Nerol

Botanical Source

Synonyms NERANIOL
NEROGENOL
NERODOL
DIMETHYL-OCTA-2,6-DIEN-1-OL (cis-3,7-)
DIMETHYL-2,6-OCTADIEN-1-OL (cis-3,7-)
DIMETHYL-2,6-OCTADIEN-8-OL (cis-2,6-)

IUPAC Name

CAS Reference 106-25-2

E Number

Food Legislation

Council of Europe (CoE)	
Number	Comment
2018	Listed by the Council of Europe as acceptable for use in food at up to 15 ppm.

US Food and Drug Administration	
Number	Comment
172.515	Approved by the US FDA. FDA 21 CFR 172.515

Joint FAO/WHO Expert Committee on Food Additives (JECFA)		
Number	ADI	Comment
-	-	-

FEMA	
FEMA No.	Comment
2770	Generally recognised as safe as a flavour ingredient:GRAS List Number 3

Natural Occurrence and Use in Food
Found in apricot, beer, blackberry, blueberry, brandy grape, cranberry, gin, grape, grapefruit juice, honey, hops, wine; used in frozen dairy products.

Estimated Intake from Food and Drink	
Daily Intake mg/kg/day	FEMA Possible Average Daily Intake mg

0.0004378	1.475

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Tobacco Product Related Chemical and Biological Studies for Ingredients Added in a Mixture

Smoke Chemistry		
Published Source	Level Tested %	Comment
BAT	0.00100	At maximum application level this ingredient is not associated with significant increases in levels of Hoffmann analytes in smoke.
Philip Morris	0.00010	An overall assessment of the data suggests that this ingredient did not add to the toxicity of smoke.

Ames Activity		
Published Source	Level Tested %	Comment
BAT	0.00100	Within the sensitivity and specificity of the system the Ames activity of the cigarette smoke condensate was not increased by the addition of the ingredient.
Philip Morris	0.00010	Within the sensitivity and specificity of the system the Ames activity of the cigarette smoke was not increased by the addition of the ingredient.

Micronucleus		
Published Source	Level Tested %	Comment
BAT	0.00100	Within the sensitivity of the in vitro micronucleus assay the activity of the cigarette smoke condensate was not increased by the addition of the ingredient.

Neutral Red		
Published Source	Level Tested %	Comment
BAT	0.00100	Within the sensitivity of the test system the in vitro cytotoxicity of the cigarette smoke condensate was not increased by the addition of the ingredient.
Philip Morris	0.00010	Within the sensitivity of the test system the in vitro cytotoxicity of the cigarette smoke was not increased by the addition of the ingredient.

Inhalation		
Published Source	Level Tested %	Comment
BAT	0.00100	The results indicate that the addition of the ingredient had no discernible effect on the inhalation toxicity of mainstream smoke.
Philip Morris	0.00010	The data indicate that the addition of the ingredient, when added with one of three groups, did not increase the inhalation toxicity of the smoke.

Mouse Skin Painting		
Published Source	Level Tested %	Comment

References
Baker RR, Pereira da Silva JR, Smith G. The effect of tobacco ingredients on smoke chemistry. Part I: Flavourings and additives. Food Chem Toxicol. 2004; 42 Suppl:S3-37.
Baker RR, Pereira da Silva JR, Smith G. The effect of tobacco ingredients on smoke chemistry. Part II: casing ingredients. Food Chem Toxicol. 2004; 42 Suppl:S39-52.
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Carmines EL. Evaluation of the potential effects of ingredients added to cigarettes. Part 1: cigarette design, testing approach, and review of results. Food Chem Toxicol. 2002; 40(1): 77-91.
Rustemeier K, Stabbert R, Haussmann HJ, Roemer E, Carmines EL. Evaluation of the potential effects of ingredients added to cigarettes. Part 2: chemical composition of mainstream smoke. Food Chem Toxicol. 2002; 40(1): 93-104.
Roemer E, Tewes FJ, Meisgen TJ, Veltel DJ, Carmines EL. Evaluation of the potential effects of ingredients added to cigarettes. Part 3: in vitro genotoxicity and cytotoxicity. Food Chem Toxicol. 2002; 40(1): 105-111.
Vanscheeuwijck PM, Teredesai A, Terpstra PM, Verbeeck J, Kuhl P, Gerstenberg B, Gebel S, Carmines EL. Evaluation of the potential effects of ingredients added to cigarettes. Part 4: subchronic inhalation toxicity. Food Chem Toxicol. 2002; 40(1): 113-131.

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Tobacco Product Related Chemical and Biological Studies for Ingredients Tested Singly

References
Baker RR, Bishop LJ. The pyrolysis of tobacco ingredients. J. Anal. Appl. Pyrolysis 2004, 71, 223-311.

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Toxicological Data on the Unburnt Ingredient

A search for relevant toxicity data on nerol identified some studies on its sensitization potential (Hayakawa *et al*. 1987; Kimber & Weisenberger, 1991; Larsen *et al*. 2002). These studies have not been reviewed, as yet, but can be if required. One review reports a lack of sensitization in a maximization test conducted on 25 volunteers using a 4% solution in petrolatum (Opdyke, 1976).

Organism	Test Type	Route	Reported Dose	Reference
mouse	LD_{50}	*i.m.*	3 g/kg	Journal of Scientific and Industrial Research, Section C: Biological Sciences. Vol. 21, Pg. 342, 1962
rabbit	LD_{50}	skin	> 5 g/kg	Food and Cosmetics Toxicology. Vol. 14, Pg. 623, 1976
rat	LD_{50}	oral	4500 mg/kg	Food and Cosmetics Toxicology. Vol. 14, Pg. 623, 1976

References

Food and Cosmetics Toxicology. Vol. 14, Pg. 623, 1976

Hayakawa R. *et al*. (1987). Airborne pigmented contact dermatitis due to musk ambrette in incense. Contact Dermatitis, **16**, 96.

Journal of Scientific and Industrial Research, Section C: Biological Sciences. Vol. 21, Pg. 342, 1962

Kimber I. & Weisenberger C. (1991). Anamnestic responses to contact allergens: application in the murine local lymph node assay. Journal of Applied Toxicology, **11**, 129.

Larsen W. *et al*. (2002). Fragrance contact dermatitis - a worldwide multicenter investigation (Part III). Contact Dermatitis, **46**, 141-144.

Opdyke D.L.J. (1976). Monographs on fragrance raw materials: nerol. Food and Cosmetics Toxicology, **14**, 623 (cited in European Commission, 2000).