

CERTIFICATE OF ANALYSIS

Product Name:	Menthol Crystals		
Batch Number	4444610		
Manufacture Date:	JUNE 2020	Best Before Date:	SEPTEMBER 2024

S.No	Items	Specification	Results
TEST AS PER EP			
1	Appearance	Prismatic or acicular, colourless, shiny crystals	Conforms
2	Solubility	Practically insoluble in water, Very soluble in ethanol (96%) and in light petroleum, freely soluble in fatty oils and in liquid paraffin, very slightly soluble in glycerol	Conforms
3	Melting Point	43± 1°C	42.7 °C
4	First Identification A. By SOR C. By GB Second Identification: B. TLC D. MP of crystals	<p style="text-align: center;">Between -48° to 51°</p> The Principle peak in the chromatogram obtained with the test solution is similar in position and approximate dimension to the principal peak in the chromatogram obtained with reference solution.	<p style="text-align: center;">-49°</p> The Principle peak in the chromatogram obtained with the test solution is similar in position and approximate dimension to the principal peak in the chromatogram obtained with reference solution Complies
		Comparable to that of references standards. Melting point of crystalline derivative of menthol obtained during chemical testing should be between 154° to 157°	<p style="text-align: center;">156°</p> Complies
5	Appearance of solution	Solution is clear and colourless	Complies

6	Acidity of Alkalinity	Not more than 0.5 ml of 0.01 M sodium hydroxide is required to change the colour of indicator to pink	0.3ml of 0.01 M sodium hydroxide is required to change the colour of indicator to pink.
7	Specific Optical Rotation (10% sol. In ethanol 96%)	Between -48° to 51°	-49°
8	Total Related Substances (By GC) Disregard limit	Not more than 1.0%	0.3%
		Not more than 0.05%	0.02%
9	Residue on evaporation	Not more that 0.05%	0.03%
TEST AS PER EP			
10	Description	Colourless crystals or fused masses (molten) or crystalline powder (fine powder) derived from variety of mint	Colourless, crystals has pleasant mint like odour
11	Identification A. By Gas Chromatograph	The retention time of the major peak of the sample solution corresponds to that of the menthol peak of standard solution, as obtained in the assay.	Complies
	b. By SOR	Between -45° and -51°	-49°
12	Specific Test A. Melting range of (L-Menthol)	Between 41.0° and 44.0°C	42°C to 43°C
	b. Optical rotation (L-method)	Between -45.0 and 51.0°	-49°
13	Non volatile residue	Not more that 0.05%	0.03% w/w
14	Assay (By GC)	Between 98.00% to 102.0%	0.997
15	Related Compounds (By GB)		
	A. Individual impurities B. Total impurities	Not more than 0.30% Not more than 2.0%	0.10% 0.3%

TEST AS PER BP			
16	Description	Prismatic or acicular, colourless, shiny crystals	Prismatic, colourless, shiny crystals
17	Solubility	Practically insoluble in water, Very soluble in alcohol, in ether and in light petroleum, freely soluble in fatty oils and in liquid paraffin, very slightly soluble in glycerol	Practically insoluble in water, Very soluble in alcohol, in ether and in light petroleum, freely soluble in fatty oils and in liquid paraffin, very slightly soluble in glycerol
18	Identification By A. By SOR B. TLC C. By GC D. By Chemical	Between -48° and -51° The principle spot in the chromatogram obtained with test solution is similar in position, colour and size to the principle spot obtained with the reference solution The principle peak in the chromatogram obtained with test solution (b) is similar in position, and approximate dimension to the principle peak in the chromatogram with the reference solution (c). Melting point of crystalline derivative of menthol obtained during chemical testing should be between at 154°C to 157°C	-49° The principle spot in the chromatogram obtained with test solution is similar in position, colour and size to the principle spot obtained with the reference solutions The principle peak in the chromatogram obtained with test solution (b) is similar in position and approximate dimension to the principle peak in the chromatogram obtained with the reference solution (c) 156°
19	Apperance of solution	solution is clear and colourless (s)	Solution is clear and colourless
20	Acidity or Alkalinity	Not mere than 0.5 ml of 0.01 M sodium hydroxide is required to change the colour of indicator to pink	0.2 ml of 0.01 M sodium Hydroxide is required to change the colour of indicator to pink
21	Specific Optical Rotation (10% sol. In ethanol 96%)	Between -48° and -51°	-49°
22	Related substance (By GC) Total Impurity	Not more than 1.0%	0.3%
23	Residue on evaporation	Not more that 0.05% w/w	0.03% w/w



