

Japanese 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 under the Japanese Food Sanitation Act. Currently, we have identified 170 chemical substances which are commonly used as flavorings as shown in Table 1.

Table 2 lists 18 groups which are also from the official list of “designated additives” and contain 3004 additional flavor materials. Each of the 18 groups in Table 2 contains substances that are similar in chemical structure.

For links to a complete listing of the Japanese additives used in food: (a) Designated additives, (b) Existing food additives, (c) Natural flavoring agents and (d) Ordinary foods used as food additives - go to <http://www.mhlw.go.jp/english/topics/foodsafety/foodadditives/index.html>

Check for Flavoring updates at <http://www.jffma-jp.org/english/information.html>

Provided with Updated Revisions (as of April 2015)

By

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Table 1. Designated additives used as flavoring substances

Compound	Synonym or Old name	CAS
Acesulfame Potassium		55589-62-3
Acetaldehyde (New as of 2006.05.16)	ethanal	75-07-0
Acetophenone	acetophenone	98-86-2
Acetic acid, Glacial		64-19-7
Adipic Acid		124-04-9
Advantame (New as of 2015.02.20)		714229-20-6 245650-17-3
DL-Alanine		302-72-7
Allyl cyclohexylpropionate	allyl cyclohexanepropionate	2705-87-5
Allyl hexanoate	allyl hexanoate	123-68-2
Allyl isothiocyanate	allyl isothiocyanate	57503
(3-Amino-3-carboxypropyl)dimethylsulfonium chloride (New as of 2012.12.28)	Vitamin U	1115-84-0
Amyl alcohol (New as of 2005.08.19)	pentanol	71-41-0
α -Amylcinnamaldehyde	alpha-amylicinnamaldehyde	122-40-7
Anisaldehyde	anisaldehyde	123-11-5
Aspartame	Methyl L- α -aspartyl-L-phenylalaninate	22839-47-0
Benzaldehyde	benzaldehyde	100-52-7
Benzoic acid		65-85-0
Benzyl acetate	benzyl acetate	140-11-4
Benzyl alcohol	benzyl alcohol	100-51-6
Benzyl propionate	benzyl propionate	122-63-4
d-Borneol		22839-47-0
Butanol (New as of 2006.09.12)	butyl alcohol	71-36-3
Butylamine (New as of 2010.11.10)	1-aminobutane	109-73-9
Butyl Acetate	butyl acetate	123-86-4
Butyl Butyrate	butyl butyrate	109-21-7
Butyraldehyde (New as of 2007.10.26)	butanal	123-72-8
Butyric Acid	butyric acid	107-92-6
1,8-cineole	eucalyptol	470-82-6
Cinnamaldehyde	cinnamic Aldehyde	14371-10-9
Cinnamic acid	cinnamic acid	140-10-3
Cinnamyl acetate	cinnamyl acetate	103-54-8
Cinnamyl alcohol	cinnamyl alcohol	104-54-1
Citral	neral + geranial	5392-40-5
Citric Acid		77-92-9
Citronellal	citronellal	106-23-0
Citronellol	citronellol	106-22-9
Citronellyl acetate	citronellyl acetate	150-84-5
Citronellyl formate	citronellyl formate	105-85-1
Cyclohexyl acetate	cyclohexyl acetate	622-45-7
Cyclohexyl butyrate	cyclohexyl butyrate	1551-44-6
Decanal	decyl aldehyde	112-31-2
Decanol	decyl alcohol	112-30-1
2,3-Diethylpyrazine (New as of 2014.11.17)		15707-24-1
2,3-Diethyl-5-methylpyrazine (New as of 2011.06.28)		18138-04-0
2,3-Dimethylpyrazine (New as of 2009.06.04)		5910-89-4
2,5-Dimethylpyrazine (New as of 2009.06.04)		123-32-0
2,6-Dimethylpyrazine (New as of 2009.06.04)		108-50-9
2,6-Dimethylpyridine (New as of 2011.03.15)		108-48-5
Diphenyl	biphenyl	92-52-4
Disodium Glycyrrhizinate		71277-79-7
Disodium 5'-Guanylate	sodium 5'-guanylate	5550-12-9
Disodium 5'-Inosinate	sodium 5'-inosinate	4691-65-0
Disodium 5'-Ribonucleotide	sodium 5'-ribonucleotide	-
Disodium Succinate		150-90-3
Erythorbic acid	Isoascorbic acid	89-65-6
Ester gum	glycerol esters of wood rosin	8050-31-5

Table 1. Designated additives used as flavoring substances

Compound	Synonym or Old name	CAS
Ethyl acetate	ethyl acetate	141-78-6
Ethyl acetoacetate	ethyl acetoacetate	141-97-9
Ethyl butyrate	ethyl butyrate	105-54-4
Ethyl cinnamate	ethyl cinnamate	103-36-6
Ethyl decanoate	ethyl decanoate	110-38-3
2-Ethyl-3,(5or6)-dimethylpyrazine (New as of 2004.12.24)		55031-15-7
Ethyl heptanoate	ethyl enanthate	106-30-9
Ethyl hexanoate	ethyl caproate	123-66-0
Ethyl isovalerate	ethyl isovalerate	108-64-5
2-Ethyl-3-methylpyrazine (New as of 2006.05.16)		15707-23-0
2-Ethyl-5-methylpyrazine (New as of 2010.10.20)		13360-64-0
2-Ethyl-6-methylpyrazine and 2-ethyl-5-methylpyrazine (mixture) (New as of 2012.12.28)		13925-03-6 & 13360-64-0
5-Ethyl-2-methylpyridine (New as of 2011.03.15)		104-90-5
2-Ethylpyrazine (New as of 2010.05.28)		13925-00-3
3-Ethylpyridine (New as of 2013.08.06)		536-78-7
Ethyl octanoate	ethyl caprylate	106-32-1
Ethyl phenylacetate	ethyl phenylacetate	101-97-3
Ethyl propionate	ethyl propionate	105-37-3
Ethylvanillin	ethyl vanillin	121-32-4
Eugenol	eugenol	97-53-0
Fumaric acid		110-17-8
Geraniol	geraniol	106-24-1
Geranyl acetate	geranyl acetate	105-87-3
Geranyl formate	geranyl formate	105-86-2
L-Glutamic acid		56-86-0
Glutamyl-valyl-glycine (New as of 2015.02.20)	γ -glutamyl-valyl-glycine	38837-70-6
Glycerol	glycerin	56-81-5
Glycine		56-40-6
Hexanoic acid	hexanoic acid	142-62-1
Hydroxycitronellal	hydroxycitronellal	107-75-5
Hydroxycitronellal dimethylacetal	hydroxycitronellal dimethyl acetal	141-92-4
Ionone		8013-90-9
Isoamyl acetate	isoamyl acetate	123-92-2
Isoamyl alcohol (New as of 2005.08.19)	3-methyl-1-butanol	123-51-3
Isoamyl butyrate	isoamyl butyrate	106-27-4
Isoamyl formate	isoamyl formate	110-45-2
Isoamyl isovalerate	isoamyl isovalerate	659-70-1
Isoamyl phenylacetate	isoamyl phenylacetate	102-19-2
Isoamyl propionate	isoamyl propionate	105-68-0
Isobutanol (New as of 2004.12.24)	2-methyl-1-propanol;	78-83-1
Isobutyl phenylacetate	isobutyl phenylacetate	102-13-6
Isobutyraldehyde (New as of 2007.10.26)	2-methylpropanal	78-84-2
Isoeugenol	isoeugenol	97-54-1
Isopropylamine (New as of 2010.10.20)	2-aminopropane	75-31-0
Isopropanol (New as of 2005.04.28)	2-propanol	67-63-0
Isoquinoline (New as of 2011.12.27)		
Isovaleraldehyde (New as of 2009.06.04)	3-methylbutanal	590-86-3
Linalool	linalool	78-70-6
DL-Malic Acid	dl-Malic Acid	6915-15-7
Linalyl acetate	linalyl acetate	115-95-7
Maltol	maltol	118-71-8
dl-Menthol	dl-menthol	89-78-1
l-Menthol	menthol	2216-51-5
l-Menthyl acetate	l-menthyl acetate	2623-23-6
p-Methylacetophenone	p-methylacetophenone	122-00-9
Methyl anthranilate	methyl anthranilate	134-20-3
2-Methylbutanol (New as of 2007.10.26)		137-32-6
3-Methyl-2-butanol (New as of 2010.05.28)		598-75-4

Table 1. Designated additives used as flavoring substances

Compound	Synonym or Old name	CAS
trans-2-Methyl-2-butenal (New as of 2012.12.28)	Tiglic aldehyde	497-03-0
3-Methyl-2-butenal (New as of 2011.07.19)	prenal	107-86-8
3-Methyl-2-butenol (New as of 2011.07.19)	prenol	556-82-1
2-Methylbutyraldehyde (New as of 2010.05.28)	2-methylbutanal	96-17-3
Methyl cinnamate	methyl cinnamate	103-26-4
5-Methyl-6,7-dihydro-5H-cyclopentapyrazine (New as of 2011.06.28)	6,7-Dihydro-5-methyl-5H-cyclopentapyrazine	23747-48-0
Methyl N-methylantranilate	dimethyl anthranilate	85-91-6
Methyl β -naphthyl ketone	beta-methyl naphthyl ketone	93-08-3
2-Methylpyrazine (New as of 2010.05.28)		109-08-0
6-Methylquinoline (New as of 2010.05.28)		91-62-3
5-Methylquinoxaline (New as of 2006.05.16)		13708-12-8
Methyl salicylate	methyl salicylate	119-36-8
Neotame		165450-17-9
γ -Nonalactone	gamma-nonalactone	104-61-0
Octanal	capryl aldehyde	124-13-0
2-Pentanol (New as of 2010.05.28)	sec-amyl alcohol	6032-29-7
trans-2-Pentenal (New as of 2012.11.02)	(E)-2-Pentenal	1576-87-0
1-Penten-3-ol (New as of 2011.07.19)		616-25-1
l-Perillaldehyde		18031-40-8
Phenethyl acetate	phenylethyl acetate	103-45-7
Phenethylamine (New as of 2010.11.10)		64-04-0
L-Phenylalanine		63-91-2
2-(3-Phenylpropyl)pyridine (New as of 2011.06.28)		2110-18-1
Phosphoric Acid		7664-38-2
Piperidine (New as of 2010.11.10)	hexahydropyridine	110-89-4
Piperonal	piperonal	120-57-0
Propanol (New as of 2005.02.24)	1-propanol	71-23-8
Propionaldehyde (New as of 2010.05.28)	propanal	123-38-6
Propionic acid	propionic acid	79-09-4
Propylene Glycol		57-55-6
Pyrrole (New as of 2011.12.27)		109-97-7
Pyrazine (New as of 2011.07.19)		290-37-9
Pyrrolidine (New as of 2010.11.10)	tetrahydropyrrole	123-75-1
Saccharin		81-07-2
Sodium Acetate		127-09-3
Sodium Benzoate		532-32-1
Sodium Bicarbonate		144-55-8
Sodium Carbonate		497-19-8
Sorbic Acid		110-44-1
D-Sorbitol		50-70-4
Succinic Acid		110-15-6
Sucralose	Trichlorogalactosucrose	56038-13-2
Sucrose Esters of Fatty Acids		84066-95-5
DL-Tartaric Acid	dl-Tartaric Acid	133-37-9
L-Tartaric Acid	d-Tartaric Acid	147-71-7
Terpineol	terpineol	
Terpinyl acetate	terpinyl acetate	8007-35-0
5,6,7,8-Tetrahydroquinoxaline (New as of 2010.05.28)		34413-35-9
L-Theanine		3081-61-6
DL-Threonine		80-68-2
L-Threonine		72-19-5
2,3,5,6-Tetramethylpyrazine (New as of 2004.12.24)		1124-11-4
Trimethylamine (New as of 2012.12.28)		75-50-3
2,3,5-Trimethylpyrazine (New as of 2005.08.19)		14667-55-1
γ -Undecalactone	gamma-undecalactone	104-67-6
Valeraldehyde (New as of 2009.06.04)	pentanal	110-62-3
Vanillin	vanillin	121-33-5

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	Terpenes
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)

The Table 2 Groups shows substances that are categorized by chemical type in the 18 groups and used in Japan. The substances in Table 2 have been confirmed as the result of investigations conducted by the Japan Flavor & Fragrance Materials Association in 2000, 2003, 2009 and 2013. The 2013 revision includes additional substances and corrects nomenclature, CAS numbers and a number of incorrect materials included in earlier lists.

List of flavouring substances used in Japan

Table 2. Group 1 - Isothiocyanates (except those generally recognized as highly toxic)

SEQ	Compound	Synonym or Old name	CAS
155	amyl isothiocyanate	amyl isothiocyanate	629-12-9
228	benzyl isothiocyanate	benzyl isothiocyanate	622-78-6
264	3-butenyl isothiocyanate	3-butenyl isothiocyanate	3386-97-8
290	butyl isothiocyanate	butyl isothiocyanate	592-82-5
291	sec-butyl isothiocyanate	sec-butyl isothiocyanate	4426-79-3
1168	5-hexenyl isothiocyanate	5-hexenyl isothiocyanate	49776-81-0
1207	hexyl isothiocyanate	hexyl isothiocyanate	4404-45-9
1301	isoamyl isothiocyanate	isoamyl isothiocyanate	628-03-5
1349	isobutyl isothiocyanate	isobutyl isothiocyanate	591-82-2
1412	isopropyl isothiocyanate	isopropyl isothiocyanate	2253-73-8
1882	6-(methylthio)hexyl isothiocyanate	6-(methylthio)hexyl isothiocyanate	4430-39-1
1891	3-(methylthio)propyl isothiocyanate	3-(methylthio)propyl isothiocyanate	505-79-3
2086	4-pentenyl isothiocyanate	4-pentenyl isothiocyanate	18060-79-2
2114	phenethyl isothiocyanate	phenethyl isothiocyanate	130638
2516	4-(methylthio)butyl isothiocyanate	4-(methylthio)butyl isothiocyanate	4430-36-8
2517	5-(methylthio)pentyl isothiocyanate	5-(methylthio)pentyl isothiocyanate	4430-42-6
2518	ethyl isothiocyanate	ethyl isothiocyanate	542-85-8
2519	methyl isothiocyanate	methyl isothiocyanate	556-61-6

Flavorings used for food in Japan: The result of investigation by Japan Flavor & Fragrance Materials Association in 2013.

List of flavouring substances used in Japan

Table 2. Group 2 - Indoles and its derivatives

SEQ	Compound	Synonym or Old name	CAS
1278	indole	indole	120-72-9
1848	2-methylindole	2-methylindole	95-20-5
2292	skatole	skatole	83-34-1
3052	8,8-bis(1H-indol-1-yl)-2,6-dimethyl-2-octanol		67801-36-9

Flavorings used for food in Japan: The result of investigation by Japan Flavor & Fragrance Materials Association in 2013.

List of flavouring substances used in Japan

Table 2. Group 3 - Ethers

SEQ	Compound	Synonym or Old name	CAS
1	acetaldehyde 2,3-butanediol acetal	acetaldehyde 2,3-butanediol acetal	3299-32-9
2	acetaldehyde amyl butyl acetal	acetaldehyde amyl butyl acetal	
3	acetaldehyde amyl hexyl acetal	acetaldehyde amyl hexyl acetal	
4	acetaldehyde amyl methyl acetal	acetaldehyde amyl methyl acetal	73142-32-2
5	acetaldehyde benzyl ethyl acetal	acetaldehyde benzyl ethyl acetal	66222-24-0
6	acetaldehyde benzyl hexyl acetal	acetaldehyde benzyl hexyl acetal	
7	acetaldehyde benzyl 2-methoxyethyl acetal	acetaldehyde benzyl 2-methoxyethyl acetal	7492-39-9
8	acetaldehyde butyl ethyl acetal	acetaldehyde butyl ethyl acetal	57006-87-8
9	acetaldehyde butyl hexyl acetal	acetaldehyde butyl hexyl acetal	
10	acetaldehyde butyl methyl acetal	acetaldehyde butyl methyl acetal	75677-94-0
11	acetaldehyde butyl phenethyl acetal	acetaldehyde butyl phenethyl acetal	64577-91-9
12	acetaldehyde bis(2-methylbutyl) acetal	acetaldehyde bis(2-methylbutyl) acetal	13535-43-8
13	acetaldehyde diamyl acetal	acetaldehyde diamyl acetal	13002-08-9
14	acetaldehyde dibenzyl acetal	acetaldehyde dibenzyl acetal	23556-90-3
15	acetaldehyde dibutyl acetal	acetaldehyde dibutyl acetal	871-22-7
16	acetaldehyde di-cis-3-hexenyl acetal	acetaldehyde di-cis-3-hexenyl acetal	63449-64-9
17	acetaldehyde diethyl acetal	acetaldehyde diethyl acetal	105-57-7
19	acetaldehyde dihexyl acetal	acetaldehyde dihexyl acetal	5405-58-3
20	acetaldehyde diisoamyl acetal	acetaldehyde diisoamyl acetal	13002-09-0
21	acetaldehyde diisobutyl acetal	acetaldehyde diisobutyl acetal	5669-09-0
22	acetaldehyde diisopropyl acetal	acetaldehyde diisopropyl acetal	4285-59-0
23	acetaldehyde dimethyl acetal	acetaldehyde dimethyl acetal	534-15-6
24	acetaldehyde dipropyl acetal	acetaldehyde dipropyl acetal	105-82-8
25	acetaldehyde ethyl 3-hexenyl acetal	acetaldehyde ethyl 3-hexenyl acetal	28069-74-1
26	acetaldehyde amyl ethyl acetal	acetaldehyde amyl ethyl acetal	13442-89-2
27	acetaldehyde ethyl hexyl acetal	acetaldehyde ethyl hexyl acetal	54484-73-0
28	acetaldehyde ethyl isoamyl acetal	acetaldehyde ethyl isoamyl acetal	13442-90-5
29	acetaldehyde ethyl linalyl acetal	acetaldehyde ethyl linalyl acetal	40910-49-4
30	acetaldehyde ethyl phenethyl acetal	acetaldehyde ethyl phenethyl acetal	2556-10-7
31	acetaldehyde ethyl trans-2-hexenyl acetal	acetaldehyde ethyl trans-2-hexenyl acetal	
32	acetaldehyde ethyl vanillin acetal	acetaldehyde ethyl vanillin acetal	
33	acetaldehyde glyceryl acetal	acetaldehyde glyceryl acetal	3674-21-3
34	acetaldehyde hexyl isoamyl acetal	acetaldehyde hexyl isoamyl acetal	233665-90-2
35	acetaldehyde isoamyl isobutyl acetal	acetaldehyde isoamyl isobutyl acetal	75048-15-6
36	acetaldehyde phenethyl propyl acetal	acetaldehyde phenethyl propyl acetal	7493-57-4
37	acetaldehyde propyleneglycol acetal	acetaldehyde propyleneglycol acetal	3390-12-3
42	acetoin dimethyl acetal	acetoin dimethyl acetal	2371-17-7
43	acetoin propyleneglycol acetal	acetoin propyleneglycol acetal	94089-23-3
47	acetone propyleneglycol acetal	acetone propyleneglycol acetal	1193-11-9
49	acetophenone diethyl acetal	acetophenone diethyl acetal	6175-45-7
50	acetophenone propyleneglycol acetal	acetophenone propyleneglycol acetal	25687-72-3 25687-77-8
53	4-acetoxy-3-pentyltetrahydropyran	4-acetoxy-3-pentyltetrahydropyran	18871-14-2
87	2-propenal diethyl acetal	2-propenal diethyl acetal	3054-95-3
137	3a,6,6,9a-tetramethyldodecahydronaphtho[2,1-b]furan	dodecahydro-3a,6,6,9a-tetramethylnaphtho[2,1-b]furan	3738-00-9 6790-58-5
145	amyl benzyl ether	amyl benzyl ether	6382-14-5
169	alpha-amylcinnamaldehyde diethyl acetal	alpha-amylcinnamaldehyde diethyl acetal	60763-41-9
170	alpha-amylcinnamaldehyde dimethyl acetal	alpha-amylcinnamaldehyde dimethyl acetal	91-87-2
181	anisaldehyde diethyl acetal	anisaldehyde diethyl acetal	2403-58-9
182	anisaldehyde dimethyl acetal	anisaldehyde dimethyl acetal	2186-92-7
183	anisaldehyde hexyleneglycol acetal	anisaldehyde hexyleneglycol acetal	
184	anisaldehyde propyleneglycol acetal	anisaldehyde propyleneglycol acetal	6414-32-0
201	benzaldehyde dibutyl acetal	benzaldehyde dibutyl acetal	
202	benzaldehyde diethyl acetal	benzaldehyde diethyl acetal	774-48-1

Table 2. Group 3 - Ethers

SEQ	Compound	Synonym or Old name	CAS
203	benzaldehyde diisoamyl acetal	benzaldehyde diisoamyl acetal	94231-95-5
204	benzaldehyde dimethyl acetal	benzaldehyde dimethyl acetal	1125-88-8
205	benzaldehyde glyceryl acetal	benzaldehyde glyceryl acetal	1319-88-6
206	benzaldehyde propyleneglycol acetal	benzaldehyde propyleneglycol acetal	2568-25-4
217	benzyl butyl ether	benzyl butyl ether	588-67-0
222	benzyl ethyl ether	benzyl ethyl ether	539-30-0
235	benzyl methyl ether	benzyl methyl ether	538-86-3
245	di-2-furylmethane	di-2-furylmethane	1197-40-6
259	butanal diethyl acetal	butanal diethyl acetal	3658-95-5
285	sec-butyl ethyl ether	sec-butyl ethyl ether	2679-87-0
298	2-hexanone propyleneglycol acetal	2-hexanone propyleneglycol acetal	
317	2-sec-butyl-3-methoxypyrazine	2-sec-butyl-3-methoxypyrazine	24168-70-5
323	2-butylfuran	2-butylfuran	4466-24-4
329	butanal dimethyl acetal	butanal dimethyl acetal	
362	beta-caryophyllene oxide	beta-caryophyllene oxide	1139-30-6
371	1,4-cineole	1,4-cineole	470-67-7
374	cinnamaldehyde diethyl acetal	cinnamaldehyde diethyl acetal	7148-78-9 25226-98-6
375	cinnamaldehyde dimethyl acetal	cinnamaldehyde dimethyl acetal	4364-06-1
376	cinnamaldehyde propyleneglycol acetal	cinnamaldehyde propyleneglycol acetal	4353-01-9
393	citral diethyl acetal	citral diethyl acetal	7492-66-2
394	citral dimethyl acetal	citral dimethyl acetal	7549-37-3
395	citral hexyleneglycol acetal	citral hexyleneglycol acetal	68258-94-6
396	citral propyleneglycol acetal	citral propyleneglycol acetal	10444-50-5
399	citronellal diethyl acetal	citronellal diethyl acetal	71662-17-4
400	citronellal dimethyl acetal	citronellal dimethyl acetal	923-69-3
401	citronellal ethyleneglycol acetal	citronellal ethyleneglycol acetal	66512-92-3
402	citronellal propyleneglycol acetal	citronellal propyleneglycol acetal	74094-64-7
444	cyclohexanone diethyl acetal	cyclohexanone diethyl acetal	1670-47-9
492	decanal diethyl acetal	decanal diethyl acetal	34764-02-8
493	decanal dimethyl acetal	decanal dimethyl acetal	7779-41-1
494	decanal propyleneglycol acetal	decanal propyleneglycol acetal	5421-12-5
538	dibenzyl ether	dibenzyl ether	103-50-4
558	2,5-diethyltetrahydrofuran	2,5-diethyltetrahydrofuran	41239-48-9
560	difurfuryl ether	difurfuryl ether	4437-22-3
594	diisoamyl ether	diisoamyl ether	544-01-4
635	2-ethyl-4,5-dimethyloxazole	2-ethyl-4,5-dimethyloxazole	53833-30-0
640	2-isopropyl-4,5-dimethyloxazole	2-isopropyl-4,5-dimethyloxazole	19519-45-0
641	4,5-dimethyl-2-propyloxazole	4,5-dimethyl-2-propyloxazole	53833-32-2
650	2,2-dimethyl-5-(1-methyl-1-propenyl)tetrahydrofuran	2,2-dimethyl-5-(1-methyl-1-propenyl)tetrahydrofuran	7416-35-5
651	2,6-dimethyl-5-heptenal propyleneglycol acetal	2,6-dimethyl-5-heptenal propyleneglycol acetal	74094-63-6
663	2,5-dimethylfuran	2,5-dimethylfuran	625-86-5
671	2,5-dimethyltetrahydrofuran	2,5-dimethyltetrahydrofuran	1003-38-9
695	dodecanal diethyl acetal	dodecanal diethyl acetal	53405-98-4
696	dodecanal dihexyl acetal	dodecanal dihexyl acetal	
697	dodecanal dimethyl acetal	dodecanal dimethyl acetal	14620-52-1
718	7,15-epoxy-3-caryophyllene	7,15-epoxy-3-caryophyllene	
725	2-ethoxy-(3or5or6)-methylpyrazine	2-ethoxy-(3or5or6)-methylpyrazine	32737-14-7 53163-97-6 65504-94-1 67845-34-5
726	2-ethoxy-3-ethylpyrazine	2-ethoxy-3-ethylpyrazine	35243-43-7
727	2-ethoxy-3-isopropylpyrazine	2-ethoxy-3-isopropylpyrazine	72797-16-1
831	2-ethylfuran	2-ethylfuran	3208-16-0

Table 2. Group 3 - Ethers

SEQ	Compound	Synonym or Old name	CAS
834	ethyl geranyl ether	ethyl geranyl ether	22882-91-3 40267-72-9
852	2-butanone propyleneglycol acetal	2-butanone propyleneglycol acetal	2916-28-1
898	2-ethyl-3-methoxypyrazine	2-ethyl-3-methoxypyrazine	25680-58-4
900	propanal propyleneglycol acetal	propanal propyleneglycol acetal	4359-46-0
918	2-ethylhexanal diethyl acetal	2-ethylhexanal diethyl acetal	
956	forma I dehyde diethyl acetal	formadehyde diethyl acetal	462-95-3
977	furfuryl methyl ether	furfuryl methyl ether	13679-46-4
1022	piperonal propyleneglycol acetal	piperonal propyleneglycol acetal	61683-99-6
1031	heptanal propyleneglycol acetal	heptanal propyleneglycol acetal	4351-10-4
1032	heptanal dibutyl acetal	heptanal dibutyl acetal	
1033	heptanal diethyl acetal	heptanal diethyl acetal	688-82-4
1034	heptanal dimethyl acetal	heptanal dimethyl acetal	10032-05-0
1042	2-heptanone propyleneglycol acetal	2-heptanone propyleneglycol acetal	
1048	4-heptenal diethyl acetal	4-heptenal diethyl acetal	18492-65-4 18492-66-5
1068	2-nonanone propyleneglycol acetal	2-nonanone propyleneglycol acetal	165191-91-3
1088	hexanal diamyl acetal	hexanal diamyl acetal	
1089	hexanal dibutyl acetal	hexanal dibutyl acetal	93892-07-0
1090	hexanal diethyl acetal	hexanal diethyl acetal	3658-93-3
1091	hexanal dihexyl acetal	hexanal dihexyl acetal	33673-65-3
1092	hexanal diisoamyl acetal	hexanal diisoamyl acetal	93892-09-2
1093	hexanal dimethyl acetal	hexanal dimethyl acetal	1599-47-9
1094	hexanal ethyl isoamyl acetal	hexanal ethyl isoamyl acetal	
1096	hexanal hexyl isoamyl acetal	hexanal hexyl isoamyl acetal	896447-13-5
1097	hexanal propyleneglycol acetal	hexanal propyleneglycol acetal	1599-49-1 26563-74-6
1113	cis-3-hexenal diethyl acetal	cis-3-hexenal diethyl acetal	73545-18-3
1114	trans-2-hexenal diethyl acetal	trans-2-hexenal diethyl acetal	67746-30-9
1115	hexenal dihexyl acetal	hexenal dihexyl acetal	
1116	trans-2-hexenal dimethyl acetal	trans-2-hexenal dimethyl acetal	18318-83-7
1118	trans-2-hexenal propyleneglycol acetal	trans-2-hexenal propyleneglycol acetal	94089-21-1
1211	hexyl methyl ether	hexyl methyl ether	4747-07-3
1222	2-hexyl-3-methoxypyrazine	2-hexyl-3-methoxypyrazine	
1230	2-phenylpropanal diethyl acetal	2-phenylpropanal diethyl acetal	15295-60-0
1231	2-phenylpropanal ethyleneglycol acetal	2-phenylpropanal ethyleneglycol acetal	4362-22-5
1232	2-phenylpropanal glyceryl acetal	2-phenylpropanal glyceryl acetal	
1233	2-phenylpropanal dimethyl acetal	2-phenylpropanal dimethyl acetal	90-87-9
1236	2-phenylpropyl methyl ether	2-phenylpropyl methyl ether	65738-46-7
1267	hydroxycitronellal dibutyl acetal	hydroxycitronellal dibutyl acetal	
1270	hydroxycitronellal ethyleneglycol acetal	hydroxycitronellal ethyleneglycol acetal	
1271	hydroxycitronellal propyleneglycol acetal	hydroxycitronellal propyleneglycol acetal	93804-64-9
1311	isoamyl phenethyl ether	isoamyl phenethyl ether	56011-02-0
1327	isobutanal diethyl acetal	isobutanal diethyl acetal	1741-41-9
1328	isobutanal propyleneglycol acetal	isobutanal propyleneglycol acetal	67879-60-1
1370	2-isobutyl-3-methoxypyrazine	2-isobutyl-3-methoxypyrazine	24683-00-9
1376	isobutanal dimethyl acetal	isobutanal dimethyl acetal	
1399	2-isopropoxy-3-methylpyrazine	2-isopropoxy-3-methylpyrazine	94089-22-2
1418	3-methyl-2-butanone propyleneglycol acetal	3-methyl-2-butanone propyleneglycol acetal	
1429	2-isopropyl-(3or5or6)-methoxypyrazine	2-isopropyl-(3or5or6)-methoxypyrazine	25773-40-4 56891-99-7 68039-46-3 93905-03-4
1433	isobutanal 2,3-butanediol acetal	isobutanal 2,3-butanediol acetal	
1445	isovaleraldehyde dibutyl acetal	isovaleraldehyde dibutyl acetal	
1446	isovaleraldehyde diethyl acetal	isovaleraldehyde diethyl acetal	3842-03-3

Table 2. Group 3 - Ethers

SEQ	Compound	Synonym or Old name	CAS
1447	isovaleraldehyde dimethyl acetal	isovaleraldehyde dimethyl acetal	
1448	isovaleraldehyde dipropyl acetal	isovaleraldehyde dipropyl acetal	
1450	isovaleraldehyde propyleneglycol acetal	isovaleraldehyde propyleneglycol acetal	18433-93-7
1463	6-ethenyl-2,2,6-trimethyltetrahydropyran	2-ethenyl-2,6,6-trimethyltetrahydropyran	7392-19-0
1468	d-8-p-menthene-1,2-epoxide	d-8-p-menthene-1,2-epoxide	1195-92-2
1471	ethyl linalyl ether	ethyl linalyl ether	72845-33-1
1510	menthofuran	menthofuran	494-90-6
1557	2-methoxy-(3or5or6)-methylpyrazine	2-methoxy-(3or5or6)-methylpyrazine	2847-30-5 2882-21-5 2882-22-6 63450-30-6 68378-13-2
1559	2-methoxy-2-methylpropane	2-methoxy-2-methylpropane	1634-04-4
1560	2-methoxy-3,5-dimethylpyrazine	2-methoxy-3,5-dimethylpyrazine	
1561	2-isopropyl-3-methoxypyrazine	2-isopropyl-3-methoxypyrazine	25773-40-4
1576	methoxypyrazine	methoxypyrazine	3149-28-8
1656	6-methyl-5-hepten-2-one propyleneglycol acetal	6-methyl-5-hepten-2-one propyleneglycol acetal	68258-95-7
1700	methyl phenethyl ether	methyl phenethyl ether	3558-60-9
1754	butanal propyleneglycol acetal	butanal propyleneglycol acetal	4352-99-2
1787	2-methyl-6- propoxypyrazine	2-methyl-6- propoxypyrazine	67845-28-7
1803	2-methylbutanal diethyl acetal	2-methylbutanal diethyl acetal	3658-94-4
1804	2-methylbutanal propyleneglycol acetal	2-methylbutanal propyleneglycol acetal	
1833	2-methylfuran	2-methylfuran	534-22-5
1861	(4-methylphenyl)acetaldehyde propyleneglycol acetal	(4-methylphenyl)acetaldehyde propyleneglycol acetal	
1864	2-methyltetrahydrofuran	2-methyltetrahydrofuran	96-47-9
1896	2-methylundecanal diethyl acetal	2-methylundecanal diethyl acetal	67785-65-3
1897	2-methylundecanal dimethyl acetal	2-methylundecanal dimethyl acetal	68141-17-3
1924	nerol oxide	nerol oxide	68141-17-3
1939	1-furfurylpyrrole	1-furfurylpyrrole	1438-94-4
1946	2,6-nonadienal diethyl acetal	2,6-nonadienal diethyl acetal	67674-36-6
1955	nonanal diethyl acetal	nonanal diethyl acetal	54815-13-3
1956	nonanal dimethyl acetal	nonanal dimethyl acetal	18824-63-0
1957	nonanal propyleneglycol acetal	nonanal propyleneglycol acetal	68391-39-9
1996	ocimene oxide	ocimene oxide	69103-20-4
2013	octanal diethyl acetal	octanal diethyl acetal	54889-48-4
2014	octanal dimethyl acetal	octanal dimethyl acetal	10022-28-3
2015	octanal ethyleneglycol acetal	octanal ethyleneglycol acetal	4359-57-3
2016	octanal propyleneglycol acetal	octanal propyleneglycol acetal	74094-61-4
2074	1,3,5-trimethyl-2,4,6-trioxane	1,3,5-trimethyl-2,4,6-trioxane	123-63-7
2091	2-pentylfuran	2-pentylfuran	3777-69-3
2095	perillaldehyde propyleneglycol acetal	perillaldehyde propyleneglycol acetal	121199-28-8
2147	phenylacetaldehyde diethyl acetal	phenylacetaldehyde diethyl acetal	6314-97-2
2148	phenylacetaldehyde diisobutyl acetal	phenylacetaldehyde diisobutyl acetal	68345-22-2
2149	phenylacetaldehyde dimethyl acetal	phenylacetaldehyde dimethyl acetal	101-48-4
2150	phenylacetaldehyde glyceryl acetal	phenylacetaldehyde glyceryl acetal	29895-73-6
2151	phenylacetaldehyde propyleneglycol acetal	phenylacetaldehyde propyleneglycol acetal	5468-05-3
2156	3-phenylpropanal dimethyl acetal	3-phenylpropanal dimethyl acetal	30076-98-3
2157	2-phenylpropanal propyleneglycol acetal	2-phenylpropanal propyleneglycol acetal	67634-23-5
2185	piperonal dimethyl acetal	piperonal dimethyl acetal	59259-90-4
2195	ethyl 3-methyl-2-butenyl ether	ethyl 3-methyl-2-butenyl ether	22094-00-4
2200	propanal diethyl acetal	propanal diethyl acetal	4744-08-5
2201	propanal diisobutyl acetal	propanal diisobutyl acetal	
2255	2-propylfuran	2-propylfuran	4229-91-8

