)-1,2-propanedione	1197-20-2
1736	1-(5-methyl-2-furyl)-2-propanone	13678-74-5
1737	6-methyl-2-heptanone	928-68-7
1738	5-methyl-2-hepten-4-one	81925-81-7
1739	3-methyl-2-hexanone	2550-21-2
1746	3-methyl-2-pentanone	565-61-7
1758	methyl-3(4)-methyl thienyl ketone	
1760	7-methyl-3,4-dihydro-2H-1,5-benzodioxepin-3-one	
1763	3-methyl-3-buten-2-one	814-78-8
1771	5-methyl-3-heptanone	541-85-5
1773	5-methyl-3-hexen-2-one	5166-53-0
1788	p-methylacetophenone	122-00-9
1794	methyl-alpha-ionone	127-42-4
1826	3-methylcyclohexan-1,2-dione	3008-43-3
1827	3-methylcyclohexanone	591-24-2
1832	methylexaltone	541-91-3
1839	6-methylhepta-3,5-dien-2-one	1604-28-0

SEQ	Name	CAS No.
1841	methylheptenone	110-93-0
1849	3-methylnonane-2,4-dione	113486-29-6
1863	2-methyltetrahydro-3-thiophenone	13679-85-1
1865	2-methyltetrahydrofuran-3-one	3188-00-9
1870	1-(3-(methylthio)butyryl)-2,6,6-trimethylcyclohexene	
1874	4-methylthio-4-methyl-2-pentanone	23550-40-5
1875	4-methylthiobutan-2-one	34047-39-7
1883	9-methylthiomegastigma-3,5-dien-7-one	
1887	8-methylthio-p-menthan-3-one	32637-94-8
1912	3-acetylpyrrole	1072-82-8
1964	4-nonanone	4485-09-0
1965	3-nonen-2-one	14309-57-0
1992	nootkatone	4674-50-4
2002	3,5-octadien-2-one	30086-02-3
2003	1,5-octadien-3-one	65213-86-7
2023	3-octen-2-one	1669-44-9
2025	1-octen-3-one	4312-99-6
2030	2-octen-4-one	4643-27-0
2071	4-oxoisophorone	1125-21-9
2078	2-pentadecanone	2345-28-0
2082	3-pentanone	96-22-0
2083	3-penten-2-one	625-33-2
2087	pentyl 2-furyl ketone	14360-50-0
2141	1-phenyl-1,2-propanedione	579-07-7
2180	piperitenone	491-09-8
2182	d-piperitone	6091-50-5
2183	piperitone	89-81-6
2187	piperonyl acetone	55418-52-5
2199	propoin	4984-85-4
2204	6-propionyl-1-p-menthene	31375-17-4
2205	2-propionylpyrrole	1073-26-3
2206	2-propionylthiophene	13679-75-9
2207	propiophenone	93-55-0
2260	3-propylthio-4-heptanone	
2262	pulegone	89-82-7
2266	pyruvaldehyde	78-98-8
2268	raspberry ketone	5471-51-2
2337	4-tert-Butyl cyclohexanone	762-75-4
2339	p-tert-butylacetophenone	
2342	4-tert-Pentylcyclohexanone	
2347	2-tetradecanone	2345-27-9
2348	cis-7-tetradecen-2-one	
2364	tetrahydro-pseudo-ionone	4433-36-7
2366	tetramethyl ethylcyclohexenone	17369-60-7
2369	theaspirone	19377-59-4
2373	thiazolidine-2,4-dione	
2382	thiomenthone	38462-22-5
2411	12-tridecen-2-one	60437-21-0
2419	3,5,5-trimethyl-1,2-cyclohexanedione	57696-89-6
2420	1-(2,4,4-Trimethyl-2-cyclohexenyl)-trans-2-butenone	61711-48-6
2421	2,6,6-trimethyl-2-hydroxycyclohexanone	7500-42-7
2427	2,2,6-trimethylcyclohexanone	2408-37-9
2428	3,3,5-trimethylcyclohexanone	873-94-9
2447	undeca-2,3-dione	7493-59-6
2484	valeroin	
2500	verbenone	80-57-9
2512	zingerone	122-48-5

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## List of flavouring substances used in Japan

(Fatty Acids)

SEQ	Name	CAS No.
39	acetic acid	64-19-7
86	aconitic acid	499-12-7
88	adipic acid	124-04-9
174	5-and 6-decenoic acid	72881-27-7
177	angelic acid	
185	anisic acid	100-09-4
330	butyric acid	107-92-6
377	cinnamic acid	621-82-9
403	citronellic acid	502-47-6
423	p-cresoxyacetic acid	
430	crotonic acid	3724-65-0
440	cyclohexaneacetic acid	5292-21-7
441	cyclohexanecarboxylic acid	98-89-5
469	cyclohexylpropionic acid	
473	2-cyclopenten-1-acetic acid	13668-61-6
495	decanoic acid	334-48-5
509	2-decenoic acid	3913-85-7
510	4-decenoic acid	26303-90-2
511	9-decenoic acid	14436-32-9
704	2-dodecenoic acid	32466-54-9
728	ethoxyacetic acid	627-03-2
896	4-ethyl-2-octenoic acid	
908	2-ethylbutyric acid	88-09-5
919	2-ethylhexanoic acid	149-57-5
930	4-ethyloctanoic acid	16493-80-4
958	formic acid	64-18-6
989	2-furoic acid	88-14-2
993	geranic acid	459-80-3
1023	heptadecanoic acid	506-12-7
1037	heptanoic acid	111-14-8
1049	2-heptenoic acid	18999-28-5
1078	2-hexadecenoic acid	50448-95-8
1099	hexanoic acid	142-62-1
1119	2-hexenoic acid	1191-04-4
1120	3-hexenoic acid	4219-24-3
1121	trans-2-hexenoic acid	13419-69-7
1225	hexyloxyacetic acid	57931-25-6
1247	4-hydroxy-3-methoxycinnamic acid	1135-24-6
1248	2-hydroxy-3-methylpentanoic acid	488-15-3
1254	2-hydroxy-4-methylvaleric acid	498-36-2?
1265	3-hydroxybutyric acid	300-85-6
1274	3-hydroxyhexanoic acid	10191-24-9
1377	isobutyric acid	79-31-2
1451	isovaleric acid	503-74-2
1456	lactic acid	50-21-5
1457	lauric acid	143-07-7
1462	levulinic acid	123-76-2
1487	linoleic acid	60-33-3
1488	linolenic acid	463-40-1
1490	malonic acid	141-82-2
1546	2-mercaptopropionic acid	79-42-5
1547	3-mercaptopropionic acid	107-96-0
1727	3-methyl valeric acid	105-43-1
1743	3-methyl-2-oxovaleric acid	39748-49-7
1749	2-methyl-2-pentenoic acid	3142-72-1
1779	2-methyl-4-pentenoic acid	1575-74-2
1822	2-methylbutyric acid	116-53-0
1825	3-methylcrotonic acid	541-47-9
1840	2-methylheptanoic acid	1188-02-9
1843	2-methylhexanoic acid	4536-23-6
1844	5-methylhexanoic acid	628-46-6

SEQ	Name	CAS No.
1850	8-methylnonanoic acid	5963-14-4
1852	4-methyloctanoic acid	54947-74-9
1878	4-methylthiobutyric acid	
1888	3-methylthiopropionic acid	646-01-5
1898	2-methylvaleric acid	97-61-0
1899	4-methylvaleric acid	646-07-1
1907	myristic acid	544-63-8
1960	nonanoic acid	112-05-0
1972	2-nonenoic acid	3760-11-0
1973	3-nonenoic acid	4124-88-3
2019	octanoic acid	124-07-2
2034	2-octenoic acid	1470-50-4
2035	3-octenoic acid	1577-19-1
2036	trans-3-octenoic acid	5163-67-7
2065	oleic acid	112-80-1
2069	2-oxobutyric acid	600-18-0
2070	2-oxoglutaric acid	328-50-7
2073	palmitic acid	57-10-3
2076	pentadecanoic acid	1002-84-2
2084	2-pentenoic acid	13991-37-2
2085	4-pentenoic acid	591-80-0
2096	perillic acid	7694-45-3
2128	phenoxyacetic acid	122-59-8
2152	phenylacetic acid	103-82-2
2158	2-phenylpropionic acid	492-37-5
2159	3-phenylpropionic acid	501-52-0
2190	pivalic acid	75-98-9
2203	propionic acid	79-09-4
2267	pyruvic acid	127-17-3
2294	sorbic acid	110-44-1
2296	stearic acid	57-11-4
2376	thioacetic acid	507-09-5
2379	thioglycolic acid	68-11-1
2381	thiomalic acid	70-49-5
2386	thiopropionic acid	1892-31-5
2392	tiglic acid	80-59-1
2409	tridecanoic acid	638-53-9
2436	3,5,5-trimethylhexanoic acid	446-3-6
2458	undecanoic acid	112-37-8
2470	10-undecenoic acid	112-38-9
2483	valeric acid	109-52-4
2487	vanillic acid	121-34-6

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## List of flavouring substances used in Japan

(Aliphatic Higher Alcohols)

