





#### Introduction to Sisterna® sucrose esters

Safety and mildness are key requirements in today's personal care industry and are increasingly driving formulators to focus their interest on natural and naturally derived raw materials. But just being mild and safe is not enough: today's raw materials should meet an outstanding technological performance as well.

In Sisterna® sucrose esters these requirements are combined. Being based on sucrose and vegetable fatty acids, Sisterna® sucrose esters are a unique range of high quality, non-ionic emulsifiers with exceptional performance and mildness.

Sisterna<sup>®</sup> sucrose esters can offer other unique benefits to personal care formulations, thus offering formulators many advantages in these times of environmental consciousness.

Sisterna distinguishes itself as a flexible partner that will help to find technical solutions in the development, improvement and process optimising of personal care products.

Further guide formulations are available on request.

#### **Business Partners**

Sisterna B.V. is responsible for the supply of Sisterna® sucrose esters in Europe and the Americas and has a network of exclusive distributors in its territory.

Visit our website **www.sisterna.com** to find out more about Sisterna<sup>®</sup> sucrose esters and to find the business partner responsible for your country.

The information and recommendations in this publication are to the best of our knowledge, information and belief accurate at the date of publication. Nothing herein is to be construed as warranty expressed or implied. In all cases it is the responsibility of users to determine the applicability of such information or the suitability of any products for their own particular purpose.

### Certifications

Grade	Natrue	Ecocert / COSMOS	Natural Certified by NPA	RSPO	Kosher	Suitable for Vegetarians	Suitable for Vegans
PS750-C		COSMOS APPROVED	CONTRACT OF	1100 000 000 000 000 000 000 000 000 00		${\bf i}$	$\bigotimes$
L70-C		COSMOS APPROVED	CONTEND OF	Aspo Mesouries		Q	$\bigotimes$
SP70-C		COSMOS APPROVED	A CONCEPTION	Rspo 2.0123-09-100-00		${\bf i}$	$\bigotimes$
SP50-C		COSMOS APPROVED	Contractor	Rspo 2.0123-09-100-00		${\bf i}$	$\bigotimes$
SP30-C		COSMOS APPROVED		Rspo 2.0123-09-100.00		${\bf i}$	$\bigotimes$
SP10-C		COSMOS APPROVED		Rspo 2.0123-09-100.00		${\bf i}$	$\bigotimes$
SP01-C		COSMOS APPROVED		ASPO 2.0123-09-100-00		${\bf i}$	$\bigotimes$
A10E-C			A CONTRACTOR OF	Alle 20123-09-100.00		${\bf i}$	$\bigotimes$

### Product range, functionalities & application concepts

Product range	PS750-C	L70-C	SP70-C	SP50-C	SP30-C	SP10-C	SP01-C	A10E-C
INCI-name	Sucrose Palmitate	Aqua (and) Sucrose Laurate (and) Alcohol	Sucrose Stearate	Sucrose Stearate	Sucrose Distearate	Sucrose Polystearate	Sucrose Polystearate	Sucrose Tetrastearate Triacetate
HLB value	16	15	15	11	6	2	<]	-
Physical form	powder	liquid (40%sol)	powder	powder	powder	powder	powder	powder
% mono ester	75	70	70	50	30	10	1	0
Functionalities								
Emulsifier O/W Co-emulsifier W/O	•		•	•	•			
Co-surfactant/ mild cleanser	0	•	0					
Lipidic phase modifier								•
Selective anti- microbial activity		•	•					
Application con	cepts					•	•	
Main emulsifier Co-emulsifier O/W and W/O	•		•	•	•	•	•	
Cold emulsifier	•							
Gel-to-milk	•		•					
Spray/wipe & serum emulsions	•		•					
Mild cleansing	0		0					
Anhydrous systems						•	•	•

• First choice

O Good alternative

1	Sucrose esters as main O/W emulsifier system	ME.019 Light & Soft Body Butter ME.016 Mild After Sun Cream ME.017 The LLC Lotion ME.018 Sun Lotion SPF30	11 13 15 17
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# Sucrose esters as main O/W emulsifier system

### Sucrose esters as main O/W emulsifier system



Creating natural emulsions with a luxurious skin feel is a challenging task. This can be achieved with Sisterna® sucrose esters, which are excellent natural oil-in-water (O/W) emulsifiers. Furthermore Sisterna® sucrose esters provide an excellent touch and improve smoothness, emolliency and moisture level of the skin.

#### O/W emulsions

Sisterna® sucrose esters with a medium to high HLB value are recommended for the development of natural and mild O/W emulsions.

Advised products:

- Sisterna SP30-C/Sisterna SP70-C in a 2/2 ratio for creams
- Sisterna SP30-C/Sisterna SP70-C in a 3/1 ratio for lotions (LLC)
- Sisterna SP50-C

#### Benefits of Sisterna® sucrose esters in O/W emulsions

- Show very good emulsification properties with oils of different polarity, including vegetable and mineral oils, medium polarity and silicone oils
- Are suitable emulsifiers for the formation of traditional as well as lamellar liquid crystal type (LLC) emulsions
- Provide an excellent skin feel, largely independent of the oil phase
- Improve skin smoothness, emolliency and moisturisation
- Provide a cooling effect

With a combination of Sisterna SP30-C/SP70-C in a 2/2 ratio cosmetic mousses with a light texture and excellent skin feel can be prepared. An additional aerating step will be required in the production process. For more information, please contact Sisterna.

#### FORMULATION INFORMATION ME.019 Light & Soft Body Butter

A rich body butter containing more than 20% of butters and waxes. The emulsifiers Sisterna SP30-C & Sisterna SP70-C and the oil thickener Sisterna A10E-C reduce the greasiness of these butters and solids. This also improves the spreadability and gives a lighter skin feel.

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### ME.019 Light & Soft Body Butter

ID	: Main Emulsifier / ME.019
pH-value	: 5.8
Viscosity	: 511.000 mPa.s Brookfield DV2T, Spindle 95, 5 rpm
Product form	: O/W

	Ingredient	INCI-name	% w/w	Supplier
1	Deionised Water Glycerin Bentone Hydroclay 700 Euxyl PE9010	Aqua Glycerin Hectorite, Xanthan Gum Phenoxyethanol, Ethylhexylglycerin	46.60 2.50 0.75 0.90	several several Elementis Ashland
2	LIPEX® SheaSoft TR™ Coconut Oil Sunflower Wax Sisterna A10E-C Sisterna SP70-C Sisterna SP30-C Caprylic/Capric Triglyceride Tocomix L70-IP	Butyrospermum Parkii (Shea) Butter Cocos Nucifera (Coconut) Oil Helianthus Annuus (Sunflower) Seed Wax Sucrose Tetrastearate Triacetate Sucrose Stearate Sucrose Distearate Caprylic/Capric Triglyceride Tocopherol, Helianthus Annuus (Sunflower) Seed Oil	15.00 7.90 8.00 5.00 2.00 2.00 6.00 0.05	AAK several Koster Keunen Sisterna Sisterna several Jan Dekker
3	CefiraProtect	Betaine, Isomalt, Lactobacillus Ferment Lysate, Kefiran	3.00	CLR
	Touch Of Memories 343956-D	Parfum	0.30	Luzi

- 1. Disperse the Bentone Hydroclay 700 in the glycerin. Add to blend (of water and preservative) and mix with a propeller mixer at 500rpm for 10 minutes.
- 2. Heat (1) and (2) to 75°C.
- 3. Add (2) to (1) while homogenising.
- 4. Cool down to 40°C while continuously stirring and add (3) to (1+2) while homogenising shortly.
- 5. Cool down to room temperature under continous stirring and adjust pH with (4) if necessary.