Table 2. Group 3 - Ethers

SEQ	Compound	Synonym or Old name	CAS
2278	4-methyl-2-(2-methyl-1-propenyl)tetrahydropyran	4-methyl-2-(2-methyl-1-propenyl)tetrahydropyran	876-17-5 876-18-6 16409-43-1
2324	terpineol ethyl ether	terpineol ethyl ether	27153-54-4
2354	tetrahydrofurfuryl alcohol	tetrahydrofurfuryl alcohol	97-99-4
2368	theaspirane	theaspirane	36431-72-8
2397	4-methylbenzaldehyde glyceryl acetal	4-methylbenzaldehyde glyceryl acetal	1333-09-1 4388-47-0
2398	4-methylbenzaldehyde propyleneglycol acetal	4-methylbenzaldehyde propyleneglycol acetal	58244-29-4
2408	tridecanal diethyl acetal	tridecanal diethyl acetal	72934-16-8
2416	triethoxymethane	triethoxymethane	122-51-0
2422	2,4,5-trimethyl-3-oxazoline	2,4,5-trimethyl-3-oxazoline	22694-96-8
2423	2,2,5-trimethyl-4-hexenal dimethyl acetal	2,2,5-trimethyl-4-hexenal dimethyl acetal	
2435	3,5,5-trimethylhexanal diethyl acetal	3,5,5-trimethylhexanal diethyl acetal	
2442	2,4,5-trimethyloxazole	2,4,5-trimethyloxazole	20662-84-4
2454	undecanal diethyl acetal	undecanal diethyl acetal	53405-97-3
2455	undecanal dimethyl acetal	undecanal dimethyl acetal	52517-67-6
2456	undecanal propyleneglycol acetal	undecanal propyleneglycol acetal	74094-62-5
2467	10-undecenal diethyl acetal	10-undecenal diethyl acetal	
2468	10-undecenal dimethyl acetal	10-undecenal dimethyl acetal	65405-66-5
2478	valeraldehyde dibutyl acetal	valeraldehyde dibutyl acetal	13112-65-7
2479	valeraldehyde diethyl acetal	valeraldehyde diethyl acetal	3658-79-5
2480	valeraldehyde dihexyl acetal	valeraldehyde dihexyl acetal	
2481	valeraldehyde dimethyl acetal	valeraldehyde dimethyl acetal	26450-58-8
2482	valeraldehyde propyleneglycol acetal	valeraldehyde propyleneglycol acetal	74094-60-3
2508	vitispirane	vitispirane	65416-59-3
2520	(2S,4aR,8aS)-2,5,5,8a-tetramethyl-3,4,4a,5,6,8a-hexahydro-2H-1-benzopyran	(2S,4aR,8aS)-3,4,4a,5,6,8a-hexahydro-2,5,5,8a-tetramethyl-2H-1-benzopyran	41678-32-4
2521	1,2-di[(1'-ethoxy)ethoxy]propane	1,2-di[(1'-ethoxy)ethoxy]propane	67715-79-1
2522	1,2-dimethoxyethane	1,2-dimethoxyethane	110-71-4
2523	1-methoxy-2-propanol	1-methoxy-2-propanol	107-98-2
2524	2-(3-phenylpropyl)tetrahydrofuran	2-(3-phenylpropyl)tetrahydrofuran	3208-40-0
2525	2,3-dihydrobenzofuran	2,3-dihydrobenzofuran	496-16-2
2526	2,4,6-trimethyl-4-phenyl-1,3-dioxane	2,4,6-trimethyl-4-phenyl-1,3-dioxane	5182-36-5
2527	2,4-dimethyl-4-phenyltetrahydrofuran	2,4-dimethyl-4-phenyltetrahydrofuran	82461-14-1
2528	2,4-hexadienal diethyl acetal	2,4-hexadienal diethyl acetal	27310-22-1
2529	2,7-dimethyl-10-(1-methylethyl)-1-oxaspiro[4,5]deca-3,6-diene	2,7-dimethyl-10-(1-methylethyl)-1-oxaspiro[4,5]deca-3,6-diene	89079-92-5
2530	2-furfuryl-5-methylfuran	2-furfuryl-5-methylfuran	13678-51-8
2531	2-heptylfuran	2-heptylfuran	3777-71-7
2532	2-methoxypyrrrole	2-methoxypyrrrole	
2533	2-methoxypyridine	2-methoxypyridine	1628-89-3
2534	2-methylbenzofuran	2-methylbenzofuran	4265-25-2
2535	3-(5-methyl-2-furyl)butanal propyleneglycol acetal	3-(5-methyl-2-furyl)butanal propyleneglycol acetal	
2537	4-ethyl-2,5-dimethyloxazole	4-ethyl-2,5-dimethyloxazole	30408-61-8
2538	4-methoxypyridine	4-methoxypyridine	620-08-6
2539	4-methylbenzaldehyde diethyl acetal	4-methylbenzaldehyde diethyl acetal	2403-59-0
2540	6-methoxyquinoline	6-methoxyquinoline	5263-87-6
2541	acetophenone neopentylglycol acetal	acetophenone neopentylglycol acetal	5406-58-6
2543	2-butenal diethyl acetal	2-butenal diethyl acetal	10602-34-3
2544	cyclamen aldehyde diethyl acetal	cyclamen aldehyde diethyl acetal	
2545	cyclamen aldehyde propyleneglycol acetal	cyclamen aldehyde propyleneglycol acetal	
2546	cycloionone	cycloionone	5552-30-7
2547	dodecanal propyleneglycol acetal	dodecanal propyleneglycol acetal	

Table 2. Group 3 - Ethers

SEQ	Compound	Synonym or Old name	CAS
2548	furan	furan	110-00-9
2549	hexanal 1,3-octanediol acetal	hexanal 1,3-octanediol acetal	202188-46-3
2550	hexanal 2,3-butanediol acetal	hexanal 2,3-butanediol acetal	155639-75-1
2551	hexanal diisobutyl acetal	hexanal diisobutyl acetal	
2552	hexanal ethyl hexyl acetal	hexanal ethyl hexyl acetal	
2553	hexanal butyl hexyl acetal	hexanal butyl hexyl acetal	
2554	hexanal butyl isoamyl acetal	hexanal butyl isoamyl acetal	
2555	4-methyl-2-pentanone propyleneglycol acetal	4-methyl-2-pentanone propyleneglycol acetal	
2557	methyl myrcenyl ether	methyl myrcenyl ether	24202-00-4
2558	phenylacetaldehyde ethyleneglycol acetal	phenylacetaldehyde ethyleneglycol acetal	101-49-5
2559	phenylacetaldehyde hexyleneglycol acetal	phenylacetaldehyde hexyleneglycol acetal	67633-94-7
2560	piperonal diethyl acetal	piperonal diethyl acetal	40527-42-2
2561	trans-2-hexenal dibutyl acetal	trans-2-hexenal dibutyl acetal	
2562	isovaleraldehyde dihexyl acetal	isovaleraldehyde dihexyl acetal	
2564	alpha-pinene oxide	alpha-pinene oxide	1686-14-2
2565	beta-pinene oxide	beta-pinene oxide	6931-54-0
2923	2-ethenyl-5-isopropenyl-2-methyl-tetrahydrofuran	2-ethenyl-5-isopropenyl-2-methyl-tetrahydrofuran	13679-86-2
2999	1-isopropyl-2-methoxy-4-methylcyclohexane		1565-76-0
3002	acetaldehyde 1,3-octanediol acetal		202188-43-0
3040	acetone dimethyl acetal		77-76-9
3045	2,5-dimethoxytetrahydrofuran		696-59-3
3058	2,6-diethyl-5-isopropyl-2-methyltetrahydro-2H-pyran		1120363-98-5
3069	2-[2-(p-menthyloxy)ethoxy]ethanol		28804-53-7
3088	propanal dipropyl acetal		4744-11-0
3089	4,4-diethoxybutan-1-amine		6346-09-4

Flavorings used for food in Japan: The result of investigation by Japan Flavor & Fragrance Materials Association in 2013.

List of flavouring substances used in Japan

Table 2. Group 4 - Esters

SEQ	Compound	Synonym or Old name	CAS
41	acetoin acetate	acetoin acetate	4906-24-5
52	3-acetoxy-2-butyl butyrate	3-acetoxy-2-butyl butyrate	
54	4-(3-oxobutyl)phenyl acetate	4-(3-oxobutyl)phenyl acetate	3572-06-3
59	vanillin acetate	vanillin acetate	881-68-5
90	allyl 10-undecenoate	allyl 10-undecenoate	7493-76-7
91	allyl 2-ethylbutyrate	allyl 2-ethylbutyrate	7493-69-8
92	allyl 2-furoate	allyl 2-furoate	4208-49-5
93	allyl (2-methylbutoxy)acetate	allyl (2-methylbutoxy)acetate	67634-01-9
94	allyl 2-methylbutyrate	allyl 2-methylbutyrate	93963-13-4
95	allyl acetate	allyl acetate	591-87-7
96	allyl acetoacetate	allyl acetoacetate	1118-84-9
97	allyl anthranilate	allyl anthranilate	7493-63-2
98	allyl butyrate	allyl butyrate	2051-78-7
99	allyl cinnamate	allyl cinnamate	1866-31-5
100	allyl 2-butenolate	allyl 2-butenolate	20474-93-5
101	allyl cyclohexylacetate	allyl cyclohexylacetate	4728-82-9
103	allyl cyclohexyloxypropionate	allyl cyclohexyloxypropionate	
104	allyl decanoate	allyl decanoate	57856-81-2
105	allyl formate	allyl formate	1838-59-1
106	allyl heptanoate	allyl heptanoate	142-19-8
108	allyl (3-methylbutoxy)acetate	allyl (3-methylbutoxy)acetate	67634-00-8
109	allyl isobutyrate	allyl isobutyrate	15727-77-2
110	allyl 4-methylpentanoate	allyl 4-methylpentanoate	
112	allyl isovalerate	allyl isovalerate	2835-39-4
113	allyl levulinate	allyl levulinate	1070-35-5
118	allyl nonanoate	allyl nonanoate	7493-72-3
119	allyl octanoate	allyl octanoate	4230-97-1
120	allyl phenoxyacetate	allyl phenoxyacetate	7493-74-5
121	allyl phenylacetate	allyl phenylacetate	1797-74-6
122	allyl pivalate	allyl pivalate	
123	allyl propionate	allyl propionate	2408-20-0
127	allyl pyruvate	allyl pyruvate	
128	allyl sorbate	allyl sorbate	7493-75-6
129	S-allyl propanethioate	S-allyl propanethioate	41820-22-8
130	allyl tiglate	allyl tiglate	7493-71-2
131	allyl valerate	allyl valerate	6321-45-5
139	amyl 2-furoate	amyl 2-furoate	1334-82-3 4996-48-9
140	amyl 2-methylbutyrate	amyl 2-methylbutyrate	68039-26-9
141	amyl acetate	amyl acetate	628-63-7
142	amyl angelate	amyl angelate	7785-63-9
143	amyl anthranilate	amyl anthranilate	30100-15-3
144	amyl benzoate	amyl benzoate	2049-96-9
146	amyl butyrate	amyl butyrate	540-18-1
147	amyl cinnamate	amyl cinnamate	3487-99-8
148	amyl 2-butenolate	amyl 2-butenolate	25415-76-3
149	amyl decanoate	amyl decanoate	5933-87-9
150	amyl formate	amyl formate	638-49-3
151	amyl heptanoate	amyl heptanoate	7493-82-5
152	amyl hexanoate	amyl hexanoate	540-07-8
153	amyl isobutyrate	amyl isobutyrate	2445-72-9
154	amyl 4-methylpentanoate	amyl 4-methylpentanoate	
156	amyl isovalerate	amyl isovalerate	25415-62-7
157	amyl lactate	amyl lactate	6382-06-5
158	amyl laurate	amyl laurate	5350-03-8

Table 2. Group 4 - Esters

SEQ	Compound	Synonym or Old name	CAS
159	amyl levulinate	amyl levulinate	20279-49-6
160	amyl nonanoate	amyl nonanoate	61531-45-1
161	amyl octanoate	amyl octanoate	638-25-5
162	amyl phenylacetate	amyl phenylacetate	5137-52-0
163	amyl propionate	amyl propionate	624-54-4
164	amyl salicylate	amyl salicylate	2050-08-0
165	amyl tiglate	amyl tiglate	7785-65-1
166	amyl valerate	amyl valerate	2173-56-0
171	alpha-amylcinnamyl acetate	alpha-amylcinnamyl acetate	7493-78-9
173	alpha-amylcinnamyl isovalerate	alpha-amylcinnamyl isovalerate	7493-80-3
187	anisyl acetate	anisyl acetate	104-21-2
190	anisyl butyrate	anisyl butyrate	6963-56-0
192	anisyl formate	anisyl formate	122-91-8
193	anisyl hexanoate	anisyl hexanoate	6624-60-8
194	anisyl isobutyrate	anisyl isobutyrate	
195	anisyl isovalerate	anisyl isovalerate	68922-04-3
197	anisyl phenylacetate	anisyl phenylacetate	102-17-0
198	anisyl propionate	anisyl propionate	7549-33-9
199	anisyl valerate	anisyl valerate	
212	benzyl 2-methylbutyrate	benzyl 2-methylbutyrate	56423-40-6
214	benzyl acetoacetate	benzyl acetoacetate	5396-89-4
216	benzyl benzoate	benzyl benzoate	120-51-4
218	benzyl butyrate	benzyl butyrate	103-37-7
219	benzyl cinnamate	benzyl cinnamate	103-41-3
220	benzyl 2-butenolate	benzyl 2-butenolate	65416-24-2
221	benzyl decanoate	benzyl decanoate	42175-41-7
224	benzyl formate	benzyl formate	104-57-4
225	benzyl hexanoate	benzyl hexanoate	6938-45-0
227	benzyl isobutyrate	benzyl isobutyrate	103-28-6
229	benzyl isovalerate	benzyl isovalerate	103-38-8
230	benzyl lactate	benzyl lactate	2051-96-9
231	benzyl laurate	benzyl laurate	140-25-0
232	benzyl levulinate	benzyl levulinate	6939-75-9
237	benzyl nonanoate	benzyl nonanoate	6471-66-5
238	benzyl octanoate	benzyl octanoate	10276-85-4
239	benzyl phenylacetate	benzyl phenylacetate	102-16-9
241	benzyl salicylate	benzyl salicylate	118-58-1
242	benzyl tiglate	benzyl tiglate	37526-88-8
243	benzyl valerate	benzyl valerate	10361-39-4
252	bornyl acetate	bornyl acetate	76-49-3
253	bornyl butyrate	bornyl butyrate	13109-70-1
254	bornyl formate	bornyl formate	7492-41-3
255	bornyl isovalerate	bornyl isovalerate	76-50-6
256	bornyl propionate	bornyl propionate	20279-25-8
257	bornyl valerate	bornyl valerate	7549-41-9
260	2,3-butanediol diacetate	2,3-butanediol diacetate	1114-92-7
266	butyl trans-2-butenolate	butyl trans-2-butenolate	591-63-9
267	butyl 2-decenoate	butyl 2-decenoate	7492-45-7
268	butyl 2-hexenoate	butyl 2-hexenoate	13416-74-5
269	butyl 2-methylbutyrate	butyl 2-methylbutyrate	15706-73-7
270	butyl 3-hexenoate	butyl 3-hexenoate	
271	S-sec-butyl 3-methylbutanethioate	S-sec-butyl 3-methylbutanethioate	2432-91-9
272	butyl 3-(methylthio)propionate	butyl 3-(methylthio)propionate	
273	sec-butyl acetate	sec-butyl acetate	105-46-4
275	butyl acetoacetate	butyl acetoacetate	591-60-6
276	butyl angelate	butyl angelate	7785-64-0

Table 2. Group 4 - Esters

SEQ	Compound	Synonym or Old name	CAS
277	butyl anthranilate	butyl anthranilate	7756-96-9
278	butyl benzoate	butyl benzoate	136-60-7
280	butyl butyryllactate	butyl butyryllactate	7492-70-8
281	butyl butyrylacetate	butyl butyrylacetate	
282	butyl cinnamate	butyl cinnamate	538-65-8
283	butyl 2-butenolate	butyl 2-butenolate	7299-91-4
284	butyl decanoate	butyl decanoate	30673-36-0
286	butyl formate	butyl formate	592-84-7
287	butyl heptanoate	butyl heptanoate	5454-28-4
288	butyl hexanoate	butyl hexanoate	626-82-4
289	butyl isobutyrate	butyl isobutyrate	97-87-0
292	butyl isovalerate	butyl isovalerate	109-19-3
293	butyl lactate	butyl lactate	138-22-7
294	butyl laurate	butyl laurate	106-18-3
295	butyl levulinate	butyl levulinate	2052-15-5
296	butyl methacrylate	butyl methacrylate	97-88-1
299	butyl beta-methyl-beta-phenylglycidate	butyl beta-methyl-beta-phenylglycidate	
300	butyl myristate	butyl myristate	110-36-1
301	butyl nonanoate	butyl nonanoate	50623-57-9
302	butyl octanoate	butyl octanoate	589-75-3
303	butyl oleate	butyl oleate	142-77-8
304	butyl palmitate	butyl palmitate	111-06-8
305	butyl phenylacetate	butyl phenylacetate	122-43-0
307	butyl pivalate	butyl pivalate	5129-37-3
308	butyl propionate	butyl propionate	590-01-2
310	butyl salicylate	butyl salicylate	2052-14-4
311	butyl sorbate	butyl sorbate	7367-78-4
312	butyl stearate	butyl stearate	123-95-5
313	butyl tiglate	butyl tiglate	7785-66-2
314	butyl undecanoate	butyl undecanoate	
315	butyl 10-undecenoate	butyl 10-undecenoate	109-42-2
316	butyl valerate	butyl valerate	591-68-4
320	2-butoxyethyl acetate	2-butoxyethyl acetate	112-07-2
348	carvyl 2-methylbutyrate	carvyl 2-methylbutyrate	
349	cis-carvyl acetate	cis-carvyl acetate	1205-42-1
350	carvyl acetate	carvyl acetate	97-42-7
351	carvyl butyrate	carvyl butyrate	93919-04-1
352	carvyl formate	carvyl formate	29239-07-4
353	carvyl hexanoate	carvyl hexanoate	
354	carvyl isobutyrate	carvyl isobutyrate	
355	carvyl isovalerate	carvyl isovalerate	94386-39-7
356	carvyl propionate	carvyl propionate	97-45-0
357	carvyl valerate	carvyl valerate	
360	beta-caryophyllene acetate	beta-caryophyllene acetate	57082-24-3
368	cedryl acetate	cedryl acetate	77-54-3
370	hexadecyl acetate	hexadecyl acetate	629-70-9
380	cinnamyl anthranilate	cinnamyl anthranilate	87-29-6
381	cinnamyl benzoate	cinnamyl benzoate	5320-75-2
382	cinnamyl butyrate	cinnamyl butyrate	103-61-7
383	cinnamyl cinnamate	cinnamyl cinnamate	122-69-0
384	cinnamyl formate	cinnamyl formate	104-65-4
385	cinnamyl hexanoate	cinnamyl hexanoate	6994-20-3
386	cinnamyl isobutyrate	cinnamyl isobutyrate	103-59-3
387	cinnamyl isovalerate	cinnamyl isovalerate	140-27-2
388	cinnamyl phenylacetate	cinnamyl phenylacetate	7492-65-1
389	cinnamyl propionate	cinnamyl propionate	103-56-0

Table 2. Group 4 - Esters

SEQ	Compound	Synonym or Old name	CAS
390	cinnamyl tiglate	cinnamyl tiglate	61792-12-9
391	cinnamyl valerate	cinnamyl valerate	10482-65-2
397	citronellyl propionate	citronellyl propionate	141-14-0
407	citronellyl butyrate	citronellyl butyrate	141-16-2
408	citronellyl decanoate	citronellyl decanoate	
410	citronellyl hexanoate	citronellyl hexanoate	10580-25-3
411	citronellyl isobutyrate	citronellyl isobutyrate	97-89-2
412	citronellyl isovalerate	citronellyl isovalerate	68922-10-1
413	citronellyl octanoate	citronellyl octanoate	72934-05-5
415	citronellyl phenylacetate	citronellyl phenylacetate	139-70-8
416	citronellyl tiglate	citronellyl tiglate	24717-85-9
417	citronellyl valerate	citronellyl valerate	7540-53-6
424	4-methylphenyl butyrate	4-methylphenyl butyrate	14617-92-6
426	4-methylphenyl hexanoate	4-methylphenyl hexanoate	68141-11-7
427	4-methylphenyl isobutyrate	4-methylphenyl isobutyrate	103-93-5
428	4-methylphenyl phenylacetate	4-methylphenyl phenylacetate	101-94-0
429	4-methylphenyl valerate	4-methylphenyl valerate	10415-86-8
432	cuminyl acetate	cuminyl acetate	59230-57-8
436	4-tert-butylcyclohexyl acetate	4-tert-butylcyclohexyl acetate	32210-23-4
437	4-tert-butylcyclohexyl propionate	4-tert-butylcyclohexyl propionate	68797-70-6
438	cyclododecyl formate	cyclododecyl formate	59052-82-3
446	cyclohexyl acetoacetate	cyclohexyl acetoacetate	6947-02-0
447	cyclohexyl anthranilate	cyclohexyl anthranilate	7779-16-0
448	cyclohexyl benzoate	cyclohexyl benzoate	2412-73-9
450	cyclohexyl cinnamate	cyclohexyl cinnamate	7779-17-1
451	cyclohexyl formate	cyclohexyl formate	4351-54-6
452	cyclohexyl hexanoate	cyclohexyl hexanoate	6243-10-3
453	cyclohexyl isobutyrate	cyclohexyl isobutyrate	1129-47-1
454	cyclohexyl isovalerate	cyclohexyl isovalerate	7774-44-9
456	cyclohexyl phenylacetate	cyclohexyl phenylacetate	42288-75-5
457	cyclohexyl propionate	cyclohexyl propionate	6222-35-1
458	cyclohexyl salicylate	cyclohexyl salicylate	25485-88-5
459	cyclohexyl valerate	cyclohexyl valerate	1551-43-5
461	2-cyclohexylethyl acetate	2-cyclohexylethyl acetate	21722-83-8
462	cyclohexylethyl benzoate	cyclohexylethyl benzoate	
463	cyclohexylethyl butyrate	cyclohexylethyl butyrate	63449-88-7
464	cyclohexylethyl formate	cyclohexylethyl formate	
465	cyclohexylethyl isobutyrate	cyclohexylethyl isobutyrate	
466	cyclohexylethyl isovalerate	cyclohexylethyl isovalerate	
467	cyclohexylethyl propionate	cyclohexylethyl propionate	
468	cyclohexylethyl valerate	cyclohexylethyl valerate	
476	cyclotene butyrate	cyclotene butyrate	68227-51-0
477	cyclotene isobutyrate	cyclotene isobutyrate	
478	cyclotene propionate	cyclotene propionate	87-55-8
517	9-decenyl acetate	9-decenyl acetate	50816-18-7
518	2-decenyl acetate	2-decenyl acetate	19487-61-7
519	decyl acetate	decyl acetate	112-17-4
520	decyl butyrate	decyl butyrate	5454-09-1
521	decyl formate	decyl formate	5451-52-5
522	decyl hexanoate	decyl hexanoate	52363-43-6
523	decyl isobutyrate	decyl isobutyrate	5454-22-8
524	decyl isovalerate	decyl isovalerate	72928-48-4
526	decyl nonanoate	decyl nonanoate	
527	decyl octanoate	decyl octanoate	2306-89-0
528	decyl propionate	decyl propionate	5454-19-3
540	dibutyl malate	dibutyl malate	1587-18-4

Table 2. Group 4 - Esters

SEQ	Compound	Synonym or Old name	CAS
541	dibutyl sebacate	dibutyl sebacate	109-43-3
542	dibutyl succinate	dibutyl succinate	141-03-7
545	diethyl adipate	diethyl adipate	141-28-6
546	diethyl carbonate	diethyl carbonate	105-58-8
548	diethyl 1,12-dodecanedioate	diethyl 1,12-dodecanedioate	10471-28-0
549	diethyl fumarate	diethyl fumarate	623-91-6
550	diethyl malate	diethyl malate	7554-12-3
551	diethyl maleate	diethyl maleate	141-05-9
552	diethyl malonate	diethyl malonate	105-53-3
553	diethyl oxalate	diethyl oxalate	95-92-1
554	diethyl sebacate	diethyl sebacate	110-40-7
555	diethyl succinate	diethyl succinate	123-25-1
557	diethyl tartrate	diethyl tartrate	87-91-2
570	dihydrocarvyl acetate	dihydrocarvyl acetate	20777-49-5
571	dihydrocarvyl butyrate	dihydrocarvyl butyrate	93892-03-6
572	dihydrocarvyl formate	dihydrocarvyl formate	93892-04-7
573	dihydrocarvyl hexanoate	dihydrocarvyl hexanoate	
574	dihydrocarvyl isobutyrate	dihydrocarvyl isobutyrate	
575	dihydrocarvyl isovalerate	dihydrocarvyl isovalerate	93892-05-8
576	dihydrocarvyl propionate	dihydrocarvyl propionate	
577	dihydrocarvyl valerate	dihydrocarvyl valerate	
585	dihydrolinalyl acetate	dihydrolinalyl acetate	50373-60-9 63270-23-5
586	dihydrolinalyl butyrate	dihydrolinalyl butyrate	
595	diisoamyl succinate	diisoamyl succinate	818-04-2
596	diisobutyl adipate	diisobutyl adipate	141-04-8
598	diisoamyl mercaptobutanedioate	diisoamyl mercaptobutanedioate	68084-03-7
613	2-methyl-1-phenyl-2-propyl butyrate	2-methyl-1-phenyl-2-propyl butyrate	10094-34-5
614	2-methyl-1-phenyl-2-propyl 2-butenolate	2-methyl-1-phenyl-2-propyl 2-butenolate	93762-34-6
615	2-methyl-1-phenyl-2-propyl formate	2-methyl-1-phenyl-2-propyl formate	10058-43-2
616	2-methyl-1-phenyl-2-propyl isobutyrate	2-methyl-1-phenyl-2-propyl isobutyrate	59354-71-1
617	2-methyl-1-phenyl-2-propyl propionate	2-methyl-1-phenyl-2-propyl propionate	67785-77-7
618	dimethyl malonate	dimethyl malonate	108-59-8
620	2-methyl-4-phenyl-2-butyl acetate	2-methyl-4-phenyl-2-butyl acetate	103-07-1
621	2-methyl-4-phenyl-2-butyl isobutyrate	2-methyl-4-phenyl-2-butyl isobutyrate	10031-71-7
622	2-phenyl-2-propyl isobutyrate	2-phenyl-2-propyl isobutyrate	7774-60-9
623	dimethyl sebacate	dimethyl sebacate	106-79-6
624	dimethyl succinate	dimethyl succinate	106-65-0
647	2,6-dimethyl-4-heptenyl acetate	2,6-dimethyl-4-heptenyl acetate	
648	2,6-dimethyl-4-heptyl acetate	2,6-dimethyl-4-heptyl acetate	10250-45-0
654	1,1-dimethyl-2-propenyl acetate	1,1-dimethyl-2-propenyl acetate	24509-88-4
657	2-phenyl-2-propyl acetate	2-phenyl-2-propyl acetate	3425-72-7
658	2,4-dimethylbenzyl acetate	2,4-dimethylbenzyl acetate	62346-96-7
660	2-methyl-1-phenyl-2-propyl acetate	2-methyl-1-phenyl-2-propyl acetate	151-05-3
661	2-phenyl-2-propyl formate	2-phenyl-2-propyl formate	
666	3,7-dimethyloctyl butyrate	3,7-dimethyloctyl butyrate	67874-80-0
681	dipropyl adipate	dipropyl adipate	106-19-4
683	dipropyl malonate	dipropyl malonate	1117-19-7
685	dipropyl succinate	dipropyl succinate	925-15-5
707	2-dodecenyl acetate	2-dodecenyl acetate	38363-23-4
708	dodecyl butyrate	dodecyl butyrate	3724-61-6
709	dodecyl isobutyrate	dodecyl isobutyrate	6624-71-1
710	dodecyl isovalerate	dodecyl isovalerate	
711	dodecyl lactate	dodecyl lactate	6283-92-7
713	dodecyl propionate	dodecyl propionate	6221-93-8
734	ethyl 10-undecenoate	ethyl 10-undecenoate	692-86-4

Table 2. Group 4 - Esters

SEQ	Compound	Synonym or Old name	CAS
735	ethyl 2-(methyldithio)propionate	ethyl 2-(methyldithio)propionate	23747-43-5
736	ethyl (methylthio)acetate	ethyl (methylthio)acetate	4455-13-4
737	ethyl 2,4-decadienoate	ethyl 2,4-decadienoate	7328-34-9 37549-74-9
738	ethyl alpha-acetylcinnamate	ethyl alpha-acetylcinnamate	620-80-4
739	ethyl 2-acetyldecanoate	ethyl 2-acetyldecanoate	24317-95-1
740	ethyl 2-acetyldodecanoate	ethyl 2-acetyldodecanoate	40778-32-3
741	ethyl 2-acetylhexanoate	ethyl 2-acetylhexanoate	1540-29-0
742	ethyl 2-acetyloctanoate	ethyl 2-acetyloctanoate	29214-60-6
743	ethyl 2-acetylpropionate	ethyl 2-acetylpropionate	609-14-3
744	ethyl 2-acetyl-3-phenylpropionate	ethyl 2-acetyl-3-phenylpropionate	620-79-1
745	ethyl 2-ethoxybenzoate	ethyl 2-ethoxybenzoate	
746	ethyl alpha-ethyl-beta-methyl-beta-phenylglycidate	ethyl alpha-ethyl-beta-methyl-beta-phenylglycidate	19464-94-9 56630-76-3
747	ethyl alpha-ethyl-beta-phenylglycidate	ethyl alpha-ethyl-beta-phenylglycidate	
748	ethyl 2-benzylbutyrate	ethyl 2-benzylbutyrate	2983-36-0
749	ethyl 2-ethylbutyrate	ethyl 2-ethylbutyrate	2983-38-2
750	ethyl 2-ethylhexanoate	ethyl 2-ethylhexanoate	2983-37-1
751	ethyl 2-furfurylpropionate	ethyl 2-furfurylpropionate	
752	ethyl 2-furoate	ethyl 2-furoate	614-99-3
754	ethyl 2-hexanoyloxyhexanoate	ethyl 2-hexanoyloxyhexanoate	
755	ethyl 2-hexenoate	ethyl 2-hexenoate	1552-67-6
756	ethyl 2-hydroxy-3-phenylpropionate	ethyl 2-hydroxy-3-phenylpropionate	15399-05-0
758	ethyl 2-hydroxy-4-methylpentanoate	ethyl 2-hydroxy-4-methylpentanoate	10348-47-7
759	ethyl mercaptoacetate	ethyl mercaptoacetate	623-51-8
760	ethyl 2-mercaptopropionate	ethyl 2-mercaptopropionate	19788-49-9
762	ethyl 2-methyl-(3or4)-pentenoate	ethyl 2-methyl-(3or4)-pentenoate	1617-23-8 53399-81-8
763	ethyl 2-methyl-3,4-pentadienoate	ethyl 2-methyl-3,4-pentadienoate	60523-21-9
764	ethyl 2-methyl-3-pentenoate	ethyl 2-methyl-3-pentenoate	1617-23-8
765	ethyl 2-methyl-4-pentenoate	ethyl 2-methyl-4-pentenoate	53399-81-8
766	ethyl 2-methylbutyrate	ethyl 2-methylbutyrate	7452-79-1
767	ethyl 2-methylpentanoate	ethyl 2-methylpentanoate	28959-02-6 39255-32-8
768	ethyl 2-(methylthio)propionate	ethyl 2-(methylthio)propionate	40800-76-8
769	ethyl 2-nonenoate	ethyl 2-nonenoate	17463-01-3
770	ethyl 2-octenoate	ethyl 2-octenoate	2351-90-8 7367-82-0
771	ethyl 2-oxo-3-phenylbutyrate	ethyl 2-oxo-3-phenylbutyrate	
772	ethyl 2-phenyl-3-furoate	ethyl 2-phenyl-3-furoate	50626-02-3
773	ethyl 3-(methylthio)propionate	ethyl 3-(methylthio)propionate	13327-56-5
774	ethyl 3,5,5-trimethylhexanoate	ethyl 3,5,5-trimethylhexanoate	67707-75-9
775	ethyl 3-acetoxy-2-methylbutyrate	ethyl 3-acetoxy-2-methylbutyrate	139564-43-5
776	ethyl 3-acetoxybutyrate	ethyl 3-acetoxybutyrate	27846-49-7
777	ethyl 3-acetoxyhexanoate	ethyl 3-acetoxyhexanoate	21188-61-4
778	ethyl 3-acetoxyoctanoate	ethyl 3-acetoxyoctanoate	85554-66-1
779	ethyl 3-(furfurylthio)propionate	ethyl 3-(furfurylthio)propionate	94278-27-0
780	ethyl 3-hexenoate	ethyl 3-hexenoate	2396-83-0 26553-46-8 64187-83-3
781	ethyl 3-hydroxybutyrate	ethyl 3-hydroxybutyrate	5405-41-4
782	ethyl 3-hydroxyhexanoate	ethyl 3-hydroxyhexanoate	2305-25-1
783	ethyl 3-hydroxyoctanoate	ethyl 3-hydroxyoctanoate	7367-90-0
784	ethyl 3-mercaptopropionate	ethyl 3-mercaptopropionate	5466-06-8
785	ethyl 3-methylpentanoate	ethyl 3-methylpentanoate	5870-68-8
786	ethyl 3-nonenoate	ethyl 3-nonenoate	54211-36-8