SEQ	Name	CAS No.
136	ambrinol	41199-19-3
250	alpha-bisabolol	515-69-5
251	borneol	507-70-0
319	butylcellosolve	111-76-2
336	alpha-campholenol	1901-38-8
342	l-carveol	2102-59-2
343	carveol	99-48-9
361	beta-caryophyllene alcohol	472-97-9
366	cedrenol	28231-03-0
367	cedrol	77-53-2
404	l-citronellol	106-22-9
405	citronellol	106-22-9
442	cyclohexanol	108-93-0
460	2-cyclohexylethanol	4442-79-9
488	2,4-decadienol	18409-21-7
496	3-decanol	1565-81-7
497	decanol	112-30-1
512	2-decenol	22104-80-9
513	9-decenol	13019-22-2
514	4-decenol	
568	dihydrocarveol	619-01-2
582	beta-dihydroionol	3293-47-8
584	1,2-dihydrolinalool	2270-57-7
587	dihydromyrcenol	30385-25-2
589	dihydroperillyl alcohol	
591	2,5-dihydroxy-2,5-dimethyl-1,4-dithiane	55704-78-4
597	diisobutyl carbinol	108-82-7
633	3,7-dimethyl-1,5,7-octatrien-3-ol	20053-88-7
637	2,6-dimethyl-2-heptanol	13254-34-7
645	3,6-dimethyl-3-octanol	151-19-9
646	2,4-dimethyl-3-pentanol	
649	2,4-dimethyl-4-nonanol	74356-31-3
699	2-dodecanol	10203-28-8
700	dodecanol	112-53-8
705	2-dodecenol	22104-81-0
717	elemol	639-99-6
906	2-ethylbutanol	97-95-0
915	2-ethylfenchol	18368-91-7
922	2-ethylhexyl alcohol	104-76-7
948	farnesol	4602-84-0
954	fenchyl alcohol	1632-73-1
994	geraniol	106-24-1
1008	geranyl linalool	1113-21-9
1024	heptadecanol	1454-85-9
1038	2-heptanol	543-49-7
1039	3-heptanol	589-82-2
1040	4-heptanol	589-55-9
1041	heptanol	111-70-6
1043	1-hepten-3-ol	4938-52-7
1050	2-heptenol	33467-76-4
1051	3-heptenol	10606-47-0
1076	hexadecanol	36653-82-4
1079	2,4-hexadien-1-ol	111-28-4
1083	hexadodecanol	
1100	2-hexanol	626-93-7
1101	3-hexanol	623-37-0
1102	hexanol	111-27-3
1103	4-hexen-1-ol	6126-50-7
1105	1-hexen-3-ol	4798-44-1
1122	2-hexenol	2305-21-7
1123	3-hexenol	544-12-7

SEQ	Name	CAS No.
1124	cis-2-hexenol	928-94-9
1125	cis-3-hexenol	928-96-1
1126	cis-4-hexenol	928-91-6
1127	trans-2-hexenol	928-95-0
1128	trans-3-hexenol	928-97-2
1129	trans-4-hexenol	928-92-7
1227	hinokitiol	499-44-5
1268	hydroxycitronellal diethyl acetal	7779-94-4
1269	hydroxycitronellal dimethyl acetal	141-92-4
1272	hydroxycitronellol	107-74-4
1279	alpha-ionol	25312-34-9
1280	beta-ionol	22029-76-1
1321	isoborneol	124-76-5
1380	isodihydrocarveol	18675-35-9
1387	isogeraniol	
1398	isophytol	505-32-8
1442	isopulegol	89-79-2
1459	lavandulol	498-16-8
1469	limonenediol	1946-00-5
1470	linalool	78-70-6
1499	p-menth-2-en-1-ol	
1501	2,8-p-menthadien-1-ol	22771-44-4
1502	1,8-p-menthadien-4-ol	3419-02-1
1503	menthadienol	3269-90-7
1504	p-menthan-2-ol	499-69-4
1506	p-menthan-7-ol	
1507	p-menthan-8-ol	498-81-7
1509	8-p-menthen-7-ol	18479-64-6
1511	dl-menthol	89-78-1 1490-04-6
1512	menthol	1490-04-6 89-78-1
1515	3-(1-menthoxy)-1,2-propanediol	87061-04-9
1542	3-mercaptohexanol	
1568	methoxycitronellal	3613-30-7
1744	3-methyl-2-pentanol	565-60-6
1745	4-methyl-2-pentanol	108-11-2
1769	6-methyl-3-heptanol	
1770	5-methyl-3-heptanol	
1772	2-methyl-3-hexanol	617-29-8
1775	3-methyl-3-pentanol	77-74-7
1783	6-methyl-5-hepten-2-ol	1569-60-4
1784	2-methyl-5-hepten-2-ol	
1802	alpha-methyl-beta-hydroxypropyl alpha-methyl-beta-mercaptopropyl sulfide	54957-02-7
1845	5-methylhexanol	627-98-5
1854	2-methylpentanol	105-30-6
1855	3-methylpentanol	589-35-5
1856	4-methylpentanol	626-89-1
1880	3-methylthiohexan-1-ol	51755-66-9
1904	myrcenol	543-39-5
1909	myrtenol	515-00-4
1917	neodihydrocarveol	18675-34-8
1919	d-neomenthol	491-01-0
1920	neomenthol	2216-52-6
1923	nerol	106-25-2
1925	cis-nerolidol	142-50-7
1926	trans-nerolidol	40716-66-3
1927	nerolidol	7212-44-4
1947	2,4-nonadienol	62488-56-6
1948	3,6-nonadienol	76649-25-7
1949	trans-2, cis-6-nonadienol	28069-72-9
1950	nonadienol	7786-44-9
1961	1-nonanol	143-08-8
1962	2-nonanol	628-99-9
1963	3-nonanol	624-51-1
1966	1-nonen-3-ol	21964-44-3

SEQ	Name	CAS No.
1974	3-nonenol	10340-23-5
1975	6-nonenol	35854-86-5
1976	cis-2-nonenol	41453-56-9
1977	trans-2-nonenol	31502-14-4
1997	ocimanol	5986-38-9
1998	octa-1,5-dien-3-ol	83861-74-9
2000	octadecanol	112-92-5
2007	3,5-octadienol	70664-96-9
2017	1,3-octanediol	23433-05-8
2020	2-octanol	123-96-6
2021	3-octanol	589-98-0
2022	octanol	111-87-5
2024	1-octen-3-ol	3391-86-4
2029	2-octen-4-ol	4798-61-2
2037	2-octenol	22104-78-5
2038	3-octenol	20125-84-2
2039	cis-5-octenol	64275-73-6
2066	oleinol	
2077	pentadecanol	629-76-5
2093	perilla alcohol	536-59-4
2173	phytol	150-86-7
2179	pinocarveol	5947-36-4
2181	piperitol	491-04-3
2270	rhodinol	6812-78-8
2285	alpha-santalol	115-71-9
2288	sclareol	515-03-7
2319	1-terpinenol	586-82-3
2320	4-terpinenol	562-74-3
2321	alpha-terpineol	98-55-5
2322	beta-terpineol	138-87-4
2323	terpineol	8000-41-7
2340	p-tert-butylcyclohexanol	98-52-2
2346	1-tetradecanol	112-72-1
2350	tetrahydrocuminol	5502-72-7
2359	tetrahydrogeraniol	106-21-8
2362	tetrahydrolinalool	78-69-3
2363	tetrahydromyrcenol	
2388	thujyl alcohol	21653-20-3
2389	4-thuyanol	546-79-2
2410	tridecanol	112-70-9
2414	2-tridecenol	68480-25-1
2426	3,3,5-trimethylcyclohexanol	116-02-9
2437	3,5,5-trimethylhexanol	3452-97-9
2450	2,4-undecadienol	59376-58-8
2459	2-undecanol	1653-30-1
2460	undecanol	112-42-5
2462	cis,cis,1,5,8-undecatrien-3-ol	35389-48-1
2471	10-undecenol	112-43-6
2472	2-undecenol	37617-03-1
2499	verbenol	473-67-6
2502	vetiverol	68129-81-7
2507	viridiflorol	552-02-3

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## List of flavouring substances used in Japan

(Aliphatic Higher Aldehydes : except for those generally recognized as toxic)