February 2018

ALLERGEN STATEMENT

Menthol Crystals

To whom it may concern,

On the basis of the information provided by our supplier, we can confirm that the manufacturer states the product does not contain nor is it derived from any of the following known allergens:

- ✓ *Egg or any of its derivatives, including but not limited to, frozen yolk, egg white powder, and egg protein isolates.*
- ✓ *Milk or any of its derivatives, including but not limited to, milk caseinate, whey and yoghurt products.*
- ✓ *Peanuts or any of its derivatives, including pieces, butters, oils, flours or proteins.*
- ✓ *Seafood / Seafood-based products including but not limited to fish or any of its derivatives, including fish proteins or extracts. Shellfish, molluscs or any of their derivatives.*
- ✓ *Seeds (cotton seed, poppy seed, sesame seed, sunflower seed or legumes or any oils derived from these products)*
- ✓ *Soybean or its derivatives, including oils, tofu, protein isolates and lecithin.*
- ✓ *Monosodium glutamate, sulphites, sulphur dioxide or sodium metabisulfites.*
- ✓ *Tree Nuts which include almonds, brazil nuts, cashews, hazelnuts, macadamia nuts, pecans, pine nuts, pistachio nuts, and walnuts, or any derivatives of these nuts including pieces, butters, oils, flours or proteins.*
- ✓ *Wheat or gluten, including gluten from barley, bulgur, couscous, kamut, oats, rye, semolina, spelt, triticale, and their derivatives, either as grain or flour.*
- ✓ *Beef Bone Meal (Dust)*
- ✓ *Animal Fats*
- ✓ *Celery Root*



February 2019

CMR STATEMENT

Menthol Crystals

To whom it may concern,

On the basis of the information provided by our supplier, we can confirm that the manufacturer states the product is non carcinogenic, mutagenic or toxic for reproduction as notified under CLP regulation (EC) No. 1272/2008 on classification, labelling and packaging of substances and mixtures.



March 2018

C.O.O STATEMENT

Menthol Crystals

To whom it may concern,

On the basis of the information provided by our supplier, we can confirm that the manufacturer states the product, Menthol Crystals is Crude Mentha Oil derived from botanical origin Mentha Arvensis.

Country of Origin	India
Country of Harvest	India
Country of Manufacturer	India



February 2021

GMO STATEMENT

Menthol Crystals

To whom it may concern,

On the basis of the information provided by our supplier, we can confirm that the manufacturer states the product is produced without Genetically Modified Organisms.

The product does not contain any GMO.

The product is not manufactured using GMO.

The product is not produced with the aid of substances which contain or are manufactured using GMO.



