

Grapefruit oil expressed

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| CAS-No.: | 8016-20-4 90045-43-5 The scope of this Standard includes, but is not limited to the CAS number(s) indicated above; any other CAS number(s) used to identify this fragrance ingredient should be considered in scope as well. |
| Synonyms: | Not applicable. |

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| History: | Publication date: | 2020 (Amendment 49) | Previous Publications: | 1992 2015 |
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|------------------------------|---|-------------------|
| Implementation dates: | For new creation*: | February 10, 2021 |
| | For existing creation*: | February 10, 2022 |
| | *These dates apply to the supply of fragrance mixtures (formulas) only, not to the finished consumer products in the marketplace. | |

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| RECOMMENDATION: | RESTRICTION |
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| MAXIMUM ACCEPTABLE CONCENTRATIONS IN THE FINISHED PRODUCT (%): | | | |
|--|-------|--------------|----------------|
| Category 1 | 4.0 % | Category 7A | No Restriction |
| Category 2 | 4.0 % | Category 7B | 4.0 % |
| Category 3 | 4.0 % | Category 8 | 4.0 % |
| Category 4 | 4.0 % | Category 9 | No Restriction |
| Category 5A | 4.0 % | Category 10A | No Restriction |
| Category 5B | 4.0 % | Category 10B | 4.0 % |
| Category 5C | 4.0 % | Category 11A | No Restriction |
| Category 5D | 4.0 % | Category 11B | 4.0 % |
| Category 6 | 4.0 % | Category 12 | No Restriction |

Fragrance ingredient restriction - Note box
 The Standard is set due to the phototoxic effects of Grapefruit oil expressed. For more detailed information on the application of this Standard, please refer to the note on phototoxic ingredients in chapter 1 of the Guidance for the use of IFRA Standards.

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If the level of furocoumarins is unknown, the restriction level specified in this IFRA Standard applies.

Combination effects of phototoxic ingredients are only taken into consideration for the furocoumarin-containing fragrance ingredients (extracts) listed in the IFRA Standard of Citrus oils and other furocoumarins containing essential oils.

If combinations of furocoumarin-containing phototoxic fragrance ingredients (extracts) are used, the use levels must be reduced accordingly. The sum of the concentrations of all furocoumarin-containing phototoxic fragrance ingredients (extracts), expressed in % of their recommended upper concentration level in the consumer product shall not exceed 100.

For qualities of the expressed oil in which the less volatile components have been concentrated by partial or total removal of the terpene fraction, this limit should be reduced in proportion to the degree of concentration.

FLAVOR REQUIREMENTS:

Due to the possible ingestion of small amounts of fragrance ingredients from their use in products in Categories 1 and 6, materials must not only comply with IFRA Standards but must also be recognized as safe as a flavoring ingredient as defined by the IOFI Code of Practice (www.iofi.org). For more details see chapter 1 of the Guidance for the use of IFRA Standards.

CONTRIBUTIONS FROM OTHER SOURCES:

NONE TO CONSIDER BEYOND TRACES (SEE ALSO THE SECTION ON CONTRIBUTIONS FROM OTHER SOURCES IN CHAPTER 1 OF THE GUIDANCE FOR THE USE OF IFRA STANDARDS)

INTRINSIC PROPERTY DRIVING RISK MANAGEMENT:

PHOTOTOXICITY

RIFM SUMMARIES:

These recommendations are made in order to promote Good Manufacturing Practices (GMP) considering the large variations in the Bergapten content of commercial samples of Grapefruit oil expressed.

EXPERT PANEL FOR FRAGRANCE SAFETY RATIONALE / CONCLUSION:

The Expert Panel for Fragrance Safety reviewed all the available data for Grapefruit oil expressed and recommends the concentrations for the 12 different product categories, which are the maximum acceptable concentrations of Grapefruit oil expressed in the various product categories.

REFERENCES:

The IFRA Standard on Grapefruit oil expressed is based on at least one of the following publications:

- Young at al., J. Photochem. Photobiol. B,7, 231 (1990).

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- Dubertret et al. *ibid* 7, 251 (1990).
- Dubertret et al. *ibid*, 7, 362 (1990).
- IFRA Standard on Citrus oils and other furocoumarins containing essential oils.

Additional information on the application of IFRA Standards is available in the Guidance for the use of IFRA Standards, publicly available at www.ifragrance.org.