

COMPOSITION**TECHNICAL FIELD**

The present invention is concerned with compositions, in particular for use in fragrance
5 formulations, comprising a particular cooling compound and a solvent, and the use of said
composition in a fragrance formulation and a fragranced product. Furthermore, it is concerned
with a fragranced product comprising said compositions.

BACKGROUND

10 Compounds providing a cooling sensation play an important role in the flavor and fragrance
industry in order to produce an association with freshness and cleanliness. Cooling compounds
are widely used in a variety of products such as foodstuffs, tobacco products, beverages,
dentifrices, mouthwashes, toothpastes, and toiletries. The cooling sensation contributes to the
appeal and acceptability of consumer products.

15 Patent application WO2021074281A1 discloses a new class of chemical compounds which are
capable to activate the TRPM8 (transient receptor potential melastatin member 8, also known
as Trp-p8 or MCR1) ion channels, inducing a sensation of coldness. One embodiment in said
application is 2-methyl-1-(2-(5-(*p*-tolyl)-1*H*-imidazol-2-yl)piperidin-1-yl)butan-1-one. It is a very
potent cooling compound at low concentrations, but it exists in solid form at room temperature
20 thereby making its handling challenging. It is not always easy to incorporate solids into
consumer products, which may be in a liquid or a paste-like form. Furthermore, powder-like
ingredients must be handled with caution to avoid dust hazards associated therewith.

Accordingly, there remains a need to provide cooling compounds in a form that is convenient
and safe to use in further formulation operations and which remains stable in that form for a
25 long period of storage.

SUMMARY

In accordance with a first aspect of the present invention there is provided a composition
comprising

- a) a potent cooling compound,

b) and a solvent selected from the group consisting of 2-phenylethanol, phenoxyethyl alcohol, and mixtures thereof.

In accordance with a second aspect of the present invention there is provided a use of said composition in fragrance formulations.

5 In accordance with a third aspect of the present invention there is provided a fragrance formulation comprising said composition.

In accordance with a fourth aspect of the present invention there is provided a fragranced product comprising said composition.

10 In accordance with a fourth aspect of the present invention there is provided a method of incorporating a potent cooling compound in a fragranced product.

In accordance with a fifth aspect of the present invention there is provided a method of providing a cooling sensation for the skin to a fragranced product.

15 In accordance with a sixth aspect of the present invention there is provided a method of making a solution of the cooling compound, comprising the step of solubilizing the crystallized potent cooling compound in a solvent selected from the group consisting of 2-phenylethanol, phenoxyethyl alcohol, and mixtures thereof.

Certain embodiments of any aspect of the present invention may provide one or more of the following advantages:

- easier handling of potent cooling compounds;
- 20 • avoidance of discoloration;
- stable solutions;
- particular olfactive contribution of a solvent; and
- fragranced product providing additional cooling sensations.

25 The details, examples and preferences provided in relation to any particular one or more of the stated aspects of the present invention will be further described herein and apply equally to all aspects of the present invention. Any combination of the embodiments, examples and preferences described herein in all possible variations thereof is encompassed by the present invention unless otherwise indicated herein, or otherwise clearly contradicted by context.

DETAILED DESCRIPTION

The present invention is based on the surprising finding that potent cooling compounds which are present in solid form at room temperature, can be provided in the form of a composition in specific solvents, to allow for incorporation into fragranced products.

- 5 So on a first embodiment of the present invention there is provided a composition comprising
- a) a potent cooling compound,
 - b) and a solvent selected from the group consisting of 2-phenylethanol, phenoxyethyl alcohol, and mixtures thereof.

10 Such a composition can be easily incorporated into a fragranced product without the disadvantages of handling solids. The composition can improve and/or boost the fresh cleanliness of the fragranced product, and/or add to the olfactive impression of said fragranced product. It can contribute to the provision of a cooling sensation for the skin by the fragranced product it is incorporated in, while the solvent additionally contributing to the overall fragrance of the product.

15 2-Phenylethanol (Phenethyl alcohol, CAS No. 60-12-8) and phenoxyethanol (2-phenoxyethanol-1-ol, CAS No. 122-99-6), are not typical solvents used in fragranced compositions, but they allow to dissolve the potent cooling compounds in relatively high amounts, for example in at least 10% or higher, for example in at least 20% or higher, even up to above 25% by weight.

