

CLAIMS

1. A reduced emulsifier or emulsifier-free chocolate composition comprising:
a continuous fat phase, said fat phase comprising a fat and optionally an emulsifier;
and
at least two particulate materials distributed throughout said fat phase;
wherein the at least two particulate materials have different D50 particle sizes to each other, said difference being a factor of 6-8; wherein the reduced emulsifier or emulsifier-free chocolate composition has a maximum packing fraction greater or equal to 0.6.
2. A reduced emulsifier or emulsifier-free chocolate composition according to claim 1 having a solid phase volume x, and a Bingham plastic viscosity value y in Pa.s at 40°C or above, where:
x is from 0.4 to 0.7; and
 $y < 264x^3 - 330x^2 + 141x - 20$.
3. A reduced emulsifier or emulsifier-free chocolate composition according to claim 1 or 2, having a maximum packing fraction that is greater than or equal to 0.72 for extrusion applications, greater or equal to 0.63 for moulding applications, greater than or equal to 0.64 for enrobing applications, or greater or equal to 0.66 for ice cream applications.
4. A reduced emulsifier or emulsifier-free chocolate composition according to any one of claims 1 to 3, having a Bingham plastic viscosity value of between 0.1 and 10 Pa.s and a Bingham yield stress of between 1 and 150 Pa, at 40°C.
5. A reduced emulsifier or emulsifier-free chocolate composition according to any one of the preceding claims wherein the at least two particulate materials are selected from the group consisting of sugars, cocoa solids, milk solids, bulking agents, calcium carbonate, nutritional particles, and flavorings and/or mixtures of two or more thereof.
6. A reduced emulsifier or emulsifier-free chocolate composition according to any one of the preceding claims, wherein the fat phase comprises cocoa butter, cocoa butter equivalents, cocoa butter alternatives, anhydrous milk fat, fractions thereof and/or mixtures of two or more thereof.

7. A reduced emulsifier chocolate composition according to any one of the preceding claims, wherein the emulsifier is selected from the group consisting of: lecithin, soy lecithin, polyglycerol polyricinoleate (PGPR), ammonium phosphatide (AMP), sorbitan tristearate, sucrose polyerucate, sucrose polystearate, phosphated mono-di-glycerides/diacetyl tartaric acid of mono glycerides.

8. A food product comprising a reduced emulsifier or emulsifier-free chocolate composition according to any one of the preceding claims.