

Formulation Variant Generation

Output 1: When No optional Functionality is chosen

Possible Product Types are:

['body cream', 'all purpose cream', 'hand cream', 'night cream', 'foot cream', 'face cream', 'day cream', 'cleansing cream', 'moisturizing cream', 'cold cream', 'cream', 'anti-inflammatory cream', 'vanishing cream', 'ointment', 'eye cream', 'massage cream', 'anti-aging cream', 'make-up cream', 'acne cream', 'protective cream', 'bleach cream', 'scrubbing cream', 'hair-removal cream', 'whitening cream', 'slimming cream', 'sport cream']

Enter the Product Type: face cream

Number of files of the product type: 11

Functions of this product type are:

oxidizing - 1

skin protecting - 1

opacifying - 1

unknown - 1

gel forming - 1

oxidising - 1

antistatic - 1

viscosity controlling - 1

hair conditioning - 1

binding - 2

emulsion stabilising - 2

refatting - 2

antifoaming - 2

binder - 2

foaming - 2

cleansing - 3

film forming - 4

fragrance - 4

antioxidant - 5

smoothing - 5

anti-aging - 5

skin conditioning - 6

buffering - 6

stabilizing - 7

moisturising - 8

stabilising - 10

viscosity controlling - 12

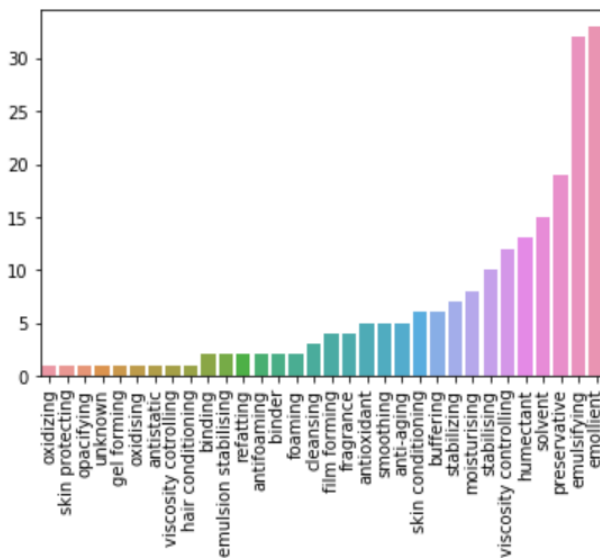
humectant - 13

solvent - 15

preservative - 19

emulsifying - 32

emollient - 33



Enter the functionality: **emollient**

Possible ingredients for emollient are:

['Isopropyl myristate', 'Vaseline', 'Myritol 318', 'Dehydag Wax N', 'Cetiol V', 'Anhydrous lanolin', 'Emulgade F', 'Eutanol G', 'IMWITOR 960', 'DYNASAN II0', 'Wheat germ oil', 'Cetyl alcohol', 'Emulgade SE (Glyceryl Stearate (and) Ceteareth-20 (and) Ceteareth-12 (and) Cetearyl Alcohol (and) Cetyl Palmitate)', 'Cutina MD (Glyceryl Stearate)', 'Lanette 0 (Cetearyl Alcohol)', 'Baysilon M 350 (Dimethicone)', 'Cetiol PGL (Hexyldecanol (and) Hexyldecyl Laurate)', 'Myritol 312 (Caprylic/Capric Triglycerides)', 'D-Panthenol', 'PCL-liquid', 'LANACET 1705 Acetylated Lanolin', 'NIMLESTEROL 1732 Liquid Absorption Base', 'EMEREST 2400 Glyceryl Stearate', 'LANTROL 1673 Lanolin Oil', 'Lanette C', 'Cetiol V', 'Isopropyl palmitate', 'Hexadecanol', 'Sunflower Seed Oil', 'Squalane', 'Ethoxylated Lanolin Oil']

Select one ingredient from given list: Isopropyl myristate

Neighbor with Ingredients:

Emulgator E2155 - ['emulsifying']

Cutina BW - ['viscosity controlling']

Liquid paraffin - ['emulsifying', 'antioxidant']

Vaseline - ['emollient', 'skin protecting']

Myritol 318 - ['emollient']

Preservative - ['preservative']

Collagen CLR - ['smoothing', 'film forming', 'anti-aging']

Elastin CLR - ['skin conditioning', 'smoothing']

