6-METHYL-3,5-HEPTADIENE-2-ONE
(Methyl heptadienone)

CAS N°: 1604-28-0 **Empirical formula:** $C_8H_{12}O$

Synonyms: 3,5-Heptadien-2-one, 6-methyl-
Methylheptadienone
2-Methylhepta-2,4-dien-6-one
6-Methylhepta-3,5-dien-2-one

History:

Initial reviews:	April 1989, April 1999	
Current revision date:	2009	
Implementation date:	for new submissions*:	August 7, 2009
	for existing fragrance compounds*:	August 7, 2011
Next review date:	2014	

* 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:
For a description of the categories, refer to the QRA Information Booklet.

Category 1 - See Note box (1)	0.002 %	Category 7	0.002 %
Category 2	0.002 %	Category 8	0.002 %
Category 3	0.002 %	Category 9	0.002 %
Category 4	0.002 %	Category 10	0.002 %
Category 5	0.002 %	Category 11	See Note box (2)
Category 6 - See Note box (1)	0.100 %		

Note box:
For this material, for pragmatic reasons, restrictive levels allowed by the QRA for certain categories but actually being higher than those already in place before applying the QRA, will temporarily not be implemented until the end of a 5 year monitoring phase. At the end of the 5 years the position will be re-evaluated again.

(1) IFRA would recommend that any material used to impart perfume or flavour in products intended for human ingestion should consist of ingredients that are in compliance with appropriate regulations for foods and food flavourings in the countries of planned distribution and, where these are lacking, with the recommendations laid down in the Code of Practice of IOFI (International Organisation of the Flavor Industry - www.iofiorg.org)

(2) Category 11 includes all non-skin contact or incidental skin contact products. Due to negligible skin contact the concentration of a fragrance ingredient should not exceed the usual concentration of the fragrance compound in the finished product.

Fragrance material specification: N/A

6-METHYL-3,5-HEPTADIENE-2-ONE
(Methyl heptadienone)

Contribution from other sources: None to consider (see also the note on contributions from other sources in the **Introduction to the IFRA Standards**)

Critical effect: Sensitization

RIFM Summaries:

LLNA weighted mean EC3 values ($\mu g/cm^2$) [no. studies]	Potency Classification Based on Animal Data[2]	Human Data			WoE NESIL[3] ($\mu g/cm^2$)
		NOEL – HRIPT (induction) ($\mu g/cm^2$)	NOEL – HMT (induction) ($\mu g/cm^2$)	LOEL[1] (induction) ($\mu g/cm^2$)	
> 1250 [1][4]	Weak	118	NA	1299	110

All data in this Table are available from RIFM and are listed in the RIFM Database.
NOEL = No observed effect level; HRIPT = Human Repeat Insult Patch Test; HMT = Human Maximization Test; LOEL = lowest observed effect level; NA = Not Available.

[1]Data derived from HRIPT or HMT.
[2]Based on animal data using classification defined in ECETOC, Technical Report No. 87, 2003.
[3]WoE NESIL limited to two significant figures.
[4]EC3 value from one LLNA, not the mean.

REXPAN Rationale / Conclusion:

The RIFM Expert Panel reviewed the critical effect data for 6-Methyl-3,5-heptadiene-2-one and, based on the weight of evidence, established the No Expected Sensitization Induction Level (NESIL) as 110 $\mu g/cm^2$. They recommend the limits for the 11 different product categories, which are the acceptable use levels of 6-Methyl-3,5-heptadiene-2-one in the various product categories. These were derived from the application of the exposure-based quantitative risk assessment approach for fragrance ingredients, which is detailed in the QRA Expert Group Technical Dossier of June 22, 2006.

References:

RIFM (Research Institute for Fragrance Materials, Inc.), 2008a. Local Lymph Node Assay. RIFM report number 55564, July 30. (RIFM, Woodcliff Lake, NJ, USA).

RIFM (Research Institute for Fragrance Materials, Inc.), 2008b. Human repeated insult patch test. RIFM report number 55345, August 5. (RIFM, Woodcliff Lake, NJ, USA).

RIFM (Research Institute for Fragrance Materials, Inc.), 2008c. Human repeated insult patch test. RIFM report number 55661, November 24a. (RIFM, Woodcliff Lake, NJ, USA).