Table 2. Group 4 - Esters

SEQ	Compound	Synonym or Old name	CAS
787	ethyl 3-octenoate	ethyl 3-octenoate	1117-65-3 69668-87-7
788	ethyl 3-oxohexanoate	ethyl 3-oxohexanoate	3249-68-1
789	ethyl 3-oxooctanoate	ethyl 3-oxooctanoate	10488-95-6
790	ethyl 3-phenylpropionate	ethyl 3-phenylpropionate	2021-28-5
793	ethyl 4-octenoate	ethyl 4-octenoate	34495-71-1
794	ethyl 4-(4-methylphenoxy)benzoate	ethyl 4-(4-methylphenoxy)benzoate	
795	ethyl 5-acetoxydecanoate	ethyl 5-acetoxydecanoate	
796	ethyl 5-acetoxyoctanoate	ethyl 5-acetoxyoctanoate	35234-25-4
797	ethyl 5-hexenoate	ethyl 5-hexenoate	54653-25-7
798	ethyl 5-hydroxydecanoate	ethyl 5-hydroxydecanoate	6071-25-6 75587-06-3
799	ethyl 5-hydroxynonanoate	ethyl 5-hydroxynonanoate	
800	ethyl 5-hydroxyoctanoate	ethyl 5-hydroxyoctanoate	75587-05-2
801	ethyl 5-oxodecanoate	ethyl 5-oxodecanoate	93919-00-7
802	ethyl 5-oxooctanoate	ethyl 5-oxooctanoate	
803	ethyl 9-decenoate	ethyl 9-decenoate	67233-91-4
804	ethyl 9-hexadecenoate	ethyl 9-hexadecenoate	54546-22-4
807	ethyl acetoacetate ethyleneglycol acetal	ethyl acetoacetate ethyleneglycol acetal	6413-10-1
808	ethyl acetoacetate propyleneglycol acetal	ethyl acetoacetate propyleneglycol acetal	6290-17-1
809	ethyl acetylactate	ethyl acetylactate	2985-28-6
810	ethyl acrylate	ethyl acrylate	140-88-5
811	ethyl 2-ethyl-3-hydroxy-3-phenylpropionate	ethyl 2-ethyl-3-hydroxy-3-phenylpropionate	24744-97-6
812	ethyl 2-methyl-1-oxaspiro[2.5]octane-2-carboxylate	ethyl 2-methyl-1-oxaspiro[2.5]octane-2-carboxylate	31045-09-7
814	ethyl 4-methoxybenzoate	ethyl 4-methoxybenzoate	94-30-4
816	ethyl anthranilate	ethyl anthranilate	87-25-2
817	ethyl benzoate	ethyl benzoate	93-89-0
818	ethyl benzoylacetate	ethyl benzoylacetate	94-02-0
819	ethyl 3-(methylthio)-2-propenoate	ethyl 3-(methylthio)-2-propenoate	77105-51-2 136115-65-6 136115-66-7
820	ethyl beta-phenylglycidate	ethyl beta-phenylglycidate	121-39-1
823	ethyl butyryllactate	ethyl butyryllactate	71662-27-6
825	ethyl cis-4-decenoate	ethyl cis-4-decenoate	7367-84-2
826	ethyl 2-butenolate	ethyl 2-butenolate	623-70-1 10544-63-5
827	ethyl 3-cyclohexylpropionate	ethyl 3-cyclohexylpropionate	10094-36-7
830	ethyl formate	ethyl formate	109-94-4
832	ethyl 3-(2-furyl)propionate	ethyl 3-(2-furyl)propionate	10031-90-0
833	ethyl geranate	ethyl geranate	13058-12-3 32659-21-5
835	ethyl heptadecanoate	ethyl heptadecanoate	14010-23-2
839	ethyl isobutyrate	ethyl isobutyrate	97-62-1
841	ethyl 4-methylpentanoate	ethyl 4-methylpentanoate	25415-67-2
843	ethyl lactate	ethyl lactate	97-64-3
844	ethyl laurate	ethyl laurate	106-33-2
845	ethyl levulinate	ethyl levulinate	539-88-8
846	ethyl levulinate diethyl acetal	ethyl levulinate diethyl acetal	
847	ethyl levulinate propyleneglycol acetal	ethyl levulinate propyleneglycol acetal	
848	ethyl linoleate	ethyl linoleate	544-35-4
849	ethyl linolenate	ethyl linolenate	1191-41-9
851	ethyl methoxyacetate	ethyl methoxyacetate	3938-96-3
853	ethyl beta-methyl-beta-phenylglycidate	ethyl beta-methyl-beta-phenylglycidate	77-83-8

Table 2. Group 4 - Esters

SEQ	Compound	Synonym or Old name	CAS
854	ethyl beta-methyl-beta-(4-methylphenyl)glycidate	ethyl beta-methyl-beta-(4-methylphenyl)glycidate	74367-97-8
855	ethyl myristate	ethyl myristate	124-06-1
856	ethyl nicotinate	ethyl nicotinate	614-18-6
857	ethyl nonadecanoate	ethyl nonadecanoate	18281-04-4
858	ethyl nonanoate	ethyl nonanoate	123-29-5
859	ethyl 2-methoxybenzoate	ethyl 2-methoxybenzoate	7335-26-4
861	ethyl oleate	ethyl oleate	111-62-6
862	ethyl palmitate	ethyl palmitate	628-97-7
863	ethyl pentadecanoate	ethyl pentadecanoate	41114-00-5
864	1-phenylpropyl butyrate	1-phenylpropyl butyrate	10031-86-4
866	ethyl pivalate	ethyl pivalate	3938-95-2
867	ethyl beta-(4-methylphenyl)glycidate	ethyl beta-(4-methylphenyl)glycidate	52788-71-3
870	ethyl propionylactate	ethyl propionylactate	
872	ethyl pyruvate	ethyl pyruvate	617-35-6
873	ethyl ricinoleate	ethyl ricinoleate	55066-53-0
874	ethyl safranate	ethyl safranate	35044-57-6 35044-58-7 35044-59-8
875	ethyl salicylate	ethyl salicylate	118-61-6
876	ethyl sorbate	ethyl sorbate	2396-84-1
877	ethyl stearate	ethyl stearate	111-61-5
878	S-ethyl ethanethioate	S-ethyl ethanethioate	625-60-5
879	ethyl tiglate	ethyl tiglate	5837-78-5
880	ethyl trans,cis-2,4-decadienoate	ethyl trans,cis-2,4-decadienoate	3025-30-7
881	ethyl trans-2-decenoate	ethyl trans-2-decenoate	7367-88-6
882	ethyl trans-2-hexenoate	ethyl trans-2-hexenoate	27829-72-7
883	ethyl trans-3-decenoate	ethyl trans-3-decenoate	
884	ethyl 3-ethoxy-trans-2-butenoate	ethyl 3-ethoxy-trans-2-butenoate	57592-45-7
885	ethyl trans-3-octenoate	ethyl trans-3-octenoate	26553-47-9
886	ethyl trans-4-decenoate	ethyl trans-4-decenoate	76649-16-6
887	ethyl trans-4-octenoate	ethyl trans-4-octenoate	78989-37-4
888	ethyl undecanoate	ethyl undecanoate	627-90-7
889	ethyl valerate	ethyl valerate	539-82-2
890	ethyl vanillate	ethyl vanillate	617-05-0
893	3-methyl-1-phenyl-3-pentyl acetate	3-methyl-1-phenyl-3-pentyl acetate	72007-81-9
907	2-ethylbutyl acetate	2-ethylbutyl acetate	10031-87-5
912	ethyleneglycol diacetate	ethyleneglycol diacetate	111-55-7
913	2-ethoxyethyl acetate	2-ethoxyethyl acetate	111-15-9
920	2-ethylhexyl 3-mercaptopropionate	2-ethylhexyl 3-mercaptopropionate	50448-95-8
921	2-ethylhexyl acetate	2-ethylhexyl acetate	103-09-3
923	2-ethylhexyl benzoate	2-ethylhexyl benzoate	5444-75-7
924	2-ethylhexyl formate	2-ethylhexyl formate	5460-45-7
925	2-ethylhexyl hexanoate	2-ethylhexyl hexanoate	16397-75-4
926	2-ethylhexyl propionate	2-ethylhexyl propionate	6293-37-4
927	ethyl maltol propionate	ethyl maltol propionate	
928	ethyl maltol butyrate	ethyl maltol butyrate	93805-72-2
929	ethyl maltol isobutyrate	ethyl maltol isobutyrate	852997-28-5
937	ethylvanillin isobutyrate	ethylvanillin isobutyrate	188417-26-7
940	eugenyl acetate	eugenyl acetate	93-28-7
941	eugenyl benzoate	eugenyl benzoate	531-26-0
942	eugenyl formate	eugenyl formate	10031-96-6
943	eugenyl phenylacetate	eugenyl phenylacetate	10402-33-2
944	methyl 2,4-dihydroxy-3,6-dimethylbenzoate	methyl 2,4-dihydroxy-3,6-dimethylbenzoate	4707-47-5
949	farnesyl acetate	farnesyl acetate	29548-30-9

Table 2. Group 4 - Esters

SEQ	Compound	Synonym or Old name	CAS
953	fenchyl acetate	fenchyl acetate	13851-11-1
955	fenchyl butyrate	fenchyl butyrate	
960	2,5-dimethyl-4-oxo-3(5H)-furyl acetate	2,5-dimethyl-4-oxo-3(5H)-furyl acetate	4166-20-5
966	furfuryl isobutyrate	furfuryl isobutyrate	6270-55-9
967	furfuryl acetate	furfuryl acetate	623-17-6
969	furfuryl butyrate	furfuryl butyrate	623-21-2
970	furfuryl decanoate	furfuryl decanoate	39252-05-6
971	furfuryl formate	furfuryl formate	13493-97-5
972	furfuryl heptanoate	furfuryl heptanoate	39481-28-2
973	furfuryl hexanoate	furfuryl hexanoate	39252-02-3
975	furfuryl isovalerate	furfuryl isovalerate	13678-60-9
980	furfuryl octanoate	furfuryl octanoate	39252-03-4
981	furfuryl propionate	furfuryl propionate	623-19-8
982	S-furfuryl ethanethioate	S-furfuryl ethanethioate	13678-68-7
983	S-furfuryl propanethioate	S-furfuryl propanethioate	59020-85-8
984	furfuryl valerate	furfuryl valerate	36701-01-6
986	S-furfuryl methanethioate	S-furfuryl methanethioate	59020-90-5
996	geranyl 2-methylbutyrate	geranyl 2-methylbutyrate	68705-63-5
998	geranyl acetoacetate	geranyl acetoacetate	10032-00-5
1000	geranyl anthranilate	geranyl anthranilate	67874-69-5
1001	geranyl benzoate	geranyl benzoate	94-48-4
1002	geranyl butyrate	geranyl butyrate	106-29-6
1003	geranyl 2-butenolate	geranyl 2-butenolate	56172-46-4
1005	geranyl hexanoate	geranyl hexanoate	10032-02-7
1006	geranyl isobutyrate	geranyl isobutyrate	2345-26-8
1007	geranyl isovalerate	geranyl isovalerate	109-20-6
1009	geranyl phenylacetate	geranyl phenylacetate	102-22-7
1010	geranyl propionate	geranyl propionate	105-90-8
1011	geranyl tiglate	geranyl tiglate	7785-33-3
1012	geranyl valerate	geranyl valerate	10402-47-8
1015	glyceryl (mono or di or tri)-5-hydroxydecanoate	glyceryl (mono or di or tri)-5-hydroxydecanoate	26446-31-1
1016	glyceryl (mono or di or tri)-5-hydroxydodecanoate	glyceryl (mono or di or tri)-5-hydroxydodecanoate	26446-32-2
1018	2-methoxyphenyl acetate	2-methoxyphenyl acetate	613-70-7
1019	2-methoxyphenyl phenylacetate	2-methoxyphenyl phenylacetate	4112-89-4
1021	guaiyl acetate	guaiyl acetate	134-28-1
1053	2-heptenyl acetate	2-heptenyl acetate	16939-73-4
1054	heptyl 2-methylbutyrate	heptyl 2-methylbutyrate	50862-12-9
1055	2-heptyl acetate	2-heptyl acetate	5921-82-4
1056	heptyl acetate	heptyl acetate	112-06-1
1057	heptyl butyrate	heptyl butyrate	5870-93-9
1058	heptyl butyryllactate	heptyl butyryllactate	
1059	heptyl cinnamate	heptyl cinnamate	10032-08-3
1060	heptyl decanoate	heptyl decanoate	60160-17-0
1061	heptyl formate	heptyl formate	112-23-2
1062	heptyl heptanoate	heptyl heptanoate	624-09-9
1063	heptyl hexanoate	heptyl hexanoate	6976-72-3
1064	heptyl isobutyrate	heptyl isobutyrate	2349-13-5
1065	heptyl 4-methylpentanoate	heptyl 4-methylpentanoate	
1066	heptyl isovalerate	heptyl isovalerate	56423-43-9
1069	heptyl nonanoate	heptyl nonanoate	71605-85-1
1070	heptyl octanoate	heptyl octanoate	4265-97-8
1071	heptyl propionate	heptyl propionate	2216-81-1
1081	2,4-hexadienyl acetate	2,4-hexadienyl acetate	1516-17-2
1130	3-hexenyl 2-ethylbutyrate	3-hexenyl 2-ethylbutyrate	94071-12-2

Table 2. Group 4 - Esters

SEQ	Compound	Synonym or Old name	CAS
1131	cis-3-hexenyl 2-furoate	cis-3-hexenyl 2-furoate	
1132	3-hexenyl 2-hexenoate	3-hexenyl 2-hexenoate	53398-87-1
1133	cis-3-hexenyl 2-methylbutyrate	cis-3-hexenyl 2-methylbutyrate	53398-85-9
1134	3-hexenyl 2-methylbutyrate	3-hexenyl 2-methylbutyrate	10094-41-4
1135	trans-2-hexenyl 2-methylbutyrate	trans-2-hexenyl 2-methylbutyrate	94089-01-7
1136	cis-3-hexenyl 2-methylpentanoate	cis-3-hexenyl 2-methylpentanoate	
1137	3-hexenyl 3-hexenoate	3-hexenyl 3-hexenoate	61444-38-0
1138	3-hexenyl 4-methylpentanoate	3-hexenyl 4-methylpentanoate	
1139	2-hexenyl acetate	2-hexenyl acetate	10094-40-3
1140	cis-2-hexenyl acetate	cis-2-hexenyl acetate	56922-75-9
1141	cis-3-hexenyl acetate	cis-3-hexenyl acetate	3681-71-8
1142	trans-2-hexenyl acetate	trans-2-hexenyl acetate	2497-18-9
1143	1-hexenyl acetate	1-hexenyl acetate	32797-50-5
1144	trans-3-hexenyl acetate	trans-3-hexenyl acetate	3681-82-1
1145	5-hexenyl acetate	5-hexenyl acetate	5048-26-0
1146	cis-3-hexenyl acetoacetate	cis-3-hexenyl acetoacetate	84434-20-8
1147	cis-3-hexenyl 4-methoxybenzoate	cis-3-hexenyl 4-methoxybenzoate	121432-33-5
1148	cis-3-hexenyl anthranilate	cis-3-hexenyl anthranilate	65405-76-7
1149	cis-3-hexenyl benzoate	cis-3-hexenyl benzoate	25152-85-6
1150	trans-2-hexenyl benzoate	trans-2-hexenyl benzoate	
1151	cis-3-hexenyl butyrate	cis-3-hexenyl butyrate	16491-36-4
1152	trans-2-hexenyl butyrate	trans-2-hexenyl butyrate	53398-83-7
1153	cis-4-hexenyl butyrate	cis-4-hexenyl butyrate	
1154	cis-3-hexenyl cinnamate	cis-3-hexenyl cinnamate	68133-75-5
1155	trans-2-hexenyl cinnamate	trans-2-hexenyl cinnamate	
1156	cis-3-hexenyl 2- butenoate	cis-3-hexenyl 2- butenoate	65405-80-3
1157	cis-3-hexenyl decanoate	cis-3-hexenyl decanoate	85554-69-4
1158	trans-2-hexenyl decanoate	trans-2-hexenyl decanoate	
1159	cis-3-hexenyl formate	cis-3-hexenyl formate	33467-73-1
1160	trans-2-hexenyl formate	trans-2-hexenyl formate	53398-78-0
1161	cis-3-hexenyl heptanoate	cis-3-hexenyl heptanoate	61444-39-1
1162	cis-3-hexenyl hexanoate	cis-3-hexenyl hexanoate	31501-11-8
1163	trans-3-hexenyl hexanoate	trans-3-hexenyl hexanoate	56922-82-8
1164	trans-2-hexenyl hexanoate	trans-2-hexenyl hexanoate	53398-86-0
1165	cis-2-hexenyl hexanoate	cis-2-hexenyl hexanoate	56922-79-3
1166	trans-2-hexenyl isobutyrate	trans-2-hexenyl isobutyrate	
1167	cis-3-hexenyl isobutyrate	cis-3-hexenyl isobutyrate	41519-23-7
1169	3-hexenyl isovalerate	3-hexenyl isovalerate	10032-11-8
1170	cis-3-hexenyl isovalerate	cis-3-hexenyl isovalerate	35154-45-1
1171	trans-2-hexenyl isovalerate	trans-2-hexenyl isovalerate	68698-59-9
1172	cis-3-hexenyl lactate	cis-3-hexenyl lactate	61931-81-5
1173	trans-2-hexenyl lactate	trans-2-hexenyl lactate	85554-71-8
1174	cis-3-hexenyl levulinate	cis-3-hexenyl levulinate	85554-70-7
1175	cis-3-hexenyl methyl carbonate	cis-3-hexenyl methyl carbonate	67633-96-9
1176	cis-3-hexenyl nonanoate	cis-3-hexenyl nonanoate	88191-46-2
1177	cis-3-hexenyl octanoate	cis-3-hexenyl octanoate	61444-41-5
1178	trans-2-hexenyl octanoate	trans-2-hexenyl octanoate	85554-72-9
1179	cis-3-hexenyl phenylacetate	cis-3-hexenyl phenylacetate	42436-07-7
1180	trans-2-hexenyl phenylacetate	trans-2-hexenyl phenylacetate	68133-78-8
1181	cis-3-hexenyl propionate	cis-3-hexenyl propionate	33467-74-2
1182	trans-2-hexenyl propionate	trans-2-hexenyl propionate	53398-80-4
1183	cis-3-hexenyl pyruvate	cis-3-hexenyl pyruvate	68133-76-6
1184	cis-3-hexenyl salicylate	cis-3-hexenyl salicylate	65405-77-8
1185	trans-2-hexenyl salicylate	trans-2-hexenyl salicylate	68133-77-7
1186	cis-3-hexenyl tiglate	cis-3-hexenyl tiglate	67883-79-8
1187	cis-3-hexenyl valerate	cis-3-hexenyl valerate	35852-46-1

Table 2. Group 4 - Esters

SEQ	Compound	Synonym or Old name	CAS
1188	trans-2-hexenyl valerate	trans-2-hexenyl valerate	56922-74-8
1190	hexyl 2-ethylbutyrate	hexyl 2-ethylbutyrate	
1191	hexyl 2-furoate	hexyl 2-furoate	39251-86-0
1192	hexyl 2-methylbutyrate	hexyl 2-methylbutyrate	10032-15-2
1193	hexyl 2-methylpentanoate	hexyl 2-methylpentanoate	
1194	2-hexyl acetate	2-hexyl acetate	5953-49-1
1195	hexyl acetate	hexyl acetate	142-92-7
1196	hexyl benzoate	hexyl benzoate	6789-88-4
1197	hexyl butyrate	hexyl butyrate	2639-63-6
1198	hexyl cinnamate	hexyl cinnamate	3488-00-4
1199	hexyl 2-butenolate	hexyl 2-butenolate	1617-25-0 19089-92-0
1201	hexyl decanoate	hexyl decanoate	10448-26-7
1202	hexyl formate	hexyl formate	629-33-4
1203	hexyl heptanoate	hexyl heptanoate	1119-06-8
1204	hexyl hexanoate	hexyl hexanoate	6378-65-0
1205	hexyl isobutyrate	hexyl isobutyrate	2349-07-7
1206	hexyl 4-methylpentanoate	hexyl 4-methylpentanoate	
1208	hexyl isovalerate	hexyl isovalerate	10032-13-0
1209	hexyl lactate	hexyl lactate	20279-51-0
1210	hexyl levulinate	hexyl levulinate	
1212	hexyl nonanoate	hexyl nonanoate	6561-39-3
1213	hexyl octanoate	hexyl octanoate	1117-55-1
1214	hexyl phenylacetate	hexyl phenylacetate	5421-17-0
1215	hexyl pivalate	hexyl pivalate	5434-57-1
1216	hexyl propionate	hexyl propionate	2445-76-3
1217	hexyl salicylate	hexyl salicylate	6259-76-3
1218	hexyl sorbate	hexyl sorbate	
1219	hexyl tiglate	hexyl tiglate	16930-96-4
1220	hexyl trans-2-hexenoate	hexyl trans-2-hexenoate	33855-57-1
1221	hexyl valerate	hexyl valerate	1117-59-5
1235	2-phenylpropyl butyrate	2-phenylpropyl butyrate	80866-83-7
1238	2,2-dimethyl-1,3-dioxan-5-yl 5-hydroxydecanoate	2,2-dimethyl-1,3-dioxan-5-yl 5-hydroxydecanoate	
1239	3-hydroxy-2-butyl 2-methylbutyrate	3-hydroxy-2-butyl 2-methylbutyrate	
1240	3-hydroxy-2-butyl butyrate	3-hydroxy-2-butyl butyrate	59517-17-8
1261	4-hydroxybenzyl acetate	4-hydroxybenzyl acetate	
1273	hydroxycitronellyl acetate	hydroxycitronellyl acetate	
1284	isoamyl acetoacetate	isoamyl acetoacetate	2308-18-1
1285	isoamyl 2-butenolate	isoamyl 2-butenolate	25415-77-4
1286	isoamyl 2-furoate	isoamyl 2-furoate	615-12-3
1287	isoamyl 2-methylbutyrate	isoamyl 2-methylbutyrate	27625-35-0
1288	isoamyl 2-methylpentanoate	isoamyl 2-methylpentanoate	
1289	isoamyl 3-methylpentanoate	isoamyl 3-methylpentanoate	
1291	isoamyl anthranilate	isoamyl anthranilate	28457-05-8
1292	isoamyl benzoate	isoamyl benzoate	94-46-2
1294	isoamyl cinnamate	isoamyl cinnamate	7779-65-9
1295	isoamyl decanoate	isoamyl decanoate	2306-91-4
1298	isoamyl heptanoate	isoamyl heptanoate	109-25-1
1299	isoamyl hexanoate	isoamyl hexanoate	2198-61-0
1300	isoamyl isobutyrate	isoamyl isobutyrate	2050-01-3
1303	isoamyl lactate	isoamyl lactate	19329-89-6
1304	isoamyl laurate	isoamyl laurate	6309-51-9
1305	isoamyl levulinate	isoamyl levulinate	71172-75-3
1307	isoamyl myristate	isoamyl myristate	62488-24-8
1308	isoamyl nonanoate	isoamyl nonanoate	7779-70-6

Table 2. Group 4 - Esters

SEQ	Compound	Synonym or Old name	CAS
1309	isoamyl octanoate	isoamyl octanoate	2035-99-6
1310	isoamyl palmitate	isoamyl palmitate	81974-61-0
1314	isoamyl pyruvate	isoamyl pyruvate	7779-72-8
1315	isoamyl salicylate	isoamyl salicylate	87-20-7
1316	isoamyl sorbate	isoamyl sorbate	
1317	isoamyl tiglate	isoamyl tiglate	41519-18-0
1318	isoamyl undecanoate	isoamyl undecanoate	
1319	isoamyl undecenoate	isoamyl undecenoate	12262-03-2
1320	isoamyl valerate	isoamyl valerate	2050-09-1
1322	isobornyl acetate	isobornyl acetate	125-12-2
1323	isobornyl butyrate	isobornyl butyrate	58479-55-3
1324	isobornyl formate	isobornyl formate	1200-67-5
1325	isobornyl isovalerate	isobornyl isovalerate	7779-73-9
1326	isobornyl propionate	isobornyl propionate	2756-56-1
1329	isobutyl 2-methylbutyrate	isobutyl 2-methylbutyrate	2445-67-2
1330	isobutyl 2-methylpentanoate	isobutyl 2-methylpentanoate	
1332	isobutyl 3-(methylthio)butyrate	isobutyl 3-(methylthio)butyrate	127931-21-9
1333	isobutyl 4-decenoate	isobutyl 4-decenoate	106450-11-7
1334	isobutyl acetate	isobutyl acetate	110-19-0
1335	isobutyl acetoacetate	isobutyl acetoacetate	7779-75-1
1336	isobutyl angelate	isobutyl angelate	7779-81-9
1337	isobutyl anthranilate	isobutyl anthranilate	7779-77-3
1338	isobutyl benzoate	isobutyl benzoate	120-50-3
1340	isobutyl butyrate	isobutyl butyrate	539-90-2
1341	isobutyl cinnamate	isobutyl cinnamate	122-67-8
1342	isobutyl 2-butenolate	isobutyl 2-butenolate	589-66-2
1343	isobutyl decanoate	isobutyl decanoate	30673-38-2
1344	isobutyl formate	isobutyl formate	542-55-2
1345	isobutyl 3-(2-furyl)propionate	isobutyl 3-(2-furyl)propionate	105-01-1
1346	isobutyl heptanoate	isobutyl heptanoate	7779-80-8
1347	isobutyl hexanoate	isobutyl hexanoate	105-79-3
1348	isobutyl isobutyrate	isobutyl isobutyrate	97-85-8
1350	isobutyl isovalerate	isobutyl isovalerate	589-59-3
1351	isobutyl lactate	isobutyl lactate	585-24-0
1352	isobutyl laurate	isobutyl laurate	37811-72-6
1353	isobutyl levulinate	isobutyl levulinate	3757-32-2
1354	isobutyl myristate	isobutyl myristate	25263-97-2
1355	isobutyl N-methylantranilate	isobutyl N-methylantranilate	65505-24-0
1356	isobutyl nonanoate	isobutyl nonanoate	30982-03-7
1357	isobutyl octanoate	isobutyl octanoate	5461-06-3
1358	isobutyl palmitate	isobutyl palmitate	110-34-9
1359	isobutyl phenoxyacetate	isobutyl phenoxyacetate	5432-66-6
1361	isobutyl pivalate	isobutyl pivalate	5129-38-4
1362	isobutyl propionate	isobutyl propionate	540-42-1
1363	isobutyl pyruvate	isobutyl pyruvate	13051-48-4
1364	isobutyl salicylate	isobutyl salicylate	87-19-4
1365	isobutyl stearate	isobutyl stearate	646-13-9
1366	isobutyl tiglate	isobutyl tiglate	61692-84-0
1367	isobutyl trans-3-hexenoate	isobutyl trans-3-hexenoate	
1368	isobutyl 10-undecenoate	isobutyl 10-undecenoate	5421-27-2
1369	isobutyl valerate	isobutyl valerate	10588-10-0
1379	isodecyl acetate	isodecyl acetate	68478-36-4 69103-24-8
1383	isoeugenyl acetate	isoeugenyl acetate	93-29-8
1385	isoeugenyl formate	isoeugenyl formate	7774-96-1
1386	isoeugenyl phenylacetate	isoeugenyl phenylacetate	120-24-1

Table 2. Group 4 - Esters

SEQ	Compound	Synonym or Old name	CAS
1388	isoheptyl butyrate	isoheptyl butyrate	
1390	4-methylpentyl benzoate	4-methylpentyl benzoate	
1391	4-methylpentyl 4-methylpentanoate	4-methylpentyl 4-methylpentanoate	
1395	3,3,5-trimethylhexyl acetate	3,3,5-trimethylhexyl acetate	61836-75-7
1396	isoamyl 3-(methylthio)propionate	isoamyl 3-(methylthio)propionate	93762-35-7
1400	isopropyl 2-methylbutyrate	isopropyl 2-methylbutyrate	66576-71-4
1401	isopropyl acetate	isopropyl acetate	108-21-4
1402	isopropyl acetoacetate	isopropyl acetoacetate	542-08-5
1403	isopropyl benzoate	isopropyl benzoate	939-48-0
1404	isopropyl butyrate	isopropyl butyrate	638-11-9
1405	isopropyl cinnamate	isopropyl cinnamate	7780-06-5
1406	isopropyl 2-butenate	isopropyl 2-butenate	6284-46-4 18060-77-0
1407	isopropyl decanoate	isopropyl decanoate	2311-59-3
1408	isopropyl formate	isopropyl formate	625-55-8
1409	isopropyl heptanoate	isopropyl heptanoate	34997-46-1
1410	isopropyl hexanoate	isopropyl hexanoate	2311-46-8
1411	isopropyl isobutyrate	isopropyl isobutyrate	617-50-5
1413	isopropyl isovalerate	isopropyl isovalerate	32665-23-9
1414	isopropyl lactate	isopropyl lactate	617-51-6
1415	isopropyl laurate	isopropyl laurate	10233-13-3
1416	isopropyl levulinate	isopropyl levulinate	21884-26-4
1419	isopropyl N-methylantranilate	isopropyl N-methylantranilate	
1420	isopropyl myristate	isopropyl myristate	110-27-0
1421	isopropyl nonanoate	isopropyl nonanoate	28267-32-5
1422	isopropyl octanoate	isopropyl octanoate	5458-59-3
1423	isopropyl palmitate	isopropyl palmitate	142-91-6
1424	isopropyl phenylacetate	isopropyl phenylacetate	4861-85-2
1425	isopropyl propionate	isopropyl propionate	637-78-5
1426	isopropyl sorbate	isopropyl sorbate	44987-75-9
1427	isopropyl tiglate	isopropyl tiglate	1733-25-1
1428	isopropyl valerate	isopropyl valerate	18362-97-5
1438	4-isopropylcyclohexyl acetate	4-isopropylcyclohexyl acetate	15876-32-1 25904-16-9
1444	isopulegyl acetate	isopulegyl acetate	89-49-6 57576-09-7
1455	3-oxobutane-2,2-diyl dibutyrate	3-oxobutane-2,2-diyl dibutyrate	71808-61-2
1458	dodecyl acetate	dodecyl acetate	112-66-3
1460	lavandulyl acetate	lavandulyl acetate	25905-14-0
1464	1,8(10)-p-menthadien-9-yl acetate	1,8(10)-p-menthadien-9-yl acetate	15111-97-4
1473	linalool oxide acetate (furanoid)	linalool oxide acetate (furanoid)	56469-39-7 56469-40-0
1475	linalyl acetate epoxide	linalyl acetate epoxide	83676-47-5
1476	linalyl anthranilate	linalyl anthranilate	7149-26-0
1477	linalyl benzoate	linalyl benzoate	126-64-7
1478	linalyl butyrate	linalyl butyrate	78-36-4
1479	linalyl cinnamate	linalyl cinnamate	78-37-5
1480	linalyl formate	linalyl formate	115-99-1
1481	linalyl hexanoate	linalyl hexanoate	7779-23-9
1482	linalyl isobutyrate	linalyl isobutyrate	78-35-3
1483	linalyl isovalerate	linalyl isovalerate	1118-27-0
1484	linalyl octanoate	linalyl octanoate	10024-64-3
1485	linalyl phenylacetate	linalyl phenylacetate	7143-69-3
1486	linalyl propionate	linalyl propionate	144-39-8
1492	maltol butyrate	maltol butyrate	67860-01-9
1493	maltol isobutyrate	maltol isobutyrate	65416-14-0

Table 2. Group 4 - Esters

SEQ	Compound	Synonym or Old name	CAS
1494	maltol propionate	maltol propionate	68555-63-5
1508	p-menthan-8-yl acetate	p-menthan-8-yl acetate	80-25-1 58985-18-5
1516	l-menthyl 2-methylbutyrate	l-menthyl 2-methylbutyrate	53004-93-6
1517	menthyl 3-hydroxybutyrate	menthyl 3-hydroxybutyrate	108766-16-1
1520	menthyl acetate	menthyl acetate	89-48-5 16409-45-3 29066-34-0
1521	l-menthyl butyrate	l-menthyl butyrate	6070-14-0 68366-64-3
1522	l-menthyl 2-butenolate	l-menthyl 2-butenolate	
1523	l-menthyl ethoxyacetate	l-menthyl ethoxyacetate	579-94-2
1524	menthyl formate	menthyl formate	2230-90-2 61949-23-3
1525	menthyl hexanoate	menthyl hexanoate	6070-16-2
1526	l-menthyl isobutyrate	l-menthyl isobutyrate	68366-65-4
1527	menthyl isovalerate	menthyl isovalerate	16409-46-4 89-47-4
1528	l-menthyl lactate	l-menthyl lactate	59259-38-0
1529	l-menthyl phenylacetate	l-menthyl phenylacetate	26171-78-8
1530	l-menthyl propionate	l-menthyl propionate	4951-48-8
1531	menthyl salicylate	menthyl salicylate	89-46-3
1532	l-menthyl tiglate	l-menthyl tiglate	
1533	menthyl valerate	menthyl valerate	
1538	3-mercapto-3-methylbutyl formate	3-mercapto-3-methylbutyl formate	50746-10-6
1543	3-mercaptohexyl acetate	3-mercaptohexyl acetate	136954-20-6
1549	S-methyl ethanethioate	S-methyl ethanethioate	1534-08-3
1555	3-(methylthio)propyl phenylacetate	3-(methylthio)propyl phenylacetate	
1556	3-(methylthio)propyl mercaptoacetate	3-(methylthio)propyl mercaptoacetate	852997-30-9
1569	2-methoxyethyl acetoacetate	2-methoxyethyl acetoacetate	22502-03-0
1577	S-methyl 2-acetoxypropanethioate	S-methyl 2-acetoxypropanethioate	74586-09-7
1578	methyl (methylthio)acetate	methyl (methylthio)acetate	16630-66-3
1579	methyl 10-undecenoate	methyl 10-undecenoate	111-81-9
1581	methyl 2-(methylthio)butyrate	methyl 2-(methylthio)butyrate	51534-66-8
1582	S-methyl 2-(propionyloxy)propanethioate	S-methyl 2-(propionyloxy)propanethioate	
1583	methyl 2,4-decadienoate	methyl 2,4-decadienoate	4493-42-9 7328-33-8 53172-59-1
1584	methyl 2-decenoate	methyl 2-decenoate	2482-39-5 7367-85-3
1585	methyl 2-ethylbutyrate	methyl 2-ethylbutyrate	816-11-5
1586	methyl 2-furoate	methyl 2-furoate	611-13-2
1587	methyl 2-hexenoate	methyl 2-hexenoate	2396-77-2
1588	methyl 2-hydroxy-4-methylpentanoate	methyl 2-hydroxy-4-methylpentanoate	40348-72-9
1589	methyl 2-methoxybenzoate	methyl 2-methoxybenzoate	606-45-1
1591	methyl 2-methylbutyrate	methyl 2-methylbutyrate	868-57-5
1592	methyl 2-methylpentanoate	methyl 2-methylpentanoate	2177-77-7
1593	methyl 2-octenoate	methyl 2-octenoate	2396-85-2
1594	methyl pyruvate	methyl pyruvate	600-22-6
1596	S-methyl 2-thiofuroate	S-methyl 2-thiofuroate	13679-61-3
1597	methyl 3-(furfurylthio)propionate	methyl 3-(furfurylthio)propionate	94278-26-9
1598	methyl 3-(methylthio)propionate	methyl 3-(methylthio)propionate	13532-18-8
1599	methyl 3-acetoxy-2-methylbutyrate	methyl 3-acetoxy-2-methylbutyrate	139564-42-4
1600	methyl 3-acetoxybutyrate	methyl 3-acetoxybutyrate	89422-42-4
1601	methyl 3-acetoxyhexanoate	methyl 3-acetoxyhexanoate	21188-60-3 77118-93-5