Karion F liquid - ['moisturising', 'humectant']

Water, distilled, preserved - ['solvent', 'preservative']

Choose ingredients by applying ; between them - Emulgator E2155; Isopropyl myristate; Cutina BW; Water, distilled, preserved

Do you want to add any other functionality yes/no: no

Combinations occurrences:

combination: ('Emulgator E2155', 'Isopropyl myristate') - 1 - ['face/neck cream type o/w ']

combination: ('Emulgator E2155', 'Cutina BW') - 1 - ['face/neck cream type o/w ']

combination: ('Emulgator E2155', 'Water, distilled, preserved') - 1 - ['face/neck cream type o/w ']

combination: ('Isopropyl myristate', 'Cutina BW') - 1 - ['face/neck cream type o/w ']

combination: ('Isopropyl myristate', 'Water, distilled, preserved') - 1 - ['face/neck cream type o/w ']

combination: ('Cutina BW', 'Water, distilled, preserved') - 1 - ['face/neck cream type o/w ']

combination: ('Emulgator E2155', 'Isopropyl myristate', 'Cutina BW') - 1 - ['face/neck cream type o/w ']

combination: ('Emulgator E2155', 'Isopropyl myristate', 'Water, distilled, preserved') - 1 - ['face/neck cream type o/w ']

combination: ('Emulgator E2155', 'Cutina BW', 'Water, distilled, preserved') - 1 - ['face/neck cream type o/w ']

combination: ('Isopropyl myristate', 'Cutina BW', 'Water, distilled, preserved') - 1 - ['face/neck cream type o/w ']

combination: ('Emulgator E2155', 'Isopropyl myristate', 'Cutina BW', 'Water, distilled, preserved') - 1 - ['face/neck cream type o/w ']

Possible variant:

same phase: ['Emulgator E2155', 'Isopropyl myristate', 'Cutina BW']

different phase: ['Water, distilled, preserved']

Do you want to continue with this variant? yes/no: yes

The non-sequential steps for the recipe are as follows:

continue phase 1 stirring until the cream

heat phase 1 to approximately 70c

stir phase 1 until the cream

cool phase 1 down to approximately 30c

continue phase 2 stirring until the emulsion

heat phase 2 to approximately 70c

stir phase 2 until the cream has cooled down to approximately 35c

cool phase 2 down to approximately 35c

Output 2: When optional Functionality is chosen

Possible product types are:

['body cream', 'all purpose cream', 'hand cream', 'night cream', 'foot cream', 'face cream', 'day cream', 'cleansing cream', 'moisturizing cream', 'cold cream', 'cream', 'anti-inflammatory cream', 'vanishing cream', 'ointment', 'eye cream', 'massage cream', 'anti-aging cream', 'make-up cream', 'acne cream', 'protective cream', 'bleach cream', 'scrubbing cream', 'hair-removal cream', 'whitening cream', 'slimming cream', 'sport cream']

Enter the product type: face cream

Number of files of the product type: 11

Functions in face cream are:

oxidizing - 1

skin protecting - 1

opacifying - 1

unknown - 1

gel forming - 1

oxidising - 1

antistatic - 1

viscosity cotrolling - 1

hair conditioning - 1

binding - 2

emulsion stabilising - 2

refatting - 2

antifoaming - 2

binder - 2

foaming - 2

cleansing - 3

film forming - 4

fragrance - 4

antioxidant - 5

smoothing - 5

anti-aging - 5

skin conditioning - 6

buffering - 6

stabilizing - 7

moisturising - 8

stabilising - 10

viscosity controlling - 12

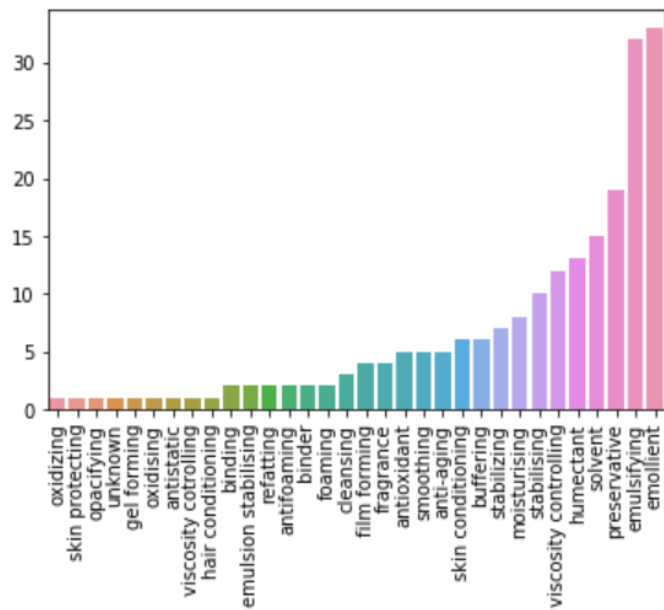
humectant - 13

solvent - 15

preservative - 19

emulsifying - 32

emollient - 33



Enter the functionality: **emollient**

Possible ingredients for emollient are

['Isopropyl myristate', 'Vaseline', 'Myritol 318', 'Dehydag Wax N', 'Cetiol V', 'Anhydrous lanolin', 'Emulgade F', 'Eutanol G', 'IMWITOR 960', 'DYNASAN II0', 'Wheat germ oil', 'Cetyl alcohol', 'Emulgade SE (Glyceryl Stearate (and) Cetareth-20 (and) Cetareth-12 (and) Cetearyl Alcohol (and) Cetyl Palmitate)', 'Cutina MD (Glyceryl Stearate)', 'Lanette O (Cetearyl Alcohol)', 'Baysilon M 350 (Dimethicone)', 'Cetiol PGL (Hexyldecanol (and) Hexyldecyl Laurate)', 'Myritol 312 (Caprylic/Capric Triglycerides)', 'D-Panthenol', 'PCL-liquid', 'LANACET 1705 Acetylated Lanolin', 'NIMLESTEROL 1732 Liquid Absorption Base', 'EMEREST 2400 Glyceryl Stearate', 'LANTROL 1673 Lanolin Oil', 'Lanette C', 'Cetiol V', 'Isopropyl palmitate', 'Hexadecanol', 'Sunflower Seed Oil', 'Squalane', 'Ethoxylated Lanolin Oil']

Select one ingredient from given list: **Isopropyl myristate**

Neighbor with ingredient:

Emulgator E2155 - ['emulsifying']

Cutina BW - ['viscosity controlling']

Liquid paraffin - ['emulsifying', 'antioxidant']

Vaseline - ['emollient', 'skin protecting']

Myritol 318 - ['emollient']

Preservative - ['preservative']

Collagen CLR - ['smoothing', 'film forming', 'anti-aging']

Elastin CLR - ['skin conditioning', 'smoothing']

Karion F liquid - ['moisturising', 'humectant']

Water, distilled, preserved - ['solvent', 'preservative']

Choose ingredients by applying ; between them - **Emulgator E2155; Isopropyl myristate; Cutina BW; Water, distilled, preserved**

do you want to add any other functionality yes/no: **yes**

['oxidizing', 'skin protecting', 'opacifying', 'unknown', 'gel forming', 'oxidising', 'antistatic', 'viscosity controlling', 'hair conditioning', 'binding', 'emulsion stabilising', 'refatting', 'antifoaming', 'binder',

'foaming', 'cleansing', 'film forming', 'fragrance', 'antioxidant', 'smoothing', 'anti-aging', 'skin conditioning', 'buffering', 'stabilizing', 'moisturising', 'stabilising', 'viscosity controlling', 'humectant', 'solvent', 'preservative', 'emulsifying', 'emollient']

Enter the functionality: anti-aging

['Collagen CLR', 'Extrapon Phytozell-Special', 'COLLAGEN CLR']

Select one ingredient: Collagen CLR

Do you want to continue with entering another functionality? yes/no: no

Combinations occurrences:

combination: ('Emulgator E2155', 'Isopropyl myristate') - 1 - ['face/neck cream type o/w ']

combination: ('Emulgator E2155', 'Cutina BW') - 1 - ['face/neck cream type o/w ']

combination: ('Emulgator E2155', 'Water, distilled, preserved') - 1 - ['face/neck cream type o/w ']

combination: ('Emulgator E2155', 'Collagen CLR') - 1 - ['face/neck cream type o/w ']

combination: ('Isopropyl myristate', 'Cutina BW') - 1 - ['face/neck cream type o/w ']

combination: ('Isopropyl myristate', 'Water, distilled, preserved') - 1 - ['face/neck cream type o/w ']

combination: ('Isopropyl myristate', 'Collagen CLR') - 1 - ['face/neck cream type o/w ']

