



INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

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(21) International Application Number: PCT/EP93/00222 (22) International Filing Date: 1 February 1993 (01.02.93) (30) Priority data: 9202665.7 7 February 1992 (07.02.92) GB (71) Applicant (for AU CA GB IE only): UNILEVER PLC [GB/GB]; Unilever House, Blackfriars, London EC4P 4BQ (GB). (71) Applicant (for all designated States except AU CA GB IE US): UNILEVER N.V. [NL/NL]; P.O. Box 760, NL-3000 DK Rotterdam (NL). (72) Inventors; and (75) Inventors/Applicants (for US only) : CAIN, Frederick, William [GB/NL]; Dr. Blokkerstraat 12, NL-2271 VL Voorburg (NL). CEBULA, Deryck, Josef [GB/GB]; 20 St. Augustines Road, Bedford, Bedfordshire MK40 2ND (GB). DE FOUW, Nanneke, Joke [NL/NL]; Meester L.A. Kesperweg 33d, NL-3135 BT Vlaardingen (NL).		(74) Agent: JOPPE, Hermina, L., P.; Unilever N.V., Patent Division, P.O. Box 137, NL-3130 AC Vlaardingen (NL). (81) Designated States: AU, CA, US, European patent (AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, NL, PT, SE). Published <i>With international search report.</i>
(54) Title: REDUCED CALORIE FATS		
$\begin{array}{ccccccc} & \text{H} & & \text{H} & & \text{H} & \\ & & & & & & \\ \text{H} & - \text{C} & - & \text{C} & - & \text{C} & - \text{H} \\ & & & & & & \\ & \text{O} & & \text{O} & & \text{O} & \\ & & & & & & \\ & \text{R}^1 & & \text{R}^2 & & \text{R}^2 & \end{array}$ (I) $\begin{array}{ccccccc} & \text{H} & & \text{H} & & \text{H} & \\ & & & & & & \\ \text{H} & - \text{C} & - & \text{C} & - & \text{C} & - \text{H} \\ & & & & & & \\ & \text{O} & & \text{O} & & \text{O} & \\ & & & & & & \\ & \text{R}^2 & & \text{R}^1 & & \text{R}^2 & \end{array}$ (II)		
(57) Abstract A fat composition comprising 5-100 % by weight of a long chain fatty acid triglyceride material of formula (I) or (II) wherein R ¹ is a C ₂₀₋₂₄ fatty acid and R ² is a C ₁₂ fatty acid. Preferably the fat compositions are used in food-products, especially in chocolate confectionery products.		

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Reduced calorie fats

The present invention relates to reduced calorie fats, in particular triglyceride materials containing long chain
5 fatty acids, preferably in combination with medium chain fatty acids. In particular the present invention relates to the use of triglyceride materials containing long chain fatty acids in food-products, especially confectionery products.

10

Triglyceride fats made with long chain fatty acids are reduced in calories, because the long chain fatty acids are poorly digested by the body.

15 Several documents describe the use of long chain fatty acids in triglycerides for obtaining a calorie reduction:

WO 91/09537 (P&G) relates to fat and sugar containing food products, wherein the sugar contains a 5-C-hydroxymethyl
20 hexose or derivative thereof and the fat contains a triglyceride with medium long fatty acid chains and long fatty acid chains. Preferred exemplified medium chain fatty acids are mixtures of C₈ and C₁₀ fatty acids, the preferred exemplified long chain fatty acid is Behenic acid.

25

WO 91/09099 (P&G) describes a process for selectively making triglycerides comprising two medium chain fatty acids and one long chain fatty acid, wherein a monoglyceride of a C₁₈₋₂₄ fatty acid is reacted with a C₈₋₁₀
30 fatty acid at a temperature of 140 to 250°C in the absence of a catalyst under the continuous removal of water. The preferred exemplified long chain fatty acid is Behenic acid, preferred medium chain fatty acids are mixtures of C₈ and C₁₀.

