emulsifier (fat for frozen confectionery A).

[0058]

<Preparation process of fat for frozen confectionery B>

An aqueous solution dissolving 10% by weight of tea polyphenol composition was prepared by adding tea polyphenol composition (product name: Sunphenon 90S, manufactured by Taiyo Kagaku Co., Ltd.) to water. To 1 kg of milk fat (iodine value: 33) which was heated to 50°C, 0.1 g of emulsifier (POEM PR-100, manufactured by RIKEN VITAMIN CO., LTD.) was added and dissolved, then 1.875 g of the aqueous solution dissolving 10% by weight of tea polyphenol composition was added, and then the mixture was stirred at 10000 rpm for 10 minutes with a Homomixer (TK ROBO MIX, manufactured by Tokushu Kika Kogyo Co., Ltd.). Then, the mixture was subjected to dehydration treatment at 50°C under a reduced pressure of 10 torr for 30 minutes while stirring to obtain milk fat containing 150 ppm by weight of tea polyphenol and 100 ppm by weight of emulsifier (fat for frozen confectionery B).

[0059]

<Preparation process of fat for frozen confectionery C>

An aqueous solution dissolving 10% by weight of tea polyphenol composition was prepared by adding tea polyphenol composition (product name: Sunphenon 90S, manufactured by Taiyo Kagaku Co., Ltd.) to water. To 1 kg

of milk fat (iodine value: 33) which was heated to 50°C, 0.375 g of the aqueous solution dissolving 10% by weight of tea polyphenol composition was added, and then the mixture was stirred at 10000 rpm for 10 minutes with a Homomixer (TK ROBO MIX, manufactured by Tokushu Kika Kogyo Co., Ltd.). Then, the mixture was subjected to dehydration treatment at 50°C under a reduced pressure of 10 torr for 30 minutes while stirring to obtain milk fat containing 30 ppm by weight of tea polyphenol (fat for frozen confectionery C).

[0060]

<Preparation process of fat for frozen confectionery D>

An aqueous solution dissolving 10% by weight of tea polyphenol composition was prepared by adding tea polyphenol composition (product name: Sunphenon 90S, manufactured by Taiyo Kagaku Co., Ltd.) to water. To 1 kg of mixed fat of 70 parts of refined palm oil (product name: refined palm oil, manufactured by Fuji Oil Co., Ltd., iodine value: 52) and 30 parts of refined coconut oil (product name: refined coconut oil, manufactured by Fuji Oil Co., Ltd., iodine value: 8.5), which was heated to 50°C, 0.3 g of emulsifier (POEM PR-100, manufactured by RIKEN VITAMIN CO., LTD.) was added and dissolved, then 3.75 g of the aqueous solution dissolving 10% by weight of tea polyphenol composition was added, and then the mixture was stirred at 10000 rpm for 10 minutes with a Homomixer (TK

ROBO MIX, manufactured by Tokushu Kika Kogyo Co., Ltd.). Then, the mixture was subjected to dehydration treatment at 50°C under a reduced pressure of 10 torr for 30 minutes while stirring to obtain palm-coconut mixed fat containing 300 ppm by weight of tea polyphenol and 300 ppm by weight of emulsifier (fat for frozen confectionery D).

[0061]

<Preparation process of fat for frozen confectionery E>

An aqueous solution dissolving 10% by weight of tea polyphenol composition was prepared by adding tea polyphenol composition (product name: Sunphenon 90S, manufactured by Taiyo Kagaku Co., Ltd.) to water. To 1 kg of mixed fat of 70 parts of refined palm oil (product name: refined palm oil, manufactured by Fuji Oil Co., Ltd., iodine value: 52) and 30 parts of refined coconut oil (product name: refined coconut oil, manufactured by Fuji Oil Co., Ltd., iodine value: 8.5), which was heated to 50°C, 0.1 g of emulsifier (POEM PR-100, manufactured by RIKEN VITAMIN CO., LTD.) was added and dissolved, then 1.875 g of the aqueous solution dissolving 10% by weight of tea polyphenol composition was added, and then the mixture was stirred at 10000 rpm for 10 minutes with a Homomixer (TK ROBO MIX, manufactured by Tokushu Kika Kogyo Co., Ltd.). Then, the mixture was subjected to dehydration treatment at 50°C under a reduced pressure of 10 torr for 30 minutes

	Examples 1, 2, 3 Comparative Examples 1, 2	Examples 4, 5 Comparative Examples 3, 4
Fat for frozen confectionery	15	7
Fresh cream (fat content: 45%)	7	7
Skim milk powder	11	8
Granulated sugar	14	14
Pasteurized egg yolk	1.5	1.5
Water	51.5	62.5

Unit: part by weight

[0077]

Tea polyphenol content and emulsifier content (in fat for frozen confectionery or in frozen confectionery) of Examples 1 to 5 and Comparative Examples 1 to 4 were summarized in table 3. Emulsifier content (E) relative to tea polyphenol content (C) shows as E/C.

