**Table 1** Average particle diameters (nm) of emulsions and microemulsions formed upon dilution of mixtures the individual lipids and the surfactant with water in the range of 70 to 99% w/w. Each value depicts the average of two determinations.

|  |  |
| --- | --- |
| **Lipid used and % water** | **Lipid/Surfactant ratio (w/w)** |
| **90:10** | **70:30** | **50:50** | **30:70** | **10:90** |
| **PG monocaprylate** |
| **70** | 2632(1014,4250) | 706(860,553) | 2276(2476,2077) | 2562(2315,2809) | 49(51,47) |
| **80** | 1159(706,1612)  | 411(487,336) | 768(1012,525) | 1300(1359,1242) | 13(14,13) |
| **90** | 763(438,1088) | 272(319,226) | 85(128,43) | 370(368,372) | 12(12,12) |
| **99** | 1354(389,2319) | 198(228,168) | 60(56,64) | 151(151,152) | 14(14,14) |
| **PG dicaprylocaprate** |
| **70** | 610(506,714) | 572(622,523) | 451(418,484) | 50(37,63) | 45(40,50) |  |
| **80** | 494(354.634) | 365(448,282) | 172(192,153) | 46(40.53) | 22(28,16) |  |
| **90** | 733(494,972) | 289(266,313) | 124(117,131) | 36(30,43) | 16(16,17) |  |
| **99** | 2192(1092,3292) | 220(232,208) | 125(87,65) | 37(49,26) | 16(17.16) |  |
| **Glycerol tricaprylocaprate** |
| **70** | 1233(564,1902) | 1002(465,1539) | 374(429,319) | 40(35,45) | 35(32,38) |
| **80** | 860(558,1162) | 521(565,478) | 170(199,141) | 35(22,48) | 23(18,28) |
| **90** | 1099(878,1320) | 454(377,532) | 103(117,89) | 60(32.89) | 22(17,28) |
| **99** | 4497(3105,5889) | 320(311,329) | 82(75,89) | 65(31,99) | 17(17,18) |
|  |

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**Table 2** Average particle diameters (nm) of emulsions and microemulsions formed upon dilution of combinations of mixed lipids and the surfactant with water in the range of 70 to 99% w/w. Each value depicts the average of two determinations, except where indicated, and the individual values are given in parentheses.

|  |  |
| --- | --- |
| **Lipid mixtures and % water** | **Mixed lipid/Surfactant ratio (w/w)** |
| **90:10** | **70:30** | **50:50** | **30:70** | **10:90** |
| **PG monocaprylate + PG dicaprylocaprate (1:3 w/w)** |
| **70** | 452(336,706,406,360)a | 395(377,414) | 218(196,240) | 38(25,51) | 22(20,24) |  |
| **80** | 333(322,345) | 214(214,215) | 68(57,79) | 33(33,34) | 13(14,13) |  |
| **90** | 304(222,386) | 142(137,148) | 41(39,43) | 18(19,18) | 13(13,14) |  |
| **99** | 676(255,1133,957,357) | 116(112,121) | 39(38,40) | 21(22,20) | 15(14,16) |  |
| **PG monocaprylate + PG dicaprylocaprate (1:1 w/w)** |
| **70** | 701(736,666) | 368(386,351) | 61(89,34) | 32(28,36) | 38(55,22) |  |
| **80** | 496(517,476) | 175(174,175) | 31(29,34) | 45(41,49) | 13(14,12) |  |
| **90** | 568(355,972,538,405)a | 94(108,80) | 26(25,28) | 20(19,21) | 13(13,13) |  |
| **99** | 844(530,1032,1290,543)a | 88(92,84) | 28(27,30) | 21(21,21) | 14(14,15) |  |
| **PG monocaprylate + Glycerol tricaprylocaprate (1:3 w/w)** |
| **70** | 329(371,287) | 276(261,291) | 223(200,246) | 45(39,51) | 38(35,41) |  |
| **80** | 282(324,241) | 180(149,212) | 71(67,76) | 26(25,27) | 12(10,14) |  |
| **90** | 270(317,224) | 134(105,164) | 42(42,43) | 20(21,20) | 19(27,12) |  |
| **99** | 924(429,1491,527,1247)a | 127(93,162) | 48(41,55) | 21(22,20) | 15(18,13) |  |
| **PG monocaprylate + Glycerol tricaprylocaprate (1:1 w/w)** |
| **70** | 560(310,514,959,456)a | 287(341,234) | 74(80,68) | 50(70,30) | 75(85,65) |  |
| **80** | 309(253,366) | 123(148,98) | 28(29,28) | 18(18,18) | 14(14,14) |  |
| **90** | 262(232,293) | 94(101,87) | 27(28,26) | 16(16,17) | 13(13,14) |  |
| **99** | 583(470,696) | 79(81,77) | 29(28,30) | 18(18,19) | 14(15,14) |  |

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aParticle sizes of emulsions formed at 9:1w/w lipid/surfactant rations were highly variable. For several mixtures, two additional particle size determinations were performed by preparing new samples.