20 The compositions of the potent cooling compounds in the solvents according to the invention have only a pale yellow coloration, which is acceptable in many applications. In addition, said compositions are stable upon storage, showing no precipitation during at least two months at 21 °C.

The solvents have a slight but noticeable floral odour, which is not always desired for all applications. However, said odour is very versatile, blends well with different odour directions, 25 for example in floral, balsamic, oriental, mossy, herbaceous or 'modern-aldehydic' compositions. It is easy to use in a broad range of different applications. In a specific embodiment, it can help to provide a compacted perfume, minimizing the volume needed by odourless solvent in a composition.

For example, the potent cooling compound is selected from 2-methyl-1-(2-(5-(*p*-tolyl)-1*H*-imidazol-2-yl)piperidin-1-yl)butan-1-one and *N*-(1*H*-pyrazol-3-yl)-*N*-(thiophen-2-ylmethyl)-2-(*p*-tolylloxy)acetamide.

Both cooling compounds are solids, therefore a composition of such compound according to
5 the invention allows for easier handling.

2-Methyl-1-(2-(5-(*p*-tolyl)-1*H*-imidazol-2-yl)piperidin-1-yl)butan-1-one has two stereocenters and exists in the form of different enantiomers, diastereomers, tautomers or mixtures thereof. The composition of the present invention can comprise an isomeric mixture of the potent cooling compound. Alternatively, an individual isomer, or a group of diastereomers, for example
10 (2*R*)-2-methyl-1-(2-(5-(*p*-tolyl)-1*H*-imidazol-2-yl)piperidin-1-yl)butan-1-one can be used.

For example, the composition according to the invention comprises (a) 2-methyl-1-(2-(5-(*p*-tolyl)-1*H*-imidazol-2-yl)piperidin-1-yl)butan-1-one, and (b) 2-phenylethanol.

For example, the potent cooling compound is present in at least 1 % or more by weight of the total composition, or in at least 5 % or more by weight of the total composition, or in at least 10
15 % or more by weight of the total composition, or in at least 15 % or more by weight of the total composition, or in at least 20 % or more by weight of the total composition, or in at least 25 % or more by weight of the total composition.

For example, the weight ratio of the potent cooling compound (a) to a solvent (b) as described above is from 1:3 to 1:99.

20 For example, the weight ratio of 2-methyl-1-(2-(5-(*p*-tolyl)-1*H*-imidazol-2-yl)piperidin-1-yl)butan-1-one to 2-phenylethanol is from 1:3 to 1:99. For example it is 1:4, or 1:10, or 1:25, or 1:50, or 1:75, or 1:80, or 1:90, or 1:95.

For example, the weight ratio of 2-methyl-1-(2-(5-(*p*-tolyl)-1*H*-imidazol-2-yl)piperidin-1-yl)butan-1-one to phenoxyethanol is from 1:3 to 1:99. For example it is 1:4, or 1:10, or 1:25, or
25 1:50, or 1:75, or 1:80, or 1:90, or 1:95.

For example, the weight ratio of *N*-(1*H*-pyrazol-3-yl)-*N*-(thiophen-2-ylmethyl)-2-(*p*-tolylloxy)acetamide to 2-phenylethanol is from 1:3 to 1:99. For example it is 1:4, or 1:10, or 1:25, or 1:50, or 1:75, or 1:80, or 1:90, or 1:95.

For example, the composition comprises, consists essentially of, or consists of (a) 1 – 25 % by weight of the potent cooling compound according to formula (I), and (b) 75 – 99 % by weight of a solvent selected from the group consisting of 2-phenylethanol, phenoxyethyl alcohol, and mixtures thereof, related to weight of the total composition, provided that (a) and (b) add up to 100 weight %.

Many other typical solvents used in fragrance are not suitable for such potent cooling compounds. Either the solubility is poor (for example, below 5 % for 2-methyl-1-(2-(5-(*p*-tolyl)-1*H*-imidazol-2-yl)piperidin-1-yl)butan-1-one in DPG, triethyl citrate, and isopropyl myristate), the solution shows strong coloration (for example in lactic acid), the solution is not stable (for example in benzyl benzoate, butylene glycol), or the solvents are not used in fragrance applications at all.

