

**National Organic Standards Board  
Handling Committee  
Sunset 2013 Proposal  
Carrageenan on 205.605(a)  
February 21, 2012**

**List: 205.605 Nonagricultural (non-organic) substances allowed as ingredients in or on processed products labeled as “organic” or “made with organic (specified ingredients or food group(s)).”**

**(a) Non-synthetics allowed**

**Committee Summary:**

Federal register notice of the sunset of this material elicited several public comments in favor of its re-listing. There were no comments against the re-listing of it.

Review of the Technical Evaluation Report of October 3, 2011 showed that while new uses are being explored for Carrageenan in the food industry as protective coatings, the food uses of it have not changed substantially since the original TAP review was conducted in 1995.

The FDA says that carrageenan may be safely used as a food additive for human consumption as long as its use is in accordance with 21 CFR 172.620. This regulation specifies that carrageenan should be prepared by aqueous extraction from any of the following eight species of *Rodophyceae* seaweeds: *Chondrus crispus