

Index

- acid value, 40
- acidolysis, 84
- acrylamide, 125
- activated carbon, 28
- active oxygen test, 44
- alcohols, 5
- alcoholysis, 84
- aldehydes, 5, 44, 77
- algal oils, 25
- alkali isomerisation, 65
- allylic position equivalent, 40
- almond oil, 12, 18, 23
- alternation, 60
- amaranthus oil, 10
- AMF, 114
- angle of tilt, 60
- animal fats, 8, 14, 101
 - dietary changes, 35
- animal feed, 12, 13
- anisidine value, 42, 43, 47
- antioxidants, 9, 79, 81, 96
- AOAC, 38
- AOCS, 38
- AOM, 44
- APCI, 55
- appetite suppressants, 135
- arachidonic acid, 2, 24, 96
- ARASCO, 24
- ASA, 29
- ascorbyl palmitate, 81
- autoxidation, 65, 76, 98
- avenathramides, 91
- avocado, 23

- baking fats, 117, 121
- Betapol, 88

- BHA, 82
- BHT, 82
- biodiesel, 12, 15, 21, 25
- biohydrogenation, 15, 36
- biosynthesis of fatty acids, 93
- bleaching, 28
- bleaching earth, 28
- blending, 30
- bloom, 65, 129
- BOB, 65, 129
- borage oil, 12
- Borneo tallow, 16
- bread dough, 123
- brush hydrogenation, 21, 22, 32, 71
- BSUI, 38
- butanoic acid, 2
- butter, 11, 14, 15, 113, 115, 119
- butter fractionation, 114
- butyric acid, 2, 14

- calcium, 106, 107
- camelina oil, 12, 23
- cancer, 112
- canola oil see rapeseed oil
- capric acid, 2
- caproic acid, 2
- caprylic acid, 2
- carboxyl reactions, 83
- carotenes, 10, 20
- castor oil, 11
- catechins, 81
- CBA, 130
- CBE, 16, 130
- CBR, 17, 130
- CBS, 17, 130

- CBU, 139
- cell membranes, 5
- cetoleic acid, 94
- CHD see coronary heart disease
- cheese, 113
- chemical properties, 29
- chemical refining, 28
- chicken fat, 14, 15
- chocolate, 16, 64, 65, 127
- chocolate spreads, 121
- cholesterol, 7, 8, 15, 97
- cholesterol level, 102, 108
- cholesterol oxidation, 78
- choline, 7
- cis*-isomers, 2
- CLA see conjugated linoleic acid
- cocoa, 127
- cocoa butter, 12, 16, 49, 64, 127
- cocoa butter alternatives, 16
- coconut oil, 8, 11, 17
- coffee whiteners, 132
- colza oil, 21
- confectionery fats, 41, 127
- conjugated linoleic acid, 26, 36, 98
- cooking fats, 22
- core aldehyde, 43, 78
- corn oil, 11
 - corn, 23
- coronary heart disease, 101, 107
- cottonseed oil, 11, 23
- cream, 113
- crude oil, 27
- crypthecodinium oils, 24
- crystal structure, 59
- cyclisation, 83

- dairy fats, 8
- dairy produce, 12, 131
- DCL, 63
- de novo* biosynthesis, 93
- decanoic acid, 2
- degumming, 5, 22, 27
- density, 66
- deodorisation, 28
- deodoriser distillate, 7, 9, 28
- desaturation, 94, 95
- deterioration, 26
- dewaxing, 5, 23, 31

- DHA, 2, 15, 24, 33, 35, 36, 103, 104
- DHASCO, 24
- diabetes, 110
- diacylglycerols, 3, 20, 99
- dietary recommendations, 100, 109
- dimethylsulphide, 55
- directed interesterification, 85
- distearin, 3
- DMOX derivatives, 56
- docosahexaenoic acid, 96
- dodecanoic acid, 2
- domestication of wild crops, 34
- doughs, 121
- dry fractionation, 31

- e-numbers, 82
- edible coatings, 132
- EFA see essential fatty acids
- egg yolks, 8
- eicosanoids, 96
- eicosapentaenoic acid, 96
- elaidic acid melting, 60
- elongation, 94, 95
- emulsifying agents, 133
- EPA, 2, 15, 33, 35, 36, 103
- epoxy acids, 34
- erucamide, 21
- erucic acid, 94, 102
- essential fatty acids, 92
- ester waxes, 5
- ester–ester interchange, 85
- ethanolamine, 7
- ethylene diamine tetra-acetic acid, 27
- European Pharmacopoeia, 38, 53
- even acids, 60
- evening primrose oil, 12
- extraction, 13, 26

- FAB, 55
- fat in foods, 91
- fat disappearance, 90
- fat intake recommendations, 100
- fat requirements, 89
- fatty acid
 - melting point, 2