35

WO 91/09098 (P&G) describes a process for selectively making triglycerides comprising two medium chain fatty

acids and one long chain fatty acid, wherein a monoglyceride of a C_{18-24} fatty acid is reacted with a C_{8-10} anhydride at a temperature of 90 to 190°C in the absence of
5 a catalyst. The preferred exemplified long chain fatty acid is Behenic acid, preferred medium chain fatty acids are mixtures of C_8 and C_{10} .

US 5,023,106 (P&G) describes a flavoured confectionery
10 product comprising triglycerides with medium and long chain saturated fatty acids, wherein the medium chain fatty acid material is a mixture of Caprylic and Capric acid in a ratio of 4 to 1 to 1 to 4 and the long chain saturated fatty acid is behenic acid. Also described is a process for
15 preparing a flavoured confectionery product containing these materials. Similar confectionery products and processes for producing these are describes in US 4,888,196 (P&G) and EP 390 408.

20 US 4,863,753 (P&G) discloses a reduced calorie peanut butter comprising a dispersion of finely divided peanut particles in a continuous oil phase, wherein the oil phase comprises medium chain triglycerides. Preferred medium chain fatty acids are C_6 to C_{10} saturated fatty acids which
25 are used in combination with C_{17} to C_{26} unsaturated fatty acids.

US 3,595,673 (P&G) relates to high melting hard butter materials consisting essentially of randomly esterified
30 triglycerides with high levels of C_{12} saturated fatty acids in combination with C_{16-18} saturated fatty acids and no or low levels of C_{8-10} , C_{14} and C_{20} and higher fatty acids.

US 3,353,964 (P&G) relates to corandomized triglycerides
35 containing saturated C_{6-14} fatty acids and from 0.3 to 5% of C_{20-22} fatty acids, wherein the ratio between short chain fatty acids and long chain fatty acids is from 100 to

1 to 1 to 1.

EP 422 490 (P&G) relates to unit dosage amounts of
5 triglycerides for absorption of cholesterol containing from
1-10 grams of a triglyceride fat containing high levels of
C₂₀₋₂₄ saturated fatty acids. Exemplified preferred reduced
calorie triglycerides comprise Behenic acid as the long
chain fatty acid and C₈ and C₁₀ mixtures as the remaining
10 fatty acids.

EP 322,027 (P&G) relates to reduced calorie fats made from
triglycerides containing medium and long chain saturated
fatty acids. The exemplified preferred long chain saturated
15 fatty acid is behenic acid. Preferred exemplified medium
chain saturated acids are mixtures of caprylic and capric
acid. This document also provides a listing of
theoretically possible triglycerides containing mixtures of
medium and long chain saturated fatty acids.

20

EP 311 167 (P&G) relates to reduced calorie fats with
improved auto-ignition properties, said fats comprising
medium and long chain saturated fatty acids in combination
with long chain unsaturated fatty acids. The exemplified
25 preferred long chain saturated fatty acid is stearic acid,
preferred long chain unsaturated fatty acid are linoleic
acid, oleic acid and linolenic acid. The preferred
exemplified medium chain saturated fatty acid is caprylic
acid.

30

EP 216 419 (P&G) relates to nutritional fats consisting
essentially of triglycerides comprising at the 2-position a
fatty acid which is either a saturated fatty acid group, or
oleoyl or linolenoyl and at the 1- and 3-positions a group
35 selected from n-heptonoyl, n-octanoyl, N-nonanoyl, n-
decanoyl and n-undecanoyl.

The overall picture emerging from the above mentioned prior art is therefore a preference for combinations of behenic acid and mixtures of C₈ and C₁₀ fatty acids.