In a further embodiment of the present invention there is provided the use of the composition described above in fragrance formulations. The composition can be easily admixed with other ingredients, for example comprising at least one fragrance compound and/or a further cooling compound, and/or a product base to provide an olfactive impression along with a cooling effect.

In a further embodiment of the present invention there is provided a fragrance formulation comprising the composition described above, further comprising at least one fragrance compound. The composition can be used as such, but in a further example, the composition comprises at least one or more fragrance compounds.

For example, the at least one or more fragrance compounds are selected from the group consisting of Hedione (CAS: 24851-98-7), linalool (CAS: 78-70-6), Iso E Super (CAS: 54464-57-2), cis-3-hexenol, dihydro myrcenol (CAS: 18479-58-8), benzyl acetate, citronellol (CAS: 106-22-9), Tricyclal (CAS: 68039-49-6), Peach Pure (CAS: 104-67-6), linalyl acetate, styrallyl acetate (CAS: 93-92-5), coumarin (CAS: 91-64-5), Agrumex (CAS: 20298-69-5), Galaxolide (CAS: 1222-05-5), ethyl vanillin (CAS: 121-32-4), cis-3-hexenyl acetate, ethylene brassylate (CAS: 105-95-3), hexyl cinnamic aldehyde (CAS: 101-86-0), vanillin (CAS: 121-33-5), Ambroxif (CAS: 6790-58-5), beta-ionone (CAS: 79-77-6) and gamma-decalactone (CAS: 706-14-9).

Further fragrance compounds that can be present in the fragrance formulation along with the composition according to the invention are described, for example, in "Perfume and Flavor Chemicals", S. Arctander, Ed., Vol. I & II, Allured Publishing Corporation, Carol Stream, USA, 2003 and include fragrance compounds of natural or synthetic origin and essential oils.

In a further embodiment of the present invention there is provided a fragrance formulation comprising the composition described above, further comprising a further cooling compound. The further cooling compound can enhance or modify the provided cooling effect along with the provided olfactive impression.

- 5 For example, the further cooling compound can be selected from the group consisting of: 2-(4-ethylphenoxy)-*N*-(1*H*-pyrazol-3-yl)-*N*-(thiophen-2-ylmethyl)acetamide, 2-isopropyl-5-methyl-*N*-(2-(pyridin-2-yl)ethyl)cyclohexane-1-carboxamide (including (1*R*,2*S*,5*R*)-2-isopropyl-5-methyl-*N*-(2-(pyridin-2-yl)ethyl)cyclohexane-1-carboxamide), *N*-(4-(cyanomethyl)phenyl)-2-isopropyl-5-methylcyclohexane-carboxamide (including (1*R*,2*S*,5*R*)-*N*-(4-(cyanomethyl)phenyl)-2-
- 10 isopropyl-5-methylcyclohexane-carboxamide), *N*-Ethyl-*p*-menthane-3-carboxamide, ethyl (2-isopropyl-5-methylcyclohexane-1-carbonyl)glycinate, 2-isopropyl-*N*,2,3-trimethylbutanamide, *N*-(4-(2-amino-2-oxoethyl)phenyl)-2-isopropyl-5-methylcyclohexane-1-carboxamide (including *rac*-(1*R*,2*S*,5*R*)-*N*-(4-(2-amino-2-oxoethyl)phenyl)-2-isopropyl-5-methylcyclohexane-1-
- 15 carboxamide), 2-isopropyl-5-methylcyclohexyl 2-hydroxypropanoate, *N*-(2-hydroxy-2-phenylethyl)-2-isopropyl-5,5-dimethylcyclohexane-1-carboxamide, menthol (e.g., in form of peppermint oil, and / or spearmint oil), menthone, menthyl lactate, menthone glycerol acetal, 3-(1-menthoxy)-propane-1,2-diol, *p*-menthane-3,8-diol, isopulegol, monomenthyl succinate, monomenthyl glutarate, *o*-menthylglycerol, menthyl *N,N*-dimethylsuccinamate, 2-(sec-butyl)cyclohexan-1-one, 3-(benzo[d][1,3]dioxol-5-yl)-*N,N*-diphenylacrylamide, 4-(2-(4-allyl-2,6-
- 20 dimethoxyphenoxy)-1-ethoxypropyl)-2-methoxyphenol, 4-(2-(4-allyl-2,6-dimethoxyphenoxy)-1-((2-isopropyl-5-methylcyclohexyl)oxy)propyl)-2-methoxyphenol (including 4-(2-(4-allyl-2,6-dimethoxyphenoxy)-1-(((1*S*,2*R*,5*S*)-2-isopropyl-5-methylcyclohexyl)oxy)propyl)-2-
- methoxyphenol) and 4-(2-(4-allyl-2,6-dimethoxyphenoxy)-1-(((1*R*,2*S*,5*R*)-2-isopropyl-5-methylcyclohexyl)oxy)propyl)-2-methoxyphenol), *N*-(2-Hydroxy-2-phenylethyl)-2-isopropyl-
- 25 5,5-dimethylcyclohexane-1-carboxamide, *N*-(4-(Cyanomethyl)phenyl)-2-isopropyl-5,5-dimethylcyclohexanecarboxamide and *N*-(3-Hydroxy-4-methoxyphenyl)-2-isopropyl-5,5-dimethylcyclohexanecarboxamide.