- molecular weight, 2
 - structure, 1, 2
- fatty acid biosynthesis, 93
- ferulic acid esters, 79
- filled milk, 132
- fish oils, 8, 11, 14, 15
- flavonoids, 81
- FOSFA, 28
- Fourier transform infrared spectroscopy, 47
- fractionated oils, 19, 31
- fractionation, 20, 30, 31
 - of butter, 114
- free acids, 40, 47
- French dressing, 126
- frying, 123
- frying oils, 41, 123, 125, 126
- FTIR see Fourier transform infrared spectroscopy
- functional foods, 134

- gadoleic acid, 94
- gas chromatography, 44
- gas solubility, 75
- GC-MS, 57
- genetic engineering, 34
- geometrical isomerism, 83
- ghee, 113, 115
- glucosinolates, 21
- glycerol, 3
- glycerol esters, 3, 62
- glycerol monostearate, 134
- glycerolysis, 84
- glycogen, 94
- GM crops, 13
- GM soybeans, 21
- Good Fry, 125
- groundnut oil, 11, 23
 - groundnut, 23

- half hydrogenated states, 73
- hardstock, 33, 73, 118
- hazelnut oil, 18, 23
- HDL, 72, 102
- headspace analysis, 44
- HEAR, 21, 102
- heat of fusion, 65
- hemp, 23

- hexadecanoic acid, 2
- hexanoic acid, 2
- high-erucic oil, 21
- high-oleic oils, 18
- HPLC-MS, 58
- human milk fat, 88
- hydrocarbons, 5, 10
- hydrogenation, 22, 30, 31, 71
- hydroperoxides, 42, 43, 77

- ice cream, 131
- identity preserved, 13, 21, 34
- illipe, 16
- infant formula, 24
- inflammatory diseases, 111
- interesterification, 5, 84
- interesterification (chemical catalyst), 32
- interesterification (enzymatic catalyst), 33
- iodine value, 17, 20, 39, 47, 53, 67, 69
- IR spectroscopy, 66
- ISO, 38
- IUPAC, 38

- Keys' equation, 109
- kokum butter, 16

- lactones, 14
- lard, 5, 11, 14, 15, 84
- lauric acid, 2, 102
- lauric oils, 7, 11, 17
- LDL, 72, 102
- lecithin, 5, 7, 22, 27
- leukotrienes see eicosanoids
- linola, 23
- linoleic acid, 2, 44
- linoleic acid MS, 56
- linolenic acid, 2
- linolenic esters, 71
- linseed oil, 11, 23
- lipase, 33, 84, 87
- lipid analysis, 37
- lipid hypothesis, 108
- lipozyme, 87
- long spacing, 60
- low temperature properties, 41

- lysophosphatidic acids, 27
- lysophospholipids, 6

- macadamia oil, 18, 23
- malondialdehyde, 42
- mango, 16
- margaric acid, 115
- margarine, 64, 115, 119
 - see also spreads
- marine oils, 10
- mass spectrometry, 54
- mayonnaise, 126
- MCT, 17
- melting, 41, 59, 60, 61
- melting point, 33, 69
- membranes, 5
- metabolism of fatty acids, 92
- methanolysis, 84
- methyl end group plane, 61
- methyl esters, 45
- methyl terrace, 63
- mg/g results, 46
- milk chocolate, 130
- milk fat, 113
- MLM triacylglycerols, 87
- modification, 29
- monoacylglycerols, 3, 134
- monostearin, 3
- monounsaturated acids, 109
- moringa, 23
- mortierella oils, 24
- MS/MS, 55
- myristic acid, 2, 35, 102
- myristoleic acid, 94

- near-infrared spectroscopy, 47
- nervonic acid, 94
- neutralisation, 27
- nickel catalyst, 74
- NIOP, 29
- NIR see near-infrared spectroscopy
- NMR
 - unsaturation, 40
- NMR (C) spectroscopy, 51
- NMR (H) spectroscopy, 48
- NMR (P) spectroscopy, 53
- non-dairy cheeses, 132
- non-dairy creams, 132

- nucleation, 63, 64
- nutritional properties, 29, 89
- nuts, 12

- oat oil, 80
- obesity, 105
- octadecenoic acid, 2
- octadecanoic acid, 2
- octanoic acid, 2
- odd acids, 60
- oil content, 38
- oleic acid, 2
 - melting, 60
- olein, 31
- oleo-margarine, 115
- oleochemical industry, 11, 90, 92
- olestra, 125
- olibra, 136
- olive oil, 10, 11, 18
- omega nomenclature, 2
- Omega-3 acids, 36, 96, 103
- Omega-6 acids, 96, 103
- Omega-6/omega-3 ratio, 104
- Omnium oxidative stability, 44
- oryzanols, 81
- oxidation, 29, 75, 124
- oxidation products, 42
- oxidative stability, 42, 44, 72
- oxygen-containing acids, 14