5

The present invention aims at providing novel triglyceride materials comprising a mixture of long chain fatty acids in combination with shorter fatty acids. It is believed that fat compositions of the present invention are advantageous
10 for one or more of the following reasons:

(a) when used in confectionery compositions, especially in chocolate type confectionery products they provide a better melting profile and hardness resulting in
15 a better mouthfeel;

(b) the fat compositions of the invention contain fatty acid chains which are favourable as far as their effect on heart health is concerned;

20

(c) fat compositions of the invention are easy to manufacture and to process and are stable upon storage;

(d) when fat compositions of the invention are used in
25 flavoured food products they provide an enhanced flavour release;

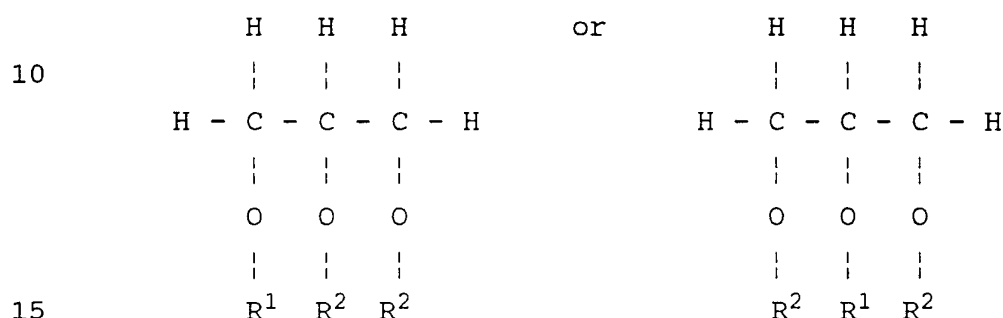
(e) when fat compositions of the invention are used in chocolate type confectionary products they provide better
30 tempering properties and/or reduced blooming upon storage;

(f) fat compositions of the invention show enhanced crystallisation properties.

35 Surprisingly it has been found that one or more of the above mentioned or other advantages can be obtained if specific triglycerides are used which comprise high levels

of C₂₀-C₂₄ fatty acids, preferably in combination with C₁₂ fatty acids.

- 5 Accordingly the present invention relates to a fatty composition comprising 5-100% of a triglyceride material of the formula:



wherein R¹ is a C₂₀₋₂₄ fatty acid and R² is a C₁₂ fatty acid; preferably R¹ and R² are saturated fatty acid materials. Also preferable R¹ is a C₂₀ fatty acid.

20

For reference purposes the specific triglyceride materials as defined hereabove will be referred to as long chain fatty acid triglycerides.

- 25 Fat compositions of the invention consist of at least 5% by weight of long chain fatty acid triglycerides, the balance of the fat composition being made up of other fatty materials. However, although fat-compositions of the invention may comprise in addition to the long chain fatty
- 30 acid triglyceride, optionally up to 95 wt% of further fat components such as other triglyceride materials and lipid fat replacers such as polyol fatty acid esters and jojoba oil, it is preferred that for use in e.g. chocolate products the weight ratio of these fat-components to the
- 35 long chain fatty acid triglyceride is less than 2 : 1, more preferred less than 1 : 1 or even less than 0.5: 1. In a first preferred embodiment of the invention the fat-

compositions contain long chain fatty acid triglycerides substantially in the absence of other fat components.

- 5 In another preferred embodiment of the invention e.g. when the long chain fatty acid triglycerides are used as hardstocks in margarines or other spreads, it is preferred that the ratio of long chain fatty acid triglycerides to other fat components is between 1:19 and 1:1, more
10 preferred 1:12 and 1:3.

- Triglyceride materials other than the long chain fatty acid triglyceride materials may be triglyceride oils or fats of animal or vegetable origin. Suitable conventional
15 triglyceride fats and oils include, optionally partially or fully hydrogenated, coconut oil, palmkernel oil, palm oil, marine oils, lard, tallow fat, butter fat, cocoa butter fat, soybean oil, safflower oil, cotton seed oil, rapeseed oil, corn oil sunflower oil and mixtures thereof.

20

- If mixtures of triglyceride materials are present these can generally be detected as such by techniques like GC, HPLC, DSC etc.

- 25 Fat-compositions of the invention are preferably used in food-products, for example at levels of 1-100%, more preferred 5-80%, most preferred 10-60%.