#### FORMULATION INFORMATION ME.016 Mild After Sun Cream

Sisterna SP30-C and Sisterna SP70-C create a light skin feel and improve skin smoothness, emolliency and moisturisation. Their mildness is key in this formulation.

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### ME.016 Mild After Sun Cream

ID	: Main Emulsifier / ME.016
pH-value	: 5.4
Viscosity	: 45.800 mPa.s Brookfield DV2T, Spindle 93, 5 rpm
Product form	: O/W

	Ingredient	INCI-name	% w/w	Supplier
1	Deionised Water Glycerin Xilogel HS Actigum VSX 20 Effisin PG Euxyl K 712	Aqua Glycerin Tamarindus Indica Seed Polysaccharide Sclerotium Gum, Xanthan Gum Pentylene Glycol Aqua, Sodium Benzoate, Potassium Sorbate	51.12 3.25 0.25 0.30 3.28 1.00	several several Indena Cargill Ashland Ashland
2	Sisterna SP70-C Sisterna SP30-C VAB - Vanilla Butter Coconut Oil Apricot Oil Caprylic/Capric Triglyceride Lipex PreAct Tocomix L70-IP Vitamin F Forte CLR	Sucrose Stearate Sucrose Distearate Prunus Amygdalus Dulcis (Sweet Almond) Oil, Helianthus Annuus (Sunflower) Seed Oil, Hydrogenated Vegetable Oil, Vanilla Planifolia Fruit Oil Cocos Nucifera (Coconut) Oil Prunus Armeniaca (Apricot) Kernel Oil Caprylic/Capric Triglyceride Canola Oil Tocopherol, Helianthus Annuus (Sunflower) Seed Oil Linoleic Acid, Linolenic Acid	2.00 2.00 9.00 6.05 7.00 5.00 5.00 0.25 1.20	Sisterna Sisterna EFP Biotek several several AAK Jan Dekker CLR
3	Myramaze Aqua Luna 357576 Citric Acid 20% solution	Propanediol, Aqua, Myrothamnus Flabellifolia Leaf/Stem Extract, Ascorbic Acid, Citric Acid Parfum Citric Acid	3.00 0.30 qs	Rahn Luzi several

- 1. Premix the Actigum VSX 20 and Xilogel HS into the glycerin.
- 2. Add the preservatives and the premix to (1) while homogenising during 20 minutes.
- 3. Heat (1) to 75°C.
- 4. Heat (2) to 70°C.
- 5. Add (2) to (1) while homogenising.
- 6. Cool down to 40°C while stirring.
- 7. Add (3) and homogenise shortly until the ingredients are incorporated.
- 8. Cool down to room temperature while stirring.
- 9. Adjust pH if necessary.

# FORMULATION INFORMATION ME.017 The LLC Lotion

Combining Sisterna SP30-C and Sisterna SP70-C in a 3/1 ratio, gives you the ability to create Lamellar Liquid Crystal (LLC) emulsions. The addition of 2% cetearyl alcohol further enhances the LLC networks. The velvet skin feel created by using sucrose esters is enhanced by the LLC emulsion, also providing a better stability and a controlled release of actives.

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### ME.017 The LLC Lotion

ID	: Main Emulsifier / ME.017
pH-value	: 7.10
Viscosity	: 43.200 mPa.s Brookfield DV2T, Spindle 94, 5 rpm
Product form	: O/W

	Ingredient	INCI-name	% w/w	Supplier
1	Deionised Water Glycerin 99% Bentone Hydroclay 700	Aqua Glycerin Hectorite, Xanthan Gum	65.50 4.00 1.00	several several Elementis
2	Sisterna SP30-C Sisterna SP70-C Cetearyl Alcohol Sweet Almond Oil Avocado Oil Jojoba Oil Tocomix L70-IP	Sucrose Distearate Sucrose Stearate Cetearyl Alcohol Prunus Amygdalus Dulcis (Sweet Almond) Oil Persea Gratissima (Avocado) Oil Simmondsia Chinensis (Jojoba) Seed Oil Tocopherol, Helianthus Annuus (Sunflower) Seed Oil	3.00 1.00 2.00 6.50 7.00 6.50 0.05	Sisterna Sisterna several several several Jan Dekker
3	Sensiva Go Natural Soyamine Vibrant Herbs 261239	Caprylyl Glycol, Glyceryl Caprylate, Propanediol Water, Butylene Glycol, Glycine Soja (Soybean) Germ Extract Parfum	1.15 2.00 0.30	Ashland TriBeauté Luzi
4	Citric Acid (20% Aq. Sol.)	Citric Acid, Aqua	q.s.	several

- 1. Disperse the Bentone Hydroclay 700 into the glycerin.
- 2. Add the premix to (1) with propeller mixing and stir during 20 minutes and heat to 75°C.
- 3. Heat (2) to 70°C.
- 4. Add (2) to (1) under stirring and homogenise.
- 5. Cool down to  $40^{\circ}$ C and add (3) to (1+2).
- 6. Adjust pH with (4) if necessary.
- 7. Cool down to room temperature while stirring.

# FORMULATION INFORMATION ME.018 Sun Lotion SPF30

The negative sensation of ingredients on the skin, such as sun filters, is countered by using Sisterna SP70-C and Sisterna SP30-C as the emulsifier system. They improve spreadability, skin softness and the overall after-feel of the formulation in a natural way.

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### ME.018 Sun Lotion SPF30

ID	: Main Emulsifier / ME.018
pH-value	: 7.15
Viscosity	: 59.600 mPa.s Brookfield DV2T, Spindle 94, 5 rpm
Product form	: O/W

	Ingredient	INCI-name	% w/w	Supplier
1	Deionised Water Glycerin Actigum VSX 20 Sensiva SC80	Aqua Glycerin Sclerotium Gum, Xanthan Gum Propanediol, Caprylyl Glycol, Caprylhydroxamic Acid	50.50 3.00 0.60 1.50	several several Cargill Ashland
2	Sisterna SP70-C Sisterna SP30-C VS - Olive Squalane Lipex PreAct Jojoba Oil VASGel	Sucrose Stearate Sucrose Distearate Squalane Canola Oil Simmondsia Chinensis (Jojoba) Seed Oil Hydrogenated Ethylhexyl Olivate, Hydrogenated Olive Oil Unsaponifiables, Hydrogenated Castor Oil, Sebacic Acid Copolymer	3.00 3.00 6.00 3.00 6.00 3.00	Sisterna Sisterna EFP Biotek AAK several EFP Biotek
3	Xperse 102	Zinc Oxide, Caprylic Capric Triglyceride, Polyhydroxystearic Acid	20.00	Evercare
4	Tocomix L70-IP Suncare 555828	Tocopherol, Helianthus Annuus (Sunflower) Seed Oil Parfum	0.05 0.35	Jan Dekker Luzi

- 1. Premix the Actigum VSX20 into the glycerin of (1).
- 2. Add Sensiva SC80 to the water of (1).
- 3. Disperse the premix of glycerin into (1) while homogenising during 20 minutes.
- 4. Heat the water phase to 75°C.
- 5. Weigh the ingredients of (2) and heat up to  $75^{\circ}$ C.
- 6. Weigh the ingredients of (3) and add to the heated oil phase (2), homogenise during 3 minutes until good dispersion is obtained.
- 7. Add (2+3) to (1) while homogenising continuously.
- 8. Cool down to 40°C and add (4), homogenise shortly.
- 9. Adjust pH if necessary.



### Sucrose esters as co-emulsifier for O/W and W/O



Creating natural emulsions with a luxurious skin feel is a challenging task. Sisterna® sucrose esters are excellent natural co-emulsifiers for both oil-in-water (O/W) and water-in-oil (W/O) skin care emulsions. Furthermore Sisterna® sucrose esters provide an excellent touch and improve smoothness, emolliency and moisture level of the skin.

