

Cassia bark oil

Botanical Source Cinnamomum cassia Blume Cinnamomum aromaticum Nees

Synonyms CINNAMON OIL, CHINESE

IUPAC Name

CAS Reference 8007-80-5

E Number

Food Legislation

Council of Europe (CoE)	
Number	Comment
131	Listed by the Council of Europe as acceptable for use in food.

US Food and Drug Administration	
Number	Comment
182.20	Approved by the US FDA. FDA 21 CFR 182.20

Joint FAO/WHO Expert Committee on Food Additives (JECFA)		
Number	ADI	Comment
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FEMA	
FEMA No.	Comment
2258	Generally recognised as safe as a flavour ingredient:GRAS List Number 3

Natural Occurrence and Use in Food
Found in cassia; used in meat products.

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

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

Smoke Chemistry		
Published Source	Level Tested %	Comment
BAT	0.00300	At maximum application level this ingredient is not associated with significant increases in levels of Hoffmann analytes in smoke.

Ames Activity		
Published Source	Level Tested %	Comment
BAT	0.00300	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.

Micronucleus		
Published Source	Level Tested %	Comment
BAT	0.00300	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	0.00300	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.

Inhalation		
Published Source	Level Tested %	Comment
BAT	0.00300	The results indicate that the addition of the ingredient had no discernible effect on the inhalation toxicity of mainstream smoke.

Lorillard	0.00010	The results indicate that the addition of the ingredient had no discernible effect on the inhalation toxicity of mainstream smoke.
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Mouse Skin Painting		
Published Source	Level Tested %	Comment
Lorillard	0.00010	None of the changes appeared to be substantial enough to conclude that the tumour promotion capacity of the condensate was discernibly different between condensate produced from cigarettes with the ingredient in comparison with condensate from cigarettes without the ingredient.

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.
Baker RR, Massey ED, Smith G. An overview of the effects of tobacco ingredients on smoke chemistry and toxicity. Food Chem Toxicol. 2004; 42 Suppl:S53-83.
Gaworski CL, Dozier MM, Heck JD, Gerhart JM, Rajendran N, David RM. Brennecke LH, Morrissey R. Toxicologic evaluation of flavor ingredients added to cigarette tobacco: 13 week inhalation exposures in rats. Inhal. Toxicol. 1998; 10:357-381
Gaworski CL, Heck JD, Bennett MB, Wenk ML. Toxicologic evaluation of flavor ingredients added to cigarette tobacco: skin painting bioassay of cigarette smoke condensate in SENCAR mice. Toxicology. 1999; 139(1-2):1-17.

Cassia bark oil

Tobacco Product Related Chemical and Biological Studies for Ingredients Tested Singly

References
Baker RR, Bishop LJ. The pyrolysis of non-volatile tobacco ingredients using a system that simulates cigarette combustion conditions. J. Anal. Appl. Pyrolysis 2005, 74, 145-170.

Cassia bark oil

Toxicological Data on the Unburnt Ingredient

[+ve, positive; -ve, negative; ?, equivocal; with, with metabolic activation; without, without metabolic activation]

In vivo

Species	Test conditions	Endpoint	Results	Reference
Groups of 5 male and 5 female mice/dose level	Powdered “crude drug” <i>Cinnamomum cassia</i> Presl. was extracted with boiling water, dried and dissolved in water so that 1 ml was equivalent to 2 g plant. Given by single intraperitoneal injection at unspecified doses (said to be 1-40 times the human medical dose), bone marrow cells evaluated for chromosome aberrations, not clear if toxicity was achieved	Chromosome damage	-ve	Yin <i>et al.</i> 1991
Groups of 5 male and 5 female mice/dose level	Powdered “crude drug” <i>Cinnamomum cassia</i> Presl. was extracted with boiling water, dried and dissolved in water so that 1 ml was equivalent to 2 g plant. Given by single intraperitoneal injection at unspecified doses (said to be 1-40 times the human medical dose), bone marrow cells evaluated for micronuclei, not clear if toxicity was achieved	Chromosome damage	-ve	Yin <i>et al.</i> 1991
Groups of 5 male mice/dose level	“Total aqueous extract” of <i>Cassia occidentalis</i> , given at 0, 50, 250 or 500 mg/kg bw/day for 7 days by gavage, bone marrow cells examined for chromosome	Chromosome damage	-ve	Sharma <i>et al.</i> 1999

	aberrations 24-30 hours after final dose [In addition, cells were examined in mice given the above treatment followed by known clastogens - the extract reduced the effect of these clastogens]			
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In vitro

Species	Test conditions	Endpoint	Activation	Results	Reference
<i>Salmonella typhimurium</i> strains TA98, TA100	Powdered "crude drug" <i>Cinnamomum cassia</i> Presl. was extracted with boiling water, dried and dissolved in water so that 1 ml was equivalent to 2 g plant. Doses unclear but toxicity was apparently not achieved	Mutation	With and without S9	-ve	Yin <i>et al.</i> 1991
<i>Salmonella typhimurium</i> strains TA98, TA100	Aqueous extract of <i>Cassia occidentalis</i> Linn., up to 6 mg/plate, no toxicity observed	Mutation	With and without S9	-ve	Sharma <i>et al.</i> 2000

<i>Drosophila melanogaster</i>	“Cinnamon” was fed to three crosses and the offspring wings examined for cells with malformed wing hairs (Somatic Mutation and Recombination Test). Published only as an abstract	Mutation	Not applicable	-ve	El Hamss <i>et al.</i> 2000
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References

El Hamss R. *et al.* (2000). *Mutagenesis* 15, 439.

Sharma N. *et al.* (1999). *Drug Chem. Toxicol.* 22, 643.

Sharma N. *et al.* (2000). *Drug Chem. Toxicol.* 23, 477.

Yin X.-J. *et al.* (1991). *Mutation Res.* 260, 73.