[0078]

[Table 3]

An oxidation stability of fat for confectionery was evaluated by using CDM testing machine, Rancimat, manufactured by Metrohm AG. Determination of oxidation stability of each edible fat was carried out by comparing time difference caused by extension of CDM stability time in correlation with increase in oxidation stability of edible fat. Measurement conditions: measurement temperature: 120°C, air throughput: 20 L/h, 3 g of fat sample was amounted.

(3) Evaluation method of color deterioration of Matcha green tea chocolate

Surface color of Mathca green tea chocolate was evaluated after irradiation at 1000 lux for 2 days.

[0087]

(Evaluation of oxidation stability of fat for confectionery)

Oxidation stability was compared and evaluated by calculating A/N value by the following method with using CDM stability time as an index. The evaluation results are shown in table 1.

A: CDM stability time of fats for confectionery F to I

N: CDM stability time of base fat of A, cacao butter or hard butter.

[0088]

[Table 5]

powder were added followed by adjusting the temperature to 31°C. Then, seed agent (product name: "Chocoseed A", manufactured by Fuji Oil Co., Ltd.) was added to the chocolate at a content of 0.2% with respect to the chocolate. Then, the chocolate was subjected to tempering treatment. Then, the chocolate was cooled and subjected to aging for 1 week to obtain Matcha green tea chocolate (fat content: about 47%). The obtained chocolate was exposed to fluorescent light at 1000 lux of illuminance at 20°C, then, sensory evaluation and evaluation of color deterioration were performed according to the above-described method. The results were summarized in table 9 and table 10.

[0101]

(Example 11)

Matcha green tea chocolate was prepared in the same formulation and process as those of Example 10 except that 20 parts of fat for confectionery H was used. The obtained chocolate was evaluated in the same manner as Example 10. The results were summarized in table 9 and table 10.

[0102]

(Comparative Example 11)

Matcha green tea chocolate was prepared in the same formulation and process as those of Example 10 except that 20 parts of hard butter (product name: "Melano NEWSS7", manufactured by Fuji Oil Co., Ltd., iodine value: 34) was

used. The obtained chocolate was evaluated in the same manner as Example 10. The results were summarized in table 9 and table 10.

[0103]

(Example 12)

To 78 parts of molten white chocolate (manufactured by Fuji Oil Co., Ltd., fat content: about 34%), 20 parts of fat for confectionery G and 2 parts of strawberry powder were added followed by adjusting the temperature to 31°C. Then, seed agent (product name: "Chocoseed A", manufactured by Fuji Oil Co., Ltd.) was added to the chocolate at a content of 0.2% with respect to the chocolate. Then, the chocolate was subjected to tempering treatment. Then, the chocolate was cooled and subjected to aging for 1 week to obtain strawberry chocolate (fat content: about 47%). The obtained chocolate was exposed to fluorescent light at 1000 lux of illuminance at 20°C, then, sensory evaluation and evaluation of color deterioration were performed according to the above-described method. The results were summarized in table 9.

[0104]

(Example 13)

Strawberry chocolate was prepared in the same formulation and process as those of Example 12 except that 20 parts of fat for confectionery H was used. The obtained

chocolate was evaluated in the same manner as Example 12. The results were summarized in table 9.

[0105]

(Comparative Example 12)

Strawberry chocolate was prepared in the same formulation and process as those of Example 12 except that 20 parts of hard butter (product name: "Melano NEWSS7", manufactured by Fuji Oil Co., Ltd., iodine value: 34) was used. The obtained chocolate was evaluated in the same manner as Example 12. The results were summarized in table 9.

[0106]

Tea polyphenol content and emulsifier content (in fat for confectionery, in whole fat of chocolate or in chocolate) of Examples 6 to 13 and Comparative Examples 5 to 12 were summarized in table 6. Emulsifier content in fat for confectionery (E) relative to tea polyphenol content in fat for confectionery (C) shows as E/C.

[0107]

[Table 6]