May 2018

PURITY STATEMENT

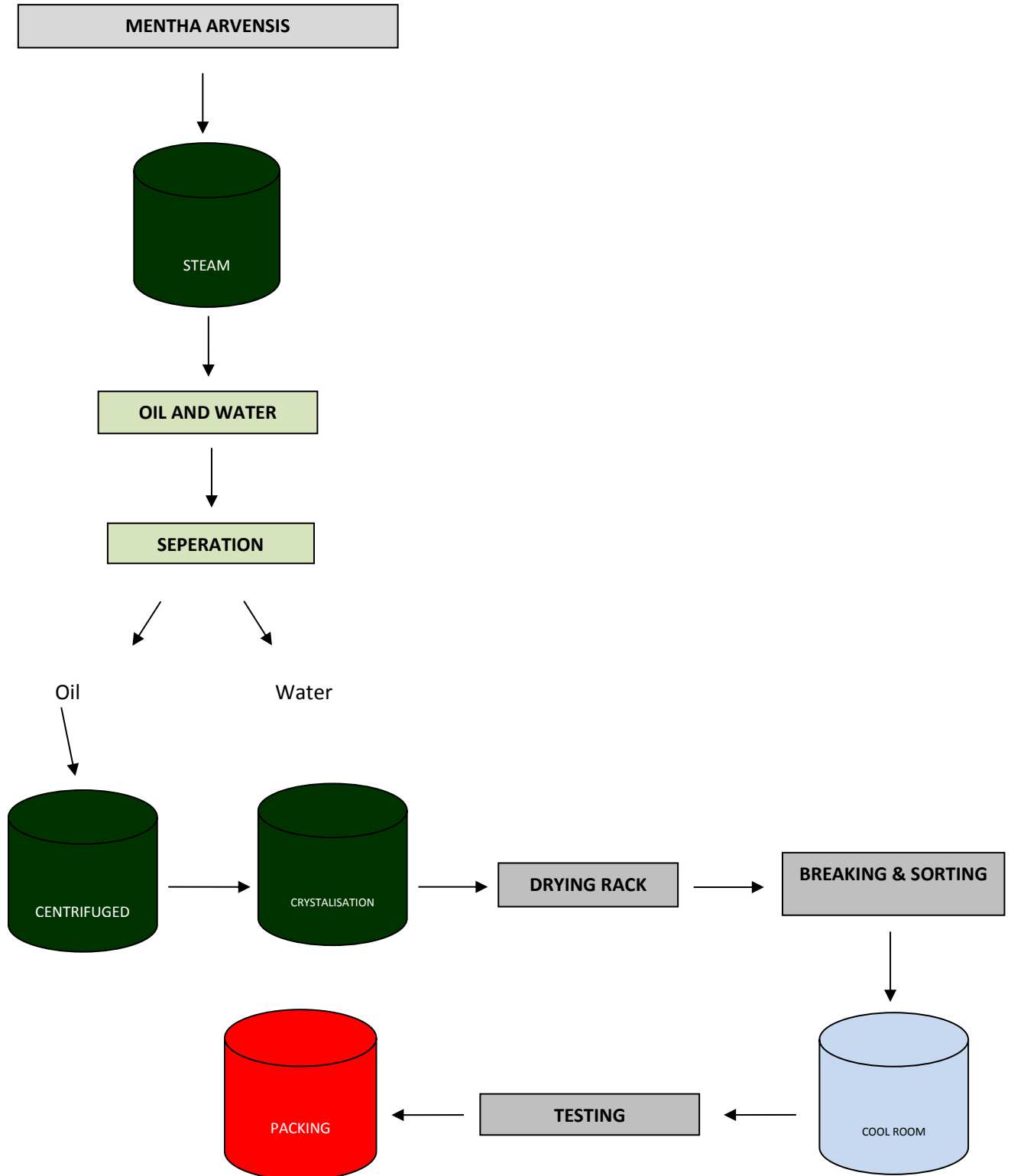
Menthol Crystals

To whom it may concern,

On the basis of the information provided by our supplier, we can confirm that the manufacturer states the product is no less than 99% pure.

MENTHOL CRYSTALS

FLOW CHART





May 09, 2018

IFRA CERTIFICATE

Product Name: **Menthol Crystal**

This is to confirm that *Menthol Crystal* does not contain any known added proteins or allergens in accordance with European Cosmetic directive and as listed by *IFRA*.