#### O/W emulsions

Sisterna® sucrose esters with a high HLB value are recommended for the development of O/W emulsions.

Advised products:

• Sisterna SP70-C as co-emulsifier with a low HLB food emulsifier, such as glycerylstearate citrate or glyceryl monostearate

Benefits of Sisterna® sucrose esters in O/W emulsions:

- Show very good emulsification properties with oils of different polarity, including vegetable and mineral oils, medium polarity and silicone oils
- Are suitable emulsifiers for the formation of traditional as well as lamellar liquid crystal type emulsions
- Provide an excellent skin feel, largely independent of the oil phase
- · Improve skin smoothness, emolliency and moisturisation
- Provide a cooling effect

#### W/O emulsions

Sisterna® sucrose esters with a low HLB value are recommended for the development of W/O emulsions.

Advised products:

• Sisterna SP01-C or Sisterna SP10-C as co-emulsifier

Benefits of Sisterna® sucrose esters in W/O emulsions:

- · Improve the spreading and after skin feel properties of the emulsion
- Eliminate the oily/greasy sensation typical of W/O emulsions

#### FORMULATION INFORMATION CoE.008 Las Vegas Protection Cream

Sisterna SP70-C can be used as a natural co-emulsifier for O/W emulsions. It improves the skin feel and increases the mildness of a formulation. Dosing Sisterna SP70-C only as a co-emulsifier is also a good way of using the benefits more economically for mass market products.

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### CoE.008 Las Vegas Protection Cream

ID

: Co-emulsifier / CoE.008

pH-value Viscosity Product form

: 46.800 mPa.s Brookfield DV2T, Spindle 93, 5 rpm : O/W

: 5.5

	Ingredient	INCI-name	% w/w	Supplier
1	Deionised Water Dermosoft MCA Variante	Aqua Dipropylene Glycol, Caprylyl Glycol, Glyceryl Caprylate	70.85 1.00	several Dr. Straetmans
2	Disodium EDTA	Disodium EDTA	0.10	several
3	Carbopol Ultrez-10	Carbomer	0.30	Lubrizol
4	CCT Oil Eusolex HMS Eusolex OCR Eusolex 9020 Amisoft HS-11P(F) Sisterna SP70-C Dermofeel GSC Cetearyl Alcohol Keltrol CG-SFT Dermofeel Toco 70	Caprylic/Capric Triglyceride Homosalate Octocrylene Butyl Methoxydibenzoylmethane Sodium Stearoyl Glutamate Sucrose Stearate Glyceryl Stearate Citrate Cetearyl Alcohol Xanthan Gum Tocopherol, Helianthus Annuus (Sunflower) Seed Oil	8.00 2.00 2.00 0.15 2.00 2.00 2.00 0.30 0.20	several Merck Merck Ajinomoto Sisterna Dr. Straetmans several CP Kelco Dr. Straetmans
5	NaOH (29% sol.)	Sodium Hydroxide, Water	0.90	several
6	RADICARE-GOLD	Crambe Abyssinica Seed Oil, Beta-Carotene, Xanthophylls, Tocopherol, Helianthus Annuus (Sunflower) Seed Oil, Rosmarinus Officinalis (Rosemary) Leaf Extract	3.00	Rahn
7	Dreams Come True	Parfum	0.20	Luzi

#### **Production method**

- 1. Mix the ingredients of (1).
- 2. Add (2) to (1).
- Add (3) to the surface of (1+2). Wait until the powder is fully hydrated, mix thoroughly until completely dissolved.
- 5. Mix the ingredients of (4) and heat to 70°C while stirring.
- 6. Add (4) to (1+2+3) and homogenise.
- 7. Cool down to 40°C while stirring gently.
- 8. Add (5, 6, 7) separately.
- 9. Cool down to room temperature while stirring.
- 4. Heat (1+2+3) to 70°C while stirring.

Formulation developed by RAHN AG (Switzerland) - www.rahn-group.com

#### FORMULATION INFORMATION CoE.009 Arctic Protection Cream

Dosing Sisterna SPO1-C in this heavy duty W/O cream, improves the spreading properties, eliminates the oily or greasy sensation and enhances the after skin feel. It makes the total cream feel like a rich O/W emulsion. The addition of Sisterna A10E-C increases viscosity and improves the sensorial aspect of the final formulation.

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### CoE.009 Arctic Protection Cream

ID	: Co-emulsifier / CoE.009
pH-value	: Not applicable
Viscosity	: 371.200 mPa.s Brookfield DV2T, Spindle RV07, 5 rpm
Product form	: W/O

	Ingredient	INCI-name	% w/w	Supplier
1	Deionised Water Magnesium Sulfate 7H2O Glycerin 99% Snow Algae Powder Glycoin Natural	Aqua Magnesium Sulfate Heptahydrate Glycerin Coenochloris Signiensis Extract, Maltodextrin, Lecithin, Aqua Glyceryl Glucoside, Aqua	62.40 0.70 3.00 2.00 1.00	several several Mibelle Bitop
2	Sisterna SP01-C Sisterna A10E-C Arlacel 1690 Olive Squalane Arnica Oil CLR Probarrier CLR Olive Squalene Wax Dermofeel Toco 70 non GMO Vegetable Alternative to Lanolin	Sucrose Polystearate Sucrose Tetrastearate Triacetate Sorbitan Isostearate, PolyglyceryI-3 Polyricinoleate Squalane Glycine Soja (Soybean) Oil, Arnica Montana Flower Extract, Tocopherol Aqua, Caprylic/Capric Triglyceride, Copernicia Cerifera (Carnauba) Wax, Decyl Glucoside, Pentylene Glycol Olea Europaea (Olive) Oil unsaponifiables Tocopherol, Helianthus Annuus (Sunflower) Seed Oil Butyrospermum Parkii (Shea Butter), Glyceryl Rosinate, Olea Europaea (Olive) Oil unsaponifiables	1.50 3.00 3.00 5.00 3.00 3.00 0.50 3.50	Sisterna Sisterna Croda EFP Biotek CLR CLR EFP Biotek Dr. Straetmans EFP Biotek
3	Fragile Green 260906-A Borealine Protect Euxyl K830	Parfum Glycerin, Picea Mariana Bark Extract Phenoxyethanol, Ethylhexylglycerin, Octenidine HCl	0.30 0.10 1.00	Luzi Lucas Meyer Ashland

- 1. Heat (1) until 75°C.
- 2. Heat (2) until 75°C.
- 3. Add (1) to (2) while homogenising.
- 4. Cool down while stirring to 35°C-40°C and add (3).
- 5. Homogenise shortly.
- 6. Cool down to room temperature while stirring.

#### FORMULATION INFORMATION CoE.010 Moisturising Foundation

By including Sisterna SP10-C in this formulation, the spreading properties are improved, the oily or greasy sensation is eliminated and the after skin feel is enhanced. It results in a very light feeling W/O foundation.

