MENTHADIENYL FORMATE

CAS N°: 68683-20-5 **Empirical formula:** $C_{12}H_{18}O_2$

Synonyms: **Cyclohexadiene-1-ethanol, 4-(1-methylethyl)-, formate**
Isobergamate
4-(Isopropyl)cyclohexadiene-1-ethyl formate
2-(4-Isopropylcyclohexadienyl)ethyl formate
Menthadiene-7-methyl formate
4-(1-Methylethyl)cyclohexadiene-1-ethyl formate

History: Initial reviews: February 1986, July 1994

Current revision date: January 2002

Implementation date: for new submissions*: Not applicable

for existing fragrance compounds*: Not applicable

Next review date: 2007

* This date applies to the supply of fragrance compounds (formulas) only, not to the finished products in the marketplace.

STANDARD: **RESTRICTED**

RESTRICTIONS:

Limits in the finished product:

Skin-contact products:

Leave-on products: 0.1%

Rinse-off products: 0.1%
including household cleaning products

Non skin-contact products: 1%

Note box: In compliance with the outcome of the REXPAN evaluation (January 2002), the permitted non-skin contact level has been increased from 0.2 to 1% to follow the general principle of representing the NOEL.

Fragrance material specification: Not applicable

Contribution from other sources: None known

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Critical effect: **Sensitization**

RIFM summaries:

Human studies:

There are two human maximization studies at 1% in petrolatum, which showed no sensitization reactions in a total of 50 subjects (RIFM, 1979a). A maximization study at 1.5% in petrolatum yielded no reactions in 25 subjects (RIFM, 1979b). Three earlier human maximization studies at 10% in petrolatum showed sensitization reactions in 1/25 (RIFM, 1977), 4/29 (RIFM, 1978a), and 3/25 (RIFM, 1978b) subjects, respectively.

Animal studies:

There are no animal sensitization studies on menthadienyl formate.

Rexpan Rationale / Conclusion:

The RIFM Expert Panel reviewed the critical effect data for menthadienyl formate and recommended no change to the skin-contact limit and that the non skin-contact limit be changed to 1% (January 2002).

References:

Research Institute for Fragrance Materials, Inc. (1977). Report on human maximization studies. RIFM report number 1691, 1 July.

Research Institute for Fragrance Materials, Inc. (1978a). Report on human maximization studies. RIFM report number 1698, 28 April.

Research Institute for Fragrance Materials, Inc. (1978b). Report on human maximization studies. RIFM report number 1787, 26 October.

Research Institute for Fragrance Materials, Inc. (1979a). Report on human maximization studies. RIFM report number 1775, 11 September and 7 December.

Research Institute for Fragrance Materials, Inc. (1979b). The appraisal of the contact-sensitizing potential of menthadiene-7-methyl formate by means of the maximization study in humans. Unpublished report from Dragoco, 8 May. Report number 3010.