- The present invention is not specific to edible fat-
30 containing compositions in any particular food area. It may be suitably be applied to food products such as spreads, margarines, creams, shortenings, bakery products such as doughs, cakes and biscuits, fried and snack products, fresh, hard and processed cheeses, meat emulsions,
35 mayonnaise and dressings, confectionery products, such as desserts, fillings, chocolates, candies, chews, and ice-creams. In a particular preferred embodiment of the

invention the long chain fatty acid triglycerides of the invention are used in confectionery products, especially in chocolate type confectionary products. In another preferred embodiment the food-product is a spread.

Preferred confectionery products in accordance to the invention preferably comprise from 25-70% by weight of the fat composition as defined hereabove, 0.001 to 60% by weight of sugar or other sweeteners such as for example aspartame, 5-45% by weight of cocoa powder or chocolate liquor and 0-20% of milk solids, 0-5% flavouring and/or colouring materials, 0-5% lecithin or other emulsifying agents and up to 100% of other suitable materials like carbohydrate or other bulking agents.

Fat compositions for use in chocolate confectionery products, preferably comprise in addition to the long chain fatty acid triglyceride material as defined above 0-50% by weight of cocoa butterfat, more preferably 5-40%.

Although applicants do by no means want to be bound by any theory it is believed that the use of the above defined long chain fatty acid triglyceride materials in chocolate confectionery products is especially advantageous because of the enhanced crystallisation properties of the resulting chocolate. In particular it is believed that the crystallisation process of chocolates containing long chain fatty acid triglycerides according to the invention is faster and/or the melting properties are better than of other triglyceride materials containing C₂₀₋₂₄ fatty acid chains.

Especially preferred fat compositions for use in chocolate confectionary products are solid at ambient temperature (20°C) and fluid and soft at mouth temperature (35°C). For

combining these two properties a steep melting profile between 20 °C and 35 °C, especially between 30°C and 35°C is important.

- 5 In another preferred embodiment of the invention the chocolate confectionary product of the invention comprises a fat composition substances having an N-value at 20°C of at least 60, more preferred 70-100, most preferred 80-95 and an N-value at 35 °C of less than 15, more preferred
10 from 0-8, most preferred from 0-3.

The N-value is conveniently measured by nuclear magnetic relaxation technique and is a direct measure of the level of solid fat content at the relevant temperature. This
15 method is suitably described in Fette, Seifen, Anstrichmittel 80(5), 180-186, (1978). To some extent the measurement is dependent on the temperature profile used to prepare the samples for the NMR-measurement. For the purpose of the present invention the following preparatory
20 temperature profile is adopted: 30 minutes at 60°C, 90 minutes at 0°C, 40 hours at 26°C, again 90 minutes at 0°C and finally 60 minutes at the temperature of the measurement, after which the NMR measurement is carried out.

- 25 Preferred spread products of the invention are oil and water emulsions which comprise from 5-95% more preferred 10-90, most preferred 60-90% by weight of the fat composition, the balance of the composition being water and
30 optionally other ingredients like emulsifiers, gelling agents, flavouring, colouring materials, preservatives, etc.

Long chain fatty acid triglycerides of the invention may be
35 prepared by any suitable technique for preparing triglyceride materials. A suitable technique may for

example include the random esterification of a 1:2 molar mixture of long chain fatty acids and medium chain fatty acids.

- 5 Food products of the invention can be prepared by any suitable technique. Chocolate confectionery products may for example be made as described in US 4,810,516. preferably the cooling regime applied to the chocolate is such that the product can be demoulded within 30 minutes
10 after moulding.

The invention will further be illustrated by means of the following examples.

Example I

A chocolate product was prepared with the following
5 formulation:

	<u>Ingredient</u>	<u>wt %</u>
	fat composition	31%
	cocoa powder	14%
10	sugar	47.6%
	skimmed milk powder	7%
	lecithin	0.4%

The following fat-compositions are used:

15

A: 100% of a triglyceride with 2 C₁₂ fatty acids and 1
C₂₀ fatty acid.

20

B: 85 wt% of a triglyceride with 2 C₁₂ fatty acids and 1
C₂₀ fatty acid and 15 wt% of cocoa butter (added in
addition to the cocoa butter which was inherently
present in the cocoa powder).

25

C: 100% of a triglyceride with 2 C₈ fatty acids and 1 C₂₂
fatty acid.