Table 2. Group 4 - Esters

SEQ	Compound	Synonym or Old name	CAS
1602	methyl 3-acetoxyoctanoate	methyl 3-acetoxyoctanoate	35234-21-0
1603	methyl 3-hexenoate	methyl 3-hexenoate	2396-78-3 13894-61-6
1604	methyl 3-hydroxybutyrate	methyl 3-hydroxybutyrate	1487-49-6
1605	methyl 3-hydroxyhexanoate	methyl 3-hydroxyhexanoate	21188-58-9
1606	methyl 3-mercapto-2-methylpropionate	methyl 3-mercapto-2-methylpropionate	4131-76-4
1607	methyl beta-methyl-beta-phenylglycidate	methyl beta-methyl-beta-phenylglycidate	
1608	methyl 3-nonenoate	methyl 3-nonenoate	13481-87-3
1609	methyl 3-octenoate	methyl 3-octenoate	35234-16-3 74023-04-4
1610	methyl 3-oxohexanoate	methyl 3-oxohexanoate	30414-54-1
1611	methyl 3-phenylpropionate	methyl 3-phenylpropionate	103-25-3
1612	methyl 4-(methylthio)butyrate	methyl 4-(methylthio)butyrate	53053-51-3
1613	methyl 4-decenoate	methyl 4-decenoate	7367-83-1
1615	methyl 4-methylpentanoate	methyl 4-methylpentanoate	2412-80-8
1616	methyl 5-acetoxydecanoate	methyl 5-acetoxydecanoate	
1617	methyl 5-acetoxydodecanoate	methyl 5-acetoxydodecanoate	
1618	methyl 5-acetoxyhexanoate	methyl 5-acetoxyhexanoate	35234-22-1
1619	methyl 5-formyloxydodecanoate	methyl 5-formyloxydodecanoate	
1620	methyl 5-hydroxydecanoate	methyl 5-hydroxydecanoate	101853-47-8
1623	methyl 5-oxododecanoate	methyl 5-oxododecanoate	
1624	methyl acetate	methyl acetate	79-20-9
1625	methyl acetoacetate	methyl acetoacetate	105-45-3
1626	methyl acrylate	methyl acrylate	96-33-3
1629	methyl 4-methoxybenzoate	methyl 4-methoxybenzoate	121-98-2
1631	methyl benzoate	methyl benzoate	93-58-3
1632	methyl beta-(4-methylphenyl)glycidate	methyl beta-(4-methylphenyl)glycidate	99334-18-6
1633	methyl beta-phenylglycidate	methyl beta-phenylglycidate	37161-74-3
1634	S-methyl butanethioate	S-methyl butanethioate	2432-51-1
1636	methyl butyrate	methyl butyrate	623-42-7
1638	methyl cis-4-octenoate	methyl cis-4-octenoate	21063-71-8
1639	methyl citronellate	methyl citronellate	2270-60-2
1640	methyl 2-butenolate	methyl 2-butenolate	623-43-8 18707-60-3
1641	methyl cyclohexylcarboxylate	methyl cyclohexylcarboxylate	4630-82-4
1642	methyl decanoate	methyl decanoate	110-42-9
1643	methyl 5-acetoxyoctanoate	methyl 5-acetoxyoctanoate	
1644	methyl dihydrojasmonate	methyl (3-oxo-2-pentylcyclopentyl)acetate	2630-39-9 24851-98-7
1650	methyl formate	methyl formate	107-31-3
1653	methyl geranate	methyl geranate	1189-09-9
1654	methyl hydroxyacetate	methyl hydroxyacetate	96-35-5
1655	methyl heptanoate	methyl heptanoate	106-73-0
1658	methyl hexanoate	methyl hexanoate	106-70-7
1664	methyl isobutyrate	methyl isobutyrate	547-63-7
1666	6-methyl-2-heptyl acetate	6-methyl-2-heptyl acetate	67952-57-2
1668	methyl isovalerate	methyl isovalerate	556-24-1
1669	methyl jasmonate	methyl [3-oxo-2-(2-pentenyl)cyclopentyl]acetate	1211-29-6 39924-52-2 42536-97-0
1670	methyl lactate	methyl lactate	547-64-8
1671	methyl laurate	methyl laurate	111-82-0
1672	methyl levulinate	methyl levulinate	624-45-3
1673	methyl linoleate oxide	methyl linoleate oxide	90459-45-3
1674	methyl linoleate	methyl linoleate	112-63-0
1675	methyl linolenate	methyl linolenate	301-00-8

Table 2. Group 4 - Esters

SEQ	Compound	Synonym or Old name	CAS
1677	methyl methacrylate	methyl methacrylate	80-62-6
1678	S-methyl methanethiosulfonate	methyl methanethiosulfonate	2949-92-0
1679	methyl beta-methyl-beta-(4-methylphenyl)glycidate	methyl beta-methyl-beta-(4-methylphenyl)glycidate	
1680	methyl myristate	methyl myristate	124-10-7
1681	methyl N,N-dimethylantranilate	methyl N,N-dimethylantranilate	10072-05-6
1682	methyl N-acetylantranilate	methyl N-acetylantranilate	2719-08-6
1685	methyl N-ethylantranilate	methyl N-ethylantranilate	17318-49-9
1686	methyl N-formylantranilate	methyl N-formylantranilate	41270-80-8
1687	methyl nicotinate	methyl nicotinate	93-60-7
1688	methyl nonanoate	methyl nonanoate	1731-84-6
1690	methyl 2-nonenoate	methyl 2-nonenoate	111-79-5
1691	methyl N-phenylacetylantranilate	methyl N-phenylacetylantranilate	
1692	methyl octanoate	methyl octanoate	111-11-5
1693	methyl 2-nonynoate	methyl 2-nonynoate	111-80-8
1696	methyl oleate	methyl oleate	112-62-9
1698	methyl palmitate	methyl palmitate	112-39-0
1699	methyl pentadecanoate	methyl pentadecanoate	7132-64-1
1702	methyl phenylacetate	methyl phenylacetate	101-41-7
1704	methyl pivalate	methyl pivalate	598-98-1
1705	methyl 4-methylbenzoate	methyl 4-methylbenzoate	99-75-2
1706	methyl propionate	methyl propionate	554-12-1
1707	methyl N-propionylantranilate	methyl N-propionylantranilate	25628-84-6
1712	methyl 4-tert-butylphenylacetate	methyl 4-tert-butylphenylacetate	3549-23-3
1714	methyl sorbate	methyl sorbate	689-89-4
1715	methyl stearate	methyl stearate	112-61-8
1716	methyl 2-mercaptoacetate	methyl 2-mercaptoacetate	2365-48-2
1717	S-methyl hexanethioate	S-methyl hexanethioate	2432-77-1
1718	S-methyl isobutanethioate	S-methyl isobutanethioate	42075-42-3
1719	S-methyl 3-methylbutanethioate	S-methyl 3-methylbutanethioate	23747-45-7
1720	methyl tiglate	methyl tiglate	6622-76-0
1721	methyl trans-2-octenoate	methyl trans-2-octenoate	7367-81-9
1722	methyl tridecanoate	methyl tridecanoate	1731-88-0
1723	methyl undecanoate	methyl undecanoate	1731-86-8
1725	methyl 9-undecenoate	methyl 9-undecenoate	5760-50-9
1726	methyl valerate	methyl valerate	624-24-8
1728	methyl vanillate	methyl vanillate	3943-74-6
1731	2-methyl-2-butenyl acetate	2-methyl-2-butenyl acetate	19248-94-3 33425-30-8
1732	3-methyl-2-butyl butyrate	3-methyl-2-butyl butyrate	
1764	3-methyl-3-butenyl acetate	3-methyl-3-butenyl acetate	5205-07-2
1765	3-methyl-3-butenyl butyrate	3-methyl-3-butenyl butyrate	
1766	5-methyl-3-butyltetrahydropyran-4-yl acetate	5-methyl-3-butyltetrahydropyran-4-yl acetate	38285-49-3
1789	2-methyl-2-propenyl 2-methylpentanoate	2-methyl-2-propenyl 2-methylpentanoate	
1790	2-methyl-2-propenyl butyrate	2-methyl-2-propenyl butyrate	7149-29-3
1791	2-methyl-2-propenyl hexanoate	2-methyl-2-propenyl hexanoate	
1792	2-methyl-2-propenyl isobutyrate	2-methyl-2-propenyl isobutyrate	816-73-9
1793	2-methyl-2-propenyl propionate	2-methyl-2-propenyl propionate	20720-12-1
1797	2-methylbenzyl acetate	2-methylbenzyl acetate	17373-93-2
1798	4-methylbenzyl acetate	4-methylbenzyl acetate	2216-45-7
1800	4-methylbenzyl butyrate	4-methylbenzyl butyrate	
1807	2-methylbutyl 2-methylbutyrate	2-methylbutyl 2-methylbutyrate	2445-78-5
1808	2-methylbutyl acetate	2-methylbutyl acetate	624-41-9
1809	2-methylbutyl benzoate	2-methylbutyl benzoate	52513-03-8
1810	2-methylbutyl butyrate	2-methylbutyl butyrate	51115-64-1

Table 2. Group 4 - Esters

SEQ	Compound	Synonym or Old name	CAS
1811	2-methylbutyl cinnamate	2-methylbutyl cinnamate	4654-29-9
1812	2-methylbutyl formate	2-methylbutyl formate	35073-27-9
1813	2-methylbutyl heptanoate	2-methylbutyl heptanoate	55195-33-0
1814	2-methylbutyl hexanoate	2-methylbutyl hexanoate	2601-13-0
1815	2-methylbutyl isobutyrate	2-methylbutyl isobutyrate	2445-69-4
1816	2-methylbutyl isovalerate	2-methylbutyl isovalerate	2445-77-4
1817	2-methylbutyl lactate	2-methylbutyl lactate	638-33-5
1818	2-methylbutyl phenylacetate	2-methylbutyl phenylacetate	61889-11-0
1819	2-methylbutyl propionate	2-methylbutyl propionate	2438-20-2
1820	2-methylbutyl salicylate	2-methylbutyl salicylate	51115-63-0
1821	2-methylbutyl valerate	2-methylbutyl valerate	55590-83-5
1828	3-methylcyclohexyl acetate	3-methylcyclohexyl acetate	
1842	methyl 2-octynoate	methyl 2-octynoate	111-12-6
1846	5-methylhexyl acetate	5-methylhexyl acetate	
1857	2-methylpentyl 2-methylpentanoate	2-methylpentyl 2-methylpentanoate	90397-38-9
1858	2-methylpentyl butyrate	2-methylpentyl butyrate	
1859	4-methylpentyl isovalerate	4-methylpentyl isovalerate	850309-45-4
1871	2-(methylthio)ethyl acetate	2-(methylthio)ethyl acetate	5862-47-5
1881	3-(methylthio)hexyl acetate	3-(methylthio)hexyl acetate	51755-85-2
1889	3-(methylthio)propyl acetate	3-(methylthio)propyl acetate	16630-55-0
1890	3-(methylthio)propyl butyrate	3-(methylthio)propyl butyrate	16630-60-7
1901	mono-menthyl succinate	mono-menthyl succinate	77341-67-4
1905	myrcenyl acetate	myrcenyl acetate	1118-39-4
1906	myrcenyl propionate	myrcenyl propionate	
1910	myrtenyl acetate	myrtenyl acetate	1079-01-2
1911	myrtenyl formate	myrtenyl formate	72928-52-0
1918	neodihydrocarvyl acetate	neodihydrocarvyl acetate	56422-50-5
1921	neomenthyl acetate	neomenthyl acetate	2230-87-7
1928	nerolidyl acetate	nerolidyl acetate	2306-78-7 56001-43-5
1929	nerolidyl isobutyrate	nerolidyl isobutyrate	2639-68-1
1930	neryl acetate	neryl acetate	141-12-8
1931	neryl butyrate	neryl butyrate	999-40-6
1932	neryl 2-butenolate	neryl 2-butenolate	71648-17-4
1933	neryl formate	neryl formate	2142-94-1
1934	neryl isobutyrate	neryl isobutyrate	2345-24-6
1935	neryl isovalerate	neryl isovalerate	3915-83-1
1936	neryl phenylacetate	neryl phenylacetate	10522-32-4
1937	neryl propionate	neryl propionate	105-91-9
1938	neryl tiglate	neryl tiglate	93981-55-6
1951	trans,cis-2,6-nonadienyl acetate	trans,cis-2,6-nonadienyl acetate	68555-65-7
1958	1,3-nonanediol acetate	1,3-nonanediol acetate	1322-17-4
1979	cis-6-nonenyl acetate	cis-6-nonenyl acetate	76238-22-7
1980	6-nonenyl butyrate	6-nonenyl butyrate	
1981	6-nonenyl isovalerate	6-nonenyl isovalerate	
1982	6-nonenyl propionate	6-nonenyl propionate	
1983	nonyl acetate	nonyl acetate	143-13-5
1984	nonyl butyrate	nonyl butyrate	2639-64-7
1985	nonyl formate	nonyl formate	94247-15-1
1986	nonyl hexanoate	nonyl hexanoate	
1987	nonyl isobutyrate	nonyl isobutyrate	
1988	nonyl isovalerate	nonyl isovalerate	7786-47-2
1989	nonyl octanoate	nonyl octanoate	7786-48-3
1990	nonyl pivalate	nonyl pivalate	
1991	nonyl propionate	nonyl propionate	53184-67-1
1993	nopyl acetate	nopyl acetate	128-51-8

Table 2. Group 4 - Esters

SEQ	Compound	Synonym or Old name	CAS
2001	octadecyl acetate	octadecyl acetate	822-23-1
2008	trans,trans-3,5-octadienyl acetate	trans,trans-3,5-octadienyl acetate	85722-81-2
2026	1-octen-3-yl acetate	1-octen-3-yl acetate	2442-10-6
2027	1-octen-3-yl butyrate	1-octen-3-yl butyrate	16491-54-6
2028	1-octen-3-yl isobutyrate	1-octen-3-yl isobutyrate	93940-61-5
2040	trans-2-octenyl butyrate	trans-2-octenyl butyrate	84642-60-4
2041	octyl 2-furoate	octyl 2-furoate	39251-88-2
2042	octyl 2-methylbutyrate	octyl 2-methylbutyrate	29811-50-5
2043	3-octyl 2-methylbutyrate	3-octyl 2-methylbutyrate	
2044	2-octyl acetate	2-octyl acetate	2051-50-5
2045	3-octyl acetate	3-octyl acetate	4864-61-3
2046	octyl acetate	octyl acetate	112-14-1
2047	octyl acetoacetate	octyl acetoacetate	16436-00-3
2048	octyl butyrate	octyl butyrate	110-39-4
2049	3-octyl butyrate	3-octyl butyrate	20286-45-7
2050	octyl 2-butenolate	octyl 2-butenolate	22874-79-9
2051	octyl decanoate	octyl decanoate	2306-92-5
2052	octyl formate	octyl formate	112-32-3
2053	3-octyl formate	3-octyl formate	84434-65-1
2054	octyl heptanoate	octyl heptanoate	5132-75-2
2055	octyl hexanoate	octyl hexanoate	4887-30-3
2056	octyl isobutyrate	octyl isobutyrate	109-15-9
2057	octyl isovalerate	octyl isovalerate	7786-58-5
2059	octyl nonanoate	octyl nonanoate	5303-26-4
2060	octyl octanoate	octyl octanoate	2306-88-9
2061	octyl phenylacetate	octyl phenylacetate	122-45-2
2062	octyl pivalate	octyl pivalate	27751-88-8
2063	octyl propionate	octyl propionate	142-60-9
2067	cis-9-octadecenyl acetate	cis-9-octadecenyl acetate	693-80-1
2068	acetoin butyrate	acetoin butyrate	84642-61-5
2072	2-oxopropyl acetate	2-oxopropyl acetate	592-20-1
2088	2-pentyl acetate	2-pentyl acetate	626-38-0
2089	2-pentyl butyrate	2-pentyl butyrate	60415-61-4
2097	perillyl acetate	perillyl acetate	15111-96-3
2099	phenethyl 2-ethylhexanoate	phenethyl 2-ethylhexanoate	93776-92-2
2100	phenethyl 2-furoate	phenethyl 2-furoate	7149-32-8
2101	phenethyl 2-methylbutyrate	phenethyl 2-methylbutyrate	24817-51-4
2104	phenethyl anthranilate	phenethyl anthranilate	133-18-6
2105	phenethyl benzoate	phenethyl benzoate	94-47-3
2106	phenethyl butyrate	phenethyl butyrate	103-52-6
2107	phenethyl cinnamate	phenethyl cinnamate	103-53-7
2108	phenethyl 2-butenolate	phenethyl 2-butenolate	68141-20-8
2109	phenethyl decanoate	phenethyl decanoate	61810-55-7
2110	phenethyl formate	phenethyl formate	104-62-1
2111	phenethyl heptanoate	phenethyl heptanoate	5454-11-5
2112	phenethyl hexanoate	phenethyl hexanoate	6290-37-5
2113	phenethyl isobutyrate	phenethyl isobutyrate	103-48-0
2115	phenethyl isovalerate	phenethyl isovalerate	140-26-1
2116	phenethyl lactate	phenethyl lactate	10138-63-3
2118	phenethyl nonanoate	phenethyl nonanoate	57943-67-6
2119	phenethyl octanoate	phenethyl octanoate	5457-70-5
2120	phenethyl phenylacetate	phenethyl phenylacetate	102-20-5
2121	phenethyl pivalate	phenethyl pivalate	67662-96-8
2122	phenethyl propionate	phenethyl propionate	122-70-3
2123	phenethyl salicylate	phenethyl salicylate	87-22-9
2124	phenethyl 3-methyl-2-butenolate	phenethyl 3-methyl-2-butenolate	42078-65-9

Table 2. Group 4 - Esters

SEQ	Compound	Synonym or Old name	CAS
2125	phenethyl tiglate	phenethyl tiglate	55719-85-2
2126	phenethyl valerate	phenethyl valerate	7460-74-4
2130	2-phenoxyethyl acetate	2-phenoxyethyl acetate	6192-44-5
2131	2-phenoxyethyl butyrate	2-phenoxyethyl butyrate	23511-70-8
2132	2-phenoxyethyl isobutyrate	2-phenoxyethyl isobutyrate	103-60-6
2133	2-phenoxyethyl propionate	2-phenoxyethyl propionate	23495-12-7
2134	phenyl acetate	phenyl acetate	122-79-2
2135	phenyl butyrate	phenyl butyrate	4346-18-3
2138	phenyl isobutyrate	phenyl isobutyrate	20279-29-2
2139	phenyl propionate	phenyl propionate	637-27-4
2140	phenyl salicylate	phenyl salicylate	118-55-8
2155	2-phenylphenyl acetate	2-phenylphenyl acetate	3271-80-5
2160	3-phenylpropyl acetate	3-phenylpropyl acetate	122-72-5
2161	3-phenylpropyl benzoate	3-phenylpropyl benzoate	60045-26-3
2162	3-phenylpropyl butyrate	3-phenylpropyl butyrate	7402-29-1
2163	3-phenylpropyl cinnamate	3-phenylpropyl cinnamate	122-68-9
2164	phenylpropyl decanoate	phenylpropyl decanoate	
2165	3-phenylpropyl formate	3-phenylpropyl formate	104-64-3
2166	3-phenylpropyl hexanoate	3-phenylpropyl hexanoate	6281-40-9
2167	2-phenylpropyl isobutyrate	2-phenylpropyl isobutyrate	65813-53-8
2168	3-phenylpropyl isobutyrate	3-phenylpropyl isobutyrate	103-58-2
2169	3-phenylpropyl isovalerate	3-phenylpropyl isovalerate	5452-07-3
2170	3-phenylpropyl propionate	3-phenylpropyl propionate	122-74-7
2171	3-phenylpropyl salicylate	3-phenylpropyl salicylate	24781-13-3
2172	3-phenylpropyl valerate	3-phenylpropyl valerate	5451-88-7
2174	phytyl acetate	phytyl acetate	10236-16-5
2175	pinocarvyl isobutyrate	2(10)-pinen-3-yl isobutyrate	929116-08-5
2186	piperonyl acetate	piperonyl acetate	326-61-4
2189	piperonyl isobutyrate	piperonyl isobutyrate	5461-08-5
2193	3-methyl-2-butenyl acetate	3-methyl-2-butenyl acetate	1191-16-8
2194	3-methyl-2-butenyl benzoate	3-methyl-2-butenyl benzoate	5205-11-8
2208	propyl 2-(2-cyclopentenyl)-4-pentenoate	propyl 2-(2-cyclopentenyl)-4-pentenoate	172450-04-3
2209	propyl 2,4-decadienoate	propyl 2,4-decadienoate	28316-62-3 84788-08-9
2210	propyl 2-cyclopentenylacetate	propyl 2-cyclopentenylacetate	
2211	propyl 2-furoate	propyl 2-furoate	615-10-1
2212	propyl 2-methylbutyrate	propyl 2-methylbutyrate	37064-20-3
2213	propyl acetate	propyl acetate	109-60-4
2214	propyl acetoacetate	propyl acetoacetate	1779-60-8
2216	propyl benzoate	propyl benzoate	2315-68-6
2217	propyl butyrate	propyl butyrate	105-66-8
2218	propyl cinnamate	propyl cinnamate	7778-83-8
2219	propyl 2-butenolate	propyl 2-butenolate	10352-87-1
2220	propyl cyclohexylpropionate	propyl cyclohexylpropionate	
2221	propyl decanoate	propyl decanoate	30673-60-0
2223	propyl laurate	propyl laurate	3681-78-5
2224	propyl formate	propyl formate	110-74-7
2225	propyl heptanoate	propyl heptanoate	7778-87-2
2226	propyl palmitate	propyl palmitate	2239-78-3
2227	propyl hexanoate	propyl hexanoate	626-77-7
2228	propyl isobutyrate	propyl isobutyrate	644-49-5
2229	propyl 4-methylpentanoate	propyl 4-methylpentanoate	25415-68-3
2230	propyl isovalerate	propyl isovalerate	557-00-6
2231	propyl lactate	propyl lactate	616-09-1
2232	propyl levulinate	propyl levulinate	645-67-0
2234	propyl nonanoate	propyl nonanoate	6513-03-7

Table 2. Group 4 - Esters

SEQ	Compound	Synonym or Old name	CAS
2235	propyl octanoate	propyl octanoate	624-13-5
2236	propyl phenylacetate	propyl phenylacetate	4606-15-9
2238	propyl pivalate	propyl pivalate	
2239	propyl propionate	propyl propionate	106-36-5
2240	propyl pyruvate	propyl pyruvate	20279-43-0
2241	propyl sorbate	propyl sorbate	10297-72-0
2242	S-propyl ethanethioate	S-propyl ethanethioate	2307-10-0
2243	propyl tiglate	propyl tiglate	61692-83-9
2244	propyl valerate	propyl valerate	141-06-0
2245	propyleneglycol diacetate	propyleneglycol diacetate	623-84-7
2246	propyleneglycol dibutyrate	propyleneglycol dibutyrate	50980-84-2
2247	propyleneglycol dihexanoate	propyleneglycol dihexanoate	50343-36-7
2248	propyleneglycol dioctanoate	propyleneglycol dioctanoate	7384-98-7
2249	propyleneglycol dipropionate	propyleneglycol dipropionate	10108-80-2
2250	propyleneglycol mono and dilactate	propyleneglycol mono and dilactate	
2251	propyleneglycol mono-2-methylbutyrate	propyleneglycol mono-2-methylbutyrate	923593-56-0 923593-57-1
2252	propyleneglycol monobutyrate	propyleneglycol monobutyrate	29592-95-8
2253	propyleneglycol monohexanoate	propyleneglycol monohexanoate	29592-92-5 39556-41-7 170678-49-6
2254	propyleneglycol monopropionate	propyleneglycol monopropionate	25496-75-7
2271	rhodinyl acetate	rhodinyl acetate	141-11-7
2272	rhodinyl butyrate	rhodinyl butyrate	141-15-1
2273	rhodinyl formate	rhodinyl formate	141-09-3
2274	rhodinyl isobutyrate	rhodinyl isobutyrate	138-23-8
2275	rhodinyl isovalerate	rhodinyl isovalerate	7778-96-3
2276	rhodinyl phenylacetate	rhodinyl phenylacetate	10486-14-3
2277	rhodinyl propionate	rhodinyl propionate	105-89-5
2279	S-(2-methylphenyl) ethanethioate	S-(2-methylphenyl) ethanethioate	
2281	sabinene hydrate acetate	sabinene hydrate acetate	
2286	santalyl acetate	santalyl acetate	1323-00-8
2287	santalyl phenylacetate	santalyl phenylacetate	1323-75-7
2293	S-methyl benzenethioate	S-methyl benzenethioate	5925-68-8
2298	styrallyl acetate	styrallyl acetate	93-92-5
2299	styrallyl butyrate	styrallyl butyrate	3460-44-4
2300	styrallyl formate	styrallyl formate	7775-38-4
2301	styrallyl hexanoate	styrallyl hexanoate	3460-45-5
2302	styrallyl isobutyrate	styrallyl isobutyrate	7775-39-5
2303	styrallyl isovalerate	styrallyl isovalerate	56961-73-0
2304	styrallyl propionate	styrallyl propionate	120-45-6
2306	2-(4-methyl-5-thiazolyl)ethyl acetate	2-(4-methyl-5-thiazolyl)ethyl acetate	656-53-1
2307	2-(4-methyl-5-thiazolyl)ethyl butyrate	2-(4-methyl-5-thiazolyl)ethyl butyrate	94159-31-6
2308	2-(4-methyl-5-thiazolyl)ethyl decanoate	2-(4-methyl-5-thiazolyl)ethyl decanoate	101426-31-7
2309	2-(4-methyl-5-thiazolyl)ethyl formate	2-(4-methyl-5-thiazolyl)ethyl formate	90731-56-9
2310	2-(4-methyl-5-thiazolyl)ethyl heptanoate	2-(4-methyl-5-thiazolyl)ethyl heptanoate	
2311	2-(4-methyl-5-thiazolyl)ethyl hexanoate	2-(4-methyl-5-thiazolyl)ethyl hexanoate	94159-32-7
2312	2-(4-methyl-5-thiazolyl)ethyl isobutyrate	2-(4-methyl-5-thiazolyl)ethyl isobutyrate	324742-95-2
2313	2-(4-methyl-5-thiazolyl)ethyl isovalerate	2-(4-methyl-5-thiazolyl)ethyl isovalerate	
2314	2-(4-methyl-5-thiazolyl)ethyl octanoate	2-(4-methyl-5-thiazolyl)ethyl octanoate	163266-17-9
2315	2-(4-methyl-5-thiazolyl)ethyl propionate	2-(4-methyl-5-thiazolyl)ethyl propionate	324742-96-3
2326	alpha-terpinyl acetate	alpha-terpinyl acetate	80-26-2
2328	terpinyl butyrate	terpinyl butyrate	2153-28-8
2329	terpinyl cinnamate	terpinyl cinnamate	10024-56-3
2330	alpha-terpinyl formate	alpha-terpinyl formate	2153-26-6
2331	4-terpinyl formate	4-terpinyl formate	

Table 2. Group 4 - Esters

SEQ	Compound	Synonym or Old name	CAS
2332	terpinyl isobutyrate	terpinyl isobutyrate	7774-65-4
2333	terpinyl isovalerate	terpinyl isovalerate	1142-85-4
2335	terpinyl propionate	terpinyl propionate	80-27-3
2336	tert-amyl acetate	tert-amyl acetate	
2338	tert-butyl propionate	tert-butyl propionate	20487-40-5
2349	tetradecyl butyrate	tetradecyl butyrate	
2351	tetrahydrocuminylnyl acetate	tetrahydrocuminylnyl acetate	
2352	tetrahydrofurfuryl 2-mercaptopropionate	tetrahydrofurfuryl 2-mercaptopropionate	99253-91-5
2353	tetrahydrofurfuryl acetate	tetrahydrofurfuryl acetate	637-64-9
2355	tetrahydrofurfuryl butyrate	tetrahydrofurfuryl butyrate	2217-33-6
2356	tetrahydrofurfuryl cinnamate	tetrahydrofurfuryl cinnamate	65505-25-1
2357	tetrahydrofurfuryl propionate	tetrahydrofurfuryl propionate	637-65-0
2358	tetrahydrofurfuryl phenylacetate	tetrahydrofurfuryl phenylacetate	5421-00-1
2360	3,7-dimethyloctyl acetate	3,7-dimethyloctyl acetate	20780-49-8
2361	3,7-dimethyloctyl formate	3,7-dimethyloctyl formate	68214-06-2
2400	4-methylphenyl acetate	4-methylphenyl acetate	140-39-6
2401	4-methylphenyl isovalerate	4-methylphenyl isovalerate	55066-56-3
2402	4-methylphenyl octanoate	4-methylphenyl octanoate	59558-23-5
2403	tributyl citrate	tributyl citrate	77-94-1
2404	hexahydro-4,7-methanoinden-(5or6)-yl acetate	hexahydro-4,7-methanoinden-(5or6)-yl acetate	2500-83-6 5413-60-5
2405	hexahydro-4,7-methanoinden-(5or6)-yl propionate	hexahydro-4,7-methanoinden-(5or6)-yl propionate	17511-60-3 67634-24-6
2415	triethyl citrate	triethyl citrate	77-93-0
2429	3,3,5-trimethylcyclohexyl acetate	3,3,5-trimethylcyclohexyl acetate	67859-96-5
2430	3,3,5-trimethylcyclohexyl butyrate	3,3,5-trimethylcyclohexyl butyrate	94200-12-1
2431	3,3,5-trimethylcyclohexyl levulinate	3,3,5-trimethylcyclohexyl levulinate	
2432	3,3,5-trimethylcyclohexyl propionate	3,3,5-trimethylcyclohexyl propionate	94021-79-1
2433	3,3,5-trimethylcyclohexyl salicylate	3,3,5-trimethylcyclohexyl salicylate	118-56-9
2438	3,5,5-trimethylhexyl acetate	3,5,5-trimethylhexyl acetate	58430-94-7
2439	3,5,5-trimethylhexyl formate	3,5,5-trimethylhexyl formate	67355-38-8
2440	3,5,5-trimethylhexyl isovalerate	3,5,5-trimethylhexyl isovalerate	
2441	3,5,5-trimethylhexyl propionate	3,5,5-trimethylhexyl propionate	68991-95-7
2473	10-undecenyl acetate	10-undecenyl acetate	112-19-6
2474	10-undecenyl butyrate	10-undecenyl butyrate	
2475	undecyl acetate	undecyl acetate	1731-81-3
2476	undecyl butyrate	undecyl butyrate	5461-02-9
2490	vanillin isobutyrate	vanillin isobutyrate	20665-85-4
2501	verbenyl acetate	verbenyl acetate	33522-69-9
2503	vetiveryl acetate	vetiveryl acetate	117-98-6 62563-80-8
2566	isopropylidenglyceryl 5-hydroxydecanoate	isopropylidenglyceryl 5-hydroxydecanoate	172201-58-0
2567	1(7),8-p-menthadien-2-yl acetate	1(7),8-p-menthadien-2-yl acetate	71660-03-2
2568	1,6-epoxycarvyl acetate	1,6-epoxycarvyl acetate	
2569	3,7-dimethyl-1,6- nonadien-3-yl acetate	3,7-dimethyl-1,6- nonadien-3-yl acetate	61931-80-4
2570	1,8-p-menthadien-4-yl acetate	1,8-p-menthadien-4-yl acetate	
2571	2-methyl-1-phenyl-2-butyl acetate	2-methyl-1-phenyl-2-butyl acetate	
2572	1-hexen-3-yl acetate	1-hexen-3-yl acetate	35926-04-6
2573	1-hexen-3-yl butyrate	1-hexen-3-yl butyrate	
2574	1-hexen-3-yl hexanoate	1-hexen-3-yl hexanoate	
2575	1-hexen-3-yl isobutyrate	1-hexen-3-yl isobutyrate	
2576	1-hexen-3-yl propionate	1-hexen-3-yl propionate	358366-27-5
2577	2,4-hexadienyl butyrate	2,4-hexadienyl butyrate	16930-93-1
2578	2,4-hexadienyl isobutyrate	2,4-hexadienyl isobutyrate	16491-24-0
2579	2-ethylbutyl 2-cyclopentenylacetate	2-ethylbutyl 2-cyclopentenylacetate	94278-39-4

Table 2. Group 4 - Esters

SEQ	Compound	Synonym or Old name	CAS
2580	2-ethylhexyl salicylate	2-ethylhexyl salicylate	118-60-5
2581	2-hydroxypropyl phenylacetate	2-hydroxypropyl phenylacetate	80550-09-0
2582	2-hydroxypropyl valerate	2-hydroxypropyl valerate	59569-67-4
2583	cyclotene acetate	cyclotene acetate	1196-22-1
2584	2-pentyl benzoate	2-pentyl benzoate	
2585	2-phenoxyethyl benzoate	2-phenoxyethyl benzoate	
2586	2-tert-butylcyclohexyl acetate	2-tert-butylcyclohexyl acetate	88-41-5
2587	3-mercaptohexyl butyrate	3-mercaptohexyl butyrate	136954-21-7
2588	3-mercaptohexyl hexanoate	3-mercaptohexyl hexanoate	136954-22-8
2589	5-hexenyl butyrate	5-hexenyl butyrate	108058-75-9
2590	5-hexenyl hexanoate	5-hexenyl hexanoate	108058-81-7
2591	5-hexenyl isobutyrate	5-hexenyl isobutyrate	155514-56-0
2592	5-hexenyl propionate	5-hexenyl propionate	
2593	5-methyl-2-furfuryl acetate	5-methyl-2-furfuryl acetate	18091-24-2
2594	5-methylhexyl isobutyrate	5-methylhexyl isobutyrate	
2595	dihydroperillyl acetate	dihydroperillyl acetate	
2596	8-ocimenyl acetate	8-ocimenyl acetate	72214-23-4
2597	8-p-menthen-7-yl acetate	8-p-menthen-7-yl acetate	56345-05-2
2598	8-p-menthen-7-yl butyrate	8-p-menthen-7-yl butyrate	
2599	allyl cyclohexyloxyacetate	allyl cyclohexyloxyacetate	68901-15-5
2600	allyl 3-(methylthio)propionate	allyl 3-(methylthio)propionate	
2601	allyl benzoate	allyl benzoate	583-04-0
2602	allyl 4-tert-butylphenylacetate	allyl 4-tert-butylphenylacetate	
2603	alpha-campholene acetate	alpha-campholene acetate	1727-68-0 36789-59-0
2604	ethyl 2-pentylacetoacetate	ethyl 2-pentylacetoacetate	24317-94-0
2605	benzyl anthranilate	benzyl anthranilate	82185-41-9
2606	beta-ionyl acetate	beta-ionyl acetate	22030-19-9
2607	butyl 2-(acetylthio)propionate	butyl 2-(acetylthio)propionate	
2608	butyl 2-(butyrylthio)propionate	butyl 2-(butyrylthio)propionate	
2609	butyl 2-(isobutyrylthio)propionate	butyl 2-(isobutyrylthio)propionate	
2610	butyl 2-(propionylthio)propionate	butyl 2-(propionylthio)propionate	
2611	butyl 2-mercaptopropionate	butyl 2-mercaptopropionate	7529-07-9
2612	butyl 2-methylpentanoate	butyl 2-methylpentanoate	6297-41-2
2613	butyl 3-ethylheptanoate	butyl 3-ethylheptanoate	
2614	butyl 5-decenoate	butyl 5-decenoate	111044-74-7
2615	butyl 5-octenoate	butyl 5-octenoate	108058-79-3
2616	butyl 4-tert-butylphenylacetate	butyl 4-tert-butylphenylacetate	
2617	butyl vanillate	butyl vanillate	5348-74-3
2618	carvyl octanoate	carvyl octanoate	
2619	cinnamyl myristate	cinnamyl myristate	
2620	cis-3-hexenyl 4-pentenoate	cis-3-hexenyl 4-pentenoate	
2621	cis-3-hexenyl 4-tert-butylphenylacetate	cis-3-hexenyl 4-tert-butylphenylacetate	
2622	cis-4-hexenyl acetate	cis-4-hexenyl acetate	42125-17-7
2623	cyclododecyl acetate	cyclododecyl acetate	6221-92-7
2624	cyclododecyl propionate	cyclododecyl propionate	
2625	cyclopentyl acetate	cyclopentyl acetate	933-05-1
2626	decyl 4-methylpentanoate	decyl 4-methylpentanoate	
2627	diethyl diethylmalonate	diethyl diethylmalonate	77-25-8
2628	2,6-dimethyl-7-octen-2-yl acetate	2,6-dimethyl-7-octen-2-yl acetate	53767-93-4
2629	2-methyl-1-phenyl-2-propyl hexanoate	2-methyl-1-phenyl-2-propyl hexanoate	891781-90-1
2630	2-methyl-1-phenyl-2-propyl valerate	2-methyl-1-phenyl-2-propyl valerate	
2631	dodecyl formate	dodecyl formate	28303-42-6
2632	ethyl 2-(acetylthio)propionate	ethyl 2-(acetylthio)propionate	129975-20-8
2633	ethyl 2-(butyrylthio)propionate	ethyl 2-(butyrylthio)propionate	
2634	ethyl 2-(hexanoylthio)propionate	ethyl 2-(hexanoylthio)propionate	

