

Guar gum

Botanical Source Cyamopsis spp.

Synonyms GUM CYAMOPSIS;
GUAR FLOUR;
JAGUAR;
REGONOL;
BURTONITE V-7-E;
GUM GUAR;
CLUSTER BEAN GUM;
GUAR POWDER;
GUARANA POWDER;
E412;
POLYGAL 2692 SH

IUPAC Name

CAS Reference 9000-30-0
68411-94-9

E Number E412

Food Legislation

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

US Food and Drug Administration	
Number	Comment
184.1339	Approved by the US FDA. FDA 21 CFR 184.1339

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
2537	Generally recognised as safe as a flavour ingredient:GRAS List Number 3

Natural Occurrence and Use in Food	
Found in the seed of the guar; used in breakfast cereal, dairy products, gravies, processed vegetables, baked goods.	

Estimated Intake from Food and Drink	
Daily Intake mg/kg/day	FEMA Possible Average Daily Intake mg
4.5762	1.933

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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	0.01000	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	0.01000	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	0.01000	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	0.01000	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	0.01000	The results indicate that the addition of the ingredient had no discernible effect on the inhalation toxicity of mainstream smoke.

Mouse Skin Painting		
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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.
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	Result	References
<i>Salmonella typhimurium</i>	Five concentrations, up to 10 mg/plate, were tested in 5 standard strains	Mutation	with and without	-ve	Zeiger <i>et al.</i> 1992
Human embryonic lung cells (WI-38)	Not described	Chromosome damage	Not specified	+ve	Green, 1977
<i>Salmonella typhimurium</i>	Not described. Only two strains tested: G-46, TA-1530	Mutation	with and without	-ve	Green, 1977
<i>Saccharomyces cerevisiae</i> D-3	Not described	Mutation	Not specified	+ve	Green, 1977

References

Green S. (1977). J. envir. Path. Toxicol. 1, 49.

Zeiger E. *et al.* (1992). Envir. molec. Mutagen. 19, Suppl. 21, 2.