combination: ('Cutina BW', 'Water, distilled, preserved') - 1 - ['face/neck cream type o/w ']

combination: ('Cutina BW', 'Collagen CLR') - 1 - ['face/neck cream type o/w ']

combination: ('Water, distilled, preserved', 'Collagen CLR') - 2 - ['regenerative cream for the backs of hands type o/w ', 'face/neck cream type o/w ']

combination: ('Emulgator E2155', 'Isopropyl myristate', 'Cutina BW') - 1 - ['face/neck cream type o/w ']

combination: ('Emulgator E2155', 'Isopropyl myristate', 'Water, distilled, preserved') - 1 - ['face/neck cream type o/w ']

combination: ('Emulgator E2155', 'Isopropyl myristate', 'Collagen CLR') - 1 - ['face/neck cream type o/w ']

combination: ('Emulgator E2155', 'Cutina BW', 'Water, distilled, preserved') - 1 - ['face/neck cream type o/w ']

combination: ('Emulgator E2155', 'Cutina BW', 'Collagen CLR') - 1 - ['face/neck cream type o/w ']

combination: ('Emulgator E2155', 'Water, distilled, preserved', 'Collagen CLR') - 1 - ['face/neck cream type o/w ']

combination: ('Isopropyl myristate', 'Cutina BW', 'Water, distilled, preserved') - 1 - ['face/neck cream type o/w ']

combination: ('Isopropyl myristate', 'Cutina BW', 'Collagen CLR') - 1 - ['face/neck cream type o/w ']

combination: ('Isopropyl myristate', 'Water, distilled, preserved', 'Collagen CLR') - 1 - ['face/neck cream type o/w ']

combination: ('Cutina BW', 'Water, distilled, preserved', 'Collagen CLR') - 1 - ['face/neck cream type o/w ']

combination: ('Emulgator E2155', 'Isopropyl myristate', 'Cutina BW', 'Water, distilled, preserved') - 1 - ['face/neck cream type o/w ']

combination: ('Emulgator E2155', 'Isopropyl myristate', 'Cutina BW', 'Collagen CLR') - 1 - ['face/neck cream type o/w ']

combination: ('Emulgator E2155', 'Isopropyl myristate', 'Water, distilled, preserved', 'Collagen CLR') - 1 - ['face/neck cream type o/w ']

combination: ('Emulgator E2155', 'Cutina BW', 'Water, distilled, preserved', 'Collagen CLR') - 1 - ['face/neck cream type o/w ']

combination: ('Isopropyl myristate', 'Cutina BW', 'Water, distilled, preserved', 'Collagen CLR') - 1 - ['face/neck cream type o/w ']

combination: ('Emulgator E2155', 'Isopropyl myristate', 'Cutina BW', 'Water, distilled, preserved', 'Collagen CLR') - 1 - ['face/neck cream type o/w ']

Possible variant:

same phase: ['Emulgator E2155', 'Isopropyl myristate', 'Cutina BW']

different phase: ['Water, distilled, preserved', 'Collagen CLR']

Do you want to continue with this variant? yes/no: yes

The non-sequential steps for the recipe are as follows:

cool phase 1 down to approximately 30c

continue phase 1 stirring until the cream

stir phase 1 until the cream

heat phase 1 to approximately 70c

cool phase 2 down to approximately 30c

continue phase 2 stirring until the emulsion

stir phase 2 until the emulsion has cooled to about 35c

heat phase 2 to approximately 70c

Output 3: When optional Functionality is chosen and User defines the variant

Possible product types are:

['body cream', 'all purpose cream', 'hand cream', 'night cream', 'foot cream', 'face cream', 'day cream', 'cleansing cream', 'moisturizing cream', 'cold cream', 'cream', 'anti-inflammatory cream', 'vanishing cream', 'ointment', 'eye cream', 'massage cream', 'anti-aging cream', 'make-up cream', 'acne cream', 'protective cream', 'bleach cream', 'scrubbing cream', 'hair-removal cream', 'whitening cream', 'slimming cream', 'sport cream']