SEQ	Name	CAS No.
335	campholenic aldehyde	4501-58-0
392	citral	5392-40-5
398	citronellal	106-23-0
414	citronellyl oxyacetaldehyde	7492-67-3
435	cyclocitral	52844-21-0
486	2,4-decadienal	2363-88-4
487	trans-2,trans-4-decadienal	25152-84-5
491	decanal	112-31-2
502	2-decenal	3913-71-1
503	4-decenal	30390-50-2
504	9-decenal	39770-05-3
505	cis-4-decenal	21662-09-9
506	trans-2-decenal	3913-81-3
507	trans-4-decenal	65405-70-1
508	cis-7-decenal	21661-97-2
665	2,6-dimethyloctanal	7779-07-9
670	dimethyltetrahydrobezbzaldehyde	68737-61-1
690	2,4-dodecadienal	21662-16-8
691	2,6-dodecadienal	21662-13-5
694	dodecanal	112-54-9
701	2-dodecenal	4826-62-4
702	trans-2-dodecenal	20407-84-5
895	2-ethyl-2-hexenal	645-62-5
905	2-ethylbutanal	97-96-1
909	ethylcitral	41448-29-7
910	2-ethylcrotone aldehyde	
917	2-ethylhexanal	123-05-7
991	5-(2-furyl)-2,4-pentadienal	5916-94-9
992	geranial	141-27-5
995	geranoxyacetaldehyde	65405-73-4
1026	trans, trans-2,4-heptadienal	4313-03-5
1027	2,4-heptadienal	5910-85-0
1030	heptanal	111-71-7
1044	2-heptenal	2463-63-0
1045	cis-4-heptenal	6728-31-0
1046	trans-2-heptenal	18829-55-5
1047	trans-4-heptenal	929-22-6
1052	cis-4-heptenol	6191-71-5
1074	hexadecanal	629-80-1
1080	trans,trans-2,4-hexadienal	142-83-6
1087	hexanal	66-25-1
1108	2-hexenal	505-57-7
1109	3-hexenal	4440-65-7
1110	cis-3-hexenal	6789-80-6
1111	trans-2-hexenal	6728-26-3
1112	trans-3-hexenal	69112-21-6
1224	2-hexylidenehexanal	13019-16-4
1228	beta-homocyclocitral	472-66-2
1253	4-hydroxy-4-methylpentyl-3-cyclohexenecarboxaldehyde	31906-04-4
1266	hydroxycitronellal	107-75-5
1378	isocyclocitral	1335-66-6
1389	isohexenylcyclohexene carboxaldehyde	37677-14-8
1435	2-isopropyl-5-methyl-2-hexenal	35158-25-9
1498	melonal	106-72-9
1500	p-mentha-1,3-dien-7-al	
1660	alpha-methyl ional	58102-02-6
1740	4-methyl-2-methylthiomethyl-2-hexenal	
1741	5-methyl-2-methylthiomethyl-2-hexenal	
1742	4-methyl-2-methylthiomethyl-2-pentenal	40878-73-7
1747	2-methyl-2-pentenal	623-36-9
1748	4-methyl-2-pentenal	5362-56-1

SEQ	Name	CAS No.
1751	4-methyl-2-phenyl-2-hexenal	
1759	2-methyl-3-(4-tert-butylphenyl)propanal	80-54-6
1829	2-methyldecanal	19009-56-4
1851	2-methyloctanal	7786-29-0
1853	2-methylpentanal	123-15-9
1884	2-(methylthiomethyl)-2-butenal	40878-72-6
1894	12-methyltridecanal	75853-49-5
1895	2-methylundecanal	110-41-8
1908	myrtenal	564-94-3
1922	neral	106-26-3
1941	2,4-nonadienal	6750-03-4
1942	2,6-nonadienal	557-48-2
1943	trans-2, trans-4-nonadienal	5910-87-2
1944	trans-2,trans-6-nonadienal	17587-33-6
1945	3,6-nonadienal	30551-17-8
1954	nonanal	124-19-6
1967	2-nonenal	2463-53-8
1968	cis-6-nonenal	2277-19-2
1969	trans-2-nonenal	18829-56-6
1970	cis-3-nonenal	31823-43-5
2004	2,4-octadienal	5577-44-6
2005	2,6-octadienal	56767-18-1
2006	trans-2,trans-4-octadienal	30361-28-5
2012	octanal	124-13-0
2031	2-octenal	2363-89-5
2032	trans-2-octenal	2548-87-0
2033	cis-3-octenal	78693-34-2
2064	octyloxyacetaldehyde	53488-14-5
2094	perillaldehyde	2111-75-3
2192	1-p-menthen-9-al	29548-14-9
2282	safranal	116-26-7
2290	alpha-sinensal	17909-77-2
2291	beta-sinensal	60066-88-8
2344	tetradecanal	124-25-4
2407	tridecanal	10486-19-8
2412	2-tridecenal	7774-82-5
2413	trans-2-tridecenal	7069-41-2
2424	2,6,10-Trimethyl-5,9-undecadienal	
2434	3,5,5-trimethylhexanal	5435-64-3
2448	2,4-undecadienal	13162-46-4
2449	trans-2, trans-4-undecadienal	30361-29-6
2453	undecanal	112-44-7
2464	10-undecenal	112-45-8
2465	2-undecenal	2463-77-6
2466	trans-2-undecenal	53448-07-0

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## List of flavouring substances used in Japan

(Aliphatic Higher Hydrocarbons : except for those generally recognized as toxic)

SEQ	Name	CAS No.
698	dodecane	112-40-3
703	1-dodecene	112-41-4
714	eicosane	112-95-8
1824	4-methyl-cis-2-pentene	691-38-3
1971	1-nonene	
2075	pentadecane	629-62-9
2345	tetradecane	629-59-4
2367	2,6,10,14-Tetramethylpentadecane	
2457	undecane	
2461	1,3,5,7-undecatetraene	116963-97-4
2463	1,3,5-undecatriene	16356-11-9
2469	2-undecene	

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## List of flavouring substances used in Japan

(Thioethers : except for those generally recognized as toxic)

SEQ	Name	CAS No.
64	3-acetyl-2,5-dimethylthiophene	2530-10-1
84	2-acetylthiophene	88-15-3
115	allyl methyl disulfide	2179-58-0
116	allyl methyl sulfide	10152-76-8
117	allyl methyl trisulfide	34135-85-8
124	allyl propyl disulfide	2179-59-1
125	allyl propyl sulfide	33922-70-2
126	allyl propyl trisulfide	33922-73-5
210	benzothiazole	95-16-9
234	benzyl methyl disulfide	699-10-5
236	benzyl methyl sulfide	766-92-7
246	bis-(2-methyl-3-furyl) disulfide	28588-75-2
247	3,5-bis(2-methyltetrahydrofuryl-3)spiro-1,2,4-trithiolan	
309	butyl propyl disulfide	72437-64-0
318	2-butyl-4,5-dimethylthiazole	76572-48-0
326	2-sec-butylthiazole	18277-27-5
327	2-butylthiophene	1455-20-5
328	butyraldehyde dibenzyl mercaptal	
534	diallyl disulfide	2179-57-9
535	diallyl polysulfides	72869-75-1
536	diallyl sulfide	592-88-1
537	dibenzyl disulfide	150-60-7
543	dibutyl sulfide	544-40-1
544	dicyclohexyl disulfide	2550-40-5
547	diethyl disulfide	110-81-6
556	diethyl sulfide	352-93-2
559	difurfuryl disulfide	4437-20-1
561	difurfuryl sulfide	13678-67-6
593	diisoamyl disulfide	2051-04-9
599	diisopropyl disulfide	4253-89-8
601	diisopropyl sulfide	625-80-9
625	dimethyl sulfide	75-18-3
626	dimethyl sulfoxide	67-68-5
627	dimethyl tetrasulfide	5756-24-1
628	dimethyl trisulfide	3658-80-8
629	3,5-dimethyl-1,2,4-trithiolane	23654-92-4
634	2,5-dimethyl-2,5-epoxy-1,4-dithiane	
636	4,5-dimethyl-2-ethylthiazole	873-64-3
639	4,5-dimethyl-2-isobutyl-3-thiazoline	65894-83-9
642	4,5-dimethyl-2-propylthiazole	41981-72-0
672	2,4-dimethylthiazole	541-58-2
673	2,5-dimethylthiazole	4175-66-0
674	4,5-dimethylthiazole	3581-91-7
675	2,5-dimethylthiophene	638-02-8
676	3,4-dimethylthiophene	632-15-5
677	dinonyl sulfide	929-98-6
679	di-o-tolyl disulfide	4032-80-8
684	dipropyl polysulfide	
686	dipropyl sulfide	111-47-7
687	dipropyl trisulfide	6028-61-1
688	di-tert-Amyl disulfide	
689	dithienyl disulfide	6911-51-9
733	2-ethoxythiazole	15679-19-3
757	ethyl 2-hydroxyethyl sulfide	110-77-0
792	2-ethyl 4-methylthiazole	15679-12-6
868	ethyl propenyl sulfide	36784-55-1
901	5-ethyl-4-methylthiazole	31883-01-9
903	4-ethyl-5-methylthiazole	52414-91-2
934	2-ethylthiazole	15679-09-1
936	2-ethylthiophene	872-55-9
957	formaldehyde dimethyl mercaptal	1618-26-4