30

D: 85 wt% of a triglyceride with 2 C₈ fatty acids and 1
C₂₂ fatty acid and 15 wt% of cocoa butter (added in
addition to the cocoa butter which was inherently
present in the cocoa powder).

Example A and B are in accordance to the present invention,
while examples C and D are included for reference purposes.
Products A and B are generally of better quality than
35 products C and D (melting behaviour, crystallisation
behaviour etc).

Example II

A fat composition A was made of 87 wt% non hydrogenated
5 sunflower oil and 13 wt% of a long chain fatty acid
triglyceride with 1 C₂₀ and two C₁₂ saturated fatty acids.

A reference fat composition B was made of 87 wt% non
hydrogenated sunflower oil and 13 wt% of a 50:50 (wt)
10 mixture of coesterified Palm kernel oil (hardened to a slip
melting point of 38°C) and Palm oil (hardened to a slip
melting point of 58°C).

A third fat composition C was made of the same composition
15 as A, except that there was included 13% of a triglyceride
prepared by random esterification of a 2:1 molar mixture of
C₁₂ and C₂₀ saturated fatty acids.

Compositions A-C can be used as frying compositions.
20 Compositions A and C are preferred over composition B
(reference).

Compositions A-C can be used for the preparation of a
healthy margarine of the composition:

25

<u>Ingredient</u>		<u>parts by weight</u>
fat composition		80
water		20
monoglyceride		
30	(from Palm oil 58°C)	0.1
colouring/flavouring/ preservatives		0.1

Standard votator line processing may be used to prepare
35 this product.

Generally, products with fat compositions A and C are preferred for their oral melting properties to products with fat composition B.

Example III

A fat composition A (reference) was made of 40 wt% of a non hydrogenated soybean oil and 60 wt% of Palm oil hardened to a slip melting point of about 43°C.

A fat composition B is made of 40 wt% of a non hydrogenated soybean oil, 30 wt% of palm oil hardened to a slip melting point of about 43°C and 30 wt% a long chain triglyceride with one C₂₀ and two C₁₂ saturated fatty acids.

A fat composition C is made of 40 wt% of a non hydrogenated soybean oil and 60 wt% of a long chain triglyceride with one C₂₀ and two C₁₂ saturated fatty acids.

A fat composition D is made of 40 wt% of a non hydrogenated soybean oil, 30 wt% of Palm oil hardened to a slip melting point of about 43°C and 30 wt% of a triglyceride obtained by the random esterification of a 2:1 molar mixture of C₁₂ and C₂₀ saturated fatty acids.

Fat compositions A-D are used for preparing a bakery margarine of 82 wt% of the fat composition, 1% NaCl, 0.15% monoglyceride (from Palm oil 58°C), the balance water.

Vol-au-vents are prepared from a dough of 1000 wt parts flour (Banket extra ex Meneba), 800 weight parts of bakery margarine and 560 weight parts water by preparing a predough of water and flour and folding in the bakery margarine at 20°C (6 half turns in three).

Generally, the fat compositions B-D are preferred over fat composition A, because of handleability of the fat composition (especially for D) and quality of the final product.

Example IV

Two fats A and B according to the invention were compared to Caprenin a commercially available $C_8/C_{10}/C_{22}$ triglyceride. Fat A was a $C_{12}/C_{10}/C_{22}$ triglyceride, fat B was a randomized $C_{20}(C_{12})_2$ triglyceride. The fats had the following carbon number profile:

Carbon No.	A	B	Caprenin
28	0	0.1	0
30	0	0	0
34	0	0.1	0.4
36	0.6	17.4	2.7
38	0.1	4.2	23.4
40	0	0.4	46.8
42	0.4	0.3	24.7
44	94.5	44.4	0.9
46	3.8	6.3	0.1
48	0.1	0.3	0.2
50	0	0	0.2
52	0.2	23.4	0.4
54	0	1.6	0.3
60	0	1.4	0

Chocolates of the following composition were prepared:

COMPOSITION (Ingredients) wt%	CAPRENIN 1	INVENTION 1
cocoa powder	15.5	15.5
sugar	54.65	54.65
A	-	19.63
B	-	9.82
Caprenin	29.45	-
added Cocoa butter	-	-
lecithin	0.4	0.4
	100	100

COMPOSITION (Ingredients) wt%	CAPRENIN 2	INVENTION 2
cocoa powder	14.76	14.76
sugar	52.05	52.05
A	-	18.7
B	-	9.35
Caprenin	28.05	-
added Cocoa butter	4.75	4.76
lecithin	0.38	0.38
	100	100

The chocolates (1) were manufactured by mixing all dry ingredients with the fat and the lecithin in a ball mill at 60°C for 5.5. hours. The other chocolates (2) were made by adding extra cocoa butter to the chocolates 1.

The chocolates were formed into bars by melting the solid chocolate at 52°C in a batch tempering kettle followed by depositing 50 g portions into polycarbonate chocolate moulds (4x3 squares). The mould temperature was 20°C. The moulds were placed at the centre section of a cooling tunnel, the temperature of the tunnel was set at 15°C, 10°C and 15°C. the moulds were removed from the cooling tunnel and turned upside down.

The de-moulding performance of the chocolate bars was determined by measuring the time between turning upside down and de-moulding of the bars. For the chocolates according to the invention the de-moulding time was 20 minutes or less. For the Caprenin 1 chocolate no chocolate bars were de-moulded after 255 minutes, for the Caprenin 2 chocolates only a few bars (of the 12) were demoulded after 255 minutes.

The gloss and bloom performance of the chocolate bars were also evaluated after storage of 20°C. The following scores were used:

Gloss:	5	Very Glossy
	4	Glossy
	3	Fair
	2	Slightly dull
	1	Completely dull

Bloom:	3	No Bloom
	2	Questionalbe Bloom
	1	Bloom
	0	Heavy Bloom

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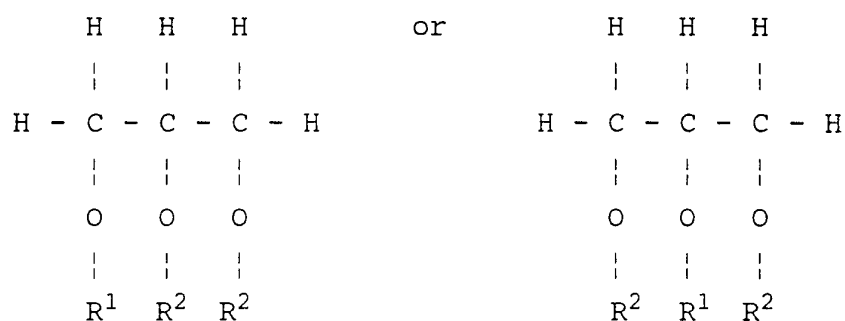
The following results were obtained:

Storage time		Invention 1	Caprenin 1	Invention 2	Caprenin 2
1 day	Gloss	4/5	1	5	1
	Bloom	3	0	3	0
15 days	Gloss	4	1	5	1
	Bloom	3	0	3	0
29 days	Gloss	4	1	4	1
	Bloom	3	0	3	0
46 days	Gloss	4	1	4	1
	Bloom	3	0	3	0

The above results clearly show that chocolates according to the inventor were of better quality than chocolates with Caprenin.

Claims

1. A fat composition comprising 5-100% by weight of a long chain fatty acid triglyceride material of the formula:



wherein R^1 is a C_{20-24} fatty acid and R^2 is a C_{12} fatty acid.

2. A fat composition in accordance to claim 1, wherein R^1 and R^2 are saturated fatty acids.
3. A fat composition according to claim 1 or 2, wherein R^1 is a C_{20} fatty acid.
4. A fat composition according to claims 1-3, wherein the weight ratio between long chain fatty acid materials and other fatty materials is more than 1 : 1.
5. Food product comprising 1-100% by weight of a fat-composition in accordance to claims 1-4.