Table 2. Group 4 - Esters

SEQ	Compound	Synonym or Old name	CAS
2635	ethyl 2-(isobutyrylthio)propionate	ethyl 2-(isobutyrylthio)propionate	
2636	ethyl 2-(propionylthio)propionate	ethyl 2-(propionylthio)propionate	
2637	ethyl 2,5-dimethyl-3-oxo-4(2H)-furyl carbonate	ethyl 2,5-dimethyl-3-oxo-4(2H)-furyl carbonate	39156-54-2
2638	ethyl 3-ethylheptanoate	ethyl 3-ethylheptanoate	
2639	ethyl 4-pentenoate	ethyl 4-pentenoate	1968-40-7
2640	ethyl acetoacetate diethyl acetal	ethyl acetoacetate diethyl acetal	
2641	ethyl cis-4,7-octadienoate	ethyl cis-4,7-octadienoate	69925-33-3
2642	ethyl cyclohexylacetate	ethyl cyclohexylacetate	5452-75-5
2643	ethyl 3-(2-furyl)acrylate	ethyl 3-(2-furyl)acrylate	623-20-1
2644	ethyl isonicotinate	ethyl isonicotinate	1570-45-2
2645	ethyl methacrylate	ethyl methacrylate	97-63-2
2646	ethyl N-acetylanthranilate	ethyl N-acetylanthranilate	
2647	ethyl 4-tert- butylphenylacetate	ethyl 4-tert- butylphenylacetate	14062-22-7
2648	5,9-dimethyl-trans-4,8-decadien-2-yl acetate	5,9-dimethyl-trans-4,8-decadien-2-yl acetate	
2649	hexadecyl lactate	hexadecyl lactate	35274-05-6
2650	isobutyl trans-2-hexenoate	isobutyl trans-2-hexenoate	
2651	isopropyl 4-pentenoate	isopropyl 4-pentenoate	
2652	isopropyl 4-methylpentanoate	isopropyl 4-methylpentanoate	25415-69-4
2653	isopropyl salicylate	isopropyl salicylate	607-85-2
2654	l-menthyl (1or2)-propyleneglycol carbonate	l-menthyl (1or2)-propyleneglycoyl carbonate	30304-82-6 260781-16-6 868046-84-8
2655	l-menthyl 2-hydroxyethyl carbonate	l-menthyl 2-hydroxyethyl carbonate	156324-78-6
2656	l-menthyl valerate	l-menthyl valerate	64129-94-8
2657	menthyl decanoate	menthyl decanoate	94020-93-6
2658	menthyl octanoate	menthyl octanoate	93940-59-1
2659	menthyl palmitate	menthyl palmitate	96097-19-7
2660	menthyl stearate	menthyl stearate	93919-01-8
2661	methyl 2-(acetylthio)propionate	methyl 2-(acetylthio)propionate	
2662	methyl 2-(butyrylthio)propionate	methyl 2-(butyrylthio)propionate	
2663	methyl 2-(hexanoylthio)propionate	methyl 2-(hexanoylthio)propionate	
2664	methyl 2-(isobutyrylthio)propionate	methyl 2-(isobutyrylthio)propionate	
2665	methyl 2-(propionylthio)propionate	methyl 2-(propionylthio)propionate	
2666	methyl 2-ethylhexanoate	methyl 2-ethylhexanoate	816-19-3
2667	methyl 2-ethyloctanoate	methyl 2-ethyloctanoate	16493-48-4
2668	methyl 2-mercaptopropionate	methyl 2-mercaptopropionate	53907-46-3
2669	methyl 3-ethylheptanoate	methyl 3-ethylheptanoate	64226-53-5
2670	methyl 3-oxooctanoate	methyl 3-oxooctanoate	22348-95-4
2671	methyl beta-(4-methylphenethyl)glycidate	methyl beta-(4-methylphenethyl)glycidate	
2672	methyl 4-pentenoate	methyl 4-pentenoate	818-57-5
2673	hydroxycitronellal methyl anthranilate	hydroxycitronellal methyl anthranilate	89-43-0
2674	methyl N-butylanthranilate	methyl N-butylanthranilate	
2675	methyl trans-4-decenoate	methyl trans-4-decenoate	
2676	monomenthyl glutarate	monomenthyl glutarate	220621-22-7
2677	octyl benzoate	octyl benzoate	94-50-8
2678	octyl 4-methylpentanoate	octyl 4-methylpentanoate	29289-91-6
2679	octyl salicylate	octyl salicylate	6969-49-9
2680	2-methylphenyl isobutyrate	2-methylphenyl isobutyrate	36438-54-7
2681	4-methylphenyl benzoate	4-methylphenyl benzoate	614-34-6
2682	4-methylphenyl heptanoate	4-methylphenyl heptanoate	71662-19-6
2683	perillyl butyrate	perillyl butyrate	156779-48-5 72506-03-7
2684	perillyl isobutyrate	perillyl isobutyrate	
2685	phenethyl N -methylanthranilate	phenethyl N-methylanthranilate	

Table 2. Group 4 - Esters

SEQ	Compound	Synonym or Old name	CAS
2686	phenyl benzoate	phenyl benzoate	93-99-2
2687	phenyl valerate	phenyl valerate	20115-23-5
2688	styrallyl anthranilate	styrallyl anthranilate	
2689	propyl 2-(acetylthio)propionate	propyl 2-(acetylthio)propionate	
2690	propyl 2-(butyrylthio)propionate	propyl 2-(butyrylthio)propionate	
2691	propyl 2-(isobutyrylthio)propionate	propyl 2-(isobutyrylthio)propionate	
2692	propyl 2-(propionylthio)propionate	propyl 2-(propionylthio)propionate	
2693	propyl 2-mercaptopropionate	propyl 2-mercaptopropionate	19788-50-2
2694	propyl 3-(2-furyl)acrylate	propyl 3-(2-furyl)acrylate	623-22-3
2695	propyl 3-ethylheptanoate	propyl 3-ethylheptanoate	
2696	propyl myristate	propyl myristate	14303-70-9
2697	propyl 4-tert-butylphenylacetate	propyl 4-tert-butylphenylacetate	92729-55-0
2698	propyl trans-2-hexenoate	propyl trans-2-hexenoate	10380-79-7
2699	propyleneglycol diisobutyrate	propyleneglycol diisobutyrate	
2700	propyleneglycol monoacetate	propyleneglycol monoacetate	1331-12-0
2701	S-(2,5-dimethyl-3-furyl) 2-thiofuroate	S-(2,5-dimethyl-3-furyl) 2-thiofuroate	55764-31-3 65505-16-0
2702	S-ethyl butanethioate	S-ethyl butanethioate	20807-99-2
2703	S-ethyl pentanethioate	S-ethyl pentanethioate	2432-92-0
2704	S-ethyl propanethioate	S-ethyl propanethioate	2432-42-0
2705	methyl 2-(furfurylthio)acetate	methyl 2-(furfurylthio)acetate	108499-33-8
2706	S-methyl 2-methylbutanethioate	S-methyl 2-methylbutanethioate	42075-45-6
2707	S-methyl cinnamthioate	S-methyl cinnamthioate	15081-18-2
2708	S-methyl decanethioate	S-methyl decanethioate	1680-29-1
2709	S-methyl octanethioate	S-methyl octanethioate	2432-83-9
2710	S-methyl pentanethioate	S-methyl pentanethioate	42075-43-4
2711	S-methyl propanethioate	S-methyl propanethioate	5925-75-7
2712	S-[2-(4-methyl-5-thiazolyl)ethyl] propanethioate	S-[2-(4-methyl-5-thiazolyl)ethyl] propanethioate	
2713	tert-butyl acetoacetate	tert-butyl acetoacetate	1694-31-1
2715	beta-caryophyllene butyrate	beta-caryophyllene butyrate	
2716	beta-caryophyllene isobutyrate	beta-caryophyllene isobutyrate	
2717	dibutyl adipate	dibutyl adipate	105-99-7
2718	dioctyl adipate	dioctyl adipate	123-79-5
2719	elemyl acetate	elemyl acetate	60031-93-8 84434-64-0
2720	ethyl 1-oxaspiro[2.5]octane-2-carboxylate	ethyl 1-oxaspiro[2.5]octane-2-carboxylate	6975-17-3
2721	methyl 3-furfuryl-2-mercaptopropionate	methyl 3-furfuryl-2-mercaptopropionate	
2821	1-hydroxy-8-p-menthen-2-yl acetate	1-hydroxy-8-p-menthen-2-yl acetate	
2930	ethyl 3-(methylthio)butyrate		233665-96-8
2934	3-mercapto-3-methylbutyl acetate		50746-09-3
2938	S-(2-methyl-3-furyl) ethanethioate		55764-25-5
2945	6-acetoxycyclohexane		57893-27-3 72541-09-4
2948	ethyl 4-methylphenoxyacetate		67028-40-4
2953	ethyl 2,4,7-decatrienoate		78417-28-4
2956	2,5-dimethyl-4-oxo-4,5-dihydro-3-furyl butyrate		114099-96-6
2958	methyl cis-5-octenoate		41654-15-3
2961	2-methoxyphenyl butyrate		4112-92-9
2962	2-methoxyphenyl isobutyrate		723759-62-4
2963	2-methoxyphenyl propionate		7598-60-9
2970	2-octenyl acetate		2371-13-3 3913-80-2
2971	2-(4-methyl-5-thiazolyl)ethyl 3-mercaptopropionate		

Table 2. Group 4 - Esters

SEQ	Compound	Synonym or Old name	CAS
2976	1-ethoxyethyl acetate		1608-72-6
2980	sec-butyl 9-decenoate		108058-82-8
2981	propyl 7-octenoate		108058-77-1
2982	hexyl 7-octenoate		108058-84-0
2983	ethyl 7-octenoate		35194-38-8
2984	5-hexenyl 7-octenoate		108058-86-2
2988	propyleneglycol monodecanoate		68818-06-4
2995	3-mercaptobutyl acetate		89534-38-3
3003	ethyl 3-mercaptobutyrate		156472-94-5
3004	butter esters		97926-23-3
3005	rum ether		8030-89-5
3013	S-(2-methyl-4,5-dihydro-3-furyl) ethanethioate		26486-14-6
3016	3-mercapto-3-methylbutyl isovalerate		612071-27-9
3017	dimenthyl glutarate		406179-71-3
3018	cis-4-decenyl acetate		67452-27-1
3019	ethyl cis-4-heptenoate		39924-27-1
3021	carvyl palmitate		929222-96-8
3022	ethyl 3-ethoxy-2-hydroxy-3-phenylbutyrate		
3032	isobornyl isobutyrate		85586-67-0
3034	3-mercaptoheptyl acetate		548774-80-7
3035	ethyl 4-(acetylthio)butyrate		104228-51-5
3036	4,8-dimethyl-3,7-nonadien-2-yl acetate		91418-25-6
3039	S-(2,5-dimethyl-3-furyl) ethanethioate		55764-22-2
3042	isopropylidene glyceryl 5-oxodecanoate		
3043	methyl 2-methyl lactate		2110-78-3
3050	3-oxononyl acetate		
3051	5-hexyl-3-tetrahydrofuryl acetate		10039-39-1
3055	cis-5-octenyl acetate		71978-00-2
3061	S-(2-methyl-3-tetrahydrofuryl) ethanethioate		252736-41-7
3068	ethyl 2-mercapto-2-methylpropionate		33441-50-8
3077	butyl 3-(methylthio)acrylate		77105-53-4
3080	2-pentyl 2-methylpentanoate		90397-36-7
3081	ethyl 3-(ethylthio)butyrate		90201-28-8
3086	1,3-butanediyl diacetate		1117-31-3
3091	ethyl 5-formyloxydecanoate		
3094	ethyl 2-hydroxy-2-methylbutyrate		77-70-3
3096	N-[(ethoxycarbonyl)methyl]-p-menthane-3-carboxamide		68489-14-5
3098	O-ethyl S-furfuryl thiocarbonate		376595-42-5
3099	vanillin lactate		930587-76-1
3100	cis,cis-3,6-nonadienyl acetate		83334-93-4
3101	trans-2-nonenyl acetate		30418-89-4
3102	cis-3-nonenyl acetate		13049-88-2

Flavorings used for food in Japan: The result of investigation by Japan Flavor & Fragrance Materials Association in 2013.

List of flavouring substances used in Japan

Table 2. Group 5 - Ketones

SEQ	Compound	Synonym or Old name	CAS
38	4-methoxyacetophenone	4-methoxyacetophenone	100-06-1
40	acetoin	acetoin	513-86-0
44	acetol	acetol	116-09-6
45	acetone	acetone	67-64-1
51	acetovanillone	acetovanillone	498-02-2
55	2,3-hexanedione	2,3-hexanedione	3848-24-6
56	4-methyl-2,3-pentanedione	4-methyl-2,3-pentanedione	7493-58-5
57	5-methyl-2,3-hexanedione	5-methyl-2,3-hexanedione	13706-86-0
58	2,3-pentanedione	2,3-pentanedione	600-14-6
60	2-acetyl-1-methylpyrrole	2-acetyl-1-methylpyrrole	932-16-1
61	2-acetyl-1-pyrroline	2-acetyl-1-pyrroline	85213-22-5 99583-29-6
62	5-acetyl-2,4-dimethylthiazole	5-acetyl-2,4-dimethylthiazole	38205-60-6
63	3-acetyl-2,5-dimethylfuran	3-acetyl-2,5-dimethylfuran	10599-70-9
65	2-acetyl-2-thiazoline	2-acetyl-2-thiazoline	29926-41-8
66	2-acetyl-3,4,5,6-tetrahydropyridine	2-acetyl-3,4,5,6-tetrahydropyridine	27300-27-2
67	2-acetyl-3,(5or6)-dimethylpyrazine	2-acetyl-3,(5or6)-dimethylpyrazine	54300-08-2 54300-09-3 72797-17-2
68	2-acetyl-3,5-dimethylpyrazine	2-acetyl-3,5-dimethylpyrazine	54300-08-2
69	2-acetyl-3-ethylpyrazine	2-acetyl-3-ethylpyrazine	32974-92-8
70	2-acetyl-3-methylpyrazine	2-acetyl-3-methylpyrazine	23787-80-6
71	2-acetyl-4-methylthiazole	2-acetyl-4-methylthiazole	7533-07-5
72	2-acetyl-5-methylfuran	2-acetyl-5-methylfuran	1193-79-9
73	2-acetyl-5-methylthiophene	2-acetyl-5-methylthiophene	13679-74-8
74	4-acetyl-6-tert-butyl-1,1-dimethylindane	4-acetyl-6-tert-butyl-1,1-dimethylindane	13171-00-1
75	2,4-pentanedione	2,4-pentanedione	123-54-6
76	acetylcedrene	acetylcedrene	32388-55-9
77	2-acetylfuran	2-acetylfuran	1192-62-7
78	acetylpyrazine	acetylpyrazine	22047-25-2
79	2-acetylpyridine	2-acetylpyridine	1122-62-9
80	3-acetylpyridine	3-acetylpyridine	350-03-8
81	4-acetylpyridine	4-acetylpyridine	1122-54-9
82	2-acetylpyrrole	2-acetylpyrrole	1072-83-9
83	2-acetylthiazole	2-acetylthiazole	24295-03-2
84	2-acetylthiophene	2-acetylthiophene	88-15-3
85	8-acetylthio-p-menthan-3-one	8-acetylthio-p-menthan-3-one	57074-34-7 63299-27-4 94293-57-9
133	alpha-allylionone	alpha-allylionone	79-78-7
138	2-aminoacetophenone	2-aminoacetophenone	551-93-9
167	2-amyl-2-cyclopentenone	2-amyl-2-cyclopentenone	25564-22-1
188	anisylacetone	anisylacetone	104-20-1
196	1-(4-methoxyphenyl)-2-propanone	1-(4-methoxyphenyl)-2-propanone	122-84-9
208	2-hydroxy-1,2-diphenylethanone	2-hydroxy-1,2-diphenylethanone	119-53-9
209	benzophenone	benzophenone	119-61-9
211	1-phenyl-1,3-butanedione	1-phenyl-1,3-butanedione	93-91-4
226	4-methyl-1-phenyl-2-pentanone	4-methyl-1-phenyl-2-pentanone	5349-62-2
244	4-phenyl-3-buten-2-one	4-phenyl-3-buten-2-one	122-57-6
297	2-hexanone	2-hexanone	591-78-6
322	2-sec-butylcyclohexanone	2-sec-butylcyclohexanone	14765-30-1
324	3-hepten-2-one	3-hepten-2-one	1119-44-4
332	1-phenyl-1-butanone	1-phenyl-1-butanone	495-40-9
337	d-camphor	d-camphor	464-49-3

Table 2. Group 5 - Ketones

SEQ	Compound	Synonym or Old name	CAS
339	camphor	camphor	76-22-2 21368-68-3
344	d-carvone	d-carvone	2244-16-8
345	l-carvone	l-carvone	6485-40-1
346	carvone	carvone	99-49-0
347	1,6-epoxycarvone	1,6-epoxycarvone	18383-49-8 33204-74-9
369	3-methyl-5-propyl-2-cyclohexenone	3-methyl-5-propyl-2-cyclohexenone	3720-16-9
418	9-cycloheptadecenone	9-cycloheptadecenone	542-46-1
439	cycloheptanone	cycloheptanone	502-42-1
443	cyclohexanone	cyclohexanone	108-94-1
472	cyclopentanone	cyclopentanone	120-92-3
474	2-cyclopentylcyclopentanone	2-cyclopentylcyclopentanone	4884-24-6
475	cyclotene	cyclotene	80-71-7 765-70-8
481	alpha-damascenone	alpha-damascenone	
482	beta-damascenone	beta-damascenone	23696-85-7 23726-93-4
483	alpha-damascone	alpha-damascone	43052-87-5
484	beta-damascone	beta-damascone	23726-91-2 23726-92-3 35044-68-9
485	delta-damascone	delta-damascone	57378-68-4
498	3-decanone	3-decanone	928-80-3
500	3-decen-2-one	3-decen-2-one	10519-33-2
525	2-dodecanone	2-dodecanone	6175-49-1
530	dehydronootkatone	dehydronootkatone	5090-63-1
532	4-hydroxy-4-methyl-2-pentanone	4-hydroxy-4-methyl-2-pentanone	123-42-2
533	diacetyl	diacetyl	431-03-8
539	1,3-diphenyl-2-propanone	1,3-diphenyl-2-propanone	102-04-5
562	4,5-dihydro-3(2H)-thiophenone	4,5-dihydro-3(2H)-thiophenone	1003-04-9
563	3,5-dihydroxy-6-methyl-2,3-dihydro-4(4H)-pyranone	2,3-dihydro-3,5-dihydroxy-6-methyl-4H-pyran-4-one	28564-83-2
565	3,4-dihydro-alpha-ionone	3,4-dihydro-alpha-ionone	31499-72-6
567	dihydro-beta-ionone	dihydro-beta-ionone	17283-81-7
569	dihydrocarvone	dihydrocarvone	5524-05-0 5948-04-9 7764-50-3
583	3-methyl-2-pentyl-2-cyclopentenone	3-methyl-2-pentyl-2-cyclopentenone	1128-08-1
588	1,10-dihydronootkatone	1,10-dihydronootkatone	20489-53-6
590	1,3-dihydroxyacetone (monomer and dimer)	1,3-dihydroxyacetone (monomer and dimer)	96-26-4 62147-49-3 89727-88-8
600	2,4-dimethyl-3-pentanone	2,4-dimethyl-3-pentanone	565-80-0
604	3,4-dimethoxyacetophenone	3,4-dimethoxyacetophenone	1131-62-0
619	4-methoxy-2,5-dimethyl-3(2H)-furanone	4-methoxy-2,5-dimethyl-3(2H)-furanone	4077-47-8
630	3,4-dimethyl-1,2-cyclopentanedione	3,4-dimethyl-1,2-cyclopentanedione	13494-06-9 21835-00-7
631	3,5-dimethyl-1,2-cyclopentanedione	3,5-dimethyl-1,2-cyclopentanedione	13494-07-0 21834-98-0
643	2,5-dimethyl-3(2H)-furanone	2,5-dimethyl-3(2H)-furanone	14400-67-0
653	2,4-dimethylacetophenone	2,4-dimethylacetophenone	89-74-7
664	2,6-dimethyl-4-heptanone	2,6-dimethyl-4-heptanone	108-83-8
678	2-hydroxy-6-isopropyl-3-methyl-2-cyclohexenone	2-hydroxy-6-isopropyl-3-methyl-2-cyclohexenone	490-03-9
682	4-heptanone	4-heptanone	123-19-3

Table 2. Group 5 - Ketones

SEQ	Compound	Synonym or Old name	CAS
753	2-propionylfuran	2-propionylfuran	3194-15-8
813	3-octanone	3-octanone	106-68-3
821	3-heptanone	3-heptanone	106-35-4
828	3-ethyl-2-hydroxy-2-cyclopentenone	3-ethyl-2-hydroxy-2-cyclopentenone	21835-01-8
838	3-nonanone	3-nonanone	925-78-0
850	ethyl maltol	ethyl maltol	4940-11-8
871	3-hexanone	3-hexanone	589-38-8
892	1-penten-3-one	1-penten-3-one	1629-58-9
899	5-ethyl-4-hydroxy-2-methyl-3(2H)-furanone	5-ethyl-4-hydroxy-2-methyl-3(2H)-furanone	27538-09-6
902	2-ethyl-5-methyl-1,3-dioxolan-4-one	2-ethyl-5-methyl-1,3-dioxolan-4-one	
950	farnesylacetone	farnesylacetone	762-29-8 1117-52-8
951	d-fenchone	d-fenchone	4695-62-9
952	fenchone	fenchone	1195-79-5 7787-20-4
959	4-hydroxy-2,5-dimethyl-3(2H)-furanone	4-hydroxy-2,5-dimethyl-3(2H)-furanone	3658-77-3
978	(2-furyl)-2-propanone	(2-furyl)-2-propanone	6975-60-6
985	4-(2-furyl)-3-buten-2-one	4-(2-furyl)-3-buten-2-one	623-15-4
987	1-(2-furfurylthio)-2-propanone	1-(2-furfurylthio)-2-propanone	58066-86-7
988	4-(furfurylthio)-4-methyl-2-pentanone	4-(furfurylthio)-4-methyl-2-pentanone	
999	geranyl acetone	geranyl acetone	3796-70-1
1013	2-geranylcyclopentanone	2-geranylcyclopentanone	68133-79-9
1025	2-heptadecanone	2-heptadecanone	2922-51-2
1036	2,3-heptanedione	2,3-heptanedione	96-04-8
1082	3,4-hexanedione	3,4-hexanedione	4437-51-8
1084	6,10,14-trimethyl-2-pentadecanone	6,10,14-trimethyl-2-pentadecanone	502-69-2
1104	5-hexen-2-one	5-hexen-2-one	109-49-9
1106	4-hexen-3-one	4-hexen-3-one	2497-21-4 50396-87-7
1107	1-hexen-3-one	1-hexen-3-one	1629-60-3
1200	2-hexylcyclopentanone	2-hexylcyclopentanone	13074-65-2
1227	hinokitiol	hinokitiol	499-44-5
1241	1-hydroxy-2-butanone	1-hydroxy-2-butanone	5077-67-8
1242	4-hydroxy-2-butanone	4-hydroxy-2-butanone	590-90-9
1243	2-hydroxy-2-cyclohexenone	2-hydroxy-2-cyclohexenone	10316-66-2
1244	1-hydroxy-2-heptanone	1-hydroxy-2-heptanone	17046-01-4
1245	3-hydroxy-2-octanone	3-hydroxy-2-octanone	37160-77-3
1246	2-hydroxy-3,4-dimethyl-2-cyclopentenone	2-hydroxy-3,4-dimethyl-2-cyclopentenone	21835-00-7
1249	2-hydroxy-3-pentanone	2-hydroxy-3-pentanone	5704-20-1
1251	1-hydroxy-4-methyl-2-pentanone	1-hydroxy-4-methyl-2-pentanone	68113-55-3
1255	5-hydroxy-4-octanone	5-hydroxy-4-octanone	496-77-5
1256	1-hydroxy-5-methyl-2-hexanone	1-hydroxy-5-methyl-2-hexanone	
1258	2'-hydroxyacetophenone	2-hydroxyacetophenone	118-93-4
1276	3-hydroxy-2-pentanone	3-hydroxy-2-pentanone	3142-66-3
1281	alpha-ionone	alpha-ionone	127-41-3
1282	beta-ionone	beta-ionone	79-77-6 14901-07-6
1283	alpha-irone	alpha-irone	79-69-6
1296	6-methyl-3-heptanone	6-methyl-3-heptanone	624-42-0
1392	2-methyl-3-(2-pentenyl)-2-cyclopentenone	2-methyl-3-(2-pentenyl)-2-cyclopentenone	11050-62-7
1393	dl-isomenthone	dl-isomenthone	491-07-6
1394	alpha-isomethylionone	alpha-isomethylionone	127-51-5
1397	isophorone	isophorone	78-59-1
1430	4-isopropyl-2-cyclohexenone	4-isopropyl-2-cyclohexenone	500-02-7
1432	5-isopropyl-3-nonene-2,8-dione	5-isopropyl-3-nonene-2,8-dione	

Table 2. Group 5 - Ketones

SEQ	Compound	Synonym or Old name	CAS
1436	5-isopropyl-8-methyl-6,8- nonadien-2-one	5-isopropyl-8-methyl-6,8- nonadien-2-one	1937-54-8 40286-47-3
1437	4-isopropylacetophenone	4-isopropylacetophenone	645-13-6
1443	isopulegone	isopulegone	29606-79-9
1453	3-methyl-2-(cis-2-pentenyl)-2-cyclopentenone	3-methyl-2-(cis-2-pentenyl)-2-cyclopentenone	488-10-8
1454	3-methyl-2-(trans-2-pentenyl)-2-cyclopentenone	3-methyl-2-(trans-2-pentenyl)-2-cyclopentenone	6261-18-3
1497	4-(2-butenylidene)-3,5,5-trimethyl-2-cyclohexenone	4-(2-butenylidene)-3,5,5-trimethyl-2-cyclohexenone	13215-88-8
1505	p-menthan-2-one	p-menthan-2-one	499-70-7 59471-80-6
1513	menthone	menthone	89-80-5 10458-14-7 14073-97-3
1536	3-mercapto-2-butanone	3-mercapto-2-butanone	40789-98-8
1537	3-mercapto-2-pentanone	3-mercapto-2-pentanone	67633-97-0
1539	4-mercapto-4-methyl-2-pentanone	4-mercapto-4-methyl-2-pentanone	19872-52-7
1548	4-methyl-3-penten-2-one	4-methyl-3-penten-2-one	141-79-7
1573	4-(4-methoxyphenyl)-3-buten-2-one	4-(4-methoxyphenyl)-3-buten-2-one	943-88-4
1595	methyl 2-oxopropyl disulfide	methyl 2-oxopropyl disulfide	122861-78-3
1627	2-heptanone	2-heptanone	110-43-0
1628	1-(4-methoxyphenyl)-1-penten-3-one	1-(4-methoxyphenyl)-1-penten-3-one	104-27-8
1648	2-butanone	2-butanone	78-93-3
1657	2-nonanone	2-nonanone	821-55-6
1659	2-octanone	2-octanone	111-13-7
1661	methylionone	methylionone	1335-46-2
1662	5-methyl-2-hexanone	5-methyl-2-hexanone	110-12-3
1663	4-methyl-2-pentanone	4-methyl-2-pentanone	108-10-1
1667	3-methyl-2-butanone	3-methyl-2-butanone	563-80-4
1684	1-acetylnaphthalene	1-acetylnaphthalene	941-98-0
1689	2-undecanone	2-undecanone	112-12-9
1694	2-decanone	2-decanone	693-54-9
1709	2-pentanone	2-pentanone	107-87-9
1724	2-tridecanone	2-tridecanone	593-08-8
1729	3-buten-2-one	3-buten-2-one	78-94-4
1733	3-methyl-2-cyclopentenone	3-methyl-2-cyclopentenone	2758-18-1
1735	1-(5-methyl-2-furyl)-1,2-propanedione	1-(5-methyl-2-furyl)-1,2-propanedione	1197-20-2
1736	1-(5-methyl-2-furyl)-2-propanone	1-(5-methyl-2-furyl)-2-propanone	13678-74-5
1737	6-methyl-2-heptanone	6-methyl-2-heptanone	928-68-7
1738	5-methyl-2-hepten-4-one	5-methyl-2-hepten-4-one	81925-81-7
1739	3-methyl-2-hexanone	3-methyl-2-hexanone	2550-21-2
1746	3-methyl-2-pentanone	3-methyl-2-pentanone	565-61-7
1758	2-acetyl-(3or4)-methylthiophene	2-acetyl-(3or4)-methylthiophene	13679-72-6 13679-73-7
1760	7-methyl-3,4-dihydro-2H-1,5-benzodioxepin-3-one	7-methyl-3,4-dihydro-2H-1,5-benzodioxepin-3-one	28940-11-6
1763	3-methyl-3-buten-2-one	3-methyl-3-buten-2-one	814-78-8
1771	5-methyl-3-heptanone	5-methyl-3-heptanone	541-85-5
1773	5-methyl-3-hexen-2-one	5-methyl-3-hexen-2-one	5166-53-0
1794	alpha-methylionone	alpha-methylionone	127-42-4 7779-30-8
1826	3-methyl-1,2-cyclohexanedione	3-methyl-1,2-cyclohexanedione	3008-43-3
1827	3-methylcyclohexanone	3-methylcyclohexanone	591-24-2
1832	3-methylcyclopentadecanone	3-methylcyclopentadecanone	541-91-3
1839	6-methyl-3,5-heptadien-2-one	6-methyl-3,5-heptadien-2-one	1604-28-0

Table 2. Group 5 - Ketones

SEQ	Compound	Synonym or Old name	CAS
1841	6-methyl-5-hepten-2-one	6-methyl-5-hepten-2-one	110-93-0
1849	3-methyl-2,4-nonanedione	3-methyl-2,4-nonanedione	113486-29-6
1863	2-methyltetrahydrothiophen-3-one	2-methyltetrahydrothiophen-3-one	13679-85-1
1865	2-methyltetrahydro-3(2H)-furanone	2-methyltetrahydrofuran-3-one	3188-00-9
1870	2,6,6-trimethyl-1-[3-(methylthio)butyryl]cyclohexene	2,6,6-trimethyl-1-[3-(methylthio)butyryl]cyclohexene	68697-67-6
1874	4-(methylthio)-4-methyl-2-pentanone	4-(methylthio)-4-methyl-2-pentanone	23550-40-5
1875	4-(methylthio)-2-butanone	4-(methylthio)-2-butanone	34047-39-7
1883	3-methylthio-1-(2,6,6-trimethyl-1,3-cyclohexadienyl)-2-buten-1-one	3-methylthio-1-(2,6,6-trimethyl-1,3-cyclohexadienyl)-2-buten-1-one	
1887	8-(methylthio)-p-menthan-3-one	8-(methylthio)-p-menthan-3-one	32637-94-8 85165-49-7
1912	3-acetylpyrrole	3-acetylpyrrole	1072-82-8
1964	4-nonanone	4-nonanone	4485-09-0
1965	3-nonen-2-one	3-nonen-2-one	14309-57-0
1992	nootkatone	nootkatone	4674-50-4 91416-23-8
2002	3,5-octadien-2-one	3,5-octadien-2-one	30086-02-3
2003	1,5-octadien-3-one	1,5-octadien-3-one	65213-86-7
2023	3-octen-2-one	3-octen-2-one	1669-44-9
2025	1-octen-3-one	1-octen-3-one	4312-99-6
2030	2-octen-4-one	2-octen-4-one	4643-27-0
2071	4-oxoisophorone	4-oxoisophorone	1125-21-9
2078	2-pentadecanone	2-pentadecanone	2345-28-0
2082	3-pentanone	3-pentanone	96-22-0
2083	3-penten-2-one	3-penten-2-one	625-33-2
2087	2-hexanoylfuran	2-hexanoylfuran	14360-50-0
2141	1-phenyl-1,2-propanedione	1-phenyl-1,2-propanedione	579-07-7
2178	pinocamphone	pinocamphone	547-60-4 18358-53-7
2180	piperitenone	piperitenone	491-09-8
2182	d-piperitone	d-piperitone	6091-50-5
2183	piperitone	piperitone	89-81-6
2187	piperonyl acetone	piperonyl acetone	55418-52-5
2199	4-hydroxyhexan-3-one	4-hydroxyhexan-3-one	4984-85-4
2204	1-(1-p-menthen-6-yl)-1-propanone	1-(1-p-menthen-6-yl)-1-propanone	31375-17-4
2205	2-propionylpyrrole	2-propionylpyrrole	1073-26-3
2206	2-propionylthiophene	2-propionylthiophene	13679-75-9
2207	1-phenyl-1-propanone	1-phenyl-1-propanone	93-55-0
2260	3-(propylthio)-4-heptanone	3-(propylthio)-4-heptanone	
2262	pulegone	pulegone	89-82-7 15932-80-6
2266	2-oxopropanal	2-oxopropanal	78-98-8
2268	raspberry ketone	raspberry ketone	5471-51-2
2337	4-tert-butylcyclohexanone	4-tert-butylcyclohexanone	98-53-3
2339	4-tert-butylacetophenone	4-tert-butylacetophenone	943-27-1
2342	4-tert-amylcyclohexanone	4-tert-amylcyclohexanone	16587-71-6
2347	2-tetradecanone	2-tetradecanone	2345-27-9
2348	cis-7-tetradecen-2-one	cis-7-tetradecen-2-one	146955-45-5
2364	6,10-dimethyl-9-undecen-2-one	6,10-dimethyl-9-undecen-2-one	4433-36-7
2366	tetramethylethylcyclohexenone	tetramethylethylcyclohexenone	17369-60-7
2369	theaspirone	theaspirone	19377-59-4 77841-36-2
2382	8-mercapto-p-menthan-3-one	8-mercapto-p-menthan-3-one	38462-22-5
2411	12-tridecen-2-one	12-tridecen-2-one	60437-21-0