SEQ	Name	CAS No.
974	furfuryl isopropyl sulfide	1883-78-9
979	furfuryl methyl sulfide	1438-91-1
1226	2-hexylthiophene	18794-77-9
1371	2-isobutyl-4,5-dimethylthiazole	53498-32-1
1372	2-isobutyl-4-methylthiazole	61323-24-8
1373	2-isobutyl-5-methylthiazole	72611-71-3
1375	2-isobutylthiazole	18640-74-9
1434	2-isopropyl-4-methylthiazole	15679-13-7
1461	lenthionine	292-46-6
1550	methional	3268-49-3
1554	methionol	505-10-2
1580	methyl 1-propenyl sulfide	10152-77-9
1590	methyl 2-methyl-3-furyl disulfide	65505-17-1
1595	methyl 2-oxopropyl disulfide	122861-78-3
1622	methyl 5-methylfurfuryl disulfide	78818-78-7
1635	methyl butyl sulfide	628-29-5
1646	methyl disulfide	624-92-0
1647	methyl ethyl disulfide	20333-39-5
1649	methyl ethyl sulfide	624-89-5
1651	methyl furfuryl disulfide	57500-00-2
1695	methyl octyl sulfide	3698-95-1
1697	methyl o-tolyl disulfide	35379-09-0
1701	methyl phenyl disulfide	14173-25-2
1708	methyl propyl disulfide	2179-60-4
1710	methyl propyl sulfide	3877-15-4
1711	methyl propyl trisulfide	17619-36-2
1755	2-methyl-2-thiazoline	2346-00-1
1761	2-methyl-3,5 or 6-(furfurylthio)pyrazine (mixture of isomers)	65530-53-2
1762	2-methyl-3,5 or 6-methylthiopyrazine	67952-65-2
1768	2-methyl-3-furyl 2-methyl-3-tetrahydrofuryl disulfide	
1782	2-methyl-5,7-dihydrothieno[3,4-d]pyrimidine	36267-71-7
1786	4-methyl-5-vinylthiazole	1759-28-0
1866	2-methylthiazole	3581-87-1
1867	4-methylthiazole	693-95-8
1868	5-methylthiazole	3581-89-3
1869	2-methylthiazolidine	24050-16-6
1873	2-methylthio-3-ethylpyrazine	72987-62-3
1876	3-methylthiobutanal	16630-52-7
1877	4-methylthiobutanol	20582-85-8
1879	2-methylthioethanol	5271-38-5
1885	2-methylthiophene	554-14-3
1886	3-methylthiophene	616-44-4
1892	3-methylthiopropylamine	4104-45-4
1893	methylthiopyrazine	21948-70-9
2092	2-pentylthiophene	4861-58-9
2136	phenyl disulfide	882-33-7
2197	propenyl propyl disulfide	5905-46-4
2198	propenyl propyl sulfide	27817-67-0
2222	propyl disulfide	629-19-6
2258	2-propylthiazole	17626-75-4
2259	2-propylthiazolidine	24050-10-0
2365	tetrahydrothiophene	110-01-0
2372	thiazole	288-47-1
2374	2-thienyl mercaptan	7774-74-5
2377	thioanisole	100-68-5
2384	thiophene	110-02-1
2385	2-thiophenecarbaldehyde	98-03-3
2417	2,4,6-trihydro-2,4,6-trimethyl-1,3,5-dithiazine	94944-51-1
2425	4,7,7-trimethyl-6-thiabicyclo[3.2.1]octane	68398-18-5
2443	trimethylthiazole	13623-11-5
2444	trithioacetone	828-26-2
2445	2,3,5-trithiohexane	42474-44-2
2446	1,2,4-trithiolane	289-16-7

SEQ	Name	CAS No.
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## List of flavouring substances used in Japan

(Thiols(Thioalcohols) : except for those generally recognized as toxic)

SEQ	Name	CAS No.
114	allyl mercaptan	870-23-5
207	benzenethiol	108-98-5
233	benzyl mercaptan	100-53-8
261	2,3-butanedithiol	4532-64-3
262	1-butanethiol	109-79-5
263	2-butanethiol	513-53-1
455	cyclohexyl mercaptan	1569-69-3
471	cyclopentanethiol	1679-07-8
602	1,2-dimercaptoethane	540-63-6
603	2,3-dimercaptopropanol	
644	2,5-dimethyl-3-furanthiol	55764-23-3
662	3,3-dimethylbutanethiol	
712	dodecyl mercaptan	112-55-0
722	ethanethiol	75-08-1
976	furfuryl mercaptan	98-02-2
1067	heptyl mercaptan	1639-09-4
1075	hexadecanethiol	2917-26-2
1098	1,6-hexanedithiol	1191-43-1
1306	isoamyl mercaptan	541-31-1
1417	isopropyl mercaptan	75-33-2
1534	3-((mercapto-1-methylpropyl)thio)2-butanol	76801-35-8
1535	3-mercapto-2-butanol	37887-04-0
1539	4-mercapto-4-methyl-2-pentanone	19872-52-7
1541	2-mercaptoethanol	60-24-2
1544	2-mercaptomethylpyrazine	59021-02-2
1545	2-,3-and 10-mercaptopinane	23832-18-0
1558	4-methoxy-2-methylbutane-2-thiol	94087-83-9
1676	methyl mercaptan	74-93-1
1767	2-methyl-3-furanthiol	28588-74-1
1777	2-methyl-3-tetrahydrofuranthiol	57124-87-5
1778	2-methyl-4,5-dihydro-3-furanthiol	
1801	p-methylbenzyl mercaptan	4498-99-1
1805	3-methylbutane-2-thiol	2084-18-6
1806	2-methylbutanethiol	1878-18-8
1862	2-methylpropane-2-thiol	75-66-1
1913	2-naphtalenethiol	91-60-1
1959	1,9-nonanedithiol	3489-28-9
2018	1,8-octanedithiol	1191-62-4
2058	octyl mercaptan	
2079	2,4,4,6,6-pentamethyl-2-heptanethiol	25103-58-6
2080	pentane-2-thiol	2084-19-7
2081	pentane-1-thiol	110-66-7
2154	2-phenylethanethiol	4410-99-5
2191	1-p-menthen-8-thiol	71159-90-5
2196	1,2-propandithiol	814-67-5
2233	propyl mercaptan	107-03-9
2263	pyrazineethanethiol	35250-53-4
2264	pyridine-2-methyl mercaptan	2044-73-7
2334	terpinyl mercaptan	
2371	2-thenyl mercaptan	6258-63-5
2375	1-(2-thienyl)ethylmercaptan	94089-02-8
2378	thiogeraniol	39067-80-6
2380	thiolinalool	39707-47-6
2399	o-toluenethiol	137-06-4

The result of an investigation conducted by the Japan Flavor & Fragrance Materials Association in the 2000 Health Sciences Research Program

## List of flavouring substances used in Japan

(Terpens)

SEQ	Name	CAS No.
89	allo-ocimene	673-84-7
248	alpha-bisabolene	17627-44-0
249	bisabolene	495-62-5
258	beta-bourbonene	5208-59-3
333	delta-cadinene	29350-73-0
334	camphene	79-92-5
340	delta-3-carene	13466-78-9
358	alpha-caryophyllene	6753-98-6
359	beta-caryophyllene	87-44-5
365	alpha-cedrene	469-61-4
480	p-cymene	99-87-6
531	dehydrop-p-cymene	1195-32-0
632	cis-3,7-dimethyl-1,3,6-octatriene	3338-55-4
715	delta-elemene	20307-84-0
716	beta-elemene	515-13-9
945	alpha-farnesene	502-61-4
946	beta-farnesene	18794-84-8
947	farnesene	
1014	germacrene D	23986-74-5
1020	beta-guaiene	88-84-6
1465	d-limonene	5989-27-5
1466	l-limonene	5989-54-8
1467	limonene	138-86-3
1489	longifolene	475-20-7
1903	myrcene	123-35-3
1995	beta-ocimene	13877-91-3
2098	alpha-phellandrene	99-83-2
2176	alpha-pinene	80-56-8
2177	beta-pinene	127-91-3
2178	pinocamphone	547-60-4
2280	sabinene	3387-41-5
2317	alpha-terpinene	99-86-5
2318	gamma-terpinene	99-85-4
2325	terpinolene	586-62-9
2387	thujopsene	
2477	valencene	4630-07-3

The result of an investigation conducted by the Japan Flavor & Fragrance Materials Association in the 2000 Health Sciences Research Program

## List of flavouring substances used in Japan

(Phenol Ethers : except for those generally recognized as toxic)

SEQ	Name	CAS No.
175	trans-anethole	4180-23-8
176	anethole	104-46-1
186	anisole	100-66-3
191	anisyl ethyl ether	5076-72-2
223	benzyl eugenol	57371-42-3
364	catechol diethyl ether	2050-46-6
605	m-dimethoxybenzene	151-10-0
606	p-dimethoxybenzene	150-78-7
608	3,4-dimethoxystyrene	6380-23-0
609	3,4-dimethoxytoluene	494-99-5?
656	2,3-dimethylbenzofuran	3782-00-1
680	diphenyl oxide	101-84-8
721	estragole	140-67-0
724	1-ethoxy-2-methoxybenzene	17600-72-5
840	ethyl isoeugenyl ether	7784-67-0
914	ethyleugenol	
1264	4-hydroxybenzyl methyl ether	5355-17-9
1339	isobutyl beta-naphthyl ether	2173-57-1
1382	isoeugenol amyl ether	10484-36-3
1384	isoeugenyl benzyl ether	120-11-6
1540	2-mercaptoanisole	7217-59-6
1570	2-methoxynaphthalene	90-49-3
1665	methyl isoeugenol	93-16-3
1795	o-methylanisole	578-58-5
1796	p-methylanisole	104-93-8
1831	methyleugenol	93-15-2
1914	beta-naphthyl butyl ether	10484-56-7
1915	beta-naphthyl ethyl ether	93-18-5
1916	beta-naphthyl methyl ether	93-04-9
2215	p-propyl anisole	104-45-0
2391	thymol methyl ether	1076-56-8
2418	1,2,3-trimethoxybenzene	634-36-6
2495	vanillyl butyl ether	82654-98-6
2498	veratrole	91-16-7