In a further embodiment of the present invention there is provided a fragranced product, comprising a product base and the composition described above, or the fragrance formulation

30 described above.

For example, the fragranced product can be selected from the group consisting of fabric care and personal care products.

Typical examples of fabric care products are acidic, alkaline or neutral detergents, textile fresheners, ironing aids, liquid detergents, powder detergents, laundry pre-treatments, fabric softeners, laundry sheets, washing soaps, washing tablets, and others. For example, the fabric care products are intended for use in countries or regions with high temperatures.

5 Typical examples of personal care products are body care products, hair care products, or cosmetic products, in particular creams and lotions, soaps, bath gels, shower gels, depilatory creams and lotions, after-shave creams and lotions, tanning creams and lotions, hair care products like shampoo and conditioner (in liquid or solid form), dry shampoo, hairsprays, deodorants, antiperspirants, decorative cosmetic products.

10 For example, the fragranced product comprises the composition described above in a cooling effect-providing proportion. The cooling effect can be achieved if the fragranced product is directly applied to skin. Alternatively, the cooling effect can be achieved, if a fabric, that was treated with a fragranced product comes in contact with the skin.

For example, the potent cooling compound is comprised in at least 10 ppm in the fragranced product, for example in 20 ppm, 50 ppm, 100 ppm or more. Assuming a composition of the present invention having 25 % by weight of the potent cooling compound, the composition is comprised in at least 40 ppm in the fragranced product, for example in 80 ppm, 200 ppm, 400 ppm or more. Assuming a composition of the present invention having 10 % by weight of the potent cooling compound, the composition is comprised in at least 100 ppm in the fragranced product, for example in 200 ppm, 500 ppm, 1000 ppm or more.

In a further embodiment of the present invention there is provided a method of incorporating a potent cooling compound in a fragranced product, comprising

- 25 a) the blending of the potent cooling compound, or a salt or solvate thereof, with a solvent selected from the group consisting of 2-phenylethanol, phenoxyethyl alcohol, and mixtures thereof, and
- b) the addition of the resulting composition to the fragranced product.

For example, there is provided the method, wherein the potent cooling compound is selected from 2-methyl-1-(2-(5-(*p*-tolyl)-1*H*-imidazol-2-yl)piperidin-1-yl)butan-1-one and *N*-(1*H*-pyrazol-3-yl)-*N*-(thiophen-2-ylmethyl)-2-(*p*-tolylloxy)acetamide .

For example, the method of providing a cooling sensation for the skin to a fragranced product, comprises the addition of a cooling effect-providing proportion of a composition described above to a product base. For example, a cooling effect can be provided by at least 10 ppm, for example in 20 ppm, 50 ppm, 100 ppm or more of the potent cooling compound in the fragranced product. Depending on the concentration of the composition (up to 25 % by weight), the proportion of the composition in the fragranced product can be determined, for example 0.004% of the composition in the fragranced product, or more.