Table 2. Group 5 - Ketones

SEQ	Compound	Synonym or Old name	CAS
2419	3,5,5-trimethyl-1,2-cyclohexanedione	3,5,5-trimethyl-1,2-cyclohexanedione	4883-60-7 57696-89-6
2420	1-(2,4,4-trimethyl-2-cyclohexenyl)-trans-2- buten-1-one	1-(2,4,4-trimethyl-2-cyclohexenyl)-trans-2- buten-1-one	39872-57-6
2421	2-hydroxy-2,6,6-trimethylcyclohexanone	2-hydroxy-2,6,6-trimethylcyclohexanone	7500-42-7
2427	2,2,6-trimethylcyclohexanone	2,2,6-trimethylcyclohexanone	2408-37-9
2428	3,3,5-trimethylcyclohexanone	3,3,5-trimethylcyclohexanone	873-94-9
2447	2,3-undecanedione	2,3-undecanedione	7493-59-6
2484	6-hydroxy-5-decanone	6-hydroxy-5-decanone	6540-98-3
2500	verbenone	verbenone	80-57-9
2512	zingerone	zingerone	122-48-5
2723	1-(2-thienyl)-1,2-propanedione	1-(2-thienyl)-1,2-propanedione	13678-69-8
2724	10-undecen-2-one	10-undecen-2-one	36219-73-5
2725	2,2,6-trimethyl-1,4-cyclohexanedione	2,2,6-trimethyl-1,4-cyclohexanedione	20547-99-3
2726	2,3-octanedione	2,3-octanedione	585-25-1
2727	2,5-dimethyl-4-(1-pyrrolidinyl)-3(2H)- furanone	2,5-dimethyl-4-(1-pyrrolidinyl)-3(2H)- furanone	
2728	2,5-hexanedione	2,5-hexanedione	110-13-4
2729	6-ethenyl-2,2,6-trimethyltetrahydro-3(4H)-pyranone	6-ethenyl-2,2,6-trimethyltetrahydropyran-3-one	33933-72-1
2730	2,6-dihydroxyacetophenone	2,6-dihydroxyacetophenone	699-83-2
2731	2-acetyl-1,4,5,6-tetrahydropyridine	2-acetyl-1,4,5,6-tetrahydropyridine	25343-57-1
2732	2-acetyl-4- isopropenylpyridine	2-acetyl-4- isopropenylpyridine	142896-11-5
2733	2-cyclohexenone	2-cyclohexenone	930-68-7
2734	2-hepten-4-one	2-hepten-4-one	4643-25-8
2735	2-hexylidenecyclopentanone	2-hexylidenecyclopentanone	17373-89-6
2736	2-hydroxy-5-methylacetophenone	2-hydroxy-5-methylacetophenone	1450-72-2
2737	2-methyl-3-pentanone	2-methyl-3-pentanone	565-69-5
2738	2-methyl-5-propionylfuran	2-methyl-5-propionylfuran	10599-69-6
2739	2-methylacetophenone	2-methylacetophenone	577-16-2
2740	2-propionylthiazole	2-propionylthiazole	43039-98-1
2741	3,5,5-trimethyl-1-(2-oxopropylidene)-2-cyclohexene	3,5,5-trimethyl-1-(2-oxopropylidene)-2-cyclohexene	16695-72-0 16695-73-1
2742	3,5,5-trimethyl-4-methylene-2-cyclohexenone	3,5,5-trimethyl-4-methylene-2-cyclohexenone	20548-00-9
2743	4-(2,3,6-trimethylphenyl)-3-buten-2-one	4-(2,3,6-trimethylphenyl)-3-buten-2-one	56681-06-2
2744	7-methyl-4,4a,5,6-tetrahydronaphthalen-2(3H)-one	4,4a,5,6-tetrahydro-7-methylnaphthalen- 2(3H)-one	34545-88-5
2745	4,5-octanedione	4,5-octanedione	5455-24-3
2746	4,7-dimethyl-6-octen-3-one	4,7-dimethyl-6-octen-3-one	2550-11-0
2747	4-acetyl-2- isopropenylpyridine	4-acetyl-2- isopropenylpyridine	142896-12-6
2748	4-ethylacetophenone	4-ethylacetophenone	937-30-4
2749	4-hydroxy-2,5-dimethylthiophen-3(2H)-one	4-hydroxy-2,5-dimethylthiophen-3-one	26494-10-0
2750	5,6-decanedione	5,6-decanedione	5579-73-7
2751	5,6-epoxy-beta-ionone	5,6-epoxy-beta-ionone	23267-57-4
2752	5-methyl-5-hexen-2-one	5-methyl-5-hexen-2-one	3240-09-3
2753	6-methyl-4,5-heptadien-2-one	6-methyl-4,5-heptadien-2-one	
2754	6-hydroxycarvone	6-hydroxycarvone	51200-86-3
2755	7-octen-2-one	7-octen-2-one	3664-60-6
2756	8,9-dehydrotheaspirone	8,9-dehydrotheaspirone	85248-56-2
2757	8-nonen-2-one	8-nonen-2-one	5009-32-5
2758	3-ethyl-2-hydroxy-4-methyl-2-cyclopentenone	3-ethyl-2-hydroxy-4-methyl-2-cyclopentenone	42348-12-9
2759	2-hexyl-2-cyclopentenone	2-hexyl-2-cyclopentenone	95-41-0
2760	4-ethoxyacetophenone	4-ethoxyacetophenone	1676-63-7
2761	4-hydroxyacetophenone	4-hydroxyacetophenone	99-93-4

Table 2. Group 5 - Ketones

SEQ	Compound	Synonym or Old name	CAS
2762	piperitone oxide	piperitone oxide	5286-38-4
2763	1-(3-furyl)-4-methylpentan-1-one	1-(3-furyl)-4-methylpentan-1-one	553-84-4
2764	8-hydroxy-4-p-menthen-3-one	8-hydroxy-4-p-menthen-3-one	
2765	5-nonanone	5-nonanone	502-56-7
2766	pinocarvone	pinocarpone	16812-40-1 30460-92-5
2920	neohesperidine dihydrochalcone	neohesperidine dihydrochalcone	20702-77-6
2921	naringin dihydrochalcone	naringin dihydrochalcone	18916-17-1
2925	4-hydroxy-5-methyl-3(2H)-furanone		19322-27-1
2931	9-decen-2-one		35194-30-0
2932	1-(2-hydroxy-4-isobutoxyphenyl)-3-(2-pyridinyl)-1-propanone		1190230-47-7
2933	1-(2-hydroxy-4-methoxyphenyl)-3-(2-pyridinyl)-1-propanone		1190229-37-8
2936	1-(methylthio)-2-propanone		14109-72-9
2946	4-acetyl-2-methylpyrimidine		67860-38-2
2950	7-methyl-3-octen-2-one		33046-81-0
2965	5,7-dihydroxy-2-(3-hydroxy-4-methoxyphenyl)-2,3-dihydro-4H-chromen-4-one		69097-99-0
2972	trans/cis,trans-6,8,10-undecatrien-3-one		1009814-14-5
2977	4,8-dimethyl-3,7-nonadien-2-one		817-88-9
3001	3-hydroxy-3-methyl-2,4-nonanedione		544409-58-7
3006	trans-6-methyl-3-hepten-2-one		20859-10-3
3015	3-[(2-methyl-3-furyl)thio]-2-butanone		61295-44-1
3020	gamma-ionone		79-76-5
3027	2,3-dimethyl-2-cyclopentenone		1121-05-7
3028	2-acetyl-4-isopropylpyridine		142896-09-1
3048	3-(hydroxymethyl)heptan-2-one		65405-68-7
3066	1-(methylthio)-3-octanone		61837-77-2
3070	1-(2-hydroxyphenyl)-3-(4-pyridinyl)-1-propanone		1186004-10-3
3073	3-mercapto-2-hexanone		1020152-45-7
3074	3-mercapto-4-methyl-2-hexanone		1020152-51-5 1224978-24-8
3082	4-mercapto-4-methyl-2-hexanone		851768-52-0
3087	3-acetyl-1,2-dithiolane		89712-89-0

Flavorings used for food in Japan: The result of investigation by Japan Flavor & Fragrance Materials Association in 2013.

List of flavouring substances used in Japan

Table 2. Group 6 - Fatty Acids

SEQ	Compound	Synonym or Old name	CAS
39	acetic acid	acetic acid	64-19-7
86	aconitic acid	aconitic acid	499-12-7
88	adipic acid	adipic acid	124-04-9
174	(5or6)-decenoic acid	(5or6)-decenoic acid	72881-27-7 85392-03-6 85392-04-7
177	angelic acid	angelic acid	565-63-9
403	citronellic acid	citronellic acid	502-47-6
423	4-methylphenoxyacetic acid	4-methylphenoxyacetic acid	940-64-7
430	2-butenic acid	2-butenic acid	107-93-7 3724-65-0
440	cyclohexylacetic acid	cyclohexylacetic acid	5292-21-7
441	cyclohexylcarboxylic acid	cyclohexylcarboxylic acid	98-89-5
469	3-cyclohexylpropionic acid	3-cyclohexylpropionic acid	701-97-3
473	(2-cyclopentenyl)acetic acid	(2-cyclopentenyl)acetic acid	13668-61-6
495	decanoic acid	decanoic acid	334-48-5
509	2-decenoic acid	2-decenoic acid	334-49-6 3913-85-7
510	4-decenoic acid	4-decenoic acid	505-90-8 26303-90-2
511	9-decenoic acid	9-decenoic acid	14436-32-9
704	2-dodecenoic acid	2-dodecenoic acid	4412-16-2 32466-54-9
728	ethoxyacetic acid	ethoxyacetic acid	627-03-2
896	4-ethyl-2-octenoic acid	4-ethyl-2-octenoic acid	60308-75-0 60308-76-1 90464-78-1
908	2-ethylbutyric acid	2-ethylbutyric acid	88-09-5
919	2-ethylhexanoic acid	2-ethylhexanoic acid	149-57-5
930	4-ethyloctanoic acid	4-ethyloctanoic acid	16493-80-4
958	formic acid	formic acid	64-18-6
989	2-furoic acid	2-furoic acid	88-14-2
993	geranic acid	geranic acid	459-80-3 4698-08-2
1023	heptadecanoic acid	heptadecanoic acid	506-12-7
1037	heptanoic acid	heptanoic acid	111-14-8
1049	2-heptenoic acid	2-heptenoic acid	10352-88-2 18999-28-5
1078	2-hexadecenoic acid	2-hexadecenoic acid	629-56-1
1119	2-hexenoic acid	2-hexenoic acid	1191-04-4
1120	3-hexenoic acid	3-hexenoic acid	1577-18-0 1775-43-5 4219-24-3
1121	trans-2-hexenoic acid	trans-2-hexenoic acid	13419-69-7
1225	hexyloxyacetic acid	hexyloxyacetic acid	57931-25-6
1247	4'-hydroxy-3'-methoxycinnamic acid	4'-hydroxy-3'-methoxycinnamic acid	1135-24-6
1248	2-hydroxy-3-methylpentanoic acid	2-hydroxy-3-methylpentanoic acid	488-15-3
1254	2-hydroxy-4-methylpentanoic acid	2-hydroxy-4-methylpentanoic acid	498-36-2
1265	3-hydroxybutyric acid	3-hydroxybutyric acid	300-85-6
1274	3-hydroxyhexanoic acid	3-hydroxyhexanoic acid	10191-24-9 88930-06-7
1377	isobutyric acid	isobutyric acid	79-31-2
1451	isovaleric acid	isovaleric acid	503-74-2

Table 2. Group 6 - Fatty Acids

SEQ	Compound	Synonym or Old name	CAS
1456	lactic acid	lactic acid	50-21-5 79-33-4 598-82-3 10326-41-7
1457	lauric acid	lauric acid	143-07-7
1462	levulinic acid	levulinic acid	123-76-2
1487	linoleic acid	linoleic acid	60-33-3
1488	linolenic acid	linolenic acid	463-40-1
1490	malonic acid	malonic acid	141-82-2
1546	2-mercaptopropionic acid	2-mercaptopropionic acid	79-42-5
1547	3-mercaptopropionic acid	3-mercaptopropionic acid	107-96-0
1727	3-methylpentanoic acid	3-methylpentanoic acid	105-43-1
1743	3-methyl-2-oxopentanoic acid	3-methyl-2-oxopentanoic acid	1460-34-0 39748-49-7
1749	2-methyl-2-pentenoic acid	2-methyl-2-pentenoic acid	3142-72-1
1779	2-methyl-4-pentenoic acid	2-methyl-4-pentenoic acid	1575-74-2
1822	2-methylbutyric acid	2-methylbutyric acid	116-53-0
1825	3-methyl-2-butenic acid	3-methyl-2-butenic acid	541-47-9
1840	2-methylheptanoic acid	2-methylheptanoic acid	1188-02-9
1843	2-methylhexanoic acid	2-methylhexanoic acid	4536-23-6
1844	5-methylhexanoic acid	5-methylhexanoic acid	628-46-6
1850	8-methylnonanoic acid	8-methylnonanoic acid	5963-14-4
1852	4-methyloctanoic acid	4-methyloctanoic acid	54947-74-9
1878	4-(methylthio)butyric acid	4-(methylthio)butyric acid	
1888	3-(methylthio)propionic acid	3-(methylthio)propionic acid	646-01-5
1898	2-methylpentanoic acid	2-methylpentanoic acid	97-61-0
1899	4-methylpentanoic acid	4-methylpentanoic acid	646-07-1
1907	myristic acid	myristic acid	544-63-8
1960	nonanoic acid	nonanoic acid	112-05-0
1972	2-nonenoic acid	2-nonenoic acid	3760-11-0 14812-03-4
1973	3-nonenoic acid	3-nonenoic acid	4124-88-3
2019	octanoic acid	octanoic acid	124-07-2
2034	2-octenoic acid	2-octenoic acid	1470-50-4 1871-67-6
2035	3-octenoic acid	3-octenoic acid	1577-19-1
2036	trans-3-octenoic acid	trans-3-octenoic acid	5163-67-7
2065	oleic acid	oleic acid	112-80-1
2069	2-oxobutyric acid	2-oxobutyric acid	600-18-0
2070	2-oxopentanedioic acid	2-oxopentanedioic acid	328-50-7
2073	palmitic acid	palmitic acid	57-10-3
2076	pentadecanoic acid	pentadecanoic acid	1002-84-2
2084	2-pentenoic acid	2-pentenoic acid	626-98-2 13991-37-2
2085	4-pentenoic acid	4-pentenoic acid	591-80-0
2096	perillic acid	perillic acid	7694-45-3
2128	phenoxyacetic acid	phenoxyacetic acid	122-59-8
2152	phenylacetic acid	phenylacetic acid	103-82-2
2158	2-phenylpropionic acid	2-phenylpropionic acid	492-37-5
2159	3-phenylpropionic acid	3-phenylpropionic acid	501-52-0
2190	pivalic acid	pivalic acid	75-98-9
2267	pyruvic acid	pyruvic acid	127-17-3
2294	sorbic acid	sorbic acid	110-44-1
2296	stearic acid	stearic acid	57-11-4
2376	ethanethioic S -acid	ethanethioic S -acid	507-09-5
2379	2-mercaptoacetic acid	2-mercaptoacetic acid	68-11-1

Table 2. Group 6 - Fatty Acids

SEQ	Compound	Synonym or Old name	CAS
2381	2-mercaptobutanedioic acid	2-mercaptobutanedioic acid	70-49-5
2386	propanethioic S -acid	propanethioic S -acid	1892-31-5
2392	tiglic acid	tiglic acid	80-59-1
2409	tridecanoic acid	tridecanoic acid	638-53-9
2436	3,5,5-trimethylhexanoic acid	3,5,5-trimethylhexanoic acid	3302-10-1
2458	undecanoic acid	undecanoic acid	112-37-8
2470	10-undecenoic acid	10-undecenoic acid	112-38-9
2483	valeric acid	valeric acid	109-52-4
2767	11-dodecenoic acid	11-dodecenoic acid	65423-25-8
2768	12-tridecenoic acid	12-tridecenoic acid	6006-06-0
2769	2,4-dimethyl-2-pentenoic acid	2,4-dimethyl-2-pentenoic acid	66634-97-7
2770	2-ethyloctanoic acid	2-ethyloctanoic acid	25234-25-7
2771	trans-2-pentylcyclopropylcarboxylic acid	2-pentylcyclopropylcarboxylic acid	5075-48-9
2772	3-decenoic acid	3-decenoic acid	15469-77-9
2773	3-ethylheptanoic acid	3-ethylheptanoic acid	14272-47-0
2774	3-isopropenyl-6-oxoheptanoic acid	3-isopropenyl-6-oxoheptanoic acid	4436-82-2
2775	3-isopropenyl-1,5-pentanedioic acid	3-isopropenyl-1,5-pentanedioic acid	6839-75-4
2776	3-ethyl-4-methyl-4-pentenoic acid	3-ethyl-4-methyl-4-pentenoic acid	
2777	4-methylnonanoic acid	4-methylnonanoic acid	45019-28-1
2778	4-octenoic acid	4-octenoic acid	18294-89-8 18776-92-6
2779	4-phenylbutyric acid	4-phenylbutyric acid	1821-12-1
2780	5-oxododecanoic acid	5-oxododecanoic acid	624-01-1
2781	5-oxododecanoic acid	5-oxododecanoic acid	3637-16-9
2782	5-oxooctanoic acid	5-oxooctanoic acid	3637-14-7
2783	6-[(5or6)-decenyloxy]decanoic acid	6-[(5or6)-decenyloxy]decanoic acid	85392-05-8 85392-06-9
2784	6-phenylhexanoic acid	6-phenylhexanoic acid	5581-75-9
2785	cis-4-heptenoic acid	cis-4-heptenoic acid	41653-95-6
2786	cis-4-nonenoic acid	cis-4-nonenoic acid	49580-58-7
2787	cis-5-decenoic acid	cis-5-decenoic acid	84168-28-5
2788	cis-5-octenoic acid	cis-5-octenoic acid	41653-97-8
2789	cis-5-undecenoic acid	cis-5-undecenoic acid	62472-76-8
2790	hydroxyacetic acid	hydroxyacetic acid	79-14-1
2791	2'-methoxycinnamic acid	2'-methoxycinnamic acid	6099-03-2
2792	trans-4-dodecenoic acid	trans-4-dodecenoic acid	55928-67-1
2793	trans-5-undecenoic acid	trans-5-undecenoic acid	67270-85-3
2794	trans-6-dodecenoic acid	trans-6-dodecenoic acid	52957-04-7
2795	3-mercapto-2-methylpropionic acid	3-mercapto-2-methylpropionic acid	26473-47-2
2957	2-methyl-3-pentenoic acid		37674-63-8
2964	2-hydroxy-2-(4-hydroxy-3-methoxyphenyl)acetic acid		55-10-7
2978	4-(2,2,3-trimethylcyclopentyl)butyric acid		957136-80-0
2986	4-methyl-3-pentenoic acid		504-85-8
2991	2-(4-methoxyphenoxy)propionic acid		13794-15-5
3000	4-tert-butylphenylacetic acid		32857-63-9
3024	9-dodecenoic acid		2382-40-3 22032-47-9
3026	9-tetradecenoic acid		544-64-9 13147-06-3
3046	2-methyl-2-propenoic acid		79-41-4
3065	trans-2'-hydroxycinnamic acid		614-60-8

Flavorings used for food in Japan: The result of investigation by Japan Flavor & Fragrance Materials Association in 2013.

List of flavouring substances used in Japan

Table 2. Group 7 - Aliphatic Higher Alcohols

SEQ	Compound	Synonym or Old name	CAS
46	acetone glyceryl acetal	acetone glyceryl acetal	100-79-8
136	ambrinol	ambrinol	41199-19-3
250	alpha-bisabolol	alpha-bisabolol	515-69-5 23089-26-1
251	borneol	borneol	507-70-0
319	2-butoxyethanol	2-butoxyethanol	111-76-2
336	alpha-campholenol	alpha-campholenol	1901-38-8
342	l-carveol	l-carveol	2102-59-2
343	carveol	carveol	99-48-9
361	beta-caryophyllene alcohol	beta-caryophyllene alcohol	472-97-9
366	cedrenol	cedrenol	28231-03-0
367	cedrol	cedrol	77-53-2
404	l-citronellol	l-citronellol	7540-51-4
442	cyclohexanol	cyclohexanol	108-93-0
460	2-cyclohexylethanol	2-cyclohexylethanol	4442-79-9
488	2,4-decadienol	2,4-decadienol	14507-02-9 18409-21-7
496	3-decanol	3-decanol	1565-81-7
512	2-decenol	2-decenol	18409-18-2 22104-80-9
513	9-decenol	9-decenol	13019-22-2
514	4-decenol	4-decenol	57074-37-0
568	dihydrocarveol	dihydrocarveol	619-01-2 22567-21-1 38049-26-2
582	7,8-dihydro-beta-ionol	7,8-dihydro-beta-ionol	3293-47-8
584	3,7-dimethyl-6-octen-3-ol	3,7-dimethyl-6-octen-3-ol	2270-57-7 18479-51-1
587	dihydromyrcenol	dihydromyrcenol	18479-58-8 18479-59-9 53219-21-9
589	dihydroperillyl alcohol	dihydroperillyl alcohol	
591	2,5-dihydroxy-2,5-dimethyl-1,4-dithiane	2,5-dihydroxy-2,5-dimethyl-1,4-dithiane	55704-78-4
597	2,6-dimethyl-4-heptanol	2,6-dimethyl-4-heptanol	108-82-7
633	3,7-dimethyl-1,5,7-octatrien-3-ol	3,7-dimethyl-1,5,7-octatrien-3-ol	20053-88-7 29957-43-5 53834-70-1 54831-37-7
637	2,6-dimethyl-2-heptanol	2,6-dimethyl-2-heptanol	13254-34-7
645	3,6-dimethyl-3-octanol	3,6-dimethyl-3-octanol	151-19-9
646	2,4-dimethyl-3-pentanol	2,4-dimethyl-3-pentanol	600-36-2
649	2,4-dimethyl-4-nonanol	2,4-dimethyl-4-nonanol	74356-31-3
699	2-dodecanol	2-dodecanol	10203-28-8
700	dodecanol	dodecanol	112-53-8
705	2-dodecenol	2-dodecenol	22104-81-0
717	elemol	elemol	639-99-6
906	2-ethylbutanol	2-ethylbutanol	97-95-0
915	2-ethylfenchol	2-ethylfenchol	18368-91-7
922	2-ethylhexanol	2-ethylhexanol	104-76-7
948	farnesol	farnesol	4602-84-0
954	fenchyl alcohol	fenchyl alcohol	512-13-0 1632-73-1 14575-74-7
1008	geranylinalool	geranylinalool	1113-21-9
1024	heptadecanol	heptadecanol	1454-85-9

Table 2. Group 7 - Aliphatic Higher Alcohols

SEQ	Compound	Synonym or Old name	CAS
1035	heptanal glyceryl acetal	heptanal glyceryl acetal	1708-35-6 72854-42-3
1038	2-heptanol	2-heptanol	543-49-7
1039	3-heptanol	3-heptanol	589-82-2
1040	4-heptanol	4-heptanol	589-55-9
1041	heptanol	heptanol	111-70-6
1043	1-hepten-3-ol	1-hepten-3-ol	4938-52-7
1050	2-heptenol	2-heptenol	22104-77-4 33467-76-4
1051	3-heptenol	3-heptenol	10606-47-0
1052	cis-4-heptenol	cis-4-heptenol	6191-71-5
1076	hexadecanol	hexadecanol	36653-82-4
1079	2,4-hexadienol	2,4-hexadienol	111-28-4
1095	hexanal glyceryl acetal	hexanal glyceryl acetal	4379-20-8
1100	2-hexanol	2-hexanol	626-93-7
1101	3-hexanol	3-hexanol	623-37-0
1102	hexanol	hexanol	111-27-3
1103	4-hexenol	4-hexenol	6126-50-7
1105	1-hexen-3-ol	1-hexen-3-ol	4798-44-1
1117	trans-2-hexenal glyceryl acetal	trans-2-hexenal glyceryl acetal	214220-85-6 897630-96-5 897672-50-3 897672-51-4
1122	2-hexenol	2-hexenol	2305-21-7
1123	3-hexenol	3-hexenol	544-12-7
1124	cis-2-hexenol	cis-2-hexenol	928-94-9
1125	cis-3-hexenol	cis-3-hexenol	928-96-1
1126	cis-4-hexenol	cis-4-hexenol	928-91-6
1127	trans-2-hexenol	trans-2-hexenol	928-95-0
1128	trans-3-hexenol	trans-3-hexenol	928-97-2
1129	trans-4-hexenol	trans-4-hexenol	928-92-7
1268	hydroxycitronellal diethyl acetal	hydroxycitronellal diethyl acetal	7779-94-4
1272	hydroxycitronellol	hydroxycitronellol	107-74-4
1279	alpha-ionol	alpha-ionol	25312-34-9
1280	beta-ionol	beta-ionol	22029-76-1
1321	isoborneol	isoborneol	124-76-5
1380	isodihydrocarveol	isodihydrocarveol	18675-35-9
1387	isogeraniol	isogeraniol	
1398	isophytol	isophytol	505-32-8
1442	isopulegol	isopulegol	89-79-2 50373-36-9
1449	isovaleraldehyde glyceryl acetal	isovaleraldehyde glyceryl acetal	54355-74-7 896447-14-6
1459	lavandulol	lavandulol	498-16-8 58461-27-1
1469	8-p-menthene-1,2-diol	8-p-menthene-1,2-diol	1946-00-5
1472	linalool oxide	linalool oxide	1365-19-1 5989-33-3 34995-77-2 60047-17-8
1499	2-p-menthen-1-ol	2-p-menthen-1-ol	619-62-5
1501	2,8-p-menthadien-1-ol	2,8-p-menthadien-1-ol	22771-44-4
1502	1,8-p-menthadien-4-ol	1,8-p-menthadien-4-ol	3419-02-1 28342-82-7
1503	1,8(10)-p-menthadien-9-ol	menthadienol	3269-90-7

Table 2. Group 7 - Aliphatic Higher Alcohols

SEQ	Compound	Synonym or Old name	CAS
1504	p-menthan-2-ol	p-menthan-2-ol	499-69-4 60320-28-7
1506	p-menthan-7-ol	p-menthan-7-ol	5502-75-0
1507	p-menthan-8-ol	p-menthan-8-ol	498-81-7
1509	8-p-menthen-7-ol	8-p-menthen-7-ol	18479-64-6
1515	3-(menthoxy)-1,2-propanediol	3-(menthoxy)-1,2-propanediol	87061-04-9
1744	3-methyl-2-pentanol	3-methyl-2-pentanol	565-60-6
1745	4-methyl-2-pentanol	4-methyl-2-pentanol	108-11-2
1769	6-methyl-3-heptanol	6-methyl-3-heptanol	18720-66-6
1770	5-methyl-3-heptanol	5-methyl-3-heptanol	18720-65-5
1772	2-methyl-3-hexanol	2-methyl-3-hexanol	617-29-8
1775	3-methyl-3-pentanol	3-methyl-3-pentanol	77-74-7
1783	6-methyl-5-hepten-2-ol	6-methyl-5-hepten-2-ol	1569-60-4
1784	2-methyl-5-hepten-2-ol	2-methyl-5-hepten-2-ol	
1845	5-methylhexanol	5-methylhexanol	627-98-5
1854	2-methylpentanol	2-methylpentanol	105-30-6
1855	3-methylpentanol	3-methylpentanol	589-35-5
1856	4-methylpentanol	4-methylpentanol	626-89-1
1880	3-(methylthio)hexanol	3-(methylthio)hexanol	51755-66-9
1904	myrcenol	myrcenol	543-39-5
1909	myrtenol	myrtenol	515-00-4
1917	neodihydrocarveol	neodihydrocarveol	18675-34-8
1919	d-neomenthol	d-neomenthol	2216-52-6
1920	neomenthol	neomenthol	491-01-0
1923	nerol	nerol	106-25-2
1925	cis-nerolidol	cis-nerolidol	142-50-7 3790-78-1
1926	trans-nerolidol	trans-nerolidol	40716-66-3
1927	nerolidol	nerolidol	7212-44-4
1947	2,4-nonadienol	2,4-nonadienol	62488-56-6
1948	3,6-nonadienol	3,6-nonadienol	76649-25-7
1949	trans,cis-2,6-nonadienol	trans,cis-2,6-nonadienol	28069-72-9
1950	nonadienol	nonadienol	7786-44-9 63450-36-2
1961	nonanol	nonanol	143-08-8
1962	2-nonanol	2-nonanol	628-99-9
1963	3-nonanol	3-nonanol	624-51-1
1966	1-nonen-3-ol	1-nonen-3-ol	21964-44-3
1974	3-nonenol	3-nonenol	10340-23-5
1975	6-nonenol	6-nonenol	35854-86-5
1976	cis-2-nonenol	cis-2-nonenol	41453-56-9
1977	trans-2-nonenol	trans-2-nonenol	31502-14-4
1997	2,6-dimethyl-5,7-octadien-2-ol	2,6-dimethyl-5,7-octadien-2-ol	5986-38-9
1998	1,5-octadien-3-ol	1,5-octadien-3-ol	83861-74-9
2000	octadecanol	octadecanol	112-92-5
2007	3,5-octadienol	3,5-octadienol	70664-96-9
2017	1,3-octanediol	1,3-octanediol	23433-05-8
2020	2-octanol	2-octanol	123-96-6
2021	3-octanol	3-octanol	589-98-0
2022	octanol	octanol	111-87-5
2024	1-octen-3-ol	1-octen-3-ol	3391-86-4
2029	2-octen-4-ol	2-octen-4-ol	4798-61-2
2037	2-octenol	2-octenol	22104-78-5
2038	3-octenol	3-octenol	18185-81-4 20125-84-2
2039	cis-5-octenol	cis-5-octenol	64275-73-6

Table 2. Group 7 - Aliphatic Higher Alcohols

SEQ	Compound	Synonym or Old name	CAS
2066	cis-9-octadecenol	cis-9-octadecenol	143-28-2
2077	pentadecanol	pentadecanol	629-76-5
2093	perilla alcohol	perilla alcohol	536-59-4
2173	phytol	phytol	150-86-7
2179	pinocarveol	pinocarveol	5947-36-4
2181	piperitol	piperitol	491-04-3
2270	rhodinol	rhodinol	6812-78-8
2285	alpha-santalol	alpha-santalol	115-71-9
2288	sclareol	sclareol	515-03-7
2319	1-terpineol	1-terpineol	586-82-3
2320	4-terpineol	4-terpineol	562-74-3 2438-10-0 20126-76-5
2321	alpha-terpineol	alpha-terpineol	98-55-5 2438-12-2 7785-53-7 10482-56-1
2322	beta-terpineol	beta-terpineol	138-87-4
2340	4-tert-butylcyclohexanol	4-tert-butylcyclohexanol	98-52-2
2346	tetradecanol	tetradecanol	112-72-1
2350	tetrahydrocuminol	tetrahydrocuminol	5502-72-7
2359	3,7-dimethyloctanol	3,7-dimethyloctanol	106-21-8
2362	3,7-dimethyl-3-octanol	3,7-dimethyl-3-octanol	78-69-3
2363	2,6-dimethyl-2-octanol	2,6-dimethyl-2-octanol	18479-57-7
2388	3-thujanol	3-thujanol	3284-85-3 21653-20-3 35732-37-7
2389	sabinene hydrate	sabinene hydrate	546-79-2
2410	tridecanol	tridecanol	112-70-9
2414	2-tridecenol	2-tridecenol	68480-25-1
2426	3,3,5-trimethylcyclohexanol	3,3,5-trimethylcyclohexanol	116-02-9
2437	3,5,5-trimethylhexanol	3,5,5-trimethylhexanol	3452-97-9
2450	2,4-undecadienol	2,4-undecadienol	59376-58-8
2459	2-undecanol	2-undecanol	1653-30-1
2460	undecanol	undecanol	112-42-5
2462	cis,cis-1,5,8-undecatrien-3-ol	cis,cis-1,5,8-undecatrien-3-ol	35389-48-1
2471	10-undecenol	10-undecenol	112-43-6
2472	2-undecenol	2-undecenol	37617-03-1
2499	verbenol	verbenol	473-67-6
2502	vetiverol	vetiverol	89-88-3 68129-81-7
2507	viridiflorol	viridiflorol	552-02-3
2536	3-(l-menthoxy)-2-methylpropane-1,2-diol	3-(l-menthoxy)-2-methylpropane-1,2-diol	195863-84-4
2542	citral glyceryl acetal	citral glyceryl acetal	5694-82-6
2556	menthone 1,2-glyceryl acetal	menthone 1,2-glyceryl acetal	63187-91-7
2796	1-p-menthen-9-ol	1-p-menthen-9-ol	18479-68-0
2797	1,2-dihydrolimonen-10-ol	1,2-dihydrolimonen-10-ol	5502-99-8
2798	2,3,4-trimethyl-3-pentanol	2,3,4-trimethyl-3-pentanol	3054-92-0
2799	2,4-dimethylcyclohexylmethan ol	2,4-dimethylcyclohexylmethan ol	68480-15-9
2800	2-methyl-1-hepten-3-ol	2-methyl-1-hepten-3-ol	
2801	2-tert-butylcyclohexanol	2-tert-butylcyclohexanol	13491-79-7
2802	3-ethyl-3-octanol	3-ethyl-3-octanol	2051-32-3
2803	4-isopropylcyclohexanol	4-isopropylcyclohexanol	4621-04-9
2804	5-hexenol	5-hexenol	821-41-0
2805	5-octene-1,3-diol	5-octene-1,3-diol	

Table 2. Group 7 - Aliphatic Higher Alcohols

SEQ	Compound	Synonym or Old name	CAS
2806	6-hydroxydihydrotheaspirane	6-hydroxydihydrotheaspirane	57967-68-7 65620-50-0
2807	8-ethyl-1,5-dimethylbicyclo[3.2.1]octan-8-ol	8-ethyl-1,5-dimethylbicyclo[3.2.1]octan-8-ol	84681-92-5
2808	cis-3-heptenol	cis-3-heptenol	1708-81-2
2809	cis-4-octenol	cis-4-octenol	54393-36-1
2810	cyclododecanol	cyclododecanol	1724-39-6
2811	d-limonen-10-ol	d-limonen-10-ol	38142-45-9
2812	d-trans,cis-1(7),8-p-menthadien-2-ol	d-trans,cis-1(7),8-p-menthadien-2-ol	22626-43-3
2813	3,7-dimethyl-1,6- nonadien-3-ol	3,7-dimethyl-1,6- nonadien-3-ol	10339-55-6
2814	linalool oxide (pyranoid)	linalool oxide (pyranoid)	14049-11-7
2815	l-trans-2-p-menthenol	l-trans-2-p-menthenol	53399-74-9
2816	nerolidol oxide	nerolidol oxide	1424-83-5
2817	nootkatol	nootkatol	
2818	p-menthane-3,8-diol	p-menthane-3,8-diol	42822-86-6
2819	santalol	santalol	77-42-9 11031-45-1
2820	tetrahydronootkatol	tetrahydronootkatol	
2927	2,3-dihydrofarnesol		51411-24-6
2929	eudesmol		473-15-4 473-16-5 1209-71-8 51317-08-9
3007	2-(l-menthoxy)ethanol		38618-23-4
3037	4,8-dimethyl-3,7-nonadien-2-ol		67845-50-5
3041	dihydroterpineol		21129-27-1
3044	1-p-menthen-7-ol		
3060	4,8a-dimethyloctahydro-4a(2H)-naphthol		19700-21-1 23333-91-7
3071	trans-4-tert-butylcyclohexanol		21862-63-5
3075	2,4,8-trimethyl-7-nonen-2-ol		437770-28-0

Flavorings used for food in Japan: The result of investigation by Japan Flavor & Fragrance Materials Association in 2013.