The result of an investigation conducted by the Japan Flavor & Fragrance Materials Association in the 2000 Health Sciences Research Program

## List of flavouring substances used in Japan

(Phenols : except for those generally recognized as toxic)

SEQ	Name	CAS No.
132	4-allyl-2,6-dimethoxyphenol	6627-88-9
134	4-allylphenol	501-92-8
341	carvacrol	499-75-2
363	catechol	120-80-9
419	creosol	93-51-6
420	m-cresol	108-39-4
421	o-cresol	95-48-7
422	p-cresol	106-44-5
581	dihydroeugenol	2785-87-7
607	2,6-dimethoxyphenol	91-10-1
667	2,3-dimethylphenol	526-75-0
668	2,6-dimethylphenol	576-26-1
669	3,5-dimethylphenol	108-68-9
732	p-ethoxyphenol	622-62-8
916	4-ethylguaiacol	2785-89-9
931	2-ethylphenol	90-00-6
932	3-ethylphenol	620-17-7
933	4-ethylphenol	123-07-9
935	2-(ethylthio)phenol	4500-58-7
939	eugenol	97-53-0
1017	guaiacol	90-05-1
1115	hexenal dihexyl acetal	
1260	4-hydroxybenzoic acid	99-96-7
1263	4-hydroxybenzyl ethyl ether	57726-26-8
1381	isoeugenol	97-54-1
1440	2-isopropylphenol	88-69-7
1441	4-isopropylphenol	99-89-8
1562	3-methoxy-5-methylphenol	
1571	3-methoxyphenol	150-19-6
1572	4-methoxyphenol	150-76-5
1730	4-methyl-2,6-dimethoxyphenol	6638-05-7
1830	3,4-methylenedioxyphenol	533-31-3
1838	5-methylguaiacol	1195-09-1
1872	4-(methylthio)phenol	241-2-2
2127	phenol	108-95-2
2257	p-propylphenol	645-56-7
2261	protocatechuic acid	99-50-3
2269	resorcinol	108-46-3
2284	salicylic acid	69-72-7
2316	syringic acid	530-57-4
2390	thymol	89-83-8
2393	tioguaiacol	1073-29-6
2492	vanillin propylene glycol acetal	68527-74-2
2497	vanitrope	94-86-0
2504	vinyl guaiacol	7786-61-0
2506	p-vinylphenol	2628-17-3
2509	2,4-xilenol	105-67-9
2510	2,5-xilenol	95-87-4
2511	3,4-xilenol	95-65-8

The result of an investigation conducted by the Japan Flavor & Fragrance Materials Association in the 2000 Health Sciences Research Program

## List of flavouring substances used in Japan

(Furfural and its derivatives : except for those generally recognized as toxic)

SEQ	Name	CAS No.
961	furfural	98-01-1
962	furfural diethyl acetal	13529-27-6
1275	5-hydroxymethylfurfural	67-47-0
1834	5-methylfurfural	620-02-0

The result of an investigation conducted by the Japan Flavor & Fragrance Materials Association in the 2000 Health Sciences Research Program

## List of flavouring substances used in Japan

(Aromatic Alcohols)

SEQ	Name	CAS No.
172	alpha-amylcinnamyl alcohol	101-85-9
215	benzyl alcohol	100-51-6
379	cinnamyl alcohol	104-54-1
433	cuminyl alcohol	536-60-7
479	p-cymen-8-ol	1197-01-9
529	dehydrocumin alcohol	4489-11-6
579	dihydrocinnamyl alcohol	122-97-4
611	2,4-dimethyl benzyl alcohol	16308-92-2
612	dimethyl benzyl carbinol	100-86-7
659	p,alpha-dimethylbenzyl alcohol	536-50-5
730	2-ethoxybenzyl alcohol	
731	4-ethoxybenzyl alcohol	
968	furfuryl alcohol	98-00-0
1234	hydratropyl alcohol	1123-85-9
1262	4-hydroxybenzyl alcohol	623-05-2
1277	p-hydroxyphenethyl alcohol	501-94-0
1374	alpha-isobutylphenethyl alcohol	7779-78-4
1565	2-methoxybenzyl alcohol	
1574	3-(4-methoxyphenyl)propan-1-ol	5406-18-8
1703	methyl p-hydroxy phenyl carbinol	2380-91-8
1753	4-methyl-2-phenylpentanol	
1757	2-methyl-3-(3,4-methylenedioxyphenyl)propanal	1205-17-0
1780	2-methyl-4-phenyl-2-butanol	103-05-9
1785	2-methyl-5-hydroxymethylpyrazine	
1799	4-methylbenzyl alcohol	589-18-4
1835	5-methylfurfuryl alcohol	3857-25-8
2103	phenethyl alcohol	60-12-8
2117	phenethyl methyl ethyl carbinol	10415-87-9
2129	2-phenoxyethanol	122-99-6
2137	phenyl ethyl carbinol	93-54-9
2143	2-phenyl-2-propanol	617-94-7
2153	4-phenylbutan-2-ol	2344-70-9
2188	piperonyl alcohol	495-76-1
2297	styrallol alcohol	98-85-1
2305	sulfurol	137-00-8
2370	thenyl alcohol	636-72-6
2493	vanillyl alcohol	498-00-0
2494	vanillyl alcohol methyl ether	

The result of an investigation conducted by the Japan Flavor & Fragrance Materials Association in the 2000 Health Sciences Research Program

## List of flavouring substances used in Japan

(Aromatic Aldehydes : except for those generally recognized as toxic)

SEQ	Name	CAS No.
168	alpha-amylcinnamaldehyde	122-40-7
179	o-anisaldehyde	135-02-4
180	anisaldehyde	123-11-5
189	anisyl alcohol	105-13-5
200	benzaldehyde	100-52-7
265	4-butoxy benzaldehyde	5736-88-9
321	alpha-butylcinnamaldehyde	7492-44-6
373	cinnamaldehyde	104-55-2
431	cuminaldehyde	122-03-2
434	cyclamen aldehyde	103-95-7
578	dihydrocinnamaldehyde	104-53-0
592	3,4-dihydroxybenzaldehyde	139-85-5
655	2,4-dimethylbenzaldehyde	15764-16-6
723	2-ethoxy benzaldehyde	71672-25-8
729	p-ethoxybenzaldehyde	10031-82-0
891	ethyl vanillin	121-32-4
894	1-ethyl-2-formylpyrrole	1193-59-5
904	4-ethylbenzaldehyde	4748-78-1
990	furyl acrolein	623-30-3
1223	alpha-hexylcinnamaldehyde	101-86-0
1229	hydratropaldehyde	93-53-8
1252	2-hydroxy-4-methylbenzaldehyde	698-27-1
1259	4-hydroxybenzaldehyde	123-08-0
1431	2-isopropyl-3-(2-furyl)-2-propenal	
1439	p-isopropylhydrotropaldehyde	34291-99-1
1563	p-methoxy-alpha-methylcinnamaldehyde	65405-67-6
1564	3-methoxybenzaldehyde	591-31-1
1566	2-methoxycinnamaldehyde	1504-74-1
1567	p-methoxycinnamaldehyde	1963-36-6
1575	p-methoxyphenylacetaldehyde	5703-26-4
1734	3-(5-methyl-2-furyl) butanal	31704-80-0
1750	5-methyl-2-phenyl-2-hexenal	21834-92-4
1752	4-methyl-2-phenyl-2-pentenal	26643-91-4
1756	5-methyl-2-thiophenecarbaldehyde	13679-70-4
1776	2-methyl-3-p-tolylpropanal	41496-43-9
1823	alpha-methylcinnamaldehyde	101-39-3
1847	p-methylhydratropaldehyde	99-72-9
1860	4-methylphenylacetaldehyde	104-09-6
1902	m-tolualdehyde	620-23-5
1940	N-methyl-2-pyrrolicarboxaldehyde	1192-58-1
1994	N-phenethyl-2-formylpyrrole	49795-42-8
2142	2-phenyl-2-butenal	4411-89-6
2144	2-phenyl-4-pentenal	24401-36-3
2145	3-phenyl-4-pentenal	939-21-9
2146	phenylacetaldehyde	122-78-1
2184	piperonal	120-57-0
2265	2-pyrrolicarbaldehyde	1003-29-8
2283	salicylaldehyde	90-02-8
2383	3-thiophenaldehyde	498-62-4
2394	o-tolualdehyde	529-20-4
2395	p-tolualdehyde	104-87-0
2396	tolualdehyde	1334-78-7
2488	vanillin	121-33-5
2489	vanillin ethyl ether	120-25-2
2491	vanillin methyl ether	120-14-9
2496	vanillyl ethyl ether	13184-86-6