SAFETY DATA SHEET

ACCORDING TO EC-REGULATIONS 1907/2006, 1272/2008, 453/2010 & 830/2015

1. SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1	Product Identifier GHS Product Identifier Chemical name REACH Number	Menthol Crystals (1R,2S,5R)-5-methyl-2-(propan-2-yl)cyclohexan-1-ol 01-2119458866-21-XXXX
1.2	Relevant identified uses of the substance or mixture and uses advised against Identified use(s) Uses advised against	In flavours and fragrances. None known.
1.3	Details of the supplier of the Safety Data Sheet Company Identification Address Country Telephone E-Mail (competent person)	Madar Corporation Limited 19 - 20 Sandealth Industrial Estate Fordingbridge SP6 1PA United Kingdom +44 (0) 1425 655555 technical@madarcorporation.co.uk
1.4	Emergency telephone number Emergency Phone No.	Tel: +44 1425 655555 (9am – 5pm GMT)

2. SECTION 2: HAZARDS IDENTIFICATION

2.1	Classification of the substance or mixture	Physical hazards: Not classified. Health Hazard: H315, H319 Environmental hazards: Not classified.
2.1.1	Regulation (EC) No. 1272/2008 (CLP)	
2.2	Label Elements	
2.2.1	Label Elements GHS Product Identifier	According to Regulation (EC) No. 1272/2008 (CLP)
	Hazard Pictogram Signal word(s)	 Warning
	Hazard statement(s) H315 H319	Causes skin irritation. Causes serious eye irritation.

Precautionary statement(s)

P264

P280

P302+P352

P305+P351+P338

P321

P332+P313

P337+P313

P362

Wash hands thoroughly after handling.

Wear protective gloves/protective clothing/eye protection/face protection.

IF ON SKIN: wash with plenty of soap and water.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Specific treatment (see ... on this label).

IF SKIN irritation occurs: Get medical advice/attention.

IF eye irritation persists: Get medical advice/attention.

Take off contaminated clothing and wash before reuse.

2.3 Other Hazards

No data available.

2.4 Additional Information

3. SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

EC Classification No.1272/2008

Hazardous Ingredients	%W/W	EC No.	CAS No.	Hazard Pictogram(s) and Hazard Statements
L-menthol	100	218-690-9	2216-51-5	GHS07: Harmful H315, H319.

3.2 Mixtures

3.3 Additional Information

For the full text of the H/ P-Phrases see Section 16

4. SECTION 4: FIRST AID MEASURES



4.1 Description of first aid measures

Inhalation

Remove from exposure site to fresh air. Keep at rest. Obtain medical attention.

Ingestion

Rinse mouth out with water. Seek medical advice immediately.

Eyes

Rinse immediately with plenty of water for at least 15 minutes. Contact a doctor if symptoms persist.

Skin

Remove contaminated clothes. Wash thoroughly with soap & water, flush with plenty of water. If irritation persists, seek medical advice.

4.2 Most important symptoms and effects, both acute and delayed

No data available.

4.3 Indication of any immediate medical attention and special treatment needed

No data available.

5. SECTION 5: FIRE FIGHTING MEASURES

- | | |
|--|---|
| 5.1 Extinguishing Media
Suitable Extinguishing Media | Use CO ₂ , Dry Powder or Foam Extinguishers, spraying extinguishing media to base of flames. Do not use direct water jet on burning material. |
| 5.2 Special hazards arising from the substance or mixture | Avoid vapour inhalation. Keep away from sources of ignition. Do not smoke. Wear positive pressure self-contained breathing apparatus & protective clothing. |
| 5.3 Advice for fire-fighters | Closed containers may build up pressure when exposed to heat and should be cooled with water spray. |

6. SECTION 6: ACCIDENTAL RELEASE MEASURES

- | | |
|--|---|
| 6.1 Personal precautions, protective equipment and emergency procedures | Avoid inhalation & direct contact with skin & eyes. Use individual protective equipment (safety glasses, waterproof-boots, suitable protective clothing) in case of major spillages. |
| 6.2 Environmental precautions | Keep away from drains, soils, surface & ground waters. |
| 6.3 Methods and materials for containment and cleaning up | Remove all potential ignition sources. Contain spilled material. Cover with an inert or non-combustible inorganic absorbent material, sweep up and remove to an approved disposal container. Observe state, federal & local disposal regulations. |
| 6.4 References to other sections | See Section 12: Ecological Information. |