List of flavouring substances used in Japan

Table 2. Group 8 - Aliphatic Higher Aldehydes (except for those generally recognized as toxic)

SEQ	Compound	Synonym or Old name	CAS
335	campholenic aldehyde	campholenic aldehyde	4501-58-0 91819-58-8
414	citronellyloxyacetaldehyde	citronellyloxyacetaldehyde	7492-67-3
435	cyclocitral	cyclocitral	432-25-7 52844-21-0
486	2,4-decadienal	2,4-decadienal	2363-88-4
487	trans,trans-2,4-decadienal	trans,trans-2,4-decadienal	25152-84-5
502	2-decenal	2-decenal	3913-71-1
503	4-decenal	4-decenal	30390-50-2
504	9-decenal	9-decenal	39770-05-3
505	cis-4-decenal	cis-4-decenal	21662-09-9
506	trans-2-decenal	trans-2-decenal	3913-81-3
507	trans-4-decenal	trans-4-decenal	65405-70-1
508	cis-7-decenal	cis-7-decenal	21661-97-2
665	2,6-dimethyloctanal	2,6-dimethyloctanal	7779-07-9
670	dimethylcyclohexenylcarbaldehyde	dimethylcyclohexenylcarbaldehyde	68737-61-1
690	2,4-dodecadienal	2,4-dodecadienal	13162-47-5 21662-15-7 21662-16-8
691	2,6-dodecadienal	2,6-dodecadienal	21662-13-5
694	dodecanal	dodecanal	112-54-9
701	2-dodecenal	2-dodecenal	4826-62-4
702	trans-2-dodecenal	trans-2-dodecenal	20407-84-5
895	2-ethyl-2-hexenal	2-ethyl-2-hexenal	645-62-5
905	2-ethylbutanal	2-ethylbutanal	97-96-1
909	3,7-dimethyl-2,6-nonadienal	3,7-dimethyl-2,6-nonadienal	41448-29-7
910	2-ethyl-2-butenal	2-ethyl-2-butenal	19780-25-7
917	2-ethylhexanal	2-ethylhexanal	123-05-7
992	geranial	geranial	141-27-5
995	geranoxyacetaldehyde	geranoxyacetaldehyde	65405-73-4
1026	trans,trans-2,4-heptadienal	trans,trans-2,4-heptadienal	4313-03-5
1027	2,4-heptadienal	2,4-heptadienal	5910-85-0
1030	heptanal	heptanal	111-71-7
1044	2-heptenal	2-heptenal	2463-63-0
1045	cis-4-heptenal	cis-4-heptenal	6728-31-0
1046	trans-2-heptenal	trans-2-heptenal	18829-55-5
1047	trans-4-heptenal	trans-4-heptenal	929-22-6
1074	hexadecanal	hexadecanal	629-80-1
1080	trans,trans-2,4-hexadienal	trans,trans-2,4-hexadienal	142-83-6
1087	hexanal	hexanal	66-25-1
1108	2-hexenal	2-hexenal	505-57-7
1109	3-hexenal	3-hexenal	4440-65-7
1110	cis-3-hexenal	cis-3-hexenal	6789-80-6
1111	trans-2-hexenal	trans-2-hexenal	6728-26-3
1112	trans-3-hexenal	trans-3-hexenal	69112-21-6
1224	2-butyl-2-octenal	2-butyl-2-octenal	13019-16-4
1228	(2,6,6-trimethyl-1-cyclohexenyl)acetaldehyde	2,6,6-trimethyl-1-cyclohexene-1-acetaldehyde	472-66-2
1253	4-(4-hydroxy-4-methylpentyl)-3-cyclohexenylcarbaldehyde	4-(4-hydroxy-4-methylpentyl)-3-cyclohexenylcarbaldehyde	31906-04-4
1378	isocyclocitral	isocyclocitral	1335-66-6
1389	1-(4-methyl-3-pentenyl)-1-cyclohexenyl-4-carbaldehyde	1-(4-methyl-3-pentenyl)-1-cyclohexenyl-4-carbaldehyde	37677-14-8
1435	2-isopropyl-5-methyl-2-hexenal	2-isopropyl-5-methyl-2-hexenal	35158-25-9
1498	2,6-dimethyl-5-heptenal	2,6-dimethyl-5-heptenal	106-72-9

Table 2. Group 8 - Aliphatic Higher Aldehydes (except for those generally recognized as toxic)

SEQ	Compound	Synonym or Old name	CAS
1500	1,3-p-menthadien-7-al	1,3-p-menthadien-7-al	1197-15-5
1568	7-methoxy-3,7-dimethyloctanal	7-methoxy-3,7-dimethyloctanal	3613-30-7
1660	alpha-methyl ional	alpha-methyl ional	58102-02-6
1740	4-methyl-2- [(methylthio)methyl]-2-hexenal	4-methyl-2- [(methylthio)methyl]-2-hexenal	99910-84-6
1741	5-methyl-2- [(methylthio)methyl]-2-hexenal	5-methyl-2- [(methylthio)methyl]-2-hexenal	85407-25-6
1742	4-methyl-2-[(methylthio)methyl]-2-pentenal	4-methyl-2-[(methylthio)methyl]-2-pentenal	40878-73-7
1747	2-methyl-2-pentenal	2-methyl-2-pentenal	623-36-9
1748	4-methyl-2-pentenal	4-methyl-2-pentenal	5362-56-1
1829	2-methyldecanal	2-methyldecanal	19009-56-4
1851	2-methyloctanal	2-methyloctanal	7786-29-0
1853	2-methylpentanal	2-methylpentanal	123-15-9
1884	2-[(methylthio)methyl]-2-butenal	2-[(methylthio)methyl]-2-butenal	40878-72-6
1894	12-methyltridecanal	12-methyltridecanal	75853-49-5
1895	2-methylundecanal	2-methylundecanal	110-41-8
1908	myrtenal	myrtenal	564-94-3
1922	neral	neral	106-26-3
1941	2,4-nonadienal	2,4-nonadienal	6750-03-4
1942	2,6-nonadienal	2,6-nonadienal	557-48-2 26370-28-5
1943	trans,trans-2,4-nonadienal	trans,trans-2,4-nonadienal	5910-87-2
1944	trans,trans-2,6-nonadienal	trans,trans-2,6-nonadienal	17587-33-6
1945	3,6-nonadienal	3,6-nonadienal	
1954	nonanal	nonanal	124-19-6
1967	2-nonenal	2-nonenal	2463-53-8
1968	cis-6-nonenal	cis-6-nonenal	2277-19-2
1969	trans-2-nonenal	trans-2-nonenal	18829-56-6
1970	cis-3-nonenal	cis-3-nonenal	31823-43-5
2004	2,4-octadienal	2,4-octadienal	5577-44-6
2005	2,6-octadienal	2,6-octadienal	56767-18-1
2006	trans,trans-2,4-octadienal	trans,trans-2,4-octadienal	30361-28-5
2031	2-octenal	2-octenal	2363-89-5
2032	trans-2-octenal	trans-2-octenal	2548-87-0
2033	cis-3-octenal	cis-3-octenal	78693-34-2
2064	octyloxyacetaldehyde	octyloxyacetaldehyde	53488-14-5
2094	perillaldehyde	perillaldehyde	2111-75-3
2192	1-p-menthen-9-al	1-p-menthen-9-al	29548-14-9
2282	safranal	safranal	116-26-7
2290	alpha-sinensal	alpha-sinensal	4955-32-2 17909-77-2
2291	beta-sinensal	beta-sinensal	60066-88-8
2344	tetradecanal	tetradecanal	124-25-4
2407	tridecanal	tridecanal	10486-19-8
2412	2-tridecenal	2-tridecenal	7774-82-5
2413	trans-2-tridecenal	trans-2-tridecenal	7069-41-2
2424	2,6,10-trimethyl-5,9- undecadienal	2,6,10-trimethyl-5,9- undecadienal	54082-68-7
2434	3,5,5-trimethylhexanal	3,5,5-trimethylhexanal	5435-64-3
2448	2,4-undecadienal	2,4-undecadienal	13162-46-4
2449	trans,trans-2,4- undecadienal	trans,trans-2,4- undecadienal	30361-29-6
2453	undecanal	undecanal	112-44-7
2464	10-undecenal	10-undecenal	112-45-8
2465	2-undecenal	2-undecenal	2463-77-6
2466	trans-2-undecenal	trans-2-undecenal	53448-07-0
2822	1,2-dihydroperillaldehyde	1,2-dihydroperillaldehyde	22451-49-6 22451-50-9 137886-38-5

Table 2. Group 8 - Aliphatic Higher Aldehydes (except for those generally recognized as toxic)

SEQ	Compound	Synonym or Old name	CAS
2823	2-(5-ethenyl-5-methyltetrahydrofuran-2-yl) propanal	2-(5-ethenyl-5-methyltetrahydrofuran-2-yl) propanal	51685-39-3 67920-63-2
2824	2,3-epoxyoctanal	2,3-epoxyoctanal	42134-50-9 51007-38-6
2825	2,4-dimethyl-3-cyclohexenylcarbaldehyde	2,4-dimethyl-3-cyclohexenylcarbaldehyde	68039-49-6
2826	2,6,10-trimethyl-9- undecenal	2,6,10-trimethyl-9- undecenal	141-13-9
2827	5-(methylthio)-2- [(methylthio)methyl]-2-pentenal	5-(methylthio)-2- [(methylthio)methyl]-2-pentenal	59902-01-1
2828	2-ethylidenehexanal	2-ethylidenehexanal	25409-08-9
2829	3,6-dimethyl-3-cyclohexenylcarbaldehyde	3,6-dimethyl-3-cyclohexenylcarbaldehyde	67801-65-4
2830	3,7-dimethyloctanal	3,7-dimethyloctanal	5988-91-0
2831	3-(methylthio)hexanal	3-(methylthio)hexanal	38433-74-8
2832	dihydroperillaldehyde	dihydroperillaldehyde	
2833	cis-4-hexenal	cis-4-hexenal	4634-89-3
2834	dimethyl-3-cyclohexenylcarbaldehyde	dimethyl-3-cyclohexenylcarbaldehyde	27939-60-2
2835	trans-2-methyl-6-methylene-2,7-octadienal	trans-2-methyl-6-methylene-2,7-octadienal	17015-30-4
2928	4,5-epoxy-trans-2-decenal		188590-62-7
2935	cis,cis-4,7-tridecadienal		13552-95-9
2941	3-mercapto-2-methylpentanal		227456-28-2
2943	4-dodecenal		21944-98-9 30390-51-3
2947	cis-5-octenal		41547-22-2
2968	3-methylhexanal		19269-28-4
2973	6-methyloctanal		30689-75-9 37179-47-8 143573-37-9
2974	8-methyldecenal		86470-31-7 127793-88-8 1109228-77-4
2990	2,3-epoxyheptanal		58936-30-4
2992	6-methylheptanal		63885-09-6
2993	8-methylnonanal		3085-26-5
2998	trans,trans,cis-2,4,7-decatrienal		66642-86-2
3008	2,3-epoxydecenal		102369-06-2
3009	8-tetradecenal		169054-69-7 174155-55-6
3038	4-hexenal		2100-19-8 4634-89-3 25166-87-4
3056	trans-4-undecenal		68820-35-9
3072	3-mercaptohexanal		51755-72-7
3085	trans-6-nonenal		2277-20-5
3090	cis-8-pentadecenal		65398-36-9

Flavorings used for food in Japan: The result of investigation by Japan Flavor & Fragrance Materials Association in 2013.

List of flavouring substances used in Japan

Table 2. Group 9 - Aliphatic Higher Hydrocarbons (except for those generally recognized as toxic)

SEQ	Compound	Synonym or Old name	CAS
698	dodecane	dodecane	112-40-3
703	1-dodecene	1-dodecene	112-41-4
714	eicosane	eicosane	112-95-8
1824	4-methyl-cis-2-pentene	4-methyl-cis-2-pentene	691-38-3
1971	1-nonene	1-nonene	124-11-8
2075	pentadecane	pentadecane	629-62-9
2345	tetradecane	tetradecane	629-59-4
2367	2,6,10,14-tetramethylpentadecane	2,6,10,14-tetramethylpentadecane	1921-70-6
2457	undecane	undecane	1120-21-4
2461	1,3,5,7-undecatetraene	1,3,5,7-undecatetraene	116963-97-4
2463	1,3,5-undecatriene	1,3,5-undecatriene	16356-11-9
2469	2-undecene	2-undecene	2244-02-2
2836	cyclohexane	cyclohexane	110-82-7
2837	decane	decane	124-18-5
2838	heptadecane	heptadecane	629-78-7
2839	hexadecane	hexadecane	544-76-3
2840	octane	octane	111-65-9
2841	nonane	nonane	111-84-2
2842	tridecane	tridecane	629-50-5

Flavorings used for food in Japan: The result of investigation by Japan Flavor & Fragrance Materials Association in 2013.

List of flavouring substances used in Japan

Table 2. Group 10 - Thioethers (except for those generally recognized as toxic)

SEQ	Compound	Synonym or Old name	CAS
18	acetaldehyde difurfuryl thioacetal	acetaldehyde difurfuryl thioacetal	
115	allyl methyl disulfide	allyl methyl disulfide	2179-58-0
116	allyl methyl sulfide	allyl methyl sulfide	10152-76-8
117	allyl methyl trisulfide	allyl methyl trisulfide	34135-85-8
124	allyl propyl disulfide	allyl propyl disulfide	2179-59-1
125	allyl propyl sulfide	allyl propyl sulfide	27817-67-0
126	allyl propyl trisulfide	allyl propyl trisulfide	33922-73-5
210	benzothiazole	benzothiazole	95-16-9
234	benzyl methyl disulfide	benzyl methyl disulfide	699-10-5
236	benzyl methyl sulfide	benzyl methyl sulfide	766-92-7
246	bis(2-methyl-3-furyl)disulfide	bis(2-methyl-3-furyl)disulfide	28588-75-2
247	3,5-bis(2-methyltetrahydrofuryl-3)spiro-1,2,4-trithiolane	3,5-bis(2-methyltetrahydrofuryl-3)spiro-1,2,4-trithiolane	
309	butyl propyl disulfide	butyl propyl disulfide	72437-64-0
318	2-butyl-4,5-dimethylthiazole	2-butyl-4,5-dimethylthiazole	76572-48-0
326	2-sec-butylthiazole	2-sec-butylthiazole	18277-27-5
327	2-butylthiophene	2-butylthiophene	1455-20-5
328	butanal dibenzyl thioacetal	butanal dibenzyl thioacetal	101780-73-8
534	diallyl disulfide	diallyl disulfide	2179-57-9
535	diallyl polysulfides	diallyl polysulfides	72869-75-1
536	diallyl sulfide	diallyl sulfide	592-88-1
537	dibenzyl disulfide	dibenzyl disulfide	150-60-7
543	dibutyl sulfide	dibutyl sulfide	544-40-1
544	dicyclohexyl disulfide	dicyclohexyl disulfide	2550-40-5
547	diethyl disulfide	diethyl disulfide	110-81-6
556	diethyl sulfide	diethyl sulfide	352-93-2
559	difurfuryl disulfide	difurfuryl disulfide	4437-20-1
561	difurfuryl sulfide	difurfuryl sulfide	13678-67-6
593	diisoamyl disulfide	diisoamyl disulfide	2051-04-9
599	diisopropyl disulfide	diisopropyl disulfide	4253-89-8
601	diisopropyl sulfide	diisopropyl sulfide	625-80-9
625	dimethyl sulfide	dimethyl sulfide	75-18-3
627	dimethyl tetrasulfide	dimethyl tetrasulfide	5756-24-1
628	dimethyl trisulfide	dimethyl trisulfide	3658-80-8
629	3,5-dimethyl-1,2,4-trithiolane	3,5-dimethyl-1,2,4-trithiolane	23654-92-4
634	2,5-epoxy-2,5-dimethyl-1,4-dithiane	2,5-epoxy-2,5-dimethyl-1,4-dithiane	
636	2-ethyl-4,5-dimethylthiazole	2-ethyl-4,5-dimethylthiazole	873-64-3
639	2-isobutyl-4,5-dimethyl-3-thiazoline	2-isobutyl-4,5-dimethyl-3-thiazoline	65894-83-9
642	4,5-dimethyl-2-propylthiazole	4,5-dimethyl-2-propylthiazole	41981-72-0
672	2,4-dimethylthiazole	2,4-dimethylthiazole	541-58-2
673	2,5-dimethylthiazole	2,5-dimethylthiazole	4175-66-0
674	4,5-dimethylthiazole	4,5-dimethylthiazole	3581-91-7
675	2,5-dimethylthiophene	2,5-dimethylthiophene	638-02-8
676	3,4-dimethylthiophene	3,4-dimethylthiophene	632-15-5
677	dinonyl sulfide	dinonyl sulfide	929-98-6
679	bis(2-methylphenyl)disulfide	bis(2-methylphenyl)disulfide	4032-80-8
684	dipropyl polysulfides	dipropyl polysulfides	72869-76-2
686	dipropyl sulfide	dipropyl sulfide	111-47-7
687	dipropyl trisulfide	dipropyl trisulfide	6028-61-1
688	di-tert-amyl disulfide	di-tert-amyl disulfide	34965-30-5
689	di-2-thienyl disulfide	di-2-thienyl disulfide	6911-51-9
733	2-ethoxythiazole	2-ethoxythiazole	15679-19-3
757	ethyl 2-hydroxyethyl sulfide	ethyl 2-hydroxyethyl sulfide	110-77-0
792	2-ethyl-4-methylthiazole	2-ethyl-4-methylthiazole	15679-12-6
868	ethyl 1-propenyl sulfide	ethyl 1-propenyl sulfide	36784-55-1

Table 2. Group 10 - Thioethers (except for those generally recognized as toxic)

SEQ	Compound	Synonym or Old name	CAS
901	5-ethyl-4-methylthiazole	5-ethyl-4-methylthiazole	31883-01-9
903	4-ethyl-5-methylthiazole	4-ethyl-5-methylthiazole	52414-91-2
934	2-ethylthiazole	2-ethylthiazole	15679-09-1
936	2-ethylthiophene	2-ethylthiophene	872-55-9
957	2,4-dithiapentane	2,4-dithiapentane	1618-26-4
974	furfuryl isopropyl sulfide	furfuryl isopropyl sulfide	1883-78-9
979	furfuryl methyl sulfide	furfuryl methyl sulfide	1438-91-1
1226	2-hexylthiophene	2-hexylthiophene	18794-77-9
1371	2-isobutyl-4,5-dimethylthiazole	2-isobutyl-4,5-dimethylthiazole	53498-32-1
1372	2-isobutyl-4-methylthiazole	2-isobutyl-4-methylthiazole	61323-24-8
1373	2-isobutyl-5-methylthiazole	2-isobutyl-5-methylthiazole	72611-71-3
1375	2-isobutylthiazole	2-isobutylthiazole	18640-74-9
1434	2-isopropyl-4-methylthiazole	2-isopropyl-4-methylthiazole	15679-13-7
1461	lenthionine	lenthionine	292-46-6
1550	methional	methional	3268-49-3
1551	methional diethyl acetal	methional diethyl acetal	16630-61-8
1552	methional glyceryl acetal	methional glyceryl acetal	
1553	methional propyleneglycol acetal	methional propyleneglycol acetal	59007-89-5
1554	methionol	methionol	505-10-2
1580	methyl 1-propenyl sulfide	methyl 1-propenyl sulfide	10152-77-9
1590	methyl 2-methyl-3-furyl disulfide	methyl 2-methyl-3-furyl disulfide	65505-17-1
1621	methyl 5-methyl-2-furyl sulfide	methyl 5-methyl-2-furyl sulfide	13678-59-6
1622	methyl 5-methylfurfuryl disulfide	methyl 5-methylfurfuryl disulfide	78818-78-7
1635	butyl methyl sulfide	butyl methyl sulfide	628-29-5
1646	dimethyl disulfide	dimethyl disulfide	624-92-0
1647	ethyl methyl disulfide	ethyl methyl disulfide	20333-39-5
1649	ethyl methyl sulfide	ethyl methyl sulfide	624-89-5
1651	furfuryl methyl disulfide	furfuryl methyl disulfide	57500-00-2
1695	methyl octyl sulfide	methyl octyl sulfide	3698-95-1
1697	methyl 2-methylphenyl disulfide	methyl 2-methylphenyl disulfide	35379-09-0
1701	methyl phenyl disulfide	methyl phenyl disulfide	14173-25-2
1708	methyl propyl disulfide	methyl propyl disulfide	2179-60-4
1710	methyl propyl sulfide	methyl propyl sulfide	3877-15-4
1711	methyl propyl trisulfide	methyl propyl trisulfide	17619-36-2
1755	2-methyl-2-thiazoline	2-methyl-2-thiazoline	2346-00-1
1761	2-(furfurylthio)-(3or5or6)-methylpyrazine	2-(furfurylthio)-(3or5or6)-methylpyrazine	65530-53-2 59303-07-0
1762	2-methyl-(3or5or6)-(methylthio)pyrazine	2-methyl-(3or5or6)-(methylthio)pyrazine	2882-20-4 2884-13-1 2884-14-2 67952-65-2 68378-12-1
1768	2-methyl-3-furyl 2-methyl-3-tetrahydrofuryl disulfide	2-methyl-3-furyl 2-methyl-3-tetrahydrofuryl disulfide	252736-40-6
1774	methyl 2-methyl-3-furyl sulfide	methyl 2-methyl-3-furyl sulfide	63012-97-5
1781	2-methyl-4-propyl-1,3-oxathiane	2-methyl-4-propyl-1,3-oxathiane	67715-80-4
1782	2-methyl-5,7-dihydrothieno[3,4-d]pyrimidine	5,7-dihydro-2-methylthieno[3,4-d]pyrimidine	36267-71-7
1786	5-ethenyl-4-methylthiazole	5-ethenyl-4-methylthiazole	1759-28-0
1866	2-methylthiazole	2-methylthiazole	3581-87-1
1867	4-methylthiazole	4-methylthiazole	693-95-8
1868	5-methylthiazole	5-methylthiazole	3581-89-3
1869	2-methylthiazolidine	2-methylthiazolidine	24050-16-6
1873	2-ethyl-3-(methylthio)pyrazine	2-ethyl-3-(methylthio)pyrazine	72987-62-3
1876	3-(methylthio)butanal	3-(methylthio)butanal	16630-52-7
1877	4-(methylthio)butanol	4-(methylthio)butanol	20582-85-8
1879	2-(methylthio)ethanol	2-(methylthio)ethanol	5271-38-5

Table 2. Group 10 - Thioethers (except for those generally recognized as toxic)

SEQ	Compound	Synonym or Old name	CAS
1885	2-methylthiophene	2-methylthiophene	554-14-3
1886	3-methylthiophene	3-methylthiophene	616-44-4
1892	3-(methylthio)propylamine	3-(methylthio)propylamine	4104-45-4
1893	(methylthio)pyrazine	(methylthio)pyrazine	21948-70-9
2092	2-pentylthiophene	2-pentylthiophene	4861-58-9
2136	diphenyl disulfide	diphenyl disulfide	882-33-7
2197	1-propenyl propyl disulfide	1-propenyl propyl disulfide	5905-46-4
2198	1-propenyl propyl sulfide	1-propenyl propyl sulfide	33922-70-2
2222	dipropyl disulfide	dipropyl disulfide	629-19-6
2258	2-propylthiazole	2-propylthiazole	17626-75-4
2259	2-propylthiazolidine	2-propylthiazolidine	24050-10-0
2295	spiro[2,4-dithia-1-methyl-8-oxa-bicyclo[3.3.0]octane-3,3'-(1'-oxa-2'-methyl)cyclopentane] and spiro[dithia-6-methyl-7-oxa-bicyclo[3.3.0]octane-3,3'-(1'-oxa-2'-methyl)cyclopentane]	spiro[2,4-dithia-1-methyl-8-oxa-bicyclo[3.3.0]octane-3,3'-(1'-oxa-2'-methyl)cyclopentane] and spiro[dithia-6-methyl-7-oxa-bicyclo[3.3.0]octane-3,3'-(1'-oxa-2'-methyl)cyclopentane]	38325-25-6 38325-26-7
2365	thiolane	thiolane	110-01-0
2372	thiazole	thiazole	288-47-1
2373	thiazolidine-2,4-dione	thiazolidine-2,4-dione	2295-31-0
2377	methyl phenyl sulfide	methyl phenyl sulfide	100-68-5
2384	thiophene	thiophene	110-02-1
2417	2,4,6-trimethyl-5,6-dihydro-1,3,5-dithiazine	5,6-dihydro-2,4,6-trimethyl-1,3,5-dithiazine	638-17-5
2425	2,8-epithio-p-menthane	2,8-epithio-p-menthane	68398-18-5
2443	2,4,5-trimethylthiazole	2,4,5-trimethylthiazole	13623-11-5
2444	2,2,4,4,6,6-hexamethyl-1,3,5-trithiane	2,2,4,4,6,6-hexamethyl-1,3,5-trithiane	828-26-2
2445	2,3,5-trithiahexane	2,3,5-trithiahexane	42474-44-2
2446	1,2,4-trithiolane	1,2,4-trithiolane	289-16-7
2843	2-sec-butyl-4,5-dimethyl-3-thiazoline	2-sec-butyl-4,5-dimethyl-3-thiazoline	65894-82-8
2844	2-(furfurylthio)-3-methylpyrazine	2-(furfurylthio)-3-methylpyrazine	59303-07-0
2845	2-(methylthio)benzothiazole	2-(methylthio)benzothiazole	615-22-5
2846	2,4,6-triethyl-5,6-dihydro-4H-1,3,5-dithiazine	2,4,6-triethyl-5,6-dihydro-1,3,5-dithiazine	54717-17-8
2847	2-isopropyl-3-(methylthio)pyrazine	2-isopropyl-3-(methylthio)pyrazine	67952-59-4
2848	2-methyl-1,3-dithiolane	2-methyl-1,3-dithiolane	5616-51-3
2849	2-(methylthio)acetaldehyde	2-(methylthio)acetaldehyde	23328-62-3
2850	2-methylthiolane	2-methylthiolane	1795-09-1
2851	2-(methylthio)thiazole	2-(methylthio)thiazole	5053-24-7
2852	4-methyl-2-pentylthiazole	4-methyl-2-pentylthiazole	96693-92-4
2853	2-pentylthiazole	2-pentylthiazole	37645-62-8
2854	4-methyl-2-propylthiazole	4-methyl-2-propylthiazole	52414-87-6
2855	2,4,6-trimethyl-3,4,5,6-tetrahydro-2H-1,3,5-thiadiazine	3,4,5,6-tetrahydro-2,4,6-trimethyl-(2H)-1,3,5-thiadiazine	
2856	3,5-diethyl-1,2,4-trithiolane	3,5-diethyl-1,2,4-trithiolane	54644-28-9
2857	3-methyl-1,2,4-trithiane	3-methyl-1,2,4-trithiane	43040-01-3
2858	3-thienylcarboxylic acid	3-thienylcarboxylic acid	88-13-1
2859	2-ethyl-4,5-dimethyl-3-thiazoline	2-ethyl-4,5-dimethyl-3-thiazoline	76788-46-0
2860	benzothiophene	benzothiophene	95-15-8
2861	bis(2-methylbutyl) disulfide	bis(2-methylbutyl) disulfide	
2862	diallyl trisulfide	diallyl trisulfide	2050-87-5
2863	dibutyl disulfide	dibutyl disulfide	629-45-8
2864	2-methyldihydrothiazole	dihydro-2-methylthiazole	
2865	diisobutyl disulfide	diisobutyl disulfide	1518-72-5
2866	dipentyl disulfide	dipentyl disulfide	112-51-6
2867	di-sec-butyl disulfide	di-sec-butyl disulfide	5943-30-6
2868	isobutyl methyl disulfide	isobutyl methyl disulfide	67421-83-4
2869	mintsulfide	mintsulfide	72445-42-2
2926	2,4,6-trithiaheptane		6540-86-9

Table 2. Group 10 - Thioethers (except for those generally recognized as toxic)

SEQ	Compound	Synonym or Old name	CAS
2939	bis(2,5-dimethyl-3-furyl)disulfide		28588-73-0
2944	2,4,6-triisobutyl-5,6-dihydro-4H-1,3,5-dithiazine		74595-94-1
2985	2-methyl-3-furyl propyl disulfide		61197-09-9
2994	4-amino-5,6-dimethylthieno[2,3-d]-pyrimidin-2(1H)-one		121746-18-7
2997	6-methyl-2,3-dihydrothieno[2,3-c]furan		26693-24-3
3012	2,5-dihydroxy-1,4-dithiane		40018-26-6
3030	3,5-dimethyl-4,5,6,7-tetrahydrothieno[3,2-c]-pyridine		
3053	(2or4)-ethyl-(4or2),6-dimethyldihydro-1,3,5-dithiazine		54717-13-4 54717-14-5
3057	4-methyl-2-propyl-1,3-oxathiane		1064678-08-5
3063	2-ethyl-4-methyl-3-thiazoline		41803-21-8
3079	diisoamyl trisulfide		955371-64-9
3083	3,5-diisobutyl-1,2,4-trithiolane		92900-67-9
3084	methyl 1-propenyl disulfide		5905-47-5
3092	diethyl trisulfide		3600-24-6
3093	2,5-dithiahexane		6628-18-8
3097	furfuryl 2-methyl-3-furyl disulfide		109537-55-5

Flavorings used for food in Japan: The result of investigation by Japan Flavor & Fragrance Materials Association in 2013.