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### CoE.010 Moisturising Foundation

ID	: Co-emulsifier / CoE.010
pH-value	: Not applicable
Viscosity	: 12.000- 15.000 mPa.s Brookfield RVDV 1+, Spindle 05, 20 rpm
Product form	: W/O

	Ingredient	INCI-name	% w/w	Supplier
1	Neossance Squalane Neossance Hemisqualane Essachem EH Sisterna SP10-C Vitamin E SolAmaze Natural Bentone Luxe XO	Squalane C13-15 AlkaneEmolliente Octyldocecyl Olivate Sucrose Polystearate Tocopheryl Acetate Diisostearoyl Polyglyceryl-3 Dimer Dilinoleate, Caprylic/Capric Triglyceride C13-15 Alkane, Disteardimonium Hectorite, Polyglyceryl-3 Polyricinoleate	2.50 12.85 3.00 1.00 0.15 3.50 7.00	Aprinnova Aprinnova TC USA Sisterna several Nouryon Elementis
2	Bentone Luxe XO Bentone LC V Tarox Iron Oxide R-800HP Tarox Iron Oxide BL-100HP Tarox Iron Oxide LL-100HP Hombitan AFDC101	C13-15 Alkane, Disteardimonium Hectorite, Polyglyceryl-3 Polyricinoleate C9-12 Alkane, Disteardimonium Hectorite, Triethyl Citrate Iron Oxides C.I. 77491 Iron Oxides C.I. 77499 Iron Oxides C.I. 77492 Titanium Dioxide	3.00 3.00 0.20 0.13 0.82 10.00	Elementis Elementis Iwase Cosfa Iwase Cosfa Iwase Cosfa Venator
3	Deionised Water NaCl MgsO4 Glycerin Euxyl PE 9010	Aqua Sodium Chloride Magnesium Sulfate Glycerin Phenoxyethanol, Ethylhexylglycerin	45.85 1.00 1.00 2.00 1.00	several several several several Ashland
4	Amaze Nordic Barley	Hordeum Vulgare Seed Flour	2.00	Nouryon

#### **Production method**

- 1. First mix (1) and then mix (2) until homogenous.
- 2. Add (2) to (1) and mix until homogeneous. Heat to  $70^{\circ}$ C.
- 3. Mix (3), heat to 70°C and add to (+2) and homogenise for 5 minutes with a high shear mixer.
- 4. Cool down to 35°C while stirring and add (4). Homogenise shortly with a high shear mixer for 1 minute.

Formulation developed by Safic Alcan Italy - www.safic-alcan.com

# Sucrose esters as cold emulsifier for O/W

### Sucrose esters as cold emulsifier for O/W



Cold process emulsifiers are becoming increasingly popular as a way of reducing costs and obtaining a greener production method. Sisterna® sucrose esters are excellent emulsifiers for cold process oil-in-water (O/W) emulsions. Furthermore Sisterna® sucrose esters provide an excellent touch and improve smoothness, emolliency and moisture level of the skin.

#### O/W emulsions

Sisterna® sucrose esters with a high HLB value are recommended for the development of cold process O/W emulsions.

Advised products:

- Sisterna SP70-C
- Sisterna PS750-C

Benefits of Sisterna® sucrose esters in cold process O/W emulsions:

- Show very good emulsification properties with oils of different polarity, including vegetable and mineral oils, medium polarity and silicone oils
- Easy to use
- Safe and mild
- Provide an excellent skin feel, largely independent of the oil phase
- Improve skin smoothness, emolliency and moisturisation
- Provide a cooling effect

#### FORMULATION INFORMATION CE.007 High Viscous Light Cream

Simple and effective formulation with Sisterna SP70-C, showing the high viscosity you can achieve with this cold production concept. Sucrose esters decrease the oily sensation of oils and therefore up to 60% can be dosed to create the highest viscosity possible. Include a hydrocolloid that gives a good viscosity build up to boost it even more. Tips and tricks to achieve a high viscosity: take a close look at the thinning behaviour of preservatives, actives and perfumes!

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### CE.007 High Viscous Light Cream

ID	: Cold emulsification / CE.007
pH-value	: 5.45
Viscosity	: 63.200 mPa.s Brookfield DV2T, Spindle 93, 5 rpm
Product form	: O/W – Cold production

	Ingredient	INCI-name	% <b>w/w</b>	Supplier
1	Deionised Water Glycerin Bentone Hydroclay 700 Sensiva SC80	Aqua Glycerin Hectorite, Xanthan Gum Propanediol, Caprylyl Glycol, Caprylhydroxamic Acid	31.50 3.00 1.50 1.00	several several Elementis Ashland
2	CCT Oil Sisterna SP70-C* Sweet Escape 233206-A	Caprylic Capric Triglycerides Sucrose Stearate Parfum	59.70 3.00 0.30	several Sisterna Luzi

\* Alternative grade: Sisterna PS750-C (INCI: Sucrose Palmitate). Viscosity: 56.100 mPa.s

#### **Production method**

**Cold Production** 

- 1. Premix the Bentone Hydroclay 700 into the glycerin of (1).
- 2. Add Sensiva SC80 to the water of (1).
- 3. Disperse the premix of glycerin into (1) under paddle missing for 20 minutes.
- 4. Mix (2) in given order while stirring to homogeneous solution.
- 5. Add (2) into (1) while homogenising.
- 6. Adjust pH if necessary.

#### FORMULATION INFORMATION CE.006 Light Cream-to-Oil

A gentle cream with a high percentage of light oils that gives a balanced oily sensation when applying it. This ensures a long playtime and a nice feeling of skin moisturisation, which is also a result of using Sisterna SP70-C.

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### CE.006 Light Cream-to-Oil

ID	: Cold emulsification / CE.006
pH-value	: 5.41
Viscosity	: 16.200 mPa.s Brookfield DV2T, Spindle 93, 5 rpm
Product form	: O/W – Cold production

	Ingredient	INCI-name	% w/w	Supplier
1	Deionised Water Optiphen BSB-W Glycerin Clearogel SG Keltrol CG-SFT	Aqua Benzyl Alcohol, Aqua, Sodium Benzoate, Potassium Sorbate Glycerin Sclerotium Gum Xanthan Gum	30.10 1.00 5.00 0.30 0.30	several Ashland several MMP CP Kelco
2	VASLight Lipex SheaSolve GSOLight Sisterna SP70-C* Dermofeel Toco 70 Non-Gmo Argan Infusion (240046)	Undecane, Tridecane, Hydrogenated Olive Oil Unsaponifiables, Coco-Caprylate/Caprate Shea Butter Ethyl Esters Vitis Vinifera (Grape) Seed Oil Sucrose Stearate Tocopherol, Helianthus Annuus (Sunflower) Seed Oil Parfum	20.00 20.00 19.80 3.00 0.20 0.30	EFP Biotek AAK EFP Biotek Sisterna Dr. Straetmans Luzi
3	Citric Acid (10% Aq. Sol.)	Citric Acid	q.s.	several

\* Alternative grade: Sisterna PS750-C (INCI: Sucrose Palmitate). Viscosity: 17.200 mPa.s

- 1. Disperse the Clearogel SG and Xanthan Gum into the glycerin while stirring.
- 2. Add the dispersion (1) into the water with preservative while stirring with a high shear mixer for 10 minutes.
- 3. Mix (2) in given order and homogenise until Sisterna SP70-C is well dispersed into the oil.
- 4. Add (2) into (1) while homogenising.
- 5. Adjust pH with (3) if necessary.

# FORMULATION INFORMATION CE.005 Serum Foundation

A natural, cold process and caring colour cosmetics emulsion which feels gentle and light on the skin. Sisterna® sucrose esters provide skin moisturisation and an excellent skin feel.