As used herein, "product base" means a composition for use as a consumer product to fulfill specific actions, such as cleaning, softening, and caring or the like.

Due to the high potency of the cooling compound and the challenges to handle solid materials, the cooling compounds should be provided as solutions, in particular in a solvent suitable for fragranced consumer product. It is known that, for example, the potent cooling compound 2-methyl-1-(2-(5-(*p*-tolyl)-1*H*-imidazol-2-yl)piperidin-1-yl)butan-1-one can form different polymorphs (three-dimensional crystal structures), which may have different physical properties, for example solubility, due to their distinct three-dimensional crystal structures.

2-methyl-1-(2-(5-(*p*-tolyl)-1*H*-imidazol-2-yl)piperidin-1-yl)butan-1-one can be obtained in the form of a crystal with the structure as described in example 3. This polymorph possesses a low solubility in the most common solvents suitable for fragranced consumer product, probably due to its high stability of the crystalline form. So there is a need to solubilize said potent cooling compound in order to provide it in solution.

In general, it is not possible to predict whether a particular organic compound will form different crystalline forms, and which structure and properties each crystalline form might have. It was found that the most stable polymorph of 2-methyl-1-(2-(5-(*p*-tolyl)-1*H*-imidazol-2-yl)piperidin-1-yl)butan-1-one has been obtained by recrystallization. It is characterized by main peaks in its powder X-ray diffraction pattern obtained using copper K-alpha, radiation at 2-theta angles of 9.53, 11.61, 12.90, 14.28, 14.51, 17.10, 19.15, 19.41, 19.56, 19.88, 20.70, 21.03, 22.61, 27.07 and 28.81 degrees. Said polymorph requires particular solvents, for example 2-phenylethanol, phenoxyethyl alcohol, or mixtures thereof, to get dissolved.

In one example of the present invention, there is provided a crystalline form of potent cooling compound 2-methyl-1-(2-(5-(*p*-tolyl)-1*H*-imidazol-2-yl)piperidin-1-yl)butan-1-one, characterized by main peaks in its powder X-ray diffraction pattern obtained using copper K-

alpha, radiation as shown in example 3. There is further provided a solution of said polymorph in 2-phenylethanol, phenoxyethyl alcohol, or mixtures thereof. There is also provided a method of making a solution of the cooling compound, comprising the step of solubilizing the crystallized potent cooling compound in a solvent selected from the group consisting of 2-phenylethanol, phenoxyethyl alcohol, and mixtures thereof.

The invention is now further described with reference to the following non-limiting examples. These examples are for the purpose of illustration only and it is understood that variations and modifications can be made by one skilled in the art.

EXAMPLES

Example 1: solubility determinations

The concentrations (wt%) of potent cooling compound in solvent selected for solubility determination were 50%, 40%, 30%, 25%, 20%, 15%, 10%, 5%, 2.5% and 1%. The solubility of the potent cooling compound was determined by placing the said compound (100 mg) in a vial and adding the appropriate amount of solvent to reach the concentration for which solubility is to be determined (e.g. 300 mg of solvent for a 25 wt% solubility). The mixture was then warmed to 50°C for 1 h to aid dissolution and then allowed to stand at room temperature (21°C) for 16 h. Visual inspection of the mixture after this period determined if the solution was clear or if precipitate formed. The vial was then refrigerated to 4°C for 20 h then brought back to 21°C and kept at this temperature for 16 h before being again inspected for solubility. The mixtures were then kept for 2 months at 21°C to follow any long-term precipitation or discoloration. The tables below show the maximum observed concentration that remained in solution at 21°C even after a cycle of refrigeration as described above.