The result of an investigation conducted by the Japan Flavor & Fragrance Materials Association in the 2000 Health Sciences Research Program

## List of flavouring substances used in Japan

(Lactones : except for those generally recognized as toxic)

SEQ	Name	CAS No.
135	ambrettolide	123-69-3
178	alpha-angelica lactone	591-12-8
325	3-butylidenephthalide	551-08-6
331	gamma-butyrolactone	96-48-0
470	cyclopentadecanolide	106-02-5
489	delta-decalactone	705-86-2
490	gamma-decalactone	706-14-9
499	7-decen-1,4-lactone	67114-38-9
501	9-decen-5-olide	74585-00-5
515	delta-2-decenolactone	16400-72-9
516	delta-7-decenolactone	25524-95-2
564	dihydroactinidiolide	17092-92-1
566	dihydroambrettolide	109-29-5
580	dihydrocoumarin	119-84-6
638	3,3-dimethyl-2-hydroxy-4-butanolide	599-04-2
652	3,4-dimethyl-5-pentyl-2(5H)-furanone	10547-84-9
692	delta-dodecalactone	713-95-1
693	gamma-dodecalactone	2305-05-7
706	gamma-6-dodecenolactone	18679-18-0
719	epsilon-decalactone	5579-78-2
720	epsilon-dodecalactone	16429-21-3
897	5-ethyl-3-hydroxy-4-methyl-2(5H)-furanone	698-10-2
1028	delta-heptalactone	3301-90-4
1029	gamma-heptalactone	105-21-5
1072	alpha-heptyl-gamma-valerolactone	40923-64-6
1073	gamma-hexadecalactone	730-46-1
1077	delta-hexadecanolide	7370-44-7
1085	delta-hexalactone	823-22-3
1086	gamma-hexalactone	695-06-7
1189	5-(cis-3-hexenyl)dihydro-5-methyl-2(3H)furanone	70851-61-5
1250	3-hydroxy-4,5-dimethyl-2(5h)-furanone	28664-35-9
1257	5-hydroxy-8-undecenoic acid delta-lactone	68959-28-4
1452	jasmolactone	32764-98-0
1495	massoia lactone	51154-96-2
1514	menthone lactone	499-54-7
1836	alpha-methyl-gamma-butyrolactone	
1837	beta-methyl-gamma-octalactone	39212-23-2
1900	mintlactone	38049-04-6
1952	delta-nonolactone	3301-94-8
1953	gamma-nonolactone	104-61-0
1978	gamma-2-nonenolactone	21963-26-8
1999	delta-octadecalactone	1227-51-6
2009	octahydrocoumarin	4430-31-3
2010	delta-octalactone	698-76-0
2011	gamma-octalactone	104-50-7
2090	6-pentyl-alpha-pyrone	27593-23-3
2256	3-propylidenephthalide	17369-59-4
2289	sclareolide	564-20-5
2343	delta-tetradecalactone	2721-22-4
2406	delta-tridecalactone	7370-92-5
2451	delta-undecalactone	710-04-3
2452	gamma-undecalactone	104-67-6
2485	delta-valerolactone	542-28-9
2486	gamma-valerolactone	108-29-2
2505	4-vinyl-gamma-valerolactone	

The result of an investigation conducted by the Japan Flavor & Fragrance Materials Association in the 2000 Health Sciences Research Program

**List of flavouring substances used in Japan  
(Isothiocyantaes : except for those generally recognized as toxic)**

<b>Name</b>	<b>CAS</b>
4-methylthiobutyl isothiocyanate	4430-36-8
5-methylthiopentyl isothiocyanate	4430-42-6
ethyl isothiocyanate	542-85-8
methyl isothiocyanate	555-61-6

## List of flavouring substances used in Japan (Ethers)

Name	CAS
(2S,4aR,8aS)-3,4,4a,5,6,8a-hexahydro-2,5,5,8a-tetramethyl-2H-1-benzopyran	41678-32-4
1,2-di((1'-ethoxy)ethoxy)propane	67715-79-1
1,2-dimethoxyethane	110-71-4
1-methoxy-2-propanol	107-98-2
2-(3-phenylpropyl)tetrahydrofuran	3208-40-0
2,3-dihydrobenzofuran	
2,4,6-trimethyl-4-phenyl-1,3-dioxane	5182-36-5
2,4-dimethyl-4-phenyltetrahydrofuran	82461-14-1
2,4-hexadienal diethyl acetal	
2,7-dimethyl-10-(1-methylethyl)-1-oxaspiro[4,5]deca-3,6-diene	89079-92-5
2-furfuryl-5-methylfuran	13678-51-8
2-heptylfuran	3771-71-7
2-methoxypyrrole	
2-methoxypyridine	1628-89-3
2-methylbenzofuran	4265-25-2
3-(5-methylfuran-2-yl)butanal propylene glycol acetal	
3-l-menthoxy-2-methylpropane-1,2-diol	195863-84-4
4-ethyl-2,5-dimethyloxazole	30408-61-8
4-methoxypyridine	620-08-6
4-tolualdehyde diethyl acetal	
6-methoxyquinolin	5263-87-6
acetophenone neopentylglycol acetal	5406-58-6
citral glyceryl acetal	
crotonaldehyde diethyl acetal	10602-34-3
cyclamenaldehyde diethyl acetal	
cyclamenaldehyde propylenglycol acetal	
cycloionone	5552-30-7
dodecanal propylene glycol acetal	
furan	110-00-9
hexanal 1,3-octanediol acetal	
hexanal 2,3-butanediol acetal	
hexanal diisobutyl acetal	
hexanal ethyl hexyl acetal	
hexanal hexyl butyl acetal	
hexanal isoamyl butyl acetal	
isobutyl methyl ketone propylene glycol acetal	
menthone-1,2-glycerol ketal	63187-91-7
myrcenyl methyl ether	
phenylacetaldehyde ethyleneglycol acetal	101-49-5
phenylacetaldehyde hexyleneglycol acetal	67633-94-7
piperonal diethyl acetal	40527-42-2
trans-2-hexenal dibutyl acetal	
isovaleraldehyde dihexyl acetal	
naphto[2,1-b]furan,dodecahydro-3a,6,6,8a-tetramethyl	
veratric acid	93-07-2
$\alpha$ -pinene oxide	1686-14-2
$\beta$ -pinene oxide	6931-54-0

## List of flavouring substances used in Japan (Esters)

Name	CAS
isopropylidenglyceryl-5-hydroxy decanoate	172201-58-0
1(7),8-p-menthadien-2-yl acetate	71660-03-2
1,6-epoxycarvyl acetate	
1,5-dimethyl-1-vinylhept-4-enyl acetate	61931-80-4
1,8-p-menthadien-4-yl acetate	
1-benzyl-2-methyl-2-propyl acetate	
1-ethyl-1-methylphenethyl acetate	
1-Hexen-3-yl acetate	35926-04-6
1-hexen-3-yl butyrate	
1-hexen-3-yl hexanoate	
1-hexen-3-yl isobutyrate	
1-hexen-3-yl propionate	358366-27-5
2,4-hexadienyl butyrate	16930-93-1
2,4-hexadienyl isobutyrate	16491-24-0
2-ethylbutyl 2-cyclopentenyl acetate	94278-39-4
2-ethylhexyl salicylate	118-60-5
2-hydroxypropyl phenylacetate	80550-09-0
2-hydroxypropyl valerate	59569-67-4
2-oxo-3-butanoyloxybutan-3-yl butyrate	
cyclotene acetate (2-oxo-5-methyl-5-cyclopentenyl acetate)	
2-pentyl benzoate	
2-phenoxyethyl benzoate	
2-tert-butylcyclohexyl acetate	88-41-5
3-mercaptohexyl butyrate	136954-21-7
3-mercaptohexyl hexanoate	136954-22-8
5-Hexenyl butyrate	108058-75-9
5-hexenyl hexanoate	108058-81-7
5-hexenyl isobutyrate	155514-56-0
5-hexenyl propionate	
5-methyl-2-furfuryl acetate	18091-24-2
5-methylhexyl isobutyrate	
dihydroperillyl acetate	
8-ocimanyl acetate	
8-p-menthen-7-yl acetate	56345-05-2
8-p-menthen-7-yl butyrate	
allyl cyclohexyloxyacetate	68901-15-5
allyl 3-(methylthio)propionate	
allyl benzoate	583-04-0
Allyl p-tert-butylphenylacetate	
alpha-campholene acetate	36789-59-0
ethyl 2-amylacetoacetate	
benzyl anthranilate	
beta-ionyl acetate	22030-19-9
butyl 2-(acetylthio)propionate	
butyl 2-(butanoylthio)propionate	
butyl 2-(isobutanoylthio)propionate	
butyl 2-(propanoylthio)propionate	
butyl 2-mercaptopropionate	7529-07-9
butyl 2-methylvalerate	6297-41-2
butyl 3-ethylheptanoate	
butyl 5-decenoate	111044-74-7
butyl 5-octenoate	108058-79-3
butyl p-tert-butylphenylacetate	
butyl vanillate	5348-74-3
carvyl octanoate	
cinnamyl myristate	
cis-3-hexenyl 4-pentenoate	
cis-3-Hexenyl p-tert-butylphenylacetate	
cis-4-hexenyl acetate	42125-34-8
cyclododecyl acetate	6221-92-7
cyclododecyl propionate	
cyclopentyl acetate	933-05-1