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### CE.005 Serum Foundation

ID	: Cold emulsification / CE.005
pH-value	: 5.8
Viscosity	: 5.320 mPa.s Brookfield DV2T, Spindle 91, 5 rpm
Product form	: O/W – Cold production

	Ingredient	INCI-name	% <b>w/w</b>	Supplier
1	Glycerin Xilogel HS Actigum VSX 20	Glycerin Tamarindus Indica Seed Polysaccharide Sclerotium Gum, Xanthan Gum	3.00 0.25 0.30	several Indena Cargill
2	Deionised Water CutiGuard CLR™ Disodium EDTA Euxyl K 712 Effisin PG	Aqua Betaine, Sucrose, Hydrolyzed Rhodophyceae Extract, Aqua Disodium EDTA Aqua, Sodium Benzoate, Potassium Sorbate Pentylene Glycol	59.55 3.00 0.20 1.00 3.28	several CLR several Ashland Ashland
3	Colorona Oriental Beige	Mica, Titanium Dioxide, Iron Oxide	1.00	Merck
4	Sisterna SP70-C Sisterna PS750-C Apricot Kernel Oil Dermofeel Toco 70 non GMO EV - Olive Squalene Lipex PreAct VS - Olive Squalane VAS Light - Veg. Alt. to Highly Volatile Silicone	Sucrose Stearate Sucrose Palmitate Prunus Armeniaca (Apricot) Kernel Oil Tocopherol, Helianthus Annuus (Sunflower) Seed Oil Squalene Canola Oil Squalane Undecane, Tridecane, Hydrogenated Olive Oil Unsaponifiables, Coco-Caprylate/Caprate	4.00 1.00 6.00 0.20 2.50 2.50 5.00 4.00	Sisterna Sisterna several Evonik EFP Biotek AAK EFP Biotek EFP Biotek
5	Unipure White LC981 Unipure Yellow LC182 Unipure Red LC381 Unipure Black LC989 Smooth Wildrose 500354-A	CI 77891 CI 77492 CI 77491 CI 77499 Parfum	2.50 0.30 0.10 0.02 0.30	Sensient Sensient Sensient Sensient Luzi

- 1. Premix the Actigum VSX 20 and Xilogel HS into the glycerin (1).
- 2. Disperse the premix (1) in the aqueous phase (2) while homogenising for 20 minutes.
- 3. Add the pigment (3) to phase (1+2) and homogenise.
- 4. Mix the oil phase (4) in given order and homogenise.

### Sucrose esters for gel-to-milk (concentrated emulsion technology)

Sucrose esters for gel-to-milk concepts (concentrated emulsion technology)

Concentrated emulsion technology for gel-to-milk concepts Sisterna® sucrose esters with a high HLB value are recommended for the development of oil-in-glycerin (O/G) concentrated emulsions, with the aspect of an oil gel turning into milk when diluted with water upon use.

Advised products:

- Sisterna SP70-C
- Sisterna PS750-C
- Sisterna L70-C (in combination with SP70-C or PS750-C)

Additional concept information:

- The optimum ratio of oil/glycerin is between 30/70 and 60/40
- To decrease the viscosity, the oil phase can be reduced to 30% as a maximum
- Combine Sisterna SP70-C or Sisterna PS750-C with Sisterna L70-C as an alternative to decrease viscosity
- Standard homogenisation equipment is used
- Transparent emulsions can be obtained by matching refractive indices of oil and glycerin phase
- Best emulsion stability is obtained with vegetable oils, caprylic/capric triglyceride

#### FORMULATION INFORMATION GE.006 Good Night Facial Cleanser

A facial cleanser that turns into a milk on the skin when in contact with water. Combining Sisterna SP70-C and Sisterna L70-C gives a lower viscosity which makes it easier to apply on the designated area. Washing of the gel, turning into a milk, gives a velvet-like after feel on the skin.

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### GE.006 Good Night Facial Cleanser

ID	: Gel-to-milk / GE.006
pH-value	: Not Applicable
Viscosity	: 35.000 mPa.s Brookfield DV2T, Spindle 95, 5 rpm
Water activity (a <sub>w</sub> )	: 0,44
Product form	: Gel-to-milk

	Ingredient	INCI-name	% w/w	Supplier
1	Glycerin 99%	Glycerin	31.20	several
	Sisterna SP70-C	Sucrose Stearate	1.00	Sisterna
	Sisterna L70-C	Aqua, Sucrose Laurate, Alcohol	2.50	Sisterna
	Deionised water	Aqua	5.00	several
2	Caprylic/Capric Triglyceride	Caprylic/Capric Triglyceride	60.00	several
	Natural Care (342791-A)	Parfum	0.30	Luzi

#### **Production method**

- 1. Disperse Sisterna SP70-C into the glycerin. Add other ingredients of (1) in given order.
- 2. Add (2) to (1) very slowly while homogenising.

Formulation prepared via concentrated emulsification procedure.

#### FORMULATION INFORMATION GE.014 Purifying Clay-to-Milk Mask

A mask containing 20% of green clay which is easily rinsed off afterwards. The clay mask forms a milk when in contact with water, creating a nice surprise effect. Afterwards a silky soft skin feel will be experienced.

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## GE.014 Purifying Clay-to-Milk Mask

ID	: Gel-to-milk / GE.014
pH-value	: N/A
Viscosity	: 651.000 mPa.s Brookfield DV2T, Spindle 95, 5 rpm
Product form	: Gel-to-milk

	Ingredient	INCI-name	% w/w	Supplier
1	Glycerin 99%	Glycerin	38.00	several
	Sisterna SP70-C	Sucrose Stearate	2.00	Sisterna
2	VS - Olive Squalane Apricot Oil VAL - Vegetable Alternative to Lanolin Jojoba Oil Tocomix L70-IP	Squalane Prunus Armeniaca (Apricot) Kernel Oil Butyrospermum Parkii (Shea) Butter, Glyceryl Rosinate, Olea Europaea (Olive) Oil Unsaponifiables Simmondsia Chinensis (Jojoba) Seed Oil Tocopherol, Helianthus Annuus (Sunflower) Seed Oil	5.00 12.50 9.00 12.40 0.10	EFP Biotek several EFP Biotek several Jan Dekker
3	Vibrant Energy 261236-A	Parfum	1.00	Luzi
	Green Clay ER	Illite	20.00	Alban Muller

#### **Production method**

- 1. Disperse Sisterna SP70-C into the glycerin (1) and heat up to 70°C.
- 2. Mix the ingredients of the oil phase (2) in given order and heat up to 75°C.
- 3. Add (2) to (1) slowly while homogenising.
- 4. Cool down to  $35^{\circ}$ C and add the ingredients of (3) to (1+2) while stirring.

# FORMULATION INFORMATION GE.015 Delicate Sandy Scrub

Gel-to-milk formulations with a high viscosity are a perfect basis for an exfoliant scrub. In this case a fine and sand-like scrub particle has been dosed giving a gentle scrub sensation. The combination of the subtle scrub experience and the typical skin feel of a gel-to-milk formulation creates a silky soft after-feel.

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## GE.015 Delicate Sandy Scrub

ID	: Gel-to-milk / GE.015
pH-value	: N/A
Viscosity	: 244.400 mPa.s Brookfield DV2T, Spindle 94, 5 rpm
Product form	: Gel-to-milk

	Ingredient	INCI-name	% w/w	Supplier
1	Glycerin	Glycerin	30.00	several
	Sisterna SP70-C	Sucrose Stearate	2.00	Sisterna
2	VS - Olive Squalane Lipex Preact GSOLight VAS - Vegetable Alternative to Silicone Organic Jojoba Oil Refined	Squalane Canola Oil Vitis Vinifera (Grape) Seed Oil Hydrogenated Ethylhexyl Olivate, Hydrogenated Olive Oil Unsaponifiables Simmondsia Chinensis (Jojoba) Seed Oil	5.00 12.00 20.00 12.00 12.00	EFP Biotek AAK EFP Biotek EFP Biotek several
3	Matcha Infusion 354261-A	Parfum	1.00	Luzi
	Phytpeel Green Rhyolite 300	Pumice, Shellac, Cl 77288	6.00	GreenPhyt

#### **Production method**

- 1. Disperse Sisterna SP70-C into the glycerin (1) and heat up to 70°C.
- 2. Mix the ingredients of the oil phase (2) in given order and heat up to  $75^{\circ}$ C.
- 3. Add (2) to (1) slowly while homogenising.
- 4. Cool down to 35°C and add the ingredients of (3) to (1+2) while stirring.