Enter the product type: face cream

Number of files of the product type: 11

Functions in face cream are:

oxidizing - 1

skin protecting - 1

opacifying - 1

unknown - 1

gel forming - 1

oxidising - 1

antistatic - 1

viscosity cotrolling - 1

hair conditioning - 1

binding - 2

emulsion stabilising - 2

refatting - 2

antifoaming - 2

binder - 2

foaming - 2

cleansing - 3

film forming - 4

fragrance - 4

antioxidant - 5

smoothing - 5

anti-aging - 5

skin conditioning - 6

buffering - 6

stabilizing - 7

moisturising - 8

stabilising - 10

viscosity controlling - 12

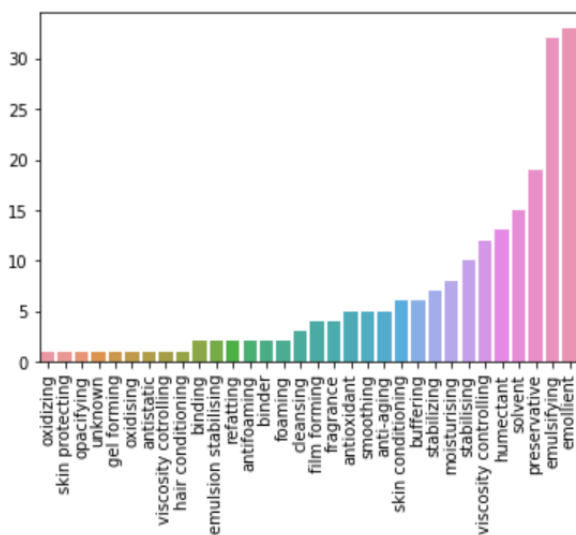
humectant - 13

solvent - 15

preservative - 19

emulsifying - 32

emollient - 33



Enter the functionality: **emollient**

Possible ingredients for emollient are

['Isopropyl myristate', 'Vaseline', 'Myritol 318', 'Dehydag Wax N', 'Cetiol V', 'Anhydrous lanolin', 'Emulgade F', 'Eutanol G', 'IMWITOR 960', 'DYNASAN II0', 'Wheat germ oil', 'Cetyl alcohol', 'Emulgade SE (Glyceryl Stearate (and) Ceteareth-20 (and) Ceteareth-12 (and) Cetearyl Alcohol (and) Cetyl Palmitate)', 'Cutina MD (Glyceryl Stearate)', 'Lanette 0 (Cetearyl Alcohol)', 'Baysilon M 350 (Dimethicone)', 'Cetiol PGL (Hexyldecanol (and) Hexyldecyl Laurate)', 'Myritol 312 (Caprylic/Capric Triglycerides)', 'D-Panthenol', 'PCL-liquid', 'LANACET 1705 Acetylated Lanolin', 'NIMLESTEROL 1732 Liquid Absorption Base', 'EMEREST 2400 Glyceryl Stearate', 'LANTROL 1673 Lanolin Oil', 'Lanette C', 'Cetiol V', 'Isopropyl palmitate', 'Hexadecanol', 'Sunflower Seed Oil', 'Squalane', 'Ethoxylated Lanolin Oil']

Select one ingredient from given list: **Isopropyl myristate**

Neighbor with ingredient:

Emulgator E2155 - ['emulsifying']

Cutina BW - ['viscosity controlling']

Liquid paraffin - ['emulsifying', 'antioxidant']

Vaseline - ['emollient', 'skin protecting']

Myritol 318 - ['emollient']

Preservative - ['preservative']

Collagen CLR - ['smoothing', 'film forming', 'anti-aging']

Elastin CLR - ['skin conditioning', 'smoothing']

Karion F liquid - ['moisturising', 'humectant']

Water, distilled, preserved - ['solvent', 'preservative']

Choose ingredients by applying ; between them - **Emulgator E2155; Isopropyl myristate; Cutina BW; Water, distilled, preserved**

Do you want to add any other functionality yes/no: **yes**

['oxidizing', 'skin protecting', 'opacifying', 'unknown', 'gel forming', 'oxidising', 'antistatic', 'viscosity controlling', 'hair conditioning', 'binding', 'emulsion stabilising', 'refatting', 'antifoaming', 'binder', 'foaming', 'cleansing', 'film forming', 'fragrance', 'antioxidant', 'smoothing', 'anti-aging', 'skin

conditioning', 'buffering', 'stabilizing', 'moisturising', 'stabilising', 'viscosity controlling', 'humectant', 'solvent', 'preservative', 'emulsifying', 'emollient']

Enter the functionality: anti-aging

['Collagen CLR', 'Extrapon Phytozell-Special', 'COLLAGEN CLR']