Name	CAS
decyl isohexanoate	
diethyl 2,2-diethylmalonate	77-25-8
dihydromyrcenyl acetate	53767-93-4
dimethylbenzylcarbinyl hexanoate	
dimethylbenzylcarbinyl valerate	
dodecyl formate	28303-42-6
ethyl 2-(acetylthio)propanoate	129975-20-8
ethyl 2-(butanoylthio)propionate	
ethyl 2-(hexanoylthio)propionate	
ethyl 2-(isobutanoylthio)propionate	
ethyl 2-(propanonylthio)propionate	
ethyl 2,5-dimethyl-3-oxo-4(2H)-furylcarbonate	
ethyl 2-mercaptopropanoate	19788-49-9
ethyl 2-methyl-1,3-dioxolane-2-acetate	6413-10-1
ethyl 3-ethylheptanoate	
ethyl 3-phenylglycidate	121-39-1
ethyl 4-pentenoate	1968-40-7
ethyl acetoacetate diethylacetal	
ethyl cis-4,7-octadienoate	69925-33-3
ethyl cyclohexaneacetate	5452-75-5
ethyl 3-(2-furyl)acrylate	623-20-1
ethyl isonicotinate	1570-45-2
ethyl methacrylate	97-63-2
ethyl N-acetylanthranilate	
ethyl p-tert-butylphenylacetate	14062-22-7
geranyl methyl carbinyl acetate	
hexadecyl lactate	35274-05-6
isobutyl trans-2-hexenoate	
isopropyl 4-pentenoate	
isopropyl isohexanoate	25415-69-4
isopropyl N-methylanthranilate	
isopropyl salicylate	
l-menthol 1-(or2)propylene glycol carbonate	30304-82-6
l-menthol ethylene glycol carbonate	156679-39-9
l-menthyl valerate	89-47-4
menthyl decanoate	94020-93-6
menthyl octanoate	93940-59-1
menthyl palmitate	96097-19-7
menthyl stearate	93919-01-8
methyl 2-(acetylthio)propionate	
methyl 2-(butanoylthio)propionate	
methyl 2-(hexanoylthio)propionate	
methyl 2-(isobutanoylthio)propionate	
methyl 2-(propanoylthio)propionate	
methyl 2-ethylhexanoate	
methyl 2-ethyloctanoate	16493-48-4
methyl 2-mercaptopropionate	53907-46-3
methyl 3-ethylheptanoate	64226-53-5
methyl 3-oxooctanoate	
methyl 4-methylphenylethyl glycidate	
methyl 4-pentenoate	818-57-5
hydroxycitronellal methyl anthranilate (aurantiol)	89-43-0
methyl N-butylanthranilate	
methyl trans-4-decenoate	
monomenthyl glutarate	220621-22-7
octyl benzoate	
octyl isohexanoate	29289-91-6
octyl salicylate	
o-tolyl isobutyrate	36438-54-7
p-cresyl benzoate	614-34-6
p-cresyl heptanoate	
perillyl butyrate	
perillyl isobutyrate	

Name	CAS
phenethyl N-methylantranilate	
phenyl benzoate	93-99-2
phenyl valerate	
phenylethyl anthranilate	23868-11-3
propyl 2-(acetylthio)propionate	
propyl 2-(butanoylthio)propionate	
propyl 2-(isobutanoylthio)propionate	
propyl 2-(propanoylthio)propionate	
propyl 2-mercaptopropionate	
propyl 3-(2-furyl)acrylate	623-22-3
propyl 3-ethylheptanoate	
propyl myristate	
propyl p-tert-butylphenylacetate	
propyl trans-2-hexenoate	10380-79-7
propylene glycol di-isobutyrate	
propylene glycol monoacetate	1331-12-0
S-(2,5-dimethyl-3-furyl) 2-thiofuroate	65505-16-0
S-ethyl butanethioate	20807-99-2
S-ethyl pentanethioate	2432-92-0
S-ethyl propanethioate	2432-42-0
methyl 2-(furfurylthio)acetate	108499-33-8
S-methyl 2-methylbutanethioate	42075-45-6
S-methyl 2-methylbutanethioate	
S-methyl cinnamthioate	15081-18-2
S-methyl decanethioate	1680-29-1
S-methyl hexanethioate	2432-77-1
S-methyl octanethioate	2432-83-9
S-methyl pentanethioate	42075-43-4
S-methyl propanethioate	5925-75-7
S-sulfuryl propanethioate	
tert-butyl acetoacetate	1694-31-1
1-hydro furfuryl acetate	
1-hydroxy-4-tert-butylbenzene	98-54-4
caryophyllen butyrate	
caryophyllen isobutyrate	
cyclotene acetate	1196-22-1
dibuthyl adipate	105-99-7
dioctyl adipate	103-23-1
elemoyl acetate	22601-92-9
ethyl epoxy cyclohexyl acetate	
methyl $\beta$ -furfuryl $\alpha$ -mercapto propionate	
pinocarvyl isobutyrate	

## List of flavouring substances used in Japan (Ketones)

Name	CAS
1-(2-thienyl)-1,2-propanedione	13678-69-8
10-undecen-2-one	36219-73-5
2,2,6-trimethyl-cyclohexane-1,4-dione	20547-99-3
2,3-octanedione	585-25-1
2,5-dimethyl-4-(1-pyrrolidinyl)-3(2H)furanone	
2,5-hexanedione	110-13-4
2,6,6-trimethyl-2-vinyltetrahydropyran-5-one	33933-72-1
2,6-dihydroxyacetophenone	
2-acetyl-1,4,5,6-tetrahydropyridine	25343-57-1
2-acetyl-4-isopropenyl pyridine	
2-cyclohexen-1-one	930-68-7
2-hepten-4-one	4643-25-8
2-hexylidenecyclopentanone	17373-89-6
2-hydroxy-5-methylacetophenone	1450-72-2
2-methyl-3-pentanone	565-69-5
2-methyl-5-propionylfuran	10599-69-6
2-methylacetophenone	577-16-2
2-propionylthiazole	43039-98-1
3,5,5-trimethyl-1-(2-oxopropylidene)-2-cyclohexene	
3,5,5-trimethyl-4-methylene-2-cyclohexenone	20548-00-9
4-(1,1-dimethylpropyl)cyclohexanone	16587-71-6
4-(2,3,6-trimethylphenyl)-3-buten-2-one	56681-06-2
4,4a,5,6-tetrahydro-7-methylnaphthalen-2(3H)-one	34545-88-5
4,5-octanedione	5455-24-3
4,7-dimethyl-6-octen-3-one	2550-11-0
4-acetyl-2-isopropenylpyridine	
4-ethylacetophenone	937-30-4
4-hydroxy-2,5-dimethyl-thiophen-3-one	26494-10-0
5,6-Decanedione	5579-73-7
5,6-epoxy-beta-ionone	23267-57-4
5-methyl-5-hexen-2-one	3240-09-3
6-methyl-4,5-heptadien-2-one	
6-oxycarvone	
7-octen-2-one	3664-60-6
8,9-dehydrotheaspirone	
8-nonen-2-one	5009-32-5
dihydroxyacetone	
epoxycarvone	33204-74-9
3-ethyl-2-hydroxy-4-methyl-2-cyclopentenone	42348-12-9
hexylcyclopentenone	13074-65-2
p-ethoxyacetophenone	1676-63-7
p-hydroxyacetophenone	99-93-4
phyton (6,10,14-trimethylpentadecan-2-one)	502-69-2
piperitone oxide	5286-38-4
1-(3-furyl)-4-methylpentan-1-one(perilla ketone)	553-84-4
3-acetoxy-2-butanone	4906-24-5
8-hydroxy-4-p-menthene-3-one	
dibutyl ketone(5-nonanone)	502-56-7
hydroxy acetone	111-09-6
pinocarvone	19890-00-1
p-metha-8-thiol-3-one	

**List of flavouring substances used in Japan  
(Fatty Acids)**

<b>Name</b>	<b>CAS</b>
11-dodecenoic acid	65423-25-8
12-Tridecenoic acid	6006-06-0
2,4-dimethyl-2-pentenoic acid	66634-97-7
2-ethyloctanoic acid	
2-pentylcyclopropanecarboxylic acid	5075-48-9
3-decenoic acid	15469-77-9
3-Ethylheptanoic acid	14272-47-0
3-isopropenyl-6-oxoheptanoic acid	
3-isopropenylpentan-1,5-dioic acid	
3-isopropenylvaleric acid	
4-methylnonanoic acid	45019-28-1
4-octenoic acid	18776-92-6
4-phenylbutanoic acid	1821-12-1
5-oxodecanoic acid	624-01-1
5-oxododecanoic acid	3637-16-9
5-oxooctanoic acid	3637-14-7
6-(5&6-decenoyloxy)decanoic acid	85392-05-8 85392-06-9
6-phenylhexanoic acid	5581-75-9
cis-4-Heptenoic acid	41653-95-6
cis-4-Nonenoic acid	49580-58-7
cis-5-Decenoic acid	84168-28-5
cis-5-octenoic acid	41653-97-8
cis-5-Undecenoic acid	62472-76-8
glycolic acid	79-14-1
o-methoxycinnamic acid	6099-03-2
trans-4-dodecenoic acid	57602-94-5
trans-5-Undecenoic acid	67270-85-3
trans-6-Dodecenoic acid	52957-04-7
3-mercaptoisobutyric acid	2673-47-2