**Table 3** Solubility of danazol in individual lipids, lipid mixtures and surfactant (± s.d., n=3).

|  |  |
| --- | --- |
|  **Lipid** | **Solubility of Danazol****(mg/g)** |
| Glycerol tricaprylocaprate | 7 ± 1 |
| Propylene glycol (PG) dicaprylocaprate | 9 ± 1 |
| PG monocaprylate | 31 ± 1 |
| PG monocaprylate + Glycerol tricaprylocaprate (1:3 w/w) | 12 ± 1 |
| PG monocaprylate + PG dicaprylocaprate (1:3 w/w) | 14 ± 1 |
| PG monocaprylate + Glycerol tricaprylocaprate (1:1 w/w) | 18 ± 1 |
| PG monocaprylate + PG dicaprylocaprate (1:1 w/w) | 19 ± 1 |
| Cremophor EL (surfactant) | 26 ± 1 |

**Table 4** Solubility of danazol at different ratios of lipid (or lipid mixtures) to surfactant (n=2).

|  |  |
| --- | --- |
| **Lipid : Surfactant** **Ratio** | **Solubility(mg/g)** |
| **Glycerol tricaprylocaprate: Cremophor EL** |
| 7:3 | 14 (13,14)\* |
| 1:1 | 17 (17,17) |
| 3:7 | 19 (18,19) |
| **PG dicaprylocaprate : Cremophor EL** |
| 7:3 | 15 (15,15) |
| 1:1 | 19 (18,19) |
| 3:7 | 22 (22,21) |
| **PG monocaprylate : Cremophor EL** |
| 7:3 | 28 (28,28) |
| 1:1 | 28 (28,27) |
| 3:7 | 27 (27,27) |
| **PG monocaprylate + PG dicaprylocaprate (1:3) : Cremophor EL** |
| 7:3 | 19 (18,19) |
| 1:1 | 21 (21,21) |
| 3:7 | 23 (23,23) |
| **PG monocaprylate + PG dicaprylocaprate (1:1) : Cremophor EL** |
| 7:3 | 22 (21,22) |
| 1:1 | 24 (24,24) |
| 3:7 | 25 (25,25) |
| **PG monocaprylate +** **Glycerol tricaprylocaprate (1:3) : Cremophor EL** |
| 7:3 | 17 (16,17) |
| 1:1 | 20 (20,20) |
| 3:7 | 23 (23,23) |
| **PG monocaprylate + Glycerol tricaprylocaprate (1:1) : Cremophor EL** |
| 7:3 | 21 (21,20) |
| 1:1 | 22 (22,22) |
| 3:7 | 24 (24,24) |

\* Individual values are given in parentheses

**Table 5** Particle size following dispersion of 1:1 lipid-surfactant mixtures without (control) and with danazol present (preconcentrate) (n=3).

|  |  |
| --- | --- |
| **Lipid used in preconcentrate** | **Particle size (nm)** |
| **Control****(without danazol)** | **Preconcentrate****(with danazol)** |
| **15 min** | **2 h** | **15 min** | **2 h** |
| 1 | PG monocaprylate | 85 | 115 | 83 | 104 |
| 2 | PG dicaprylocaprate | 92 | 91 | 87 | 85 |
| 3 | PG monocaprylate + PG dicaprylocaprate, 1:3 | 34 | 38 | 36 | 34 |
| 4 | PG monocaprylate + PG dicaprylocaprate, 1:1 | 42 | 43 | 42 | 55 |
| 5 | Glyceryl tricaprylocaprate | 135 | 137 | 123 | 121 |
| 6 | PG monocaprylate + Glyceryl tricaprylocaprate, 1:3 | 38 | 37 | 38 | 36 |
| 7 | PG monocaprylate + Glyceryl tricaprylocaprate, 1:1 | 32 | 30 | 31 | 32 |