## Sucrose esters for spray/wipe and serum concepts (concentrated emulsion technology)

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Sucrose esters for spray/wipe and serum concepts (concentrated emulsion technology)

### Concentrated emulsion technology for spray and wipe concepts

Thin liquid oil-in-water emulsions with very small droplet sizes of 0.3 micrometer can be obtained when producing via a simple intermediate concentrated oil-in-glycerin (O/G) emulsification step. The O/G emulsion is then diluted with water to a final spray or wipe formulation.

Advised products:

- Sisterna SP70-C
- Sisterna PS750-C

Additional concept information:

- The optimum ratio of oil/glycerin is 50/50
- Standard homogenisation equipment is used
- · After emulsification the emulsion is diluted with water containing a stabiliser

#### Serum formulations

Due to the very small droplet sizes of 0.3 micrometer, this is also an excellent production method for making serums with a high skin penetration. The serums can require a higher viscosity than the spray and wipe concepts.

Additional concept information:

- Equal production method compared to making spray/wipe emulsions
- Increasing the intermediate oil-in-glycerine phase and reducing the water phase increases the viscosity needed for a serum
- By selecting the right hydrocolloids, viscosity can be increased further

# FORMULATION INFORMATION SE.008 Conditioning Spray

With an oil-in-glycerin intermediate phase, sprayable formulations can be made without using ethoxylated emulsifiers. Stable emulsions with oil droplets of 0.3 micrometer are made with an oil concentration as low as 5%.

## SE.008 Conditioning Spray

ID	: Spray & Wipe / SE.008
pH-value	: 5.46
Viscosity	: 2.200 mPa.s Brookfield DV2T, Spindle 93, 5 rpm
Product form	: O/W Spray

	Ingredient	INCI-name	% w/w	Supplier
1	Glycerin 99% Sisterna SP70-C	Glycerin Sucrose Stearate	5.00 1.50	several Sisterna
2	VAVSLight Relaxed Music 354053-C Tocomix L70-IP	Dodecane, Hydrogenated Olive Oil Unsaponifiables, Coco-Caprylate/Caprate Parfum Tocopherol, Helianthus Annuus (Sunflower) Seed Oil	5.00 0.30 0.10	EFP Biotek Luzi Jan Dekker
3	Deionised Water Avicel PC611 Wasabi Flavone	Aqua Microcrystalline Cellulose, Cellulose Gum Butylene Glycol, Wasabia Japonica Leaf Extract	85.10 1.50 0.50	several FMC Biopolymer TriBeauté
4	Euxyl K 712 Citric Acid (10% Aq. Sol.)	Sodium Benzoate, Potassium Sorbate, Aqua Citric Acid	1.00 q.s.	Ashland several

#### **Production method**

- 1. Disperse Sisterna SP70-C into the glycerine (1).
- 2. Mix ingredients of (2) in given order.
- 3. Add (2) to (1) and homogenise with a high shear mixer for 1 minute.
- 4. Add Avicel PC611 to the water of (3) and shear for 10 minutes with a high shear mixer.
- 5. Add oil-in-glycerin emulsion (1+2) to (3) while mixing.
- 6. Add (4) and adjust pH 6,5 with Citric Acid if necessary.

# FORMULATION INFORMATION SE.009 Nourishing Body Spray

Sprayable formulations with an oil phase of 12% can be obtained by producing with an oil-in-glycerin intermediate phase. No ethoxylated emulsifiers need to be used and oil droplets of 0.3 micrometer are created. Having a higher oil phase will mean that the lotion will be a little more viscous, but depending on the spray packaging it can be a perfectly sprayable formulation.

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## SE.009 Nourishing Body Spray

ID	: Spray & Wipe / SE.009
pH-value	: 5.41
Viscosity	: 3.000 mPa.s Brookfield DV2T, Spindle 91, 5 rpm
Product form	: O/W Spray

	Ingredient	INCI-name	% w/w	Supplier
1	Glycerin 99%	Glycerin	8.00	several
	Sisterna SP70-C	Sucrose Stearate	2.00	Sisterna
2	Olive Oil Almond Oil Jojoba Oil Dermofeel Toco 70 Non-GMO CAMOMILE 338572-A	Olea Europaea (Olive) Fruit Oil Prunus Amygdalus Dulcis (Sweet Almond) Oil Simmondsia Chinensis (Jojoba) Oil Tocopherol, Helianthus Annuus (Sunflower) Seed Oil Parfum	4.00 4.00 4.00 0.20 0.30	several several several Dr. Straetmans Luzi
3	Deionised Water	Aqua	75.00	several
	Avicel PC611	Microcrystalline Cellulose, Cellulose Gum	1.50	FMC Biopolymer
4	Euxyl PE9010	Phenoxyethanol, Ethylhexylglycerin	1.00	Ashland
	Citric Acid (10% Aq. Sol.)	Citric Acid	q.s.	several

#### **Production method**

- 1. Disperse Sisterna SP70-C into glycerin (1).
- 2. Mix ingredients of (2) separately.
- 3. Add (2) to (1) and homogenise with a high shear mixer for 1 minute.
- 4. Add Avicel PC611 to the water of (3) and shear for 10 minutes with a high shear mixer.
- 5. Add oil-in-glycerin emulsion (1+2) to (3) while mixing.
- 6. Add (4) and adjust pH 6,5 with Citric Acid if necessary.

## FORMULATION INFORMATION SE.011 Gel-Lotion Eye Serum

Making an emulsion with an oil-in-glycerin intermediate emulsification step enables the formation of oil droplet sizes of 0.3 micrometer. This production method is excellent for dosing oil actives which will be boosted, enabling a better skin penetration, creating extremely effective serums.

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## SE.011 Gel-Lotion Eye Serum

ID	: Serum / SE.011
pH-value	: 6.13
Viscosity	: 20.400 mPa.s Brookfield DV2T, Spindle 94, 5 rpm
Product form	: O/W Serum

	Ingredient	INCI-name	% w/w	Supplier
1	Glycerin 99% Sisterna SP70-C*	Glycerin Sucrose Stearate	8.00 2.00	several Sisterna
2	MOT - Maxi Olive 3T-Action Active Lipo Extract Maqui	Olea Europaea (Olive) Oil Unsaponifiables, Tocopherol Helianthus Annuus (Sunflower) Seed Oil,	3.00 3.00	EFP Biotek Phenbiox
	Active Lipo Extract Olivo Foglie	Aristotelia Chilensis Fruit Extract, Tocopherol Helianthus Annuus (Sunflower) Seed Oil, Olea Europaea Leaf Extract, Tocopherol	3.00	Phenbiox
	Active Lipo Extract The Verde Tocomix L70-IP	Helianthus Annuus (Sunflower) Seed Oil, Camellia Sinensis Leaf Extract, Tocopherol Tocopherol, Helianthus Annuus (Sunflower)	3.00 0.10	Phenbiox Jan Dekker
		Seed Oil		
3	Deionised Water Clearogel SG ECO Keltrol CG SFT V Euxyl PE9010	Aqua Sclerotium Gum Xanthan Gum Phenoxyethanol, Ethylhexylglycerin	75.60 1.00 0.30 1.00	several MMP CP Kelco Ashland
4	Citric Acid (20%)	Citric Acid	q.s.	several

\* Alternative grade: Sisterna PS750-C (INCI: Sucrose Palmitate). Viscosity: +/- 17.000 mPa.s

#### **Production method**

- 1. Disperse Sisterna SP70-C into the glycerin.
- 2. Add (2) to (1) and homogenise with a high shear mixer for 1 minute.
- 3. Slowly add the Clearogel SG ECO and Keltrol CG SFT-V to the blend of water with preservative under medium shear. Then mix at the highest possible shear for 10 minutes.
- 4. Add oil in glycerin emulsion (1+2) to (3) while mixing.
- 5. Adjust pH if necessary with (4).