7. SECTION 7: HANDLING AND STORAGE

- | | |
|---|--|
| 7.1 Precautions for safe handling | Apply good manufacturing practice & industrial hygiene practices, ensuring proper ventilation. Observe good personal hygiene, and do not eat, drink or smoke whilst handling. Keep away from ignition sources & naked flames. Take precautions to avoid static discharges in working area. |
| 7.2 Conditions for safe storage, including any incompatibilities | Store in tightly closed original container, in a cool, dry & ventilated area away from heat sources & protected from light. Keep air contact to a minimum. |
| 7.3 Specific end use(s) | See section 1.2. |

8. SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

- | | |
|---|--------------------|
| 8.1 Control parameters
Components with workplace control parameters | No data available. |
| 8.2 Exposure controls/ engineering controls | No data available. |
| 8.2.1 Personal protective equipment
Protective Equipment | |



9. SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical Properties

Appearance	Colourless crystals
Colour	Colourless
Odour / Odour threshold	Refreshing, typical menthol odour, with pronounced cooling effect.
pH value (10 % in water)	No data available.
Boiling point	200 – 225 °C
Melting point	42 – 45 °C
Flash point	101 °C
Granulometry	No data available.
Auto-ignition temperature	No data available.
Vapour pressure	1 mm HG @ 56 °C.
Relative density	0.89 g/cm ³ at 25 °C.
Solubility in water	Insoluble.
Surface tension	No data available.
Partition coefficient (Log Po/w)	No data available.
Viscosity	No data available.
Dissociation constant	No data available.

9.2 Other information

Molecular Weight	156.265
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10. SECTION 10: STABILITY AND REACTIVITY

10.1	Reactivity	It presents no significant reactivity hazards, by itself or in contact with water. Avoid contact with strong acids, alkali or oxidising agents.
10.2	Chemical stability	Liable to cause smoke & acrid fumes during combustion: Carbon monoxide, carbon dioxide & other non-identified organic compounds may be formed.
10.3	Possibility of hazardous reactions	It presents no significant reactivity hazards, by itself or in contact with water. Avoid contact with strong acids, alkali or oxidising agents.
10.4	Conditions to avoid	Avoid contact with strong acids, alkali or oxidising agents.
10.5	Incompatible materials	Strong acids, alkali or oxidising agents.
10.6	Hazardous Decomposition Product(s)	None known.

11. SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

11.1.1 Substances

Acute toxicity	
LD50 Oral – Rat	3,300 mg/kg
LD50 Oral – Mouse	3,400 mg/kg
LD50 Dermal – Rabbit	> 5,000 mg/kg
LD50 Intraperitoneal - Rat	700 mg/kg
Remarks:	
Behavioural:	General anaesthetic.

Behavioural:	Altered sleep time (including change in righting reflex). Respiratory disorder.
LD50 Intraperitoneal - Mouse	6,600 mg/kg
LD50 Intraperitoneal - Cat	800 mg/kg
LD50 Subcutaneous - Rat	1,000 mg/kg
LD50 Subcutaneous - Mouse	5,000 mg/kg
Ingestion	Call a physician or poison control centre immediately. Rinse mouth with water. Do NOT induce vomiting. Never give anything by mouth to an unconscious person.
Inhalation	Move to fresh air. If breathing is difficult, give oxygen by qualified medical personnel only. If breathing is irregular or stopped, administer artificial respiration. When symptoms persist or in all cases of doubt seek medical advice.
Skin contact	For skin contact, wash with soap and water while removing contaminated clothing. If skin irritation or rash occurs, seek medical advice/attention. Wash contaminated clothing before reuse.
Eye contact	Flush eyes with water for at least 15 minutes while holding eyelids open. Seek immediate medical attention/advice.
Respiratory or skin sensitisation	
11.2 Other information	Not available

12. SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity	
Toxicity to fish	LC50/96h: 96 Hr LC50 Pimephales promelas: 18.9 mg/L [flow-through]
Toxicity to daphnia and other aquatic invertebrates	No data available.
Toxicity to algae	No data available.
Toxicity to bacteria	No data available.
12.2 Persistence and degradability	Result: 92 % - Readily biodegradable.
12.3 Bioaccumulative potential	Indication of bioaccumulation.
12.4 Mobility in soil	No data available.
12.5 Results of PBT and VPVB assessment	This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.
12.6 Other adverse effects	No data available.

13. SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Product	Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber. Offer surplus and non-recyclable solutions to a licensed disposal company. Waste material must be disposed of in accordance with the Directive on waste 2008/98/EC as well as other national and local regulations. Leave chemicals in original containers. No mixing with other waste.
Contaminated packaging	Handle uncleaned containers like the product itself.

14. SECTION 14: TRANSPORT INFORMATION

14.1 UN number	Not hazardous for transport.
14.2 UN proper shipping name	Not hazardous for transport.
14.3 Transport hazard class(es)	Not hazardous for transport.
14.4 Packaging group	Not hazardous for transport.
14.5 Environmental hazards	Not hazardous for transport.
14.6 Special precautions for user	Not hazardous for transport.

15. SECTION 15: REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture	This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.
15.2 Chemical Safety Assessment	For this product a chemical safety assessment was not carried out.

16. SECTION 16: OTHER INFORMATION

Full text of H-Statements referred to under sections 2 and 3.

H315	Causes skin irritation.
H319	Causes serious eye irritation.

Full text of P-phrases referred to under sections 2 and 3

P264	Wash hands thoroughly after handling.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P302+P352	IF ON SKIN: wash with plenty of soap and water.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P321	Specific treatment (see ... on this label).
P332+P313	IF SKIN irritation occurs: Get medical advice/attention.
P337+P313	IF eye irritation persists: Get medical advice/attention.
P362	Take off contaminated clothing and wash before reuse.

Additional Information

Information contained in this publication or as otherwise supplied to Users is believed to be accurate and is given in good faith, but it is for the Users to satisfy themselves of the suitability of the product for their own particular purpose. Ascot International Ltd gives no warranty as to the fitness of the product for any particular purpose and any implied warranty or condition (statutory or otherwise) is excluded except to the extent that exclusion is prevented by law. Ascot International Ltd accepts no liability for loss or damage (other than that arising from death or personal injury caused by defective product, if proved), resulting from reliance on this information. Freedom under Patents, Copyright and Designs cannot be assumed.



SPECIFICATION

Spec No.:	2206	INCI Name:	L-Menthol
Product Name:	Menthol Crystals Natural EP	EINECS No.:	218-690-9
CAS No.:	2216-51-5	Date:	March 2019

ANALYSIS	SPECIFICATION
Appearance	Prismatic or acicular, colourless, shiny crystalline powder.
Solubility	Practically insoluble in water. Very soluble in alcohol, in ether and in light petroleum. Freely soluble in fatty oils and in liquid paraffin. Very soluble in glycerol.
Identification	
1. By SOR	Between 48° and 51°
2. GC	The Principle Peak in the chromatogram obtained with the test solution (b) is similar in position and approximate dimension to the Principle Peak in the chromatogram obtained with reference solution (c).
3. TLC	Comparable to references.
4. MP of Derivative	154°C to 157°C
Appearance of solution	Solution is clear and colourless (s)
Acidity or Alkalinity	Not more than 0.5 ml of 0.01 M sodium hydroxide is required to change the colour of indicator to pink.
Specific Optical Rotation (10% w/v solution in ethanol R)	Between 48° and 51°
Total related substances (By GC)	Not more than 1.0%
Purity by GC (L-Menthol)	Not less than 99.0%
Residue on evaporation	Not more than 0.05% w/w
Storage Conditions	Preserve in tight containers at controlled room temperature
Pharmacopoeial References (if any)	EP 9.0