6. Food product according to claim 5, being a chocolate confectionery product comprising:
 - (A) 25-70 wt% by weight of a fat composition according to claim 1;
 - (B) 0.001 to 60 wt% by weight of sugar or other sweeteners;
 - (C) 5-45 wt% by weight of cocoa powder or chocolate liquor;
 - (D) 0-20 wt% of milk solids;
 - (E) 0-5 wt% flavouring and/or colouring materials;
 - (F) 0-5 wt% emulsifying agents.
7. Food product according to claim 6 having an N_{20} of at least 60 and N_{35} less than 15.
8. Food product according to claim 6 or 7, wherein the fat composition comprises 5-50% of cocoa butter.
9. Food product according to claim 5, being a spread comprising an oil and water emulsion comprising from 5-95% by weight of a fat composition according to claim 1.

INTERNATIONAL SEARCH REPORT

PCT/EP 93/00222

International Application No

I. CLASSIFICATION OF SUBJECT MATTER (if several classification symbols apply, indicate all) ⁶		
According to International Patent Classification (IPC) or to both National Classification and IPC		
Int.Cl. 5 A23D9/00; A23D7/00; A23G1/00		
II. FIELDS SEARCHED		
Minimum Documentation Searched ⁷		
Classification System	Classification Symbols	
Int.Cl. 5	A23D ; A23G	
Documentation Searched other than Minimum Documentation to the Extent that such Documents are Included in the Fields Searched ⁸		
III. DOCUMENTS CONSIDERED TO BE RELEVANT⁹		
Category ¹⁰	Citation of Document, ¹¹ with indication, where appropriate, of the relevant passages ¹²	Relevant to Claim No. ¹³
Y	LU,A,31 173 (E.F. DREW & CO.) 31 December 1951 see page 2, paragraph 2; claims 1,3,4,7-10 see page 4, paragraph 1 ---	1-5
Y	GB,A,874 182 (UNILEVER LTD.) 2 August 1961 see page 1, line 75 - line 83; claims 1,3,11,12 ---	1-5
Y	BE,A,653 320 (THE PROCTER & GAMBLE COMPANY) 22 March 1965 cited in the application see page 7, paragraph 5 - page 8, paragraph 1; claims 1-6 ---	1-5
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¹⁰ Special categories of cited documents : "A" document defining the general state of the art which is not considered to be of particular relevance "E" earlier document but published on or after the international filing date "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) "O" document referring to an oral disclosure, use, exhibition or other means "P" document published prior to the international filing date but later than the priority date claimed "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art. "&" document member of the same patent family		
IV. CERTIFICATION		
Date of the Actual Completion of the International Search	Date of Mailing of this International Search Report	
07 MAY 1993	24.05.93	
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III. DOCUMENTS CONSIDERED TO BE RELEVANT (CONTINUED FROM THE SECOND SHEET)		
Category °	Citation of Document, with indication, where appropriate, of the relevant passages	Relevant to Claim No.
A	EP,A,0 115 655 (UNILEVER NV) 15 August 1984 see claims 1-3,7-13,18,19; example 3; table 1 ---	1-5,7,9
A	FR,A,1 459 649 (NATIONAL BISCUIT COMPANY) 10 October 1964 see page 12 - page 13 see page 3, right column, paragraph 5 -paragraph 6 see page 4, left column, paragraph 4 -----	1,2,5,6, 8

**ANNEX TO THE INTERNATIONAL SEARCH REPORT
ON INTERNATIONAL PATENT APPLICATION NO.**

EP 9300222
SA 69591

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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
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GB-A-874182		None	
BE-A-653320	22-03-65	FR-A- 1414086 GB-A- 1020826 NL-A- 6411052 US-A- 3353964	24-03-65
EP-A-0115655	15-08-84	NL-A- 8205047 AU-B- 549114 AU-A- 2293783 CA-A- 1203116 JP-A- 59135839 US-A- 4521440	16-07-84 16-01-86 05-07-84 15-04-86 04-08-84 04-06-85
FR-A-1459649		CH-A- 480805 DE-A- 1492939 GB-A- 1107206 NL-A- 6516845	15-11-69 22-05-69 29-06-66