

Methyl beta-naphthyl ketone

CAS-No.:	93-08-3 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:	2-Acetonaphthone β-Acetylnaphthalene Cetone d Ethanone, 1-(2-naphthalenyl) β-Methyl naphthyl ketone β-Naphthyl methyl ketone Oranger crystals

History:	Publication date:	2020 (Amendment 49)	Previous Publications:	2004 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.	

RECOMMENDATION:	RESTRICTION
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MAXIMUM ACCEPTABLE CONCENTRATIONS IN THE FINISHED PRODUCT (%):			
Category 1	0.20 %	Category 7A	No Restriction
Category 2	0.20 %	Category 7B	0.20 %
Category 3	0.20 %	Category 8	0.20 %
Category 4	0.20 %	Category 9	No Restriction
Category 5A	0.20 %	Category 10A	No Restriction
Category 5B	0.20 %	Category 10B	0.20 %
Category 5C	0.20 %	Category 11A	No Restriction
Category 5D	0.20 %	Category 11B	0.20 %
Category 6	0.20 %	Category 12	No Restriction

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Fragrance ingredient restriction - Note box
 The Standard is set due to the phototoxic effects of Methyl beta-naphthyl ketone. 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.

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 **PHOTOTOXICITY**
MANAGEMENT:

RIFM SUMMARIES:

Human Studies:
 A human phototoxicity study with Methyl β-naphthyl ketone (concentrations of 0.1, 1 and 10% in 3:1 DEP:EOH) was conducted. No reactions indicative of primary irritation were observed in this study. However, under irradiated conditions, Methyl β-naphthyl ketone at 10% in 3:1 DEP:EtOH produced moderate erythema in 5 subjects. These responses were stronger than those seen for the irradiated blank patch, which only produced slight to mild erythema. Under the conditions of the study, Methyl β-naphthyl ketone at 10% in 3:1 DEP:EtOH showed evidence of phototoxicity. Erythema scores for Methyl β-naphthyl ketone at 0.1% and 1.0% in 3:1 DEP:EtOH were similar to those seen for the blank patch under irradiated conditions. These reactions were not indicative of phototoxic responses (RIFM, 2004).

Other Studies:
 Methyl β-naphthyl ketone has been observed to absorb in the UV range of 290-400 nm and is positive in the Neutral Red Uptake Phototoxicity Assay (RIFM, 2002). However, it has been shown to be non-phototoxic in guinea pigs at concentrations up to 60% in 3:1 EtOH:DEP (RIFM, 2003).

EXPERT PANEL FOR FRAGRANCE SAFETY RATIONALE / CONCLUSION:

The Expert Panel for Fragrance Safety reviewed all the available data for Methyl beta-naphthyl ketone and recommends the concentrations for the 12 different product categories, which are the maximum acceptable concentrations of Methyl beta-naphthyl ketone in the various product categories.

REFERENCES:

Methyl beta-naphthyl ketone

The IFRA Standard on Methyl β -naphthyl ketone is based on at least one of the following publications:

- The RIFM Safety Assessment on Methyl β -naphthyl ketone is available at the RIFM Safety Assessment Sheet Database: <http://fragrancematerialsafetyresource.elsevier.com/>.
- Api A.M., Belsito D., Bruze M., Cadby P., Calow P., Dagli M. L., Dekant W., Dent M., Ellis G., Fryer A. D., Fukayama M., Griem P., Hickey C., Kromidas L., Lalko J., Liebler D.C., Miyachi Y., Politano V.T., Renskers K., Ritacco G., Salvito D., Schultz T.W., Sipes I. G., Smith B., Vitale D., Wilcox D.K. (2015). Criteria for the Research Institute for Fragrance Materials, Inc. (RIFM) safety evaluation process for fragrance ingredients. *Food Chem Toxicol.* 2015 Aug;82 Suppl:S1-S19 (doi: 10.1016/j.fct.2014.11.014). (http://fragrancematerialsafetyresource.elsevier.com/sites/default/files/Criteria_Document_Final.pdf).
- IDEA project (International Dialogue for the Evaluation of Allergens) Final Report on the QRA2: Skin Sensitisation Quantitative Risk Assessment for Fragrance Ingredients, September 30, 2016 (<http://www.ideaproject.info/uploads/Modules/Documents/qra2-dossier-final--september-2016.pdf>).
- Salvito D.T., Senna R. J., Federle T.W. (2002). A framework for prioritizing fragrance materials for aquatic risk assessment. *Environ Toxicol Chem.* 2002;21:1301-1308. (<https://www.ncbi.nlm.nih.gov/pubmed/12069318>).
- Research Institute for Fragrance Materials, Inc. (2002). Methyl β -naphthyl ketone: Neutral red uptake phototoxicity assay in BALB/C 3T3 mouse fibroblasts. RIFM report number 40279, May 30 (RIFM, Woodcliff Lake, NJ, USA).
- Research Institute for Fragrance Materials, Inc. (2003). Topical photoallergy screening test of β -Methyl naphthyl ketone in male albino hairless guinea pigs including primary irritation, phototoxicity and contact hypersensitivity evaluations. RIFM report number 44882, June 9 (RIFM, Woodcliff Lake, NJ, USA).
- Research Institute for Fragrance Materials, Inc. (2004). Evaluation of phototoxicity of Methyl β -naphthyl ketone in humans. RIFM report number 45136, March 16 (RIFM, Woodcliff Lake, NJ, USA).

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