[0131]

[Table 1]

[Table 1] (Characteristics of interesterified oils)

	Interesterified oil 1[(1)]	Interesterified oil 2[(2)]	Interesterified oil 3[(3)]	Interesterified oil 4[(4)]
Solid fat content (10°C) (%)	96.0	73.8	59.3	69.0
Solid fat content (20°C) (%)	91.0	54.5	30.8	45.5
Solid fat content (30°C) (%)	62.0	30.5	9.1	26.0
Solid fat content (35°C) (%)	36.0	21.5	2.5	16.0

Interesterified oil 1[(1)]: Produced by blending 70 parts by mass of ultrahardened palm kernel oil (iodine value: 0.5) and 30 parts by mass of ultrahardened palm oil (iodine value: 0.5), subsequently subjecting the resulting combination to random interesterification using sodium methoxide as a catalyst, and furthermore refining the resulting substance.

Interesterified oil 2[(2)]: Produced by blending 39 parts by mass of palm stearin, 49 parts by mass of palm mid-fraction, and 12 parts by mass of soybean oil, subsequently subjecting the resulting combination to random interesterification using sodium methoxide as a catalyst, and furthermore refining the resulting substance.

Interesterified oil 3[(3)]: Trade name "Parkid Y," made by Fuji Oil Co., Ltd. ("Interesterified oil B" in WO 2021/200087)

Interesterified oil 4[(4)]: "Interesterified oil A" in WO 2021/200087

[0135]

[Table 2]

[Table 2] (Characteristics of mixed oils)

		Mixed oil 1	Mixed oil 2	Mixed oil 3	Mixed oil 4	Mixed oil 5	Mixed oil 6	Mixed oil 7	Mixed oil 8
		Oil-and-fat blend 1	Oil-and-fat blend 2	Oil-and-fat blend 3	Oil-and-fat blend 4	Oil-and-fat blend 5	Oil-and-fat blend 6	Oil-and-fat blend 7	Oil-and-fat blend 8
Raw material of mixed oil (blend: parts by mass)	Feature of oil and fat								
Rapeseed oil	Liquid oil	17	20	49	29	45	45	45	
Soybean oil									45
Interesterified oil 1[(1)]	Interesterified oil					18.3	27.5	13.8	18.3
Interesterified oil 2[(2)]		17	40			36.7	27.5	41.2	36.7
Interesterified oil 3[(3)]		26							
High-erucic hardened rapeseed oil RPh70	Hardened oil				3				
Partially hardened soybean oil BO32				36	68				
Palm oil	Palm-based oil and fat			15					
Palm olein			20						
Beef fat	Animal-based fat	40	20						
(Total)		100	100	100	100	100	100	100	100

(Interest. oil 1/Interest. oil 2	—	—	—	—	2.0	1.0	3.0	2.0
Solid fat content (10°C) (%)	44.6	44.9	24.0	40.5	44.5	48.2	42.7	44.7
Solid fat content (20°C) (%)	26.2	25.7	16.9	15.0	23.4	26.9	21.9	23.9
Solid fat content (30°C) (%)	12.0	10.9	9.2	8.8	11.3	15.4	9.3	11.1
Solid fat content (35°C) (%)	7.3	6.1	3.1	3.6	7.2	10.7	5.6	7.5

Interesterified oil 1[(1)]: Produced by blending 70 parts by mass of ultrahardened palm kernel oil (iodine value: 0.5) and 30 parts by mass of ultrahardened palm oil (iodine value: 0.5), subsequently subjecting the resulting combination to random interesterification using sodium methoxide as a catalyst, and furthermore refining the resulting substance.

Interesterified oil 2[(2)]: Produced by blending 39 parts by mass of palm stearin, 49 parts by mass of palm mid-fraction, and 12 parts by mass of soybean oil, subsequently subjecting the resulting combination to random interesterification using sodium methoxide as a catalyst, and furthermore refining the resulting substance.

Interesterified oil 3[(3)]: Trade name "Parkid Y," made by Fuji Oil Co., Ltd. ("Interesterified oil B" in WO 2021/200087)

[0138]

[Table 3]

[Table 3] (Plastic oil-and-fat compositions)

		Preparation example 1	Preparation example 2	Preparation example 3	Preparation example 4
		Oil-and-fat compound 1	Oil-and-fat compound 2	Oil-and-fat compound 3	Oil-and-fat compound 4
		With beef fat	With beef fat	—	—
Raw material of plastic oil-and-fat composition (blend: parts by mass)	Feature of raw material				
Oil and fat	Oil phase	83.595	83.595	83.595	83.395
Water	Aqueous phase	16	16	16	16
Lecithin(3)	Emulsifier	0.16	0.16	0.16	0.16
Monoglycerol fatty acid ester(3)		0.245	0.245	0.245	0.245
Sorbitan fatty acid ester(3)					0.2
(Total)		100	100	100	100

Lecithin(1): Trade name "Lecithin FA" (Crude soybean lecithin), made by J-Oil Mills, Inc.
Monoglycerol fatty acid ester(2): Trade name "Emulsy-HRO" (HLB: 4.3), made by Riken Vitamin Co., Ltd.
Sorbitan fatty acid ester(3): Trade name "S-320YN" (HLB: 4.2), made by Riken Vitamin Co., Ltd.

