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CAS-No.:	78-70-6 126-90-9 126-91-0 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:	78-70-6 (Linalool): 1,6-Octadien-3-ol, 3,7-dimethyl- 2,6-Dimethyl-2,7-octadien-6-ol 2,7-Octadien-6-ol, 2,6-dimethyl- 3,7-Dimethyl-1,6-octadien-3-ol 3,7-Dimethylocta-1,6-dien-3-ol Coriandrol Licareol Linalyl alcohol 126-90-9 (d-Linalool): (S)-3,7-Dimethyl-1,6-octadien-3-ol 1,6-Octadien-3-ol, 3,7-dimethyl-, (S)- 126-91-0 (l-Linalool): (R)-3,7-Dimethyl-1,6-octadien-3-ol 1,6-Octadien-3-ol, 3,7-dimethyl-, (R)-

History:	Publication date:	2004 (Amendment 38)	Previous Publications:	Not applicable.

Implementation dates:	For new creation*:	May 6, 2004
	For existing creation*:	May 6, 2005
	*These dates apply to the supply of fragrance mixtures (formulas) only, not to the finished consumer products in the marketplace.	

RECOMMENDATION:	**SPECIFICATION**

FRAGRANCE INGREDIENT SPECIFICATION:	Oxidation products of Linalool, especially hydroperoxides, have been demonstrated to be potent sensitizers. d-, l- and dl-Linalool and natural products containing substantial amounts of it, should only be used when the level of (hydro)peroxides is kept to the lowest practical level, for instance by adding antioxidants at the time of production. The addition of 0.1% BHT or α-Tocopherol for example has shown great efficiency. Such products should have a peroxide value of less than 20 millimoles per liter,

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	determined according to the IFRA analytical method for the determination of the peroxide value, which can be downloaded from the IFRA website (www.ifrafragrance.org).

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:	**SEE FRAGRANCE MATERIAL SPECIFICATION**

Natural products known to be rich in Linalool include bois de rose, coriander or ho wood oil.

INTRINSIC PROPERTY DRIVING RISK MANAGEMENT:	**DERMAL SENSITIZATION**

EXPERT PANEL FOR FRAGRANCE SAFETY RATIONALE / CONCLUSION:

The Expert Panel for Fragrance Safety reviewed all the available data for Linalool. Based on their expert judgement, they recommend to use the fragrance ingredient according to its specification mentioned above.

REFERENCES:

The IFRA Standard on Linalool is based on at least one of the following publications:

• The RIFM Safety Assessment on Linalool 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).

• M.Skold, A.Borje, M.Matura and A.-T.Karlberg., 2002. Studies on the autoxidation and sensitizing capacity of the fragrance chemical linalool, identifying a linalool hyperperoxide. Contact Dermatitis, 46(5), 267-272.

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• M.Skold, A.Borje, M.Matura and A.-T.Karlberg., 2002. Sensitization studies on the fragrance chemical linalool, with respect to auto-oxidation. Contact Dermatitis, 46 (Suppl. 4), 20.

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.