

SWEET ORANGE OIL

Version 1RME07 – Revision Date: October 26, 2023

Page 1/1

1. PRODUCT

1.1 Product identifier

| | |
|---------------------------|--|
| product trade name | Sweet Orange Essential Oil |
| relevant identified uses | odour agent / flavouring agent |
| botanical origin | <i>Citrus sinensis</i> , (L) OSBECK / PERSOON |
| production process | obtained by cold pressing from fresh Orange fruits |
| status | 100% Natural Complex Substance |
| EC name | Orange, sweet, ext. |
| EC number | 232-433-8 |
| CAS number (EC inventory) | 8028-48-6 |
| other CAS number | 8008-57-9 |
| FDA number | 21CFR182.20 |
| CE number | 143 |
| FEMA number | 2825 |
| RIFM number | 192-G2.5 |
| INCI name | citrus sinensis peel oil expressed |
| HS number (EU TARIC) | 3301121000 |

2. PHYSICAL AND CHEMICAL PROPERTIES

2.1 Organoleptic characteristics

| | |
|--------------------|---|
| appearance & color | liquid – orange to dark orange-reddish |
| odor | sweet orange note - fruity and juicy note |

2.2 Physical & chemical data

| analysis | ranges | instruments |
|----------------------------------|----------------------|------------------------------|
| relative density d_4^{20} | 0.8390 ÷ 0.8540 | ANTON PAAR - DMA 4500 |
| optical rotation α_D^{20} | +84.00° ÷ +104.00° | Optical Activity - POLAAR 20 |
| refractive index n_D^{20} | 1.4680 ÷ 1.4780 | ANTON PAAR - RXA 170 |
| peroxides | ≤20 mmol/l | CDR - FoodLab |
| flash point | 53 °C (127.4 °F) | GRABNER - Miniflash FLP |
| solubility | alcohol - other oils | - |

2.3 Key peaks

| common name | ranges | instruments |
|-------------|-----------------|----------------------|
| α-pinene | ≤1.00% | GC - internal method |
| β-pinene | ≤0.50% | GC - internal method |
| myrcene | ≤2.50% | GC - internal method |
| limonene | 90.00% ÷ 99.00% | GC - internal method |
| γ-terpinene | ≤0.30% | GC - internal method |
| linalool | ≤0.60% | GC - internal method |
| citronellal | ≤0.10% | GC - internal method |
| citronellol | ≤0.10% | GC - internal method |
| citral | ≤0.60% | GC - internal method |
| geraniol | ≤0.07% | GC - internal method |

3. CERTIFICATIONS

3.1 Statements

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|----------------------------------|--|
| Food & Natural (EU - US) | this product is solvents, preservatives and other technical adjuvants free; it is a 100% natural flavouring agent obtained by physical processes only from one botanical source (<i>Citrus sinensis</i> , (L) OSBECK / PERSOON), according to Reg. (EC) N. 1334/2008 Art. 3 (2)(d) & Code of Federal Regulation (CFR) Title 21 - 101.22 (a)(3) |
| Food Allergens Free (EU - US) | this product is single-ingredient , it is a 100% natural flavouring agent obtained by physical processes only from one botanical source (<i>Citrus sinensis</i> , (L) OSBECK / PERSOON) and it does not contain any food allergen listed in the Annex II of Reg. (EU) Nr. 1169/2011 nor any of the nine "Major Food Allergens" as defined in the Food Allergy Safety, Treatment, Education, and Research (or FASTER) Act of 2021 of the United States of America. |
| GMO Free | this product has been extracted from non-genetically modified plant; no enzyme and/or no GMO enzymes has been used during the production process and consequently, with reference to Regulations (EC) 1829/2003 and 1830/2003, it does not contain GMO or GMO-derived product |

4. STORAGE / SHELF LIFE

4.1 Precautions for safe storage

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|------------------------|--|
| container & conditions | to be stored in stainless steel drums, preferably under inert atmosphere (nitrogen) with minimum head space, protected from day-light in a dry, aerated place, away from any heat source and ignition source |
| temperature | from 5 °C to 21 °C |
| shelf life | 365 days, as per recommended storage conditions |