



## **Marinalg Statement Carrageenan and Food Safety**

### **Long and safe history of use**

Carrageenan is a unique and highly versatile food ingredient with a long history of safe use and broad global regulatory approvals for its use in foods and beverages. Carrageenan, which is derived from red seaweed, has been consumed for centuries and used in foods for over 600 years. Carrageenan offers numerous technological functions in foods and beverages and is commonly used to bind protein, promote gel formation, thicken, stabilize, and replace fat. The food additive is used in conventional food, permitted in processed foods marketed as organic, and suitable in foods marked halal, kosher and vegan.

### **Evaluated by health authorities globally**

Scientific and regulatory authorities from around the world have reviewed available scientific literature and safety data and have determined that carrageenan is safe for use in food. Carrageenan has been reviewed and approved by the Food and Drug Administration in the United States, the Scientific Committee for Food in the European Community – now the European Union, the Japan Ministry of Health, the Brazilian Health Surveillance Agency, Health Canada, Food Standards Australia/New Zealand, the China Ministry of Health and others. In July 2014, the Joint Expert Committee on Food Additives (JECFA)—an international expert scientific committee administered jointly by the Food and Agriculture Organization of the United Nations (FAO) and the World Health Organization (WHO)—also determined carrageenan is safe for use in all populations, including very young infants.

In connection to the general re-evaluation process of all approved food additives in the EU, the European Food Safety Authority (EFSA) published in April 2018 its [Scientific Opinion on the re-evaluation of carrageenan and processed Eucheuma seaweed \(PES\) as food additives](#)<sup>1</sup>, evaluating new scientific data since the latest EU safety evaluation in 2003. In the Scientific Opinion, EFSA noted no safety concerns regarding carrageenan and processed Eucheuma seaweed (PES) but noted some uncertainties with supporting data. To fill these gaps, EFSA and the European Commission issued calls for technical and toxicological data on both carrageenan and PES in October 2018. There was no call for limitations in the use of carrageenan or PES nor did the authorities declare that either of these additives is unsafe for use in food.

### **Negative press in social media, not scientifically founded**

Despite its long safety record, some have alleged that food-grade carrageenan causes harm to human health and called on food companies and retailers to replace carrageenan or not market products containing this important ingredient. Some of the alleged effects that have been mentioned are harmful interaction with the human gut microbiota, induction of intestinal inflammation and glucose intolerance, and carcinogenicity.

Most misunderstandings about the safety of carrageenan are a result of misperception, [misinterpreted research](#) or a [mischaracterization of the ingredient](#). Also, some of the studies that have been referenced are not conducted under experimental conditions that are representative of the use of carrageenan in food e.g., some researchers have used quantities that greatly overestimate the amount a person would

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<sup>1</sup> EFSA ANS Panel (EFSA Panel on Food Additives and Nutrient Sources added to Food), Younes M, Aggett P, Aguilar F, Crebelli R, Filipic M, Frutos MJ, Galtier P, Gott D, Gundert-Remy U, Kuhnle GG, Lambre C, Leblanc J-C, Lillegaard IT, Moldeus P, Mortensen A, Oskarsson A, Stankovic I, Waalkens-Berendsen I, Woutersen RA, Wright M, Brimer L, Lindtner O, Mosesso P, Christodoulidou A, Ioannidou S, Lodi F and Dusemund B, 2018. Scientific Opinion on the re-evaluation of carrageenan (E 407) and processed Eucheuma seaweed (E 407a) as food additives. EFSA Journal 2018;16(4):5238,112 pp. <https://efsa.onlinelibrary.wiley.com/doi/epdf/10.2903/j.efsa.2018.5238>



ever consume, administered carrageenan to test subjects in ways that are not representative of how humans consume it in food, or used degraded carrageenan, which is not allowed in food.

**Marinalg International is fully committed to food safety**

Marinalg International, the global association representing manufacturers of seaweed-derived hydrocolloids, has since October 2018 been in dialogue with EFSA while preparing the necessary technical and toxicological data to address gaps and questions as identified by EFSA and the European Commission.

Marinalg members are continuously involved in the development of safe and innovative food ingredients based on sound science. As such, Marinalg is committed to addressing all outstanding requests and continues to work with the Commission and EFSA. Thus, substantial data has already been submitted to EFSA and more is in preparation according to a project plan as shared with EFSA in September 2023. In the meantime, food manufacturers, retailers, and consumers can remain confident in the safety of carrageenan and processed Eucheuma seaweed.

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