Solvents for 2-methyl-1-(2-(5-(<i>p</i> -tolyl)-1 <i>H</i> -imidazol-2-yl)piperidin-1-yl)butan-1-one	Maximum observed concentration at 21°C
DIPROPYLENE GLYCOL	5%
BENZYL BENZOATE	<5%
1,2-PENTANEDIOL (PENTIOL GREEN)	5%
BUTYLENE GLYCOL	<2.5%
CSO (CAS: 8001-79-4)	<1%

PEA (2-PHENYL ETHANOL)	25%
BENZYL ACETATE	5%
DOWANOL DPMA	<2.5%
HEDIONE	2.5%
ETHYL 2-METHYLBUTYRATE	<1%
PHENOXY ETHYL ALCOHOL	25%
DIOCTYL ADIPATE	<1%
DOWANOL DPM GLYCOL METHYL ETHER	5%
DOWANOL PNB	5%
METHYL-3-METHOXY-3-BUTANOL	5%
DIPROPYLENE GLYCOL METHYL ETHER	<1%
DOWANOL TPM GLYCOL ETHER	<1%

Solvents for <i>N</i>-(1<i>H</i>-pyrazol-3-yl)-<i>N</i>-(thiophen-2-ylmethyl)-2-(<i>p</i>-tolylloxy)acetamide	Maximum observed concentration at 21°C
PEA (2-PHENYL ETHANOL)	25%
PHENOXY ETHYL ALCOHOL	25%

Example 2: Application in a fragranced consumer product

- 5 A solution of 2-methyl-1-(2-(5-(*p*-tolyl)-1*H*-imidazol-2-yl)piperidin-1-yl)butan-1-one at 20 wt% in 2-phenylethanol was prepared according to Example 1 and named “potent cooling compound solution”. This solution was then incorporated by mixing into a fragrance formulation according to the formula below.

Ingredient name	CAS No	Parts by weight
Decanal	112-31-2	0.4
Undecanal	112-44-7	1.6

Dodecanal	112-54-9	2
Allyl Cyclohexyl Propionate	2705-87-5	0.3
Benzyl Acetate	140-11-4	11
4-tert-butylcyclohexyl acetate	32210-23-4	9
Citronellol	106-22-9	12
beta-Damascenone	23696-85-7	0.3
Ethyl Vanillin	121-32-4	0.2
Eugenol	97-53-0	1.5
Gardenol	93-92-5	1.5
Geraniol	106-24-1	9
Hexyl Salicylate	6259-76-3	12.5
Jasmacyclene	54830-99-8	6
[(1R,2S)-1-methyl-2-[(1R,3S,5S)-1,2,2-trimethyl-3-bicyclo[3.1.0]hexanyl]methyl]cyclopropyl]methanol (10% in DPG)	198404-98-7	1.5
3,7-dimethylnona-2,6-dienenitrile	61792-11-8	0.5
Linalool Synthetic	78-70-6	8
ethyl 2-methylpentanoate	39255-32-8	0.3
methyl non-2-ynoate	111-80-8	0.1
2-[2-(4-methyl-1-cyclohex-3-enyl)propyl]cyclopentan-1-one	95962-14-4	0.3
2-cyclohexylidene-2-phenylacetonitrile	10461-98-0	2
Phenyl Ethyl Alcohol	60-12-8	10
4-(4-Hydroxyphenyl)butan-2-one	5471-51-2	0.2
Rosyrane Super (10% in DPG)	60335-74-2 60335-71-9	0.7
1-(cyclopropylmethyl)-4-methoxybenzene	16510-27-3	0.3
(E)-4-methyldec-3-en-5-ol	81782-77-6	3
Dipropylene Glycol	25265-71-8	2.3
potent cooling compound solution (20%)		3.5
Total		100

The resulting fragrance formulation was incorporated into a soap bar application according to the following procedure:

- 5 A soap base "Palmosalt N 3021" (noodles) was purchased from KKK OLEO (Malaysia) with the following specifications:

Ingredients: Sodium palmitate, sodium palm kernelate, water, glycerine, sodium chloride, etidronic acid, sodium hydroxide.

Total fatty matter: 79 – 82%

Moisture: 10 – 13%

Free alkali as NaOH: 0.01 – 0.05%

Glycerine: 0.2 – 0.4%

5 Preservatives: present

99 g of this soap base were placed into a stainless steel beaker and combined with 1 g of the fragrance formulation prepared above containing the potent cooling compound solution. The mixture was stirred with a large metal spatula until the fragrance formulation was completely absorbed by the soap base. The mixture was then fed into the funnel of a soap extruder,
10 pushing with a plastic pestle and recovering the preparation in a beaker. The material obtained was fed back into the extruder and the process repeated three times to obtain a satisfactory distribution of the fragrance formulation into the base and a homogenous aspect of the soap bar. The final obtained soap bar was cut into four pieces of ca. 25 g each

Alternatively, the potent cooling compound solution can be added directly to the application e.g.
15 alongside the rest of the perfume without prior mixing of the two.