Select one ingredient: Collagen CLR

Do you want to continue with entering another functionality? yes/no: no

Combinations occurrences:

combination: ('Emulgator E2155', 'Isopropyl myristate') - 1 - ['face/neck cream type o/w ']

combination: ('Emulgator E2155', 'Cutina BW') - 1 - ['face/neck cream type o/w ']

combination: ('Emulgator E2155', 'Water, distilled, preserved') - 1 - ['face/neck cream type o/w ']

combination: ('Emulgator E2155', 'Collagen CLR') - 1 - ['face/neck cream type o/w ']

combination: ('Isopropyl myristate', 'Cutina BW') - 1 - ['face/neck cream type o/w ']

combination: ('Isopropyl myristate', 'Water, distilled, preserved') - 1 - ['face/neck cream type o/w ']

combination: ('Isopropyl myristate', 'Collagen CLR') - 1 - ['face/neck cream type o/w ']

combination: ('Cutina BW', 'Water, distilled, preserved') - 1 - ['face/neck cream type o/w ']

combination: ('Cutina BW', 'Collagen CLR') - 1 - ['face/neck cream type o/w ']

combination: ('Water, distilled, preserved', 'Collagen CLR') - 2 - ['regenerative cream for the backs of hands type o/w ', 'face/neck cream type o/w ']

combination: ('Emulgator E2155', 'Isopropyl myristate', 'Cutina BW') - 1 - ['face/neck cream type o/w ']

combination: ('Emulgator E2155', 'Isopropyl myristate', 'Water, distilled, preserved') - 1 - ['face/neck cream type o/w ']

combination: ('Emulgator E2155', 'Isopropyl myristate', 'Collagen CLR') - 1 - ['face/neck cream type o/w ']

combination: ('Emulgator E2155', 'Cutina BW', 'Water, distilled, preserved') - 1 - ['face/neck cream type o/w ']

combination: ('Emulgator E2155', 'Cutina BW', 'Collagen CLR') - 1 - ['face/neck cream type o/w ']

combination: ('Emulgator E2155', 'Water, distilled, preserved', 'Collagen CLR') - 1 - ['face/neck cream type o/w ']

combination: ('Isopropyl myristate', 'Cutina BW', 'Water, distilled, preserved') - 1 - ['face/neck cream type o/w ']

combination: ('Isopropyl myristate', 'Cutina BW', 'Collagen CLR') - 1 - ['face/neck cream type o/w ']

combination: ('Isopropyl myristate', 'Water, distilled, preserved', 'Collagen CLR') - 1 - ['face/neck cream type o/w ']

combination: ('Cutina BW', 'Water, distilled, preserved', 'Collagen CLR') - 1 - ['face/neck cream type o/w ']

combination: ('Emulgator E2155', 'Isopropyl myristate', 'Cutina BW', 'Water, distilled, preserved') - 1 - ['face/neck cream type o/w ']

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combination: ('Emulgator E2155', 'Isopropyl myristate', 'Water, distilled, preserved', 'Collagen CLR') - 1 - ['face/neck cream type o/w ']

combination: ('Emulgator E2155', 'Cutina BW', 'Water, distilled, preserved', 'Collagen CLR') - 1 - ['face/neck cream type o/w ']

combination: ('Isopropyl myristate', 'Cutina BW', 'Water, distilled, preserved', 'Collagen CLR') - 1 - ['face/neck cream type o/w ']

combination: ('Emulgator E2155', 'Isopropyl myristate', 'Cutina BW', 'Water, distilled, preserved', 'Collagen CLR') - 1 - ['face/neck cream type o/w ']

Possible variant:

same phase: ['Emulgator E2155', 'Isopropyl myristate', 'Cutina BW']

different phase: ['Water, distilled, preserved', 'Collagen CLR']

Do you want to continue with this variant? yes/no: no

Choose ingredient for same phase: Isopropyl myristate; Cutina BW; Collagen CLR

Choose ingredient for different phase: Emulgator E2155; Water, distilled, preserved

The non-sequential steps for the recipe are as follows:

cool phase 1 down to approximately 30c

continue phase 1 stirring until the cream

stir phase 1 until the cream

heat phase 1 to approximately 70c

cool phase 2 down to approximately 30c

continue phase 2 stirring until the cream

stir phase 2 until the cream

heat phase 2 to approximately 70c