# Sucrose esters for mild cleansing



### Water based systems

In the development of body and hair cleansing formulations non-ionic surfactants are added to blends of traditional foaming anionic and amphoteric surfactants to improve mildness. Sisterna<sup>®</sup> sucrose esters are non-ionic and EO-free surfactants and their interesting and innovative properties make them excellent candidates for this type of products.

Advised products:

- Sisterna L70-C
- Alternatively Sisterna PS750-C or Sisterna SP70-C for non-transparent systems

Benefits of Sisterna® sucrose esters in mild cleansing:

- Reduce the irritating properties of anionic surfactants
- Considerably improve the sensorial properties of the formulations, in terms of skin feel and skin mildness
- Emulsify lipids into the cleansing formulation
- · Contribute to the conditioning effect in shampoo and conditioners
- · Increase viscosity at lower electrolyte concentrations

## FORMULATION INFORMATION MC.013 Micellar Cleansing Water

Sisterna L70-C is very mild for the skin and it also reduces the irritation level of other surfactants. Combining it with cocamidopropyl betaine gives good cleansing properties while ensuring skin mildness.

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## MC.013 Micellar Cleansing Water

ID	: Mild cleansing / MC.013
pH-value	: 6.40
Viscosity	: 40 mPa.s Brookfield DV2T, Spindle 91, 5 rpm
Product form	: EO-free rinse-off

	Ingredient	INCI-name	% w/w	Supplier
1	Sisterna L70-C Euroquat HC47VG Zemea Propanediol S&M Phenoxyethanol RHC Deionised Water	Aqua, Sucrose Laurate, Alcohol Cocamidopropyl Betaine Propanediol Phenoxyethanol Aqua	4.50 1.00 5.00 0.90 88.60	Sisterna EOC Surfactants several Ashland several
2	NaOH (10% solution)	Sodium Hydroxide, Aqua	q.s.	several

#### **Production method**

1. Mix ingredients of (1) in given order.

2. Adjust pH with (2) if necessary.

# FORMULATION INFORMATION MC.011 Bath Milk

A perfect formulation for making a silky soft milk bath which leaves your skin soft and cleansed.

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## MC.011 Bath Milk

ID	: Mild cleansing / MC.011
pH-value	: 6.5
Viscosity	: 2.880 mPa.s Brookfield DV2T, Spindle 91, 5 rpm
Product form	: O/W

	Ingredient	INCI-name	% w/w	Supplier
1	Glycerin (99%)	Glycerin	5.00	several
	Sisterna SP70-C	Sucrose Stearate	1.50	Sisterna
2	Olive Oil Almond Oil Jojoba Oil Dermofeel Toco 70 Non-GMO CAMOMILE 338572-A	Olea Europaea (Olive) Fruit Oil Prunus Amygdalus Dulcis (Sweet Almond) Oil Simmondsia Chinensis (Jojoba) Oil Tocopherol, Helianthus Annuus (Sunflower) Seed Oil Parfum	2.00 2.00 1.00 0.25 0.30	several several several Dr. Straetmans Luzi
3	Deionised Water	Aqua	85.45	several
	Avicel PC611	Microcrystalline Cellulose, Cellulose Gum	1.50	FMC Biopolymer
4	Euxyl PE9010	Phenoxyethanol, Ethylhexylglycerin	1.00	Ashland
	Citric Acid (10% Aq. Sol.)	Citric Acid, Aqua	qs	several

#### **Production method**

- 1. Disperse Sisterna SP70-C into the glycerin (1).
- 2. Mix ingredients of (2) separately.
- 3. Add (2) to (1) and homogenise with a high shear mixer for 1 minute.
- 4. Add Avicel PC611 to the water of (3) and shear for 10 minutes with a high shear mixer.
- 5. Add oil-in-glycerin emulsion (1+2) to (3) while mixing.
- 6. Add (4) and adjust pH 6,5 with Citric Acid if necessary.

# Sucrose esters in anhydrous systems



## Sucrose esters in anhydrous systems



Sisterna A10E-C is a special sucrose ester grade, obtained by the esterification of sucrose with stearic, palmitic fatty acids and acetic acid. Due to its high degree of esterification, Sisterna A10E-C no longer has surface active properties, resulting in a completely different behaviour compared to all other Sisterna grades. Sisterna A10E-C can be considered as a so called 'sugar wax', which can be used as lipidic phase modifier to influence the rheological and sensorial properties of oils and natural butters.

Advised products:

• Sisterna A10E-C as lipidic phase modifier

Benefits of Sisterna A10E-C in anhydrous systems:

- Thickens or gels many oils as well as silicone oils
- Helps reducing blooming and sweating of sticks when oils that are easily thickened by Sisterna A10E-C are dosed inside the formulation
- Improves the sensorial properties
- Improves cohesion of sticks
- Reduces brittleness of sticks
- Excellent binding properties in compact powders

## FORMULATION INFORMATION AS.006 Stylish Viking Beard Wax

A good spreadable wax because of the addition of Sisterna A10E-C which lets the formula melt near skin temperature. It also softens the hair while styling it and is very caring for the scalp.

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## AS.006 Stylish Viking Beard Wax

ID	: Anhydrous / AS.006	
pH-value	: Not applicable	
Viscosity	: Wax/Paste	
Product form	: Anhydrous balm	

	Ingredient	INCI-name	% w/w	Supplier
1	Cupuacu Butter Refined Castor Oil Refined Sisterna A10E-C Kahlwax 8104 Kahlwax 6720 Octyldodecanol Dermofeel Toco 70 non-GMO	Theobroma Grandiflorum Seed Butter Ricinus Communis (Castor) Seed Oil Sucrose Tetrastearate Triacetate Cera Alba Shorea Robusta Resin, Helianthus Annuus (Sunflower) Seed Oil, Tocopherol Octyldodecanol Tocopherol, Helianthus Annuus (Sunflower) Seed Oil	14.00 45.70 5.00 8.00 15.00 5.00 0.50	Jan Dekker Jan Dekker Sisterna Kahlwax Kahlwax BASF Dr. Straetmans
2	St. Johns Worth Oil Eldew PS-203 R	Olea Europaea (Olive) Fruit Oil, Hypericum Perforatum Flower/Leaf/Stem Extract, Tocopherol Phytosteryl/Octyldodecyl Lauroyl Glutamate	5.00 0.30	CLR Ajinomoto
3	Vanacco (351830-F)	Parfum	1.50	Luzi

#### **Production method**

- 1. Prepare (1), heat to 80 °C.
- 2. Add (2) and (3) while stirring.
- 3. Fill the homogenous oil compound into the final packaging.
- 4. Cool down to room temperature.

Formulation developed by RAHN AG (Switzerland) www.rahn-group.com

# FORMULATION INFORMATION AS.013 Solid Sun Stick SPF20

A soft-touch suncare balm with easy pay-off and excellent oil absorption, providing a non-greasy, dry skin feel thanks to Sisterna A10E-C.

