Cumin oil

CAS-No.:	8014-13-9 84775-51-9 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.	**Molecular formula:**	Not applicable.
Synonyms:	Cumin seed oil Cuminum cyminum (Cumin) seed oil Cuminum cyminum L. Cuminum cyminum oil Oils, cumin (Cuminum cyminum)		

History:	Publication date:	2020 (Amendment 49)	Previous Publications:	1975 1986 2001 2015

Implementation dates:	For new submissions*:	February 10, 2021
	For existing fragrance compounds*:	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**

RESTRICTION LIMITS IN THE FINISHED PRODUCT (%):			
Category 1	0.40 %	Category 7A	No Restriction
Category 2	0.40 %	Category 7B	0.40 %
Category 3	0.40 %	Category 8	0.40 %
Category 4	0.40 %	Category 9	No Restriction
Category 5A	0.40 %	Category 10A	No Restriction

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Category 5B	0.40 %	Category 10B	0.40 %
Category 5C	0.40 %	Category 11A	No Restriction
Category 5D	0.40%	Category 11B	0.40 %
Category 6	0.40 %	Category 12	No Restriction

Fragrance ingredient restriction - Note box

The Standard is set due to the phototoxic effects of Cumin oil. 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.

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.

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 (SEE ALSO THE SECTION ON CONTRIBUTIONS FROM OTHER SOURCES IN CHAPTER 1 OF THE GUIDANCE FOR THE USE OF IFRA STANDARDS)**

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INTRINSIC PROPERTY DRIVING RISK MANAGEMENT:	PHOTOTOXICITY

RIFM SUMMARIES:

The NOEL for phototoxicity is 50% based on a study in 23 volunteers patched under occlusion on the back for 24 hours. Patches were removed after 10 minutes followed by irradiation with 16-20 J/cm2 of UVA. Readings were made at 1, 24, 48 & 72 hours after irradiation. No photoirritation was observed (RIFM, 1986).

Additional studies considered are:
• 100% in miniature swine, UV, distinct photoirritant effects were observed (RIFM 1972; Forbes et al., 1977)
• 100% in hairless mice, UV, distinct photoirritant effects were observed (RIFM 1972; Forbes et al., 1977).
• 100% and 25% in hairless mice, UV, no reactions at 25% 0/12, 6/12 reactions at 100% (RIFM, 1983).
• 100%, 75%, 50%, and 25% in hairless mice, UV, no reactions 0/6 at 25%, 5/6 reactions at 50%, 6/6 reactions at 75% and 100% (RIFM, 1983).
• 30% in guinea pigs, UV, no reactions 0/10 (RIFM, 1984)
• 3% and 10% in guinea pigs, UV, no reactions 0/10 at 3%, and 4/10 reactions at 10% (RIFM, 1984).

EXPERT PANEL FOR FRAGRANCE SAFETY RATIONALE / CONCLUSION:

The Expert Panel for Fragrance Safety reviewed all the available data for Cumin oil and recommends the limits for the 12 different product categories, which are the acceptable use levels of Cumin oil in the various product categories.

REFERENCES:

The IFRA Standard on Cumin oil is based on at least one of the publications listed below:

• Research Institute for Fragrance Materials, Inc. (1986). Human phototoxicity study of cumin oil, tagetes minuta absolute, thyme concrete and pentyl acetate. RIFM report number 4348, 21 August.

• Research Institute for Fragrance Materials, Inc. (1985). Cumin oil: A photoirritation test in humans. Unpublished report from the Givaudan-Roure Corp. Report number 3877, 7 January.

• Research Institute for Fragrance Materials, Inc. (1972). Phototoxicity and irritation tests of fragrance materials in the hairless mice and miniature swine. Report number 2035, 26 July.

• P.D.Forbes, F.Urbach and R.E.Davies. (1977). Phototoxicity testing of fragrance raw materials. Food and Cosmetics Toxicology, 15, 55-60. Report number 1422.

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• K.H.Kaidbey and A.M.Kligman (1978). Identification of topical photosensitizing agents in humans. Journal of Investigative Dermatology, 70(3), 149-151. Report number 3090.

• Research Institute for Fragrance Materials, Inc. (1983). Phototoxicity study of fragrance materials in hairless mice. RIFM report number 2043, 31 January.

• Research Institute for Fragrance Materials, Inc. (1984). Determination of phototoxicity of cumin oil in guinea pigs. Unpublished report from the Givaudan-Roure Corp. Report number 3875, 23 February.

• Research Institute for Fragrance Materials, Inc. (1984). Determination of phototoxicity of cumin oil in guinea pigs. Unpublished report from the Givaudan-Roure Corp. Report number 3876, 17 July.

• 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.ifrafragrance.org.