**List of flavouring substances used in Japan  
(Aliphatic Higher Alcohols)**

<b>Name</b>	<b>CAS</b>
p-menth-1-en-9-ol	18479-68-0
1,2-dihydrolimonen-10-ol	5502-99-8
2,3,4-trimethyl-3-pentanol	3054-92-0
2,4-dimethylcyclohexanemethanol	68480-15-9
2-methyl-1-hepten-3-ol	
2-tert-butylcyclohexanol	13491-79-7
3-ethyl-3-octanol	2051-32-3
4-isopropylcyclohexanol	
5-hexenol	821-41-0
5-octen-1,3-diol	
6-hydroxydihydrotheaspirane	57967-68-7
8-ethyl-1,5-dimethylbicyclo[3.2.1]octan-8-ol	84681-92-5
cis-3-hepten-1-ol	1708-81-2
cis-4-octenol	
cyclododecanol	1724-39-6
d-limonen-10-ol	38142-45-9
d-trans,cis-1(7),8-p-menthadien-2-ol	
ethylinalool	10339-55-6
linalool oxide (pyranoid)	14049-11-7
l-trans-2-p-menthenol	53399-74-9
nerolidol oxide	
nootkatol	
p-menthane-3,8-diol	42822-86-6
santalol	11031-45-1
tetrahydronootkatol	
tetrahydroperillyl alcohol	
1-hydroxy-2-acetoxy-8-p-menthene	

**List of flavouring substances used in Japan  
(Aliphatic Higher Aldehydes : except for those generally recognized as toxic)**

<b>Name</b>	<b>CAS</b>
1,2-dihydroperillaldehyde	137886-38-5
2-(5-methyl-5-vinyl-tetrahydro-furan-2-yl)-propionaldehyde	67920-63-2
2,3-epoxyoctanal	51007-38-6
2,4-dimethyl-3-cyclohexenecarboxaldehyde	68039-49-6
2,6,10-trimethyl-9-undecenal	141-13-9
5-(Methylthio)-2-[(methylthio)methyl]-2-pentenal	59902-01-1
2-butyl-2-butenal	25409-08-9
3,6-dimethyl-3-cyclohexene-1-carboxaldehyde	67801-65-4
3,7-dimethyloctanal	5988-91-0
3-(methylthio)hexanal	38433-74-8
dihydroperillyl aldehyde	
cis-4-hexenal	4634-89-3
dimethyl-3-cyclohexene-1-carboxaldehyde	27939-60-2
trans-2-methyl-6-methylene-2.7-octadienal	42448-75-9

**List of flavouring substances used in Japan**  
**(Aliphatic Higher Hydrocarbons : except for those generally recognized as toxic)**

Name	CAS
cyclo hexane	
decane	124-18-5
heptadecane	
hexadecane	
n-octane	
nonane	111-84-2
tridecane	

**List of flavouring substances used in Japan  
(Thioethers : except for those generally recognized as toxic)**

<b>Name</b>	<b>CAS</b>
2-(2-butyl)-4,5-dimethyl-3-thiazoline	65894-82-8
2-(furfurylthio)-3-methylpyrazine	59303-07-0
2-(methylthio)benzothiazole	615-22-5
2,4,6-triethyl-dihydro-1,3,5-dithiazine	
thialdine	638-17-5
2,8-epi-thio-p-menthane	68398-18-5
2-isopropyl-3-(methylthio)pyrazine	67952-59-4
2-methyl-1,3-dithiolane	5616-51-3
2-(methylthio)acetaldehyde	23328-62-3
2-methylthiolane	1795-09-1
2-methylthiothiazole	5053-24-7
2-Pentyl-4-methylthiazole	96693-92-4
2-pentylthiazole	37645-62-8
2-Propyl-4-methylthiazole	52414-87-6
3,4,5,6-tetrahydro-2,4,6-trimethyl-(2H)-1,3,5-thiadiazine	
3,5-diethyl-1,2,4-trithiolane	54644-28-9
3-methyl-1,2,4-trithiane	43040-01-3
3-thenoic acid	88-13-1
4,5-dimethyl-2-ethyl-3-thiazoline	76788-46-0
benzothiophene	95-15-8
bis(2-methylbutyl) disulfide	
diallyl trisulfide	2050-87-5
dibutyl disulfide	629-45-8
dihydro-2-methylthiazole	
diisobutyl disulfide	1518-72-5
dipentyl disulfide	112-51-6
di-sec-butyl disulfide	5943-30-6
isobutyl methyl disulfide	67421-83-4
mint sulfide	72445-42-2
2,8-epithio-p-menthane (zestoril)	68398-18-5

**List of flavouring substances used in Japan  
(Thiols(Thioalcohols) : except for those generally recognized as toxic)**

<b>Name</b>	<b>CAS</b>
1,4-butanedithiol	1191-08-8
2-mercaptobenzothiazole	149-30-4
2-methyl-3-(2-methyl-2(4),5-dihydro-3-furanylthio)-3-tetrahydrofuranthiol	
2-methyl-4,5-dihydrofuran-3- thiol	26486-13-5
2-thiazoline-2-thiol	96-53-7
3-mercapto-1-hexanol	51755-83-0
mercaptomethylbutanol	0034300-94-2
3-mercapto-2-methylpentanol	227456-27-1
3-mercapto-3-methylbutanol	34300-94-2
4-ethoxy-2-methyl-2-butanethiol	
ethanedithiol	26914-40-9
hexanethiol	111-31-9
isobutylthiol	513-44-0
mercaptoacetaldehyde diethyl acetal	
prenyl mercaptan	5287-45-6
1,1-dimethylheptanethiol	25360-10-5
dimethylthiophenol	118-72-9
heptanethiol,(S)-1-methoxy-3-	400052-49-5

## List of flavouring substances used in Japan (Terpens)

Name	CAS
alpha-copaene	3856-25-5
hydrogenated limonene dimer	
isocaryophyllene	118-65-0
pinene dimer	6993-66-4
dipenten dimer,trimer	57912-86-4

**List of flavouring substances used in Japan**  
**(Phenol Ethers : except for those generally recognized as toxic)**

Name	CAS
4-methoxystyrene	637-69-4
4-tert-butyl-1-methoxy-3-methylbenzene	
carvacryl methyl ether	6379-73-3
ethyl phenyl ether	103-73-1

**List of flavouring substances used in Japan  
(Phenols : except for those generally recognized as toxic)**

Name	CAS
2,3,6-trimethylphenol	6627-88-9
o-propylphenol	501-92-8
3-tert-butylphenol	499-75-2

**List of flavouring substances used in Japan  
(Aromatic Alcohols)**

Name	CAS
1-benzyl-2-methyl-2-propanol	
2,3-dimethoxybenzyl alcohol	5653-67-8

**List of flavouring substances used in Japan**  
**(Aromatic Aldehydes : except for those generally recognized as toxic)**

Name	CAS
2,3-dimethoxybenzaldehyde	86-51-1
2-ethylcinnamaldehyde	
2-formyl-5-methylpyrrole	1192-79-6
2-hydroxy-3-methoxybenzaldehyde	148-53-8
2-methyl-4-phenylbutyraldehyde	40654-82-8
3-hydroxy-4-methoxy benzaldehyde	621-59-0
3-methyl-2-thiophenecarboxaldehyde	5834-16-2
alpha-methyl-1,3-benzodioxole-5-propanal	1205-17-0
p-ethyl-alpha,alpha-dimethylhydrocinamaldehyde	67634-15-5
p-tert-butylbenzaldehyde	
2-methyl-3-(2-furyl)-2-propenal	874-66-8

**List of flavouring substances used in Japan**  
**(Lactones : except for those generally recognized as toxic)**

Name	CAS
2,3-dimethyl-2,4-nonadien-4-olide	
2-buten-4-olide	497-23-4
3,4-dimethyl-5-pentylidene-5H-furan-2-one	774-64-1
3-decen-4-olide	81715-81-3
3-methyl-trans-5-decen-4-olide	188442-41-3
3-nonen-4-olide	51352-68-2
4,4-dibutyl-gamma-butyrolactone	7774-47-2
alpha-oxo-beta-ethyl-gamma-butyrolactone	
beta-angelica lactone	591-11-7
beta-methyl-gamma-nonolactone	
cis-7-decen-4-olide	63095-33-0
d(-)-2-hydroxy-3,3-dimethyl-gamma-butyrolactone	79-50-5
hexahydro-3,6-dimethyl-2(3H)-benzofuranone	0092015-65-1
gamma-thiobutyrolactone	1003-10-7