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## AS.013 Solid Sun Stick SPF20

ID	: Anhydrous / AS.013
pH-value	: N/A
Viscosity	: N/A
Product form	: Anhydrous stick

	Ingredient	INCI-name	% w/w	Supplier
1	Candelilla Wax	Euphorbia Cerifera (Candelilla) Wax	3.50	Koster Keunen
	HSFO - Vegetable Alternative to Beeswax 2	Hydrogenated Sunflower Seed Oil	8.00	EFP Biotek
	VAB - Vanilla Butter	Prunus Amygdalus Dulcis (Sweet Almond)	26.00	EFP Biotek
		Oil, Helianthus Annuus (Sunflower)		
		Seed Oil, Hydrogenated Vegetable Oil,		
		Vanilla Planifolia Fruit Oil		
	Caprylic Capric Triglyceride	Caprylic Capric Triglyceride	20.40	several
	VAS - Vegetable Alternative	Hydrogenated Ethylhexyl Olivate,	15.00	EFP Biotek
	to Silicone	Hydrogenated Olive Oil Unsaponifiables		
	Sisterna A10E-C	Sucrose Tetrastearate Triacetate	10.00	Sisterna
	Eusolex T-AVO	Titanium Dioxide, Silica	8.00	Merck
	Ronacare Zinc Oxide	Zinc Oxide	4.00	Merck
	RonaFlair Flawless	Silica, Titanium Dioxide (Cl 77891),	5.00	Merck
		Iron Oxides (CI 77491)		
	Dermofeel Toco 70 Non-GMO	Tocopherol, Helianthus Annuus (Sunflower)	0.10	Dr. Straetmans
		Seed Oil		

#### **Production method**

- 1. Mix the ingredients at  $75^{\circ}$ C in the listed order.
- 2. Heat until completely transparent and homogeneous.
- 3. Pour directly into suitable packaging while molten.
- 4. Cool down slowly to room temperature. Final viscosity will be built up after 48h.

# FORMULATION INFORMATION AS.012 Solid Face Serum

Silky soft waterless serum with a good pay-off and oil absorption, providing a well-liked and dry skin feel. A perfect system for dosing oil actives and creating a long lasting anhydrous serum.

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## AS.012 Solid Face Serum

ID	: Anhydrous / AS.012
pH-value	: N/A
Viscosity	: N/A
Product form	: Anhydrous stick

	Ingredient	INCI-name	% w/w	Supplier
1	Jasmin Butter	Prunus Amygdalus Dulcis (Sweet Almond) Oil, Hydrogenated Vegetable Oil, Jasminum Officinale (Jasmine) Oil	27.00	EFP Biotek
	Candelilla Wax	Euphorbia Cerifera (Candelilla) Wax	2.50	Koster Keunen
	Vegetable Alternative to	Hydrogenated Sunflower Seed Oil	7.40	EFP Biotek
	Beeswax #2			
	Caprylic Capric Triglyceride	Caprylic Capric Triglyceride	35.00	several
	VAS - Vegetable	Hydrogenated Ethylhexyl Olivate	15.00	EFP Biotek
	Alternative to Silicone	Hydrogenated Olive Oil Unsaponifiables		
	Sisterna A10E-C	Sucrose Tetrastearate Triacetate	10.00	Sisterna
	Dermofeel Toco 70 Non-GMO	Tocopherol, Helianthus Annuus	0.10	Dr. Straetmans
		(Sunflower) Seed Oil		
	Cutibiome CLR	Octyldodecanol, Leptospermum Scoparium Branch/Leaf Oil, Piper Nigrum (Pepper) See Extract, Magnolia Officinalis Bark Extract	3.00	CLR

#### **Production method**

- 1. Mix the ingredients at 80°C in the listed order.
- 2. Heat until completely transparent and homogeneous.
- 3. Pour directly into a suitable packaging while molten.
- 4. Cool down slowly to room temperature. Final viscosity will be built up after 48h.

## FORMULATION INFORMATION AS.009 Lipstick Milano

Sisterna A10E-C makes the lipstick stronger but also more bendable, making it less easy to break. The amount of waxes with a high melting point can be reduced and sensorial properties are improved. It also improves the spreadability, because Sisterna A10E-C enables the formula to melt near skin temperature. Furthermore it helps reducing blooming and sweating of sticks. Sisterna SP10-C provides more gloss and creaminess.

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## AS.009 Lipstick Milano

ID	: Anhydrous / AS.009
pH-value	:-
Viscosity	:-
Product form	: Anhydrous stick

	Ingredient	INCI-name	% w/w	Supplier
1	Sisterna A10E-C Sisterna SP10-C Candelilla Wax Carnauba Wax T1 Permulgin 3280 Kesterwax K82 P Sunflower Wax Witarix MCT 60-40 Isostearyl Isostearate TeCero-Wachs®30332cs	Sucrose Tetrastearate Triacetate Sucrose Polystearate Euphorbia Cerifera (Candelilla) Wax Copernicia Cerifera (Carnauba) Wax Ozokerite Synthetic Beeswax Helianthus Annuus (Sunflower) Seed Wax Caprylic/Capric Triglyceride Isostearyl Isostearate Hydrogenated Microcrystalline Wax, Synthetic Wax	10.00 1.00 4.50 2.00 4.50 3.00 4.20 25.15 25.00 6.29	Sisterna Sisterna Koster Keunen Koster Keunen Koster Keunen IOI Oleo several TH.C.TROMM
2	Dermofeel Toco 70 COD 8001 COD 8003 COD 8009 COD 8008	Tocopherol Castor (Ricinus Communis) Oil, Cl 15850 Castor (Ricinus Communis) Oil, Cl 15850 Castor (Ricinus Communis) Oil, Cl 19140 Castor (Ricinus Communis) Oil, Cl 77891	0.10 2.45 0.55 3.40 7.60	Dr. Straetmans Sun Chemical Sun Chemical Sun Chemical Sun Chemical
3	Berry Lips 503980	Parfum	0.25	Luzi

#### **Production method**

- 1. Before starting: spray silicone release spray in mould and put in oven at  $45^{\circ}$ C.
- 2. Weigh (1) in beaker and put in water bath to melt to  $85^{\circ}$ C.
- 3. Add (2) into (1) and homogenise.
- 4. Then add (3) and stir for 1 minute.
- 5. Take mould out of the oven and pour the mixture into the mould.
- 6. Allow to cool down for 20 minutes at room temperature.
- 7. Take the top part of the mixture out of the mould with the scraping spatula.
- 8. Put the mould in the freezer for 20 minutes.
- 9. Put the lipsticks in the cases.

## FORMULATION INFORMATION AS.004 Natural Cream-to-Powder Blush

Sisterna A10E-C makes the balm stronger but also more bendable, making it less easy to break. The amount of waxes with a high melting point can be reduced and sensorial properties are improved. It also improves the spreadability, because Sisterna A10E-C enables the formula to melt near skin temperature. Furthermore it helps reducing blooming and sweating of sticks.

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## AS.004 Natural Cream-to-Powder Blush

ID	: Anhydrous / AS.004
pH-value	: Not applicable
Viscosity	: Wax
Product form	: Anhydrous stick

	Ingredient	INCI-name	% w/w	Supplier
1	Biophytosebum Organic	Decyl Olive Oil Esters (and) Squalene	31.50	Sophim
	Cetiol Ultimate	Undecane (and) Tridecane	9.00	BASF
	Dermofeel Sensolv	Isoamyl Laurate	12.50	Dr. Straetmans
	Silica Microbead P 1500	Silica	5.00	Kowa
	Candelilla Wax	Euphorbia Cerifera (Candelilla) Wax	10.00	several
	Sisterna A10E-C	Sucrose Tetrastearate Triacetate	10.00	Sisterna
2	Hombitan AFDC	Titanium Dioxide	11.40	Huntsman
	Unipure Red LC388	Cl 77491	1.00	Sensient
	Unipure Pink LC583	Cl 77742	3.80	Sensient
	Unipure Pink LC589	Cl 77007	3.80	Sensient
3	Dermofeel Toco 70 Non-GMO Perfume Doucer Miel Natflor (RS38177)	Tocopherol, Helianthus Annuus (Sunflower) Seed Oil Parfum	1.00 1.00	Dr. Straetmans several

#### **Production method**

- 1. Weigh (1) in beaker and put in water bath to melt to 85°C.
- 2. Add (2) into (1) and homogenise.
- 3. Then add (3) and stir for 1 minute.
- 4. Pour the mixture into the packaging.
- 5. Allow to cool down to room temperature.

Formulation developed by Laboratoires Phyto Technique Srl. (Italy) www.labophyto.it

