Cinnamic aldehyde

CAS N°: 104-55-2 **Empirical formula:** C_9H_8O

Synonyms: Cinnamal
Cinnamaldehyde
Phenylacrolein
3-Phenyl-2-propenal
3-Phenyl-2-propen-1-al
'Cassia aldehyde'

History: Initial reviews: March 1978, April 2004 (38th Amendment), May 2006 (40th Amendment), May 2007 (42nd Amendment)

Current revision date: 2008

Implementation date: For new submissions*: August 16, 2008
For existing fragrance compounds*: August 16, 2010

Next review date:

* 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 Informational Booklet.

Category 1: See Note box (1)	0.02 %	Category 7:	0.04 %
Category 2:	0.02 %	Category 8:	0.05 %
Category 3:	0.05 %	Category 9:	0.05 %
Category 4:	0.05 %	Category 10:	0.05 %
Category 5:	0.05 %	Category 11: Not Restricted (2)	
Category 6: See Note Box (1)	0.4 %		

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 reevaluated 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) http://www.iofiorg.org/.

(2) Category 11 includes all non-skin contact or incidental skin contact products. Due to the negligible skin contact from these types of products there is no justification for a restriction of the concentration of this fragrance ingredient in the finished product.

Cinnamic aldehyde

The Standard on cinnamic aldehyde covers and replaces the former existing Standards on cassia oil, cinnamon bark oil as well as cinnamic aldehyde – methyl anthranilate schiff base. The existing Standards for cinnamic aldehyde, cassia oil, cinnamic aldehyde – methyl anthranilate schiff base and cinnamon bark oil are no longer valid.

Fragrance material specification: N/A

Contribution from other sources: see **Annex I**

Critical effect: Sensitization

RIFM Summaries:

LLNA weighted mean **EC_3** values ($\mu g/cm^2$) [No. Studies]	**Potency Classification** Based on Animal Data[1]	**Human Data**			**WoE NESIL[3]** ($\mu g/cm^2$)
		NOEL – HRIPT (induction) ($\mu g/cm^2$)	**NOEL – HMT** (induction) ($\mu g/cm^2$)	**LOEL[2]** (induction) ($\mu g/cm^2$)	
262 [23]	Moderate	591 [4]	NA	775	590

NOEL = No observed effect level; HRIPT = Human Repeat Insult Patch Test; HMT = Human Maximization Test; LOEL = lowest observed effect level; NA = Not Available

[1] Based on animal data using classification defined in ECETOC, Technical Report No. 87, 2003

[2] Data derived from HRIPT or HMT

[3] WoE NESIL limited to three significant figures

[4] MT-NOEL = Maximum Tested No Effect Level. No sensitization was observed in human predictive studies. Doses reported reflect the highest concentration tested, not necessarily the highest achievable NOEL

REXPAN Rationale / Conclusion:

The RIFM Expert Panel reviewed the critical effect data for Cinnamic aldehyde and, based on the weight of evidence, established the No Expected Sensitization Induction Level (NESIL) as 590 µg/cm². They recommend the limits for the 11 different product categories, which are the acceptable use levels of Cinnamic aldehyde 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:

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Cinnamic aldehyde

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Cinnamic aldehyde

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