The resulting soap bar was then used by 3 panelists for washing the hands and forearms, and compared to a soap produced using the same procedure but omitting the potent cooling compound solution from the fragrance formulation by replacing it with 2-phenylethanol. During use, both soaps exhibited a pleasant, refreshing, floral, rosy and aldehydic fragrance. The soap
20 containing the potent cooling compound solution was found to give a highly perceptible, long-lasting cooling sensation on the skin for up to 15 minutes after use, without a burning or tingling sensation. By contrast, the soap bar without the potent cooling compound solution did not induce any cooling effect.

Example 3: Crystallization of 2-methyl-1-(2-(5-(p-tolyl)-1H-imidazol-2-yl)piperidin-1-yl)butan-1-one and determination of the polymorphism by powder XRD (X-Ray Diffraction).
25

A sample of 2-methyl-1-(2-(5-(p-tolyl)-1H-imidazol-2-yl)piperidin-1-yl)butan-1-one obtained, e.g. as described in WO2021074281A1, was recrystallized by dissolving in hot ethyl acetate (or a similar ester solvent) and then cooling it down to give the material in the desired polymorphic form as white needles. The powder obtained was analysed by powder XRD (using
30 copper K-alpha radiation) and is characterized by the spectrum in Figure 1 with the characteristic peaks listed below:

2Theta	Rel. intensity	2Theta	Rel. intensity
8.8522	6.96	28.0189	6.21
9.527	61.35	28.8147	26.72
11.6101	82.77	29.7968	11.77
12.4085	7.58	30.0239	9.61
12.899	98.28	30.7721	3.36
14.2804	43.11	32.0505	12.76
14.5113	100	33.5525	5
15.9116	3.87	33.9597	6.13
16.7692	3.02	35.0331	5.45
17.1047	41.01	36.4533	4.72
17.3924	7.72	37.0073	4.5
17.8055	7.35	38.358	4.54
17.9574	12.81	38.8885	3.26
18.3927	9.16	39.4469	3.99
19.1547	51.9	39.7332	3.13
19.4145	22.52	40.4728	3.22
19.5603	61.14	41.8726	2.73
19.8827	34.81	42.4984	3.03
20.6997	87.99	44.0667	6.96
21.0309	35.46	45.4719	3.27
21.9528	3.99	46.1805	2.64
22.3596	6.03	47.1681	2.81
22.6156	39.85	47.6317	2.73
23.9784	2.73	48.3671	3.36
25.1129	10.83		
25.6968	7.4		
25.9999	5		
26.6129	8.01		
26.8651	7.91		
27.0671	45.24		
27.7706	7.1		

Claims

1. A composition comprising
 - a) a potent cooling compound,
 - b) and a solvent selected from the group consisting of 2-phenylethanol, phenoxyethyl alcohol, and mixtures thereof.
2. The composition according to claim 1, wherein the potent cooling compound is selected from 2-methyl-1-(2-(5-(*p*-tolyl)-1*H*-imidazol-2-yl)piperidin-1-yl)butan-1-one and *N*-(1*H*-pyrazol-3-yl)-*N*-(thiophen-2-ylmethyl)-2-(*p*-tolylloxy)acetamide.
3. The composition according to claim 1, wherein the potent cooling compound is present in at least 1 % or more by weight of the total composition, or in at least 5 % or more by weight of the total composition, or in at least 10 % or more by weight of the total composition, or in at least 15 % or more by weight of the total composition, or in at least 20 % or more by weight of the total composition, or in at least 25 % or more by weight of the total composition.
4. The composition according to any one of the previous claims, wherein the weight ratio of the potent cooling compound (a) to solvent (b) is 1:3 to 1:99.
5. The composition according to any one of the previous claims, comprising, consisting essentially of, or consisting of (a) 1 – 25 % by weight of the potent cooling compound according to formula (I), and (b) 75 – 99 % by weight of the solvent selected from the group consisting of 2-phenylethanol, phenoxyethyl alcohol, and mixtures thereof, related to weight of the total composition, provided that (a) and (b) add up to 100 weight %.
6. A use of the composition according to any one of the previous claims in fragrance formulations.
7. A fragrance formulation comprising the composition as defined in any one of claims 1 to 4, further comprising at least one fragrance compound.
8. The fragrance formulation according to claim 6, further comprising a further cooling compound selected from 2-(4-ethylphenoxy)-*N*-(1*H*-pyrazol-3-yl)-*N*-(thiophen-2-

