Calcium carbonate

Botanical Source

Synonyms Pigment white 18;
Precipitated calcium carbonate;
Precarb-100

IUPAC Name

CAS Reference 471-34-1

E Number E170

Food Legislation

Council of Europe (CoE)	
Number	Comment
-	-

US Food and Drug Administration	
Number	Comment
184.1191	Approved by the US FDA. FDA 21 CFR 184.1191

Joint FAO/WHO Expert Committee on Food Additives (JECFA)		
Number	ADI	Comment
-	-	On the basis of the available data, the total daily intake arising from use levels necessary to achieve the desired effect does not represent a hazard to health

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

Natural Occurrence and Use in Food
Used as a dietary supplement; also used in baked goods, chewing gum, beverages.

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

-	-

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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	0.90000	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	0.90000	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	0.90000	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	0.90000	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	0.90000	The results indicate that the addition of the ingredient had no discernible effect on the inhalation toxicity of mainstream smoke.

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.

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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.

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Toxicological Data on the Unburnt Ingredient

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

In vitro

Test system	Test conditions	Endpoint	Activation status	Results	References
Salmonella typhimurium TA98, TA100	The paper is in Japanese with an English abstract, so details are unclear. Ames assay, tested up to at least 10 µg/plate (probably orders of magnitude more).	Mutation	With and without S9	-ve limited study, only two strains tested	Haresaku et al. 1985
Salmonella typhimurium TA97, TA102	Ames assay, tested up to 1 mg/plate. Paper in Japanese with English abstract and data tables.	Mutation	With and without S9	-ve limited study, only two strains tested	Fujita & Sasaki, 1987
Saccharomyces cerevisiae (one unspecified strain) and *Salmonella typhimurium* (three unspecified strains)	Microbial assay, no details given in citing review	Mutation	With and without S9	-ve	Litton Bionetics, Inc.1977

References

Fujita H. & Sasaki M. (1987). Mutagenicity test of food additives with *Salmonella typhimurium* TA97 and TA102 (II). Ann. Rep. Tokyo Metr. Res. Lab. P.H. (Tokyo Toritsu Eisei Kenkyusho Nempo) 38, 423-430.

Haresaku M. et al. (1985). Mutagenicity study (Ames test) of toothpaste ingredients. Journal of the Society of Cosmetic Chemicals Japan 19, 100-104.

JECFA (1982). Joint FAO/WHO Expert Committee on Food Additives. Toxicological evaluation of certain food additives. Ammonium carbonate and ammonium hydrogen carbonate. WHO Food Additives Series No. 17.

Litton Bionetics, Inc. (1977). Mutagenic evaluation of FDA 75-90 (potassium bicarbonate) and FDA 75-97 (calcium carbonate). Two final reports prepared for US Food and Drug Administration under DHEW contract No. FDA 223-74-2104. Kensington, MD. Submitted by FDA to World Health Organization, 1982 (cited in JECFA, 1982).