

[0020]

Table 1 Formulations and physical property values of oily foodstuffs

	Oil content (weight%)	Example 1	Example 2	Example 3	Example 4	Example 5	Comparative Example 1	Comparative Example 2
Sugar		44.0	44.0	44.0	44.0	44.0	44.0	44.0
Cocoa	11.0	16.5	16.5	16.5	16.5	16.5	16.5	16.5
Skimmed milk powder	1.0	9.8	9.8	9.8	9.8	9.8	9.8	9.8
Cacao mass	55.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9
Super palm olein	100.0	27.1	27.1	27.1	27.1	27.1	27.6	27.3
Hyaluric acid rapeseed oil extremely hard oil	100.0							0.3
Lecithin	-	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Emulsifier (trade name)	-	POEM DL-100	L-300	POEM DS-100A	EMASOL L10V	SolmanS-300V		
Amount added	-	0.5	0.5	0.5	0.5	0.5		
Manufacturer	-	Riken Vitamin	Riken Vitamin	Riken Vitamin	Kao	Riken Vitamin		
Emulsifier classification	-	Distilled diglycerin monolaurate	Monolaurate (sorbitol type)	Diglycerin monostearate	Sorbitan monolaurate	Monostearate (sorbitol type)		
HLB	-	9.4	8.0	7.7	8.6	5.3		
Hydroxyl value	-		460-500		330-358	315-345		

Amount added	-	0.5	0.5	0.5	0.5	0.5	0.5
Manufacturer	-	Mitsubishi-Chemical Foods Corporation	Mitsubishi-Chemical Foods Corporation	Mitsubishi-Chemical Foods Corporation	Riken Vitamin	Riken Vitamin	Kao
Emulsifier classification	-	Sugar ester	Sugar ester	Sugar ester	Sorbitan monostearate	Sorbitan monooleate	Sorbitan tristearate
HLB	-	About 2	1 or less	About 7	5.1	4.9	2.1
Hydroxyl value (sorbitan)	-				235-260	193-209	235-260
Total	-	100.0	100.0	100.0	100.0	100.0	100.0
Oil content (weight%)	-	30.1	30.1	30.1	30.1	30.1	30.1
Melting point in oil phase	-	11 °C	12 °C	11 °C	12 °C	11 °C	12 °C
Viscosity (Pa-s) at 40 °C	-	29.50	30.00	12.00	20.00	16.50	26.50
Yield value (Pa) at 40 °C	-	11.14	20.79	19.04	31.07	26.97	28.48
Plastic viscosity (Pa-s)	-	0.78	1.12	0.92	0.97	0.99	1.15
Yield value/plastic viscosity	-	14.28	18.62	20.74	31.94	27.17	24.81

(Unit in formulation is weight%)

· As a palm super olein, “Palm Ace 10” commercially available from Fuji Oil Co., Ltd.

having a melting point of 10 °C was used.

· As fat and oil raw materials, a super palm olein and hyaluric acid rapeseed oil extremely hard oil were used.

5 [0021]

“Preparation method of oily foodstuffs”

1. According to the formulation table, cacao mass, cocoa, skimmed milk powder, sugar, soybean lecithin, and 3/4 of a fat and oil raw material melted mixture were mixed using a mixer having a warm water jacket, and a dough having moderate hardness at 50 °C was
10 obtained.

2. The dough was atomized by a roll refiner and a particle size was adjusted to about 17 to 23 μm using a micrometer.

3. While kneading in a conche, the dough was mixed with the remaining fat and oil raw material melted mixture to prepare oily foodstuffs. Here, in a conche, an emulsifier
15 other than lecithin was heated and mixed with the remaining fat and oil raw material melted mixture, melted and added.

4. The sample was left at room temperature for 12 hours or longer.

[0022]

“Method of measuring viscosity”

20 1. Oily foodstuff was warmed to 60 °C and completely melted.

2. The sample was left at room temperature and cooled to 40 °C.

3. The viscosity was measured using a BM type viscometer (12 rpm and No. 4 rotor) commercially available from Toki Sangyo Co., Ltd.

4. When the viscosity was 47 Pa·s or less, this was determined to be satisfactory.

[0028]

Table 2 Results

	Example 1	Example 2	Example 3	Example 4	Example 5	Comparative Example 1	Comparative Example 1
Heat resistance evaluation (40 °C)	5	5	5	5	5	1	4
Heat resistance evaluation (50 °C)	5	5	5	5	5	1	3
Heat resistance evaluation (60 °C)	4	4	4	4	4	1	2
Heat resistance evaluation (70 °C)	4	4	4	4	4	1	1
Melting feeling in the mouth	3	3	3	3	3	3	2

	Comparative Example 3	Comparative Example 4	Comparative Example 5	Comparative Example 6	Comparative Example 7	Comparative Example 8	Comparative Example 9
Heat resistance evaluation (40 °C)	1	3	2	2	1	2	3
Heat resistance	1	2	1	1	1	1	2

evaluation (50 °C)										
Heat resistance evaluation (60 °C)	1	1	1	1	1	1	1	1	1	1
Heat resistance evaluation (70 °C)	1	1	1	1	1	1	1	1	1	1
Melting feeling in the mouth	3	3	3	3	3	3	3	3	3	3

[0030]