- PAH, 10, 28
- palm kernel oil, 11, 17
- palm mid-fraction, 16
- palm oil, 7, 9, 11, 20
- palm oil fractions, 19
- palmitic acid, 2, 35, 102
- palmitoleic acid, 94
- partial hydrogenation, 22, 30, 32, 72, 117
- peanut see groundnut
- pentadienes, 2
- perilla, 23
- peroxide value, 42, 43, 47
- PG, 82
- phosphatides see phospholipids
- phosphatidic acids, 6, 27
- phosphatidylcholines, 6
- phosphatidylethanolamines, 6

- phosphatidylinositols, 6
 phospholipase, 6, 27
 phospholipids, 5, 6, 7, 13, 27
 photo-oxidation, 76, 79
 physical properties, 29, 59
 of oils and fats, 68, 69, 70
 physical refining, 27, 28
 phytosterols, 7, 22, 97, 100
 in spreads, 120
 picolines, 56
 pinolenic acid, 136
 polar materials in frying oils, 125
 polyglycerols, 134
 polymerisation, 83
 polymorphism, 59, 62, 117
 polyunsaturated fatty acids, 103, 109
 PORAM, 29
 pressing, 26
 prices, 12
 production levels, 11
 prostaglandins *see* eicosanoids
 psychiatric diseases, 111
 PUFA, 28, 32, 35
 puff pastry, 123
 pulse-NMR, 42

 Raman spectroscopy, 66
 Rancimat, 42, 44
 randomisation, 5, 84
 rapeseed oil, 7, 11, 18, 20, 32
 and varieties, 19
 red palm oil, 20
 refining, 27
 refractive index, 68, 69
 rendered fats, 26
 retention time, 46
 rice bran oil, 9, 23, 31, 81
 ricinoleic acid, 130
 rosemary antioxidants, 81
 rumenic acid, 14, 98, 102

 sal, 16
 salad cream, 126
 salad oils, 41, 126
 saponification, 40
 saponification equivalent, 41
 saponification value, 41, 47, 67, 69

 saturated acids, 102, 109
 Schaal test, 44
 seed breeding, 34
 seed meal, 13
 sesame oil, 11, 31, 81
 sesamol, 81
 SFC *see* solid fat content
 shea, 16
 shelf life, 36, 42
 short pastry, 123
 short spacing, 60
 shortenings, 64, 117, 121
 single cell oils, 24
 sitosterol, 7, 8
 slip melting point, 17, 42
 solid fat content, 41, 48
 solid triacylglycerols, 32
 solubility of gases in oils, 68, 70
 solvent extraction, 26
 soybean oil, 7, 8, 11, 21, 32
 varieties, 19
 specific gravity, 69
 specifications, 28
 specificity, 33
 sphingolipids, 15
 spreading characteristics, 116
 spreading fats, 41
 spreads, 22, 113, 115, 119
 squalene, 10
 steam distillation, 27
 steam sparging, 28
 stearic acid, 2, 102
 stearidonic acid, 96
 stearin, 31
 stearolic acid, 60
 stereomutation, 73, 83
 sterol esters, 7, 13
 sterol oxidation, 78
 sterols, 7, 13, 20
 structured lipids, 86
 sunflower oil, 7, 11, 22, 31
 varieties, 19
 sunflower wax, 23
 supply of oils and fats, 12
 synthetic antioxidants, 81

 tallow, 11, 14, 15
 taste panels, 42

- TBA, 42
- TBHQ, 82
- TCL, 63
- tetradecanoic, 2
- thermal changes, 83
- titre, 42, 69
- tocols, 8, 9, 20, 79
- tocopherols, 8, 9, 13, 20
- tocotrienols, 8, 9, 20
- toxic value, 43
- trans* acids, 20, 22, 29, 32, 35, 72, 117, 120
- trans* isomers, 2, 14
- trans* unsaturation, 66
- transesterification, 45
- triacylglycerols, 3, 4
- triglycerides see triacylglycerols

- ultraviolet spectroscopy, 65
- unsaponifiable, 69

- unsaponifiable material, 41
- unsaturation, 39
- UV absorption, 43

- vaccenic acid, 2, 14, 98, 102
- vanaspati, 115, 121
- vegetable fats in dairy products, 131
- vegetable oils, 8
- viscosity, 67
- vitamin C, 81
- vitamin E, 8, 22, 80, 81

- waxes, 132
- white chocolate, 130
- Wijs' reagent, 39
- winterisation, 31

- x-ray investigations, 59