ylmethyl)acetamide, 2-isopropyl-5-methyl-*N*-(2-(pyridin-2-yl)ethyl)cyclohexane-1-carboxamide (including (1*R*,2*S*,5*R*)-2-isopropyl-5-methyl-*N*-(2-(pyridin-2-yl)ethyl)cyclohexane-1-carboxamide), *N*-(4-(cyanomethyl)phenyl)-2-isopropyl-5-methylcyclohexane-carboxamide (including (1*R*,2*S*,5*R*)-*N*-(4-(cyanomethyl)phenyl)-2-isopropyl-5-methylcyclohexane-carboxamide), *N*-Ethyl-*p*-menthane-3-carboxamide, ethyl (2-isopropyl-5-methylcyclohexane-1-carbonyl)glycinate, 2-isopropyl-*N*,2,3-trimethylbutanamide, *N*-(4-(2-amino-2-oxoethyl)phenyl)-2-isopropyl-5-methylcyclohexane-1-carboxamide (including rac-(1*R*,2*S*,5*R*)-*N*-(4-(2-amino-2-oxoethyl)phenyl)-2-isopropyl-5-methylcyclohexane-1-carboxamide), 2-isopropyl-5-methylcyclohexyl 2-hydroxypropanoate, *N*-(2-hydroxy-2-phenylethyl)-2-isopropyl-5,5-dimethylcyclohexane-1-carboxamide.

9. A fragranced product, comprising a product base and the composition according to any one of claims 1 to 5, or the fragrance formulation according to claim 7 or 8.
10. The fragranced product according to claim 9, wherein the composition is comprised in a cooling effect-providing proportion.
11. A method of incorporating a potent cooling compound in a fragranced product, comprising
 - a) the blending of the potent cooling compound, or a salt or solvate thereof, with a solvent selected from the group consisting of 2-phenylethanol, phenoxyethyl alcohol, and mixtures thereof, and
 - b) the addition of the resulting composition to the fragranced product.
12. The method according to claim 11, wherein the potent cooling compound is selected from 2-methyl-1-(2-(5-(*p*-tolyl)-1*H*-imidazol-2-yl)piperidin-1-yl)butan-1-one and *N*-(1*H*-pyrazol-3-yl)-*N*-(thiophen-2-ylmethyl)-2-(*p*-tolylloxy)acetamide.
13. A method of providing a cooling sensation for the skin to a fragranced product, comprising the addition of a cooling effect-providing proportion of a composition according to any one of claims 1 to 5 to a product base.

14. A crystalline form of 2-methyl-1-(2-(5-(p-tolyl)-1H-imidazol-2-yl)piperidin-1-yl)butan-1-one characterized by main peaks in its powder X-ray diffraction pattern obtained using copper K-alpha, radiation at 2-theta angles of 9.53, 11.61, 12.90, 14.28, 14.51, 17.10, 19.15, 19.41, 19.56, 19.88, 20.70, 21.03, 22.61, 27.07 and 28.81 degrees.
- 5
15. A method of making a solution of the crystalline form of 2-methyl-1-(2-(5-(p-tolyl)-1H-imidazol-2-yl)piperidin-1-yl)butan-1-one according to claim 14, comprising the step of solubilizing the crystalline form of 2-methyl-1-(2-(5-(p-tolyl)-1H-imidazol-2-yl)piperidin-1-yl)butan-1-one in a solvent selected from the group consisting of 2-phenylethanol, phenoxyethyl alcohol, and mixtures thereof.
- 10