Table 3 Formulation table

	Oil content (weight%)	Example 6	Example 7	Comparative Example 10	Comparative Example 11	Comparative Example 12	Comparative Example 13	Comparative Example 14
Sugar		23.8	23.8	49.2	44.0	23.6	23.6	23.6
Lactose		20.0	20.0			20.0	20.0	20.0
Cocoa	11.0	10.0	10.0	16.5	16.5	10.0	10.0	10.0
Skimmed milk powder	1.0			9.8	9.8			
Whole milk powder	26.2	18.0	18.0			18.0	18.0	18.0
Cacao mass	55.0			1.9	1.9			
Super palm olein	100.0			22.4	26.0			
Hyaluric acid rapeseed oil extremely hard oil	100.0				1.6			
High oleic sunflower oil	100.0	27.5	27.5			28.2	28.2	28.2
Lecithin	-	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Emulsifier (trade name)	-	SolmanS-300 V	POEM DS 100A				POEM O80V	ER290
Amount added	-	0.5	0.5				0.5	0.5
Manufacturer	-	Riken Vitamin	Riken Vitamin				Riken Vitamin	Mitsubishi-Chemical Foods Corporation

Emulsifier classification	-	Monostearate (sorbitol type)	Distilled diglycerin monostearate				Sorbitan monooleate	Sugar ester
HLB	-	5.3	7.7				4.9	About 2
Hydroxyl value (sorbitan)	-	315-345					193-209	
Total	-	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Oil content (weight%)	-	33.3	33.3	25.4	30.6	34.0	34.0	34.0
Melting point in oil phase	-	9 °C	9 °C	11 °C	36 °C	9 °C	9 °C	9 °C
Viscosity (Pa·s) at 40 °C	-	39.00	45.50	It was not possible to measure because it was too high	45.00	40.50	32.50	17.00
Yield value (Pa) at 40 °C	-	41.24	48.08	58.06	35.21	24.97	29.90	11.45
Plastic viscosity (Pa·s)	-	0.99	1.11	15.54	1.70	3.42	1.40	1.00
Yield value/plastic viscosity	-	41.66	43.32	3.74	20.71	7.30	21.36	11.45

(Unit in formulation is weight%)

[0031]

Table 4 Results

	Example 6	Example 7	Comparative Example 10	Comparative Example 11	Comparative Example 12	Comparative Example 13	Comparative Example 14
Heat resistance evaluation (40 °C)	5	5	5	5	1	1	1
Heat resistance evaluation (50 °C)	5	5	5	5	1	1	1
Heat resistance evaluation (60 °C)	4	4	5	3	1	1	1
Heat resistance evaluation (70 °C)	4	4	4	2	1	1	1
Melting feeling in the mouth	3	3	2	1	3	3	3

CLAIMS

1. A paste-like oily foodstuff comprising:

an oil content of 26 to 70 weight%, and

an emulsifier,

5 wherein the paste-like oily foodstuff has, at 40 °C, a yield value of 32 to 60 Pa, a plastic viscosity of 0.3 to 1.3, and yield value/plastic viscosity of 30 to 70, and

the emulsifier is a sorbitol type sorbitan mono fatty acid ester having an HLB of 5 to 10, which is contained at 0.2 to 2.5 weight%.

2. The paste-like oily foodstuff according to claim 1, wherein a fatty acid of the sorbitol

10 type sorbitan mono fatty acid ester is a saturated type.

3. A paste-like oily foodstuff comprising:

an oil content of 26 to 70 weight%, and

an emulsifier,

15 wherein the paste-like oily foodstuff has, at 40 °C, a yield value of 32 to 60 Pa, a plastic viscosity of 0.3 to 1.3, and yield value/plastic viscosity of 30 to 70, and

the emulsifier is a distilled diglycerin mono fatty acid ester having an HLB of 5 to 10, which is contained at 0.2 to 5 weight%.

4. A method of preparing a paste-like oily foodstuff in which a sorbitol type sorbitan

20 mono fatty acid ester having an HLB of 5 to 10 is contained at 0.2 to 2.5 weight%, an oil content is 26 to 70 weight%, and at 40 °C, a yield value is 32 to 60 Pa, a plastic viscosity is 0.3 to 1.3, and yield value/plastic viscosity is 30 to 70.

5. The method of preparing a paste-like oily foodstuff according to claim 4,

wherein a fatty acid of the sorbitol type sorbitan mono fatty acid ester is a saturated type.

6. A method of preparing a paste-like oily foodstuff in which a distilled diglycerin mono fatty acid ester having an HLB of 5 to 10 is contained at 0.2 to 5 weight%, an oil content is 26 to 70 weight%, and at 40 °C, a yield value is 32 to 60 Pa, a plastic viscosity is 0.3 to 1.3, and yield value/plastic viscosity is 30 to 70.
- 5 7. A method of imparting heat resistance to a paste-like oily foodstuff in which a sorbitol type sorbitan mono fatty acid ester having an HLB of 5 to 10 is contained at 0.2 to 2.5 weight% and an oil content is 26 to 70 weight%.
8. A method of imparting heat resistance to a paste-like oily foodstuff in which a distilled diglycerin mono fatty acid ester having an HLB of 5 to 10 is contained at 0.2 to 5
- 10 weight% and an oil content is 26 to 70 weight%.