List of flavouring substances used in Japan

Table 2. Group 11 - Thiols (Thioalcohols) (except for those generally recognized as toxic)

SEQ	Compound	Synonym or Old name	CAS
114	2-propenethiol	2-propenethiol	870-23-5
207	benzenethiol	benzenethiol	108-98-5
233	benzenemethanethiol	benzenemethanethiol	100-53-8
261	2,3-butanedithiol	2,3-butanedithiol	4532-64-3
262	butanethiol	butanethiol	109-79-5
263	2-butanethiol	2-butanethiol	513-53-1
455	cyclohexanethiol	cyclohexanethiol	1569-69-3
471	cyclopentanethiol	cyclopentanethiol	1679-07-8
602	1,2-ethanedithiol	1,2-ethanedithiol	540-63-6
603	2,3-dimercaptopropanol	2,3-dimercaptopropanol	59-52-9
644	2,5-dimethyl-3-furanthiol	2,5-dimethyl-3-furanthiol	55764-23-3
662	3,3-dimethylbutanethiol	3,3-dimethylbutanethiol	1638-98-8
712	dodecanethiol	dodecanethiol	112-55-0
722	ethanethiol	ethanethiol	75-08-1
935	2-(ethylthio)phenol	2-(ethylthio)phenol	29549-60-8
976	2-furanmethanethiol	2-furanmethanethiol	98-02-2
1067	heptanethiol	heptanethiol	1639-09-4
1075	hexadecanethiol	hexadecanethiol	2917-26-2
1098	1,6-hexanedithiol	1,6-hexanedithiol	1191-43-1
1306	3-methylbutanethiol	3-methylbutanethiol	541-31-1
1417	2-propanethiol	2-propanethiol	75-33-2
1534	3-[(2-mercapto-1-methylpropyl)thio]-2-butanol	3-[(2-mercapto-1-methylpropyl)thio]-2-butanol	54957-02-7
1535	3-hydroxy-2-butanethiol	3-hydroxy-2-butanethiol	37887-04-0 54812-86-1
1540	2-methoxybenzenethiol	2-methoxybenzenethiol	7217-59-6
1541	2-hydroxyethanethiol	2-hydroxyethanethiol	60-24-2
1542	3-mercaptohexanol	3-mercaptohexanol	51755-83-0
1544	pyrazinylmethanethiol	pyrazinylmethanethiol	59021-02-2
1545	(2or3or10)-mercaptopinane	(2or3or10)-mercaptopinane	6588-78-9 23832-18-0 72361-41-2
1558	4-methoxy-2-methyl-2- butanethiol	4-methoxy-2-methyl-2- butanethiol	94087-83-9
1676	methanethiol	methanethiol	74-93-1
1767	2-methyl-3-furanthiol	2-methyl-3-furanthiol	28588-74-1
1777	2-methyl-3-tetrahydrofuranthiol	2-methyl-3-tetrahydrofuranthiol	57124-87-5
1778	2-methyl-4,5-dihydro-3-furanthiol	2-methyl-4,5-dihydro-3-furanthiol	26486-13-5
1801	(4-methylphenyl)methanethiol	(4-methylphenyl)methanethiol	4498-99-1
1805	3-methyl-2-butanethiol	3-methyl-2-butanethiol	2084-18-6
1806	2-methylbutanethiol	2-methylbutanethiol	1878-18-8
1862	2-methyl-2-propanethiol	2-methyl-2-propanethiol	75-66-1
1913	2-naphthalenethiol	2-naphthalenethiol	91-60-1
1959	1,9-nonanedithiol	1,9-nonanedithiol	3489-28-9
2018	1,8-octanedithiol	1,8-octanedithiol	1191-62-4
2058	octanethiol	octanethiol	111-88-6
2079	2,4,4,6,6-pentamethyl-2-heptanethiol	2,4,4,6,6-pentamethyl-2-heptanethiol	
2080	2-pentanethiol	2-pentanethiol	2084-19-7
2081	pentanethiol	pentanethiol	110-66-7
2154	2-phenylethanethiol	2-phenylethanethiol	4410-99-5
2191	1-p-menthene-8-thiol	1-p-menthen-8-thiol	71159-90-5
2196	1,2-propanedithiol	1,2-propanedithiol	814-67-5
2233	propanethiol	propanethiol	107-03-9
2263	2-pyrazinylethanethiol	2-pyrazinylethanethiol	35250-53-4
2264	2-pyridinylmethanethiol	2-pyridinylmethanethiol	2044-73-7
2334	thioterpineol	thioterpineol	68921-82-4 71159-90-5

Table 2. Group 11 - Thiols (Thioalcohols) (except for those generally recognized as toxic)

SEQ	Compound	Synonym or Old name	CAS
2371	2-thienylmethanethiol	2-thienylmethanethiol	6258-63-5
2374	2-thiophenethiol	2-thiophenethiol	7774-74-5
2375	1-(2-thienyl)ethanethiol	1-(2-thienyl)ethanethiol	94089-02-8
2378	thiogeraliol	thiogeraliol	39067-80-6
2380	thiolinalool	thiolinalool	39707-47-6
2399	2-methylbenzenethiol	2-methylbenzenethiol	137-06-4
2870	1,4-butanedithiol	1,4-butanedithiol	1191-08-8
2871	2-mercaptobenzothiazole	2-mercaptobenzothiazole	149-30-4
2872	3-[[2-methyl-(2or4),5-dihydro-3-furyl]thio]-2-methyltetrahydrofuran-3-thiol	3-[[2-(2or4),5-dihydro-2-methyl-3-furyl]thio]-2-methyltetrahydrofuran-3-thiol	38325-24-5
2873	2-thiazoline-2-thiol	2-thiazoline-2-thiol	96-53-7 134469-06-0
2874	3-mercapto-2-methylbutanol	3-mercapto-2-methylbutanol	227456-33-9
2875	3-mercapto-2-methylpentanol	3-mercapto-2-methylpentanol	227456-27-1
2876	3-mercapto-3-methylbutanol	3-mercapto-3-methylbutanol	34300-94-2
2877	4-ethoxy-2-methyl-2-butanethiol	4-ethoxy-2-methyl-2-butanethiol	
2878	ethanedithiol	ethanedithiol	26914-40-9
2879	hexanethiol	hexanethiol	111-31-9
2880	2-methylpropanethiol	2-methylpropanethiol	513-44-0
2881	mercaptoacetaldehyde diethyl acetal	mercaptoacetaldehyde diethyl acetal	
2882	3-methyl-2-butenethiol	3-methyl-2-butenethiol	5287-45-6
2883	1,1-dimethylheptanethiol	1,1-dimethylheptanethiol	25360-10-5
2884	2,6-dimethylbenzenethiol	2,6-dimethylbenzenethiol	118-72-9
2885	(S)-1-methoxy-3-heptanethiol	(S)-1-methoxy-3-heptanethiol	400052-49-5
2940	1,3-propanedithiol		109-80-8
2959	1-phenylethanethiol		6263-65-6
2960	5-methyl-2-furanmethanethiol		59303-05-8
2967	methanedithiol		6725-64-0
2975	4-mercapto-4-methyl-2-pentanol		31539-84-1
2987	bis(1-mercaptopropyl)sulfide		53897-60-2
3054	1,1-propanedithiol		88497-17-0
3062	3-pentanethiol		616-31-9
3064	3-hydroxy-2-methylbutanethiol		33959-27-2
3095	2-heptanethiol		628-00-2

Flavorings used for food in Japan: The result of investigation by Japan Flavor & Fragrance Materials Association in 2013.

List of flavouring substances used in Japan

Table 2. Group 12 - Terpenes

SEQ	Compound	Synonym or Old name	CAS
89	allo-ocimene	allo-ocimene	673-84-7
248	alpha-bisabolene	alpha-bisabolene	17627-44-0
249	bisabolene	bisabolene	495-62-5
258	beta-bourbonene	beta-bourbonene	5208-59-3
333	delta-cadinene	delta-cadinene	483-76-1
334	camphene	camphene	79-92-5 5794-03-6
340	3-carene	3-carene	13466-78-9
358	alpha-humulene	alpha-humulene	6753-98-6
359	beta-caryophyllene	beta-caryophyllene	87-44-5
365	alpha-cedrene	alpha-cedrene	469-61-4
480	p-cymene	p-cymene	99-87-6
531	1-isopropenyl-4-methylbenzene	1-isopropenyl-4-methylbenzene	1195-32-0
632	cis-3,7-dimethyl-1,3,6-octatriene	cis-3,7-dimethyl-1,3,6-octatriene	3338-55-4
715	delta-elemene	delta-elemene	20307-84-0
716	beta-elemene	beta-elemene	515-13-9 33880-83-0
945	alpha-farnesene	alpha-farnesene	502-61-4 28973-99-1 125037-13-0
946	beta-farnesene	beta-farnesene	18794-84-8 77129-48-7
947	farnesene	farnesene	
1014	germacrene D	germacrene D	23986-74-5
1020	beta-guaiene	beta-guaiene	88-84-6
1465	d-limonene	d-limonene	5989-27-5
1466	l-limonene	l-limonene	5989-54-8
1467	limonene	limonene	138-86-3
1489	longifolene	longifolene	475-20-7 19067-29-9
1903	myrcene	myrcene	123-35-3
1995	beta-ocimene	beta-ocimene	13877-91-3
2098	alpha-phellandrene	alpha-phellandrene	99-83-2
2176	alpha-pinene	alpha-pinene	80-56-8
2177	beta-pinene	beta-pinene	127-91-3
2280	sabinene	sabinene	3387-41-5
2317	alpha-terpinene	alpha-terpinene	99-86-5
2318	gamma-terpinene	gamma-terpinene	99-85-4
2325	terpinolene	terpinolene	586-62-9
2387	thujopsene	thujopsene	470-40-6
2477	valencene	valencene	4630-07-3
2886	alpha-copaene	alpha-copaene	3856-25-5
2887	isocaryophyllene	isocaryophyllene	118-65-0
2888	pinene dimer	pinene dimer	6993-66-4

Flavorings used for food in Japan: The result of investigation by Japan Flavor & Fragrance Materials Association in 2013.

List of flavouring substances used in Japan

Table 2. Group 13 - Phenol Ethers (except for those generally recognized as toxic)

SEQ	Compound	Synonym or Old name	CAS
175	trans-anethole	trans-anethole	4180-23-8
185	anisic acid	anisic acid	100-09-4
186	anisole	anisole	100-66-3
191	anisyl ethyl ether	anisyl ethyl ether	55249-73-5
223	benzyl eugenyl ether	benzyl eugenyl ether	57371-42-3
364	1,2-diethoxybenzene	1,2-diethoxybenzene	2050-46-6
425	ethyl 4-methylphenyl ether	ethyl 4-methylphenyl ether	622-60-6
605	1,3-dimethoxybenzene	1,3-dimethoxybenzene	151-10-0
606	1,4-dimethoxybenzene	1,4-dimethoxybenzene	150-78-7
608	4-ethenyl-1,2-dimethoxybenzene	4-ethenyl-1,2-dimethoxybenzene	6380-23-0
609	1,2-dimethoxy-4-methylbenzene	1,2-dimethoxy-4-methylbenzene	494-99-5
656	2,3-dimethylbenzofuran	2,3-dimethylbenzofuran	3782-00-1
680	diphenyl ether	diphenyl ether	101-84-8
721	estragole	estragole	140-67-0
724	1-ethoxy-2-methoxybenzene	1-ethoxy-2-methoxybenzene	17600-72-5
761	ethyl 2-methoxybenzyl ether	ethyl 2-methoxybenzyl ether	64988-06-3
840	ethyl isoeugenyl ether	ethyl isoeugenyl ether	7784-67-0
1339	isobutyl 2-naphthyl ether	isobutyl 2-naphthyl ether	2173-57-1
1382	amyl isoeugenyl ether	amyl isoeugenyl ether	10484-36-3
1384	benzyl isoeugenyl ether	benzyl isoeugenyl ether	120-11-6
1496	1-methoxy-3-methylbenzene	1-methoxy-3-methylbenzene	100-84-5
1570	methyl 2-naphthyl ether	methyl 2-naphthyl ether	93-04-9
1645	methylphenyl phenyl ether	methylphenyl phenyl ether	1706-12-3 3586-14-9 3991-61-5
1665	isoeugenyl methyl ether	isoeugenyl methyl ether	93-16-3
1795	1-methoxy-2-methylbenzene	1-methoxy-2-methylbenzene	578-58-5
1796	1-methoxy-4-methylbenzene	1-methoxy-4-methylbenzene	104-93-8
1831	eugenyl methyl ether	eugenyl methyl ether	93-15-2
1914	butyl 2-naphthyl ether	butyl 2-naphthyl ether	10484-56-7
1915	ethyl 2-naphthyl ether	ethyl 2-naphthyl ether	93-18-5
2215	1-methoxy-4-propylbenzene	1-methoxy-4-propylbenzene	104-45-0
2391	methyl thymol ether	methyl thymol ether	1076-56-8
2418	1,2,3-trimethoxybenzene	1,2,3-trimethoxybenzene	634-36-6
2498	1,2-dimethoxybenzene	1,2-dimethoxybenzene	91-16-7
2563	3,4-dimethoxybenzoic acid	3,4-dimethoxybenzoic acid	93-07-2
2889	1-ethenyl-4-methoxybenzene	1-ethenyl-4-methoxybenzene	637-69-4
2890	4-tert-butyl-1-methoxy-3-methylbenzene	4-tert-butyl-1-methoxy-3-methylbenzene	31268-79-8
2891	4-isopropyl-2-methoxy-1-methylbenzene	4-isopropyl-2-methoxy-1-methylbenzene	6379-73-3
2892	ethyl phenyl ether	ethyl phenyl ether	103-73-1
2949	1-methoxy-2,4-dimethylbenzene		6738-23-4
2952	piperine		94-62-2
2966	N-[(2,4-dimethoxyphenyl)methyl]-N'-[2-(2-pyridinyl)ethyl]ethanediamide		745047-53-4
2996	3-[(4-amino-2,2-dioxido-1H-2,1,3-benzothiadiazin-5-yl)oxy]-2,2-dimethyl-N-propylpropanamide		1093200-92-0
3059	(1R,2S,5R)-N-(4-methoxyphenyl)-2-isopropyl-5-methylcyclohexanecarboxamide		68489-09-8

Flavorings used for food in Japan: The result of investigation by Japan Flavor & Fragrance Materials Association in 2013.

List of flavouring substances used in Japan

Table 2. Group 14 - Phenols (except for those generally recognized as toxic)

SEQ	Compound	Synonym or Old name	CAS
132	4-allyl-2,6-dimethoxyphenol	4-allyl-2,6-dimethoxyphenol	6627-88-9
134	4-allylphenol	4-allylphenol	501-92-8
341	carvacrol	carvacrol	499-75-2
363	2-hydroxyphenol	2-hydroxyphenol	120-80-9
419	creosol	creosol	93-51-6
420	3-methylphenol	3-methylphenol	108-39-4
421	2-methylphenol	2-methylphenol	95-48-7
422	4-methylphenol	4-methylphenol	106-44-5
581	2-methoxy-4-propylphenol	2-methoxy-4-propylphenol	2785-87-7
607	2,6-dimethoxyphenol	2,6-dimethoxyphenol	91-10-1
667	2,3-dimethylphenol	2,3-dimethylphenol	526-75-0
668	2,6-dimethylphenol	2,6-dimethylphenol	576-26-1
669	3,5-dimethylphenol	3,5-dimethylphenol	108-68-9
732	4-ethoxyphenol	4-ethoxyphenol	622-62-8
914	ethyl eugenyl ether	ethyl eugenyl ether	1755-54-0
916	4-ethyl-2-methoxyphenol	4-ethyl-2-methoxyphenol	2785-89-9
931	2-ethylphenol	2-ethylphenol	90-00-6
932	3-ethylphenol	3-ethylphenol	620-17-7
933	4-ethylphenol	4-ethylphenol	123-07-9
938	ethylvanillin propyleneglycol acetal	ethylvanillin propyleneglycol acetal	68527-76-4
1017	guaiacol	guaiacol	90-05-1
1260	4-hydroxybenzoic acid	4-hydroxybenzoic acid	99-96-7
1262	4-hydroxybenzyl alcohol	4-hydroxybenzyl alcohol	623-05-2
1263	4-(ethoxymethyl)phenol	4-(ethoxymethyl)phenol	57726-26-8
1264	4-(methoxymethyl)phenol	4-(methoxymethyl)phenol	5355-17-9
1277	4-hydroxyphenethyl alcohol	4-hydroxyphenethyl alcohol	501-94-0
1440	2-isopropylphenol	2-isopropylphenol	88-69-7
1441	4-isopropylphenol	4-isopropylphenol	99-89-8
1562	3-methoxy-5-methylphenol	3-methoxy-5-methylphenol	3209-13-0
1571	3-methoxyphenol	3-methoxyphenol	150-19-6
1572	4-methoxyphenol	4-methoxyphenol	150-76-5
1703	4-(1-hydroxyethyl)phenol	4-(1-hydroxyethyl)phenol	2380-91-8
1730	2,6-dimethoxy-4-methylphenol	2,6-dimethoxy-4-methylphenol	6638-05-7
1830	3,4-methylenedioxyphenol	3,4-methylenedioxyphenol	533-31-3
1838	2-methoxy-5-methylphenol	2-methoxy-5-methylphenol	1195-09-1
1872	4-(methylthio)phenol	4-(methylthio)phenol	1073-72-9
2127	phenol	phenol	108-95-2
2257	4-propylphenol	4-propylphenol	645-56-7
2261	3,4-dihydroxybenzoic acid	3,4-dihydroxybenzoic acid	99-50-3
2269	3-hydroxyphenol	3-hydroxyphenol	108-46-3
2284	salicylic acid	salicylic acid	69-72-7
2316	4-hydroxy-3,5-dimethoxybenzoic acid	4-hydroxy-3,5-dimethoxybenzoic acid	530-57-4
2390	thymol	thymol	89-83-8
2393	2-(methylthio)phenol	2-(methylthio)phenol	1073-29-6
2487	vanillic acid	vanillic acid	121-34-6
2492	vanillin propyleneglycol acetal	vanillin propyleneglycol acetal	68527-74-2
2493	4-hydroxy-3-methoxybenzyl alcohol	4-hydroxy-3-methoxybenzyl alcohol	498-00-0
2495	4-(butoxymethyl)-2-methoxyphenol	4-(butoxymethyl)-2-methoxyphenol	82654-98-6
2496	4-(ethoxymethyl)-2-methoxyphenol	4-(ethoxymethyl)-2-methoxyphenol	13184-86-6
2497	2-ethoxy-5-(1-propenyl)phenol	2-ethoxy-5-(1-propenyl)phenol	94-86-0
2504	4-ethenyl-2-methoxyphenol	4-ethenyl-2-methoxyphenol	7786-61-0
2506	4-ethenylphenol	4-ethenylphenol	2628-17-3
2509	2,4-dimethylphenol	2,4-dimethylphenol	105-67-9
2510	2,5-dimethylphenol	2,5-dimethylphenol	95-87-4
2511	3,4-dimethylphenol	3,4-dimethylphenol	95-65-8

Table 2. Group 14 - Phenols (except for those generally recognized as toxic)

SEQ	Compound	Synonym or Old name	CAS
2714	4-tert-butylphenol	4-tert-butylphenol	98-54-4
2893	2,3,6-trimethylphenol	2,3,6-trimethylphenol	2416-94-6
2894	2-propylphenol	2-propylphenol	644-35-9
2895	3-tert-butylphenol	3-tert-butylphenol	585-34-2
2937	N-(4-hydroxy-3-methoxybenzyl)nonanamide		2444-46-4
3010	vanillin 2,3-butanediol acetal		63253-24-7
3067	2-(3-hydroxy-4-methoxyphenyl)-3,4-dihydro-2H-chromen-7-ol		76426-35-2

Flavorings used for food in Japan: The result of investigation by Japan Flavor & Fragrance Materials Association in 2013.

List of flavouring substances used in Japan

Table 2. Group 15 - Furfural and its derivatives (except for those generally recognized as toxic)

SEQ	Compound	Synonym or Old name	CAS
961	furfural	furfural	98-01-1
962	furfural diethyl acetal	furfural diethyl acetal	13529-27-6
963	furfural diisoamyl acetal	furfural diisoamyl acetal	18091-14-0
964	furfural glyceryl acetal	furfural glyceryl acetal	
965	furfural propyleneglycol acetal	furfural propyleneglycol acetal	4359-54-0
1275	5-(hydroxymethyl)-2- furfural	5-(hydroxymethyl)-2- furfural	67-47-0
1834	5-methylfurfural	5-methylfurfural	620-02-0

Flavorings used for food in Japan: The result of investigation by Japan Flavor & Fragrance Materials Association in 2013.

List of flavouring substances used in Japan

Table 2. Group 16 - Aromatic Alcohols

SEQ	Compound	Synonym or Old name	CAS
172	alpha-amylcinnamyl alcohol	alpha-amylcinnamyl alcohol	101-85-9
189	anisyl alcohol	anisyl alcohol	105-13-5
433	cuminyl alcohol	cuminyl alcohol	536-60-7
479	p-cymen-8-ol	p-cymen-8-ol	1197-01-9
529	4-isopropenylbenzyl alcohol	4-isopropenylbenzyl alcohol	
579	3-phenylpropanol	3-phenylpropanol	122-97-4
611	2,4-dimethylbenzyl alcohol	2,4-dimethylbenzyl alcohol	16308-92-2
612	2-methyl-1-phenyl-2-propanol	2-methyl-1-phenyl-2-propanol	100-86-7
659	1-(4-methylphenyl)ethanol	1-(4-methylphenyl)ethanol	536-50-5
730	2-ethoxybenzyl alcohol	2-ethoxybenzyl alcohol	71672-75-8
731	4-ethoxybenzyl alcohol	4-ethoxybenzyl alcohol	6214-44-4
968	furfuryl alcohol	furfuryl alcohol	98-00-0
1234	2-phenylpropanol	2-phenylpropanol	1123-85-9
1374	4-methyl-1-phenyl-2-pentanol	4-methyl-1-phenyl-2-pentanol	7779-78-4
1565	2-methoxybenzyl alcohol	2-methoxybenzyl alcohol	612-16-8
1574	3-(4-methoxyphenyl)propanol	3-(4-methoxyphenyl)propanol	5406-18-8
1753	4-methyl-2-phenylpentanol	4-methyl-2-phenylpentanol	38502-29-3
1780	2-methyl-4-phenyl-2- butanol	2-methyl-4-phenyl-2- butanol	103-05-9
1785	2-(hydroxymethyl)-5-methylpyrazine	2-(hydroxymethyl)-5-methylpyrazine	61892-95-3
1799	4-methylbenzyl alcohol	4-methylbenzyl alcohol	589-18-4
1835	5-methylfurfuryl alcohol	5-methylfurfuryl alcohol	3857-25-8
2103	phenethyl alcohol	phenethyl alcohol	60-12-8
2117	3-methyl-1-phenyl-3-pentanol	3-methyl-1-phenyl-3-pentanol	10415-87-9
2129	2-phenoxyethanol	2-phenoxyethanol	122-99-6
2137	1-phenylpropanol	1-phenylpropanol	93-54-9
2143	2-phenyl-2-propanol	2-phenyl-2-propanol	617-94-7
2153	4-phenylbutan-2-ol	4-phenylbutan-2-ol	2344-70-9
2188	piperonyl alcohol	piperonyl alcohol	495-76-1
2297	styrallyl alcohol	styrallyl alcohol	98-85-1
2305	2-(4-methyl-5-thiazolyl)ethanol	2-(4-methyl-5-thiazolyl)ethanol	137-00-8
2370	2-thienylmethanol	2-thienylmethanol	636-72-6
2494	3,4-dimethoxybenzyl alcohol	3,4-dimethoxybenzyl alcohol	93-03-8
2896	2,3-dimethoxybenzyl alcohol	2,3-dimethoxybenzyl alcohol	5653-67-8
2942	4-phenyl-3-buten-2-ol		17488-65-2
2955	1-phenyl-2-pentanol		705-73-7

Flavorings used for food in Japan: The result of investigation by Japan Flavor & Fragrance Materials Association in 2013.

List of flavouring substances used in Japan

Table 2. Group 17 - Aromatic Aldehydes (except for those generally recognized as toxic)

SEQ	Compound	Synonym or Old name	CAS
179	2-methoxybenzaldehyde	2-methoxybenzaldehyde	135-02-4
265	4-butoxybenzaldehyde	4-butoxybenzaldehyde	5736-88-9
321	alpha-butylcinnamaldehyde	alpha-butylcinnamaldehyde	7492-44-6
431	cuminaldehyde	cuminaldehyde	122-03-2
434	cyclamen aldehyde	cyclamen aldehyde	103-95-7
578	3-phenylpropanal	3-phenylpropanal	104-53-0
592	3,4-dihydroxybenzaldehyde	3,4-dihydroxybenzaldehyde	139-85-5
655	2,4-dimethylbenzaldehyde	2,4-dimethylbenzaldehyde	15764-16-6
723	2-ethoxybenzaldehyde	2-ethoxybenzaldehyde	613-69-4
729	4-ethoxybenzaldehyde	4-ethoxybenzaldehyde	10031-82-0
894	1-ethyl-2-pyrrolylcarbaldehyde	1-ethyl-2-pyrrolylcarbaldehyde	2167-14-8
904	4-ethylbenzaldehyde	4-ethylbenzaldehyde	4748-78-1
990	3-(2-furyl)-2-propenal	3-(2-furyl)-2-propenal	623-30-3
991	5-(2-furyl)-2,4-pentadienal	5-(2-furyl)-2,4-pentadienal	5916-94-9
1223	alpha-hexylcinnamaldehyde	alpha-hexylcinnamaldehyde	101-86-0
1229	2-phenylpropanal	2-phenylpropanal	93-53-8
1252	2-hydroxy-4-methylbenzaldehyde	2-hydroxy-4-methylbenzaldehyde	698-27-1
1259	4-hydroxybenzaldehyde	4-hydroxybenzaldehyde	123-08-0
1431	3-(2-furyl)-2-isopropyl-2-propenal	3-(2-furyl)-2-isopropyl-2-propenal	
1439	2-(4-isopropylphenyl)propanal	2-(4-isopropylphenyl)propanal	34291-99-1
1563	4'-methoxy-alpha-methylcinnamaldehyde	4'-methoxy-alpha-methylcinnamaldehyde	65405-67-6
1564	3-methoxybenzaldehyde	3-methoxybenzaldehyde	591-31-1
1566	2'-methoxycinnamaldehyde	2'-methoxycinnamaldehyde	1504-74-1
1567	4'-methoxycinnamaldehyde	4'-methoxycinnamaldehyde	1963-36-6
1575	4-methoxyphenylacetaldehyde	4-methoxyphenylacetaldehyde	5703-26-4
1734	3-(5-methyl-2-furyl)butanal	3-(5-methyl-2-furyl)butanal	31704-80-0
1750	5-methyl-2-phenyl-2-hexenal	5-methyl-2-phenyl-2-hexenal	21834-92-4
1751	4-methyl-2-phenyl-2-hexenal	4-methyl-2-phenyl-2-hexenal	26643-92-5
1752	4-methyl-2-phenyl-2-pentenal	4-methyl-2-phenyl-2-pentenal	26643-91-4
1756	5-methyl-2-thienylcarbaldehyde	5-methyl-2-thienylcarbaldehyde	13679-70-4
1757	3-(3,4-methylenedioxyphenyl)-2-methylpropanal	3-(3,4-methylenedioxyphenyl)-2-methylpropanal	1205-17-0
1759	2-methyl-3-(4-tert-butylphenyl)propanal	2-methyl-3-(4-tert-butylphenyl)propanal	80-54-6
1776	2-methyl-3-(4-methylphenyl)propanal	2-methyl-3-(4-methylphenyl)propanal	41496-43-9
1823	alpha-methylcinnamaldehyde	alpha-methylcinnamaldehyde	101-39-3
1847	2-(4-methylphenyl)propanal	2-(4-methylphenyl)propanal	99-72-9
1860	(4-methylphenyl)acetaldehyde	(4-methylphenyl)acetaldehyde	104-09-6
1902	3-methylbenzaldehyde	3-methylbenzaldehyde	620-23-5
1940	1-methyl-2-pyrrolylcarbaldehyde	1-methyl-2-pyrrolylcarbaldehyde	1192-58-1
1994	1-phenethyl-2-pyrrolylcarbaldehyde	1-phenethyl-2-pyrrolylcarbaldehyde	49795-42-8
2142	2-phenyl-2-butenal	2-phenyl-2-butenal	4411-89-6
2144	2-phenyl-4-pentenal	2-phenyl-4-pentenal	24401-36-3
2145	3-phenyl-4-pentenal	3-phenyl-4-pentenal	939-21-9
2146	phenylacetaldehyde	phenylacetaldehyde	122-78-1
2265	2-pyrrolylcarbaldehyde	2-pyrrolylcarbaldehyde	1003-29-8
2283	salicylaldehyde	salicylaldehyde	90-02-8
2383	3-thienylcarbaldehyde	3-thienylcarbaldehyde	498-62-4
2385	2-thienylcarbaldehyde	2-thienylcarbaldehyde	98-03-3
2394	2-methylbenzaldehyde	2-methylbenzaldehyde	529-20-4
2395	4-methylbenzaldehyde	4-methylbenzaldehyde	104-87-0
2396	methylbenzaldehyde	methylbenzaldehyde	1334-78-7
2489	4-ethoxy-3-methoxybenzaldehyde	4-ethoxy-3-methoxybenzaldehyde	120-25-2
2491	3,4-dimethoxybenzaldehyde	3,4-dimethoxybenzaldehyde	120-14-9
2897	2,3-dimethoxybenzaldehyde	2,3-dimethoxybenzaldehyde	86-51-1
2898	alpha-ethylcinnamaldehyde	alpha-ethylcinnamaldehyde	28467-92-7

Table 2. Group 17 - Aromatic Aldehydes (except for those generally recognized as toxic)

SEQ	Compound	Synonym or Old name	CAS
2899	5-methyl-2-pyrrolylcarbaldehyde	5-methyl-2-pyrrolylcarbaldehyde	1192-79-6
2900	2-hydroxy-3-methoxybenzaldehyde	2-hydroxy-3-methoxybenzaldehyde	148-53-8
2901	2-methyl-4-phenylbutanal	2-methyl-4-phenylbutanal	40654-82-8
2902	3-hydroxy-4-methoxybenzaldehyde	3-hydroxy-4-methoxybenzaldehyde	621-59-0
2903	3-methyl-2-thienylcarbaldehyde	3-methyl-2-thienylcarbaldehyde	5834-16-2
2904	3-(4-ethylphenyl)-2,2-dimethylpropanal	3-(4-ethylphenyl)-2,2-dimethylpropanal	67634-15-5
2905	4-tert-butylbenzaldehyde	4-tert-butylbenzaldehyde	939-97-9
2906	3-(2-furyl)-2-methyl-2-propenal	3-(2-furyl)-2-methyl-2-propenal	874-66-8
2951	3-(2-furyl)-2-phenyl-2-propenal		57568-60-2 65545-81-5
2954	4- isopropylphenylacetaldehyde		4395-92-0
2989	phenoxyacetaldehyde		2120-70-9
3011	4-hydroxy-3,5-dimethoxybenzaldehyde		134-96-3
3047	3-(2-furyl)-2- [(methylthio)methyl]-2-propenal		81381-99-9
3049	3-hydroxybenzaldehyde		100-83-4

Flavorings used for food in Japan: The result of investigation by Japan Flavor & Fragrance Materials Association in 2013.

List of flavouring substances used in Japan

Table 2. Group 18 - Lactones (except for those generally recognized as toxic)

SEQ	Compound	Synonym or Old name	CAS
135	ambrettolide	ambrettolide	123-69-3 7779-50-2
178	alpha-angelicalactone	alpha-angelicalactone	591-12-8
325	3-butylidenephthalide	3-butylidenephthalide	551-08-6
331	gamma-butyrolactone	gamma-butyrolactone	96-48-0
470	15-pentadecanolide	15-pentadecanolide	106-02-5
489	delta-decalactone	delta-decalactone	705-86-2
490	gamma-decalactone	gamma-decalactone	706-14-9
499	7-decen-4-olide	7-decen-4-olide	67114-38-9
501	9-decen-5-olide	9-decen-5-olide	74585-00-5
515	2-decen-5-olide	2-decen-5-olide	54814-64-1
516	7-decen-5-olide	7-decen-5-olide	25524-95-2 34686-71-0
564	dihydroactinidiolide	dihydroactinidiolide	15356-74-8 17092-92-1 19432-05-4 81800-41-1
566	16-hexadecanolide	16-hexadecanolide	109-29-5
580	dihydrocoumarin	dihydrocoumarin	119-84-6
638	2-hydroxy-3,3-dimethyl-4-butanolide	2-hydroxy-3,3-dimethyl-4-butanolide	79-50-5
652	2,3-dimethyl-2-nonen-4-olide	2,3-dimethyl-2-nonen-4-olide	10547-84-9
692	delta-dodecalactone	delta-dodecalactone	713-95-1
693	gamma-dodecalactone	gamma-dodecalactone	2305-05-7
706	6-dodecen-4-olide	6-dodecen-4-olide	18679-18-0
719	epsilon-decalactone	epsilon-decalactone	5579-78-2
720	epsilon-dodecalactone	epsilon-dodecalactone	16429-21-3
897	2-hydroxy-3-methyl-2-hexen-4-olide	2-hydroxy-3-methyl-2-hexen-4-olide	698-10-2
911	1,4-dioxacycloheptadecane-5,17-dione	1,4-dioxacycloheptadecane-5,17-dione	105-95-3
1028	delta-heptalactone	delta-heptalactone	3301-90-4
1029	gamma-heptalactone	gamma-heptalactone	105-21-5
1072	2-heptyl-4-pentanolide	2-heptyl-4-pentanolide	40923-64-6
1073	gamma-hexadecalactone	gamma-hexadecalactone	730-46-1
1077	delta-hexadecalactone	delta-hexadecalactone	7370-44-7
1085	delta-hexalactone	delta-hexalactone	823-22-3
1086	gamma-hexalactone	gamma-hexalactone	695-06-7
1189	4-methyl-cis-7-decen-4-olide	4-methyl-cis-7-decen-4-olide	70851-61-5
1250	2-hydroxy-3-methyl-2-penten-4-olide	2-hydroxy-3-methyl-2-penten-4-olide	28664-35-9
1257	8-undecen-5-olide	8-undecen-5-olide	68959-28-4
1452	8-decen-5-olide	8-decen-5-olide	32764-98-0
1495	(R)-2-decen-5-olide	(R)-2-decen-5-olide	51154-96-2
1514	menthone lactone	menthone lactone	499-54-7
1652	4-methyl-4-decanolide	4-methyl-4-decanolide	7011-83-8
1836	2-methyl-4-butanolide	2-methyl-4-butanolide	1679-47-6
1837	3-methyl-4-octanolide	3-methyl-4-octanolide	39212-23-2
1900	3,6-dimethyl-5,6,7,7a-tetrahydro-2(4H)-benzofuranone	3,6-dimethyl-5,6,7,7a-tetrahydro-2(4H)-benzofuranone	13341-72-5 38049-04-6
1952	delta-nonolactone	delta-nonolactone	3301-94-8
1978	2-nonen-4-olide	2-nonen-4-olide	21963-26-8
1999	delta-octadecalactone	delta-octadecalactone	1227-51-6
2009	octahydro-2H-1-benzopyran-2-one	octahydro-2H-1-benzopyran-2-one	4430-31-3
2010	delta-octalactone	delta-octalactone	698-76-0
2011	gamma-octalactone	gamma-octalactone	104-50-7
2090	2,4-decadien-5-olide	2,4-decadien-5-olide	27593-23-3
2256	3-propylidenephthalide	3-propylidenephthalide	17369-59-4
2289	sclareolide	sclareolide	564-20-5

Table 2. Group 18 - Lactones (except for those generally recognized as toxic)

SEQ	Compound	Synonym or Old name	CAS
2343	delta-tetradecalactone	delta-tetradecalactone	2721-22-4
2406	delta-tridecalactone	delta-tridecalactone	7370-92-5
2451	delta-undecalactone	delta-undecalactone	710-04-3
2485	delta-valerolactone	delta-valerolactone	542-28-9
2486	gamma-valerolactone	gamma-valerolactone	108-29-2
2505	4-methyl-5-hexen-4-olide	4-methyl-5-hexen-4-olide	1073-11-6
2907	2,3-dimethyl-2,4-nonadien-4-olide	2,3-dimethyl-2,4-nonadien-4-olide	774-64-1
2908	2-buten-4-olide	2-buten-4-olide	497-23-4
2909	3-decen-4-olide	3-decen-4-olide	81715-81-3
2910	3-methyl-trans-5-decen-4-olide	3-methyl-trans-5-decen-4-olide	
2911	3-nonen-4-olide	3-nonen-4-olide	51352-68-2
2912	4-butyl-4-octanolide	4-butyl-4-octanolide	7774-47-2
2913	3-ethyl-2-oxo-4-butanolide	3-ethyl-2-oxo-4-butanolide	923291-29-6
2914	beta-angelicalactone	beta-angelicalactone	591-11-7
2915	3-methyl-4-nonanolide	3-methyl-4-nonanolide	33673-62-0
2916	cis-7-decen-4-olide	cis-7-decen-4-olide	63095-33-0
2917	(-)-2-hydroxy-3,3-dimethyl-4-butanolide	d (-)-2-hydroxy-3,3-dimethyl-4-butanolide	599-04-2
2918	3,6-dimethylhexahydro-2(3H)-benzofuranone	3,6-dimethyl-2(3H)-hexahydrobenzofuranone	92015-65-1
2919	2-oxothiolane	2-oxothiolane	1003-10-7
2922	isoambrettolide	isoambrettolide	28645-51-4
2924	3,6-dimethyl-3a,4,5,7a-tetrahydro-2(3H)-benzofuranone		57743-63-2 182699-77-0
2969	3-hydroxy-2-pyranone		496-64-0
2979	9-dodecen-12-olide		301310-73-6
3023	9-dodecen-5-olide		15456-68-5 18679-14-6
3025	9-tetradecen-5-olide		15456-70-9
3029	4,8-dimethyl-7-nonen-4-olide		134359-15-2
3031	3-butylphthalide		6066-49-5
3033	3,9-dimethyl-6-(1-methylethyl)-1,4-dioxaspiro[4.5]decan-2-one		831213-72-0
3076	3-methyl-4-decanolide		67663-01-8

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