

TECHNICAL SPECIFICATION

Product Technical Information

Product: **NICOMENTHYL® 20** (Code 1404203R) Cosmetic ingredient for skin care & hair care products (Molecular formula: C₁₆H₂₃NO₂ – INCI name: *Menthyl nicotinate* – CAS: 40594-65-8 EINECS: 254-991-1) - REACH Number 01-2120770053-62-0000
 Made in Italy. **MANUFACTURER:** Multichem R&D Srl - Via G. Marconi 37 - 20089 Rozzano (MI) – Italy - Tel. 0039 02 8262192
 Date: 15th June 2020

Organoleptic properties	
Appearance	Liquid
Colour	White transparent (colorless)
Hazen Colour value (APHA)	<= 30
Smell	Characteristic, practically odorless
Physical & chemical properties	
Purity (GC-MS)	> 99.00%
Specific gravity (at 20°C)	1.01 – 1.04
Solubility	insoluble in water; soluble in ethanol, fatty oils, esters
Boiling point at atmospheric pressure (OECD 103 DSC method)	292.23 °C
Melting/freezing point	< -20°C
Flash point	165 °C (329 °F; 438 K) @ 101 kPa
Vapor pressure (at 20°C)	10 Pa
Partition coefficient (n-octanol/water) LogPow	5.09 at 25°C
Auto ignition temperature	354 °C (669 °F; 627 K) @ 102.3 kPa
Surface tension	36.19 mN/m at 22°C
Refractive Index (Abbe Refractometer; 589 nm)	1.5060 – 1.5074
Heavy metals (ppm)	< = 10 ppm
Microbiological properties	
Total bacterial load (cfu/g)	< 10
Moulds/Yeasts(cfu/g)	< 10
Pathogens	Absent
Shelf life: > 36 months. Thermostable. No added preservatives or antioxidants are required nor any special condition for storage.	

HALAL: certification N°445 dated 16/04/2019 by Halal Italia.

KOSHER: certification dated 19/03/2020 by Rabbinical Court of Center and North Italy.

APPLICATIONS:

Skin care Hair care Body care Sun care

Liposoluble. Can be processed either hot or cold.

Being a polar molecule, NICOMENTHYL 20, supported by appropriate thickening agents, has self-emulsifying properties, which may result in the formation of stable micro-emulsions. The sensorial effect of NICOMENTHYL 20 is optimized by all those carriers having a good lipophilicity and a high spreading value such as: Butylene glycol, Hexylene glycol, Pentylene glycol, Dipropylene glycol, Dicapryl ether, Dicaprylyl carbonate, Ethanol, etc. Furthermore, the effect is enhanced when NICOMENTHYL 20 is included in water based formulations (such as O/W emulsions or aqueous gels) or solubilized in micro-emulsions with Polysorbates, PEG-40 Hydrogenated castor oil or other hydrophilic solubilizers, while it is reduced in anhydrous formulations or W/O emulsions.

RECOMMENDED DOSAGE: in Face Products: 0.5 – 1%. In Body Products: 0.5 – 3%. In Special Products (intensive treatments): up to 5%.

HOW TO USE:

Disperse NICOMENTHYL 20 into the oil phase of a formulation using simple mixing to help with emulsification or blending with other polar or non-polar oils. There is no need for post-shearing. Formulations with NICOMENTHYL 20 can be achieved using cold process.

PRODUCT SAFETY

The following assessment tests were conducted on Menthyl nicotinate: in vitro cutaneous irritation testing on 3D reconstructed human epidermis (according to OCED 439); in vitro model testing to predict skin sensitization through assessment of the stimulating potential of the investigated substance on the immune cellular response mediated by monocyte/macrophage cells; in vitro test method for the prediction of the vaginal tolerability on reconstructed epithelium; in vitro assessment of the ocular irritancy potential through cytotoxicity assay Neutral Red Uptake on cell culture and in vitro Het Cam testing on fertilized chicken eggs. All tests have confirmed the absence of irritative and/or sensitizing effects on skin and eyes. For precautionary reasons, it is classified as Eye Irritant 2 according to Regulation 1272/2008/EC (CLP).