[Table 3] (cont.)

[Table 3] (Plastic oil-and-fat compositions)

		Preparation example 5	Preparation example 6	Preparation example 7	Preparation example 8
		Oil-and-fat compound 5	Oil-and-fat compound 6	Oil-and-fat compound 7	Oil-and-fat compound 8
		With interesterified oil	With interesterified oil	With interesterified oil	With interesterified oil
Raw material of plastic oil-and-fat composition (blend: parts by mass)	Feature of raw material				
Oil and fat	Oil phase	83.395	83.395	83.395	83.395
Water	Aqueous phase	16	16	16	16
Lecithin(3)	Emulsifier	0.16	0.16	0.16	0.16
Monoglycerol fatty acid ester(3)		0.245	0.245	0.245	0.245
Sorbitan fatty acid ester(3)		0.2	0.2	0.2	0.2
(Total)		100	100	100	100

Lecithin(1): Trade name "Lecithin FA" (Crude soybean lecithin), made by J-Oil Mills, Inc.
Monoglycerol fatty acid ester(2): Trade name "Emulsy-HRO" (HLB: 4.3), made by Riken Vitamin Co., Ltd.
Sorbitan fatty acid ester(3): Trade name "S-320YN" (HLB: 4.2), made by Riken Vitamin Co., Ltd.

[0142]

[Table 5]

[Table 5] (Evaluation results)

		Reference example 1	Reference example 2	Comparative example 1	Comparative example 2
		Preparation example 1	Preparation example 2	Preparation example 3	Preparation example 4
		With beef fat	With beef fat	—	—
Raw material of plastic oil-and-fat composition (blend: parts by mass)	Feature of raw material				
Oil and fat	Oil phase	83.595	83.595	83.595	83.395
Water	Aqueous phase	16	16	16	16
Lecithin(3)	Emulsifier	0.16	0.16	0.16	0.16
Monoglycerol fatty acid ester(3)		0.245	0.245	0.245	0.245
Sorbitan fatty acid ester(3)					0.2
(Total)		100	100	100	100
Hardness of plastic oil-and-fat composition (N)		0.49	0.63	0.24	0.46
Hardness of cookie dough (N)		19.05	40.04	11.93	24.79
Resilience of cookie dough		4	4	1	3
Stickiness of cookie dough		4	4	2	2
Cuttability of cookie dough		4	3	1	2
Crunchiness of cookies		4	4	2	3
Hardness of cookies		4	4	1	3

Lecithin[1]: Trade name "Lecithin FA" (Crude soybean lecithin), made by J-Oil Mills, Inc.
Monoglycerol fatty acid ester[2]: Trade name "Emulsy-HRO" (HLB: 4.3), made by Riken Vitamin Co., Ltd.
Sorbitan fatty acid ester[3]: Trade name "S-320YN" (HLB: 4.2), made by Riken Vitamin Co., Ltd.

[Table 5] (cont.)

[Table 5] (Evaluation results)

		Example 1	Example 2	Example 3	Example 4
		Preparation example 5	Preparation example 6	Preparation example 7	Preparation example 8
		With interesterified oil	With interesterified oil	With interesterified oil	With interesterified oil
Raw material of plastic oil-and-fat composition (blend: parts by weight)	Feature of raw material				
Oil and fat	Oil phase	83.395	83.395	83.395	83.395
Water	Aqueous phase	16	16	16	16
Lecithin[3]	Emulsifier	0.16	0.16	0.16	0.16
Monoglycerol fatty acid ester[3]		0.245	0.245	0.245	0.245
Sorbitan fatty acid ester[3]		0.2	0.2	0.2	0.2
(Total)		100	100	100	100
Hardness of plastic oil-and-fat composition (N)		0.51	0.60	0.49	0.53
Hardness of cookie dough (N)		23.68	30.49	32.93	29.98
Resilience of cookie dough		4	3	4	4

Stickiness of cookie dough	4	3	3	4
Cuttability of cookie dough	4	4	3	4
Crunchiness of cookies	4	3	3	4
Hardness of cookies	4	3	4	4

Lecithin(1): Trade name "Lecithin FA" (Crude soybean lecithin), made by J-Oil Mills, Inc.
Monoglycerol fatty acid ester(2): Trade name "Emulsy-HRO" (HLB: 4.3), made by Riken Vitamin Co., Ltd.
Sorbitan fatty acid ester(3): Trade name "S-320YN" (HLB: 4.2), made by Riken Vitamin Co., Ltd.

[0145]

[Table 6]

[Table 6] (Plastic oil-and-fat compositions)

		Preparation example 9	Preparation example 10	Preparation example 11	Preparation example 12	Preparation example 13	Preparation example 14
		Oil-and-fat blend 5	Oil-and-fat blend 5	Oil-and-fat blend 5	Oil-and-fat blend 5	Oil-and-fat blend 5	Oil-and-fat blend 5
		With inter-esterified oil	With inter-esterified oil	With inter-esterified oil	With inter-esterified oil	With inter-esterified oil	With inter-esterified oil
Raw material of plastic oil-and-fat composition (blend: parts by mass)	Feature of raw material						
Oil and fat	Oil phase	83.595	83.495	83.095	83.095	83.395	83.195
Water	Aqueous phase	16	16	16	16	16	16
Lecithin(1)	Emulsifier	0.16	0.16	0.16	0.16	0.16	0.16
Monoglycerol fatty acid ester(2)		0.245	0.245	0.245	0.245	0.245	0.245
Sorbitan fatty acid ester(3)			0.1	0.5			0.2
Sorbitan fatty acid ester(4)						0.2	
Polyglycerol fatty acid ester(5)					0.5		
Sucrose fatty							0.2

acid ester[6]							
(Total)		100	100	100	100	100	100

Lecithin[1]: trade name "Lecithin FA" (crude soybean oil), made by J-Oil Mills, Inc.
Monoglycerol fatty acid ester[2]: trade name "Emulsy-HRO" (HLB: 4.3), made by Riken Vitamin Co., Ltd.
Sorbitan fatty acid ester[3]: trade name "S-320YN" (HLB: 4.2), made by Riken Vitamin Co., Ltd.
Sorbitan fatty acid ester[4]: trade name "S-65V" (HLB: 3.0), made by Riken Vitamin Co., Ltd.
Polyglycerol fatty acid ester[5]: trade name "HB-750" (HLB: 4.2), made by Sakamoto Yakuhin Kogyo Co., Ltd.
Sucrose fatty acid ester[6]: trade name "ER-290" (HLB: 2.0), made by Mitsubishi Chemical Corp.

[0149]

[Table 8]

[Table 8] (Plastic oil-and-fat compositions)

		Example 1 (redisplayed)	Comparative example 3	Example 5	Example 6	Example 7	Example 8	Example 9
		Preparation example 5	Preparation example 9	Preparation example 10	Preparation example 11	Preparation example 12	Preparation example 13	Preparation example 14
		With inter-esterified oil	With inter-esterified oil	With inter-esterified oil	With inter-esterified oil	With inter-esterified oil	With inter-esterified oil	With inter-esterified oil
Raw material of plastic oil-and-fat composition (blend: parts by mass)	Feature of raw material							
Oil and fat	Oil phase	83.395	83.595	83.495	83.095	83.095	83.395	83.195
Water	Aqueous phase	16	16	16	16	16	16	16
Lecithin(1)	Emulsi-fier	0.16	0.16	0.16	0.16	0.16	0.16	0.16
Monoglycerol fatty acid ester(2)		0.245	0.245	0.245	0.245	0.245	0.245	0.245
Sorbitan fatty acid ester(3)		0.2		0.1	0.5			
Sorbitan fatty acid ester(4)							0.2	

Polyglycerol fatty acid ester[5]						0.5		
Sucrose fatty acid ester[6]								0.2
(Total)		100	100	100	100	100	100	
Hardness of plastic oil-and-fat composition (N)		0.51	0.54	0.48	0.56	0.72	0.44	0.52
Hardness of cookie dough (N)		23.68	25.49	38.64	32.87	32.43	25.08	26.64
Resilience of cookie dough		4	2	4	4	4	4	4
Stickiness of cookie dough		4	2	3	3	3	4	4
Cuttability of cookie dough		4	2	4	4	3	3	4
Crunchiness of cookies		4	2	4	3	4	4	4
Hardness of cookies		4	3	4	4	3	4	3

Lecithin[1]: trade name "Lecithin FA" (crude soybean oil), made by J-Oil Mills, Inc.
Monoglycerol fatty acid ester[2]: trade name "Emulsy-HRO" (HLB: 4.3), made by Riken Vitamin Co., Ltd.
Sorbitan fatty acid ester[3]: trade name "S-320YN" (HLB: 4.2), made by Riken Vitamin Co., Ltd.
Sorbitan fatty acid ester[4]: trade name "S-65V" (HLB: 3.0), made by Riken Vitamin Co., Ltd.
Polyglycerol fatty acid ester[5]: trade name "HB-750" (HLB: 4.2), made by Sakamoto Yakuhin Kogyo Co., Ltd.
Sucrose fatty acid ester[6]: trade name "ER-290" (HLB: 2.0), made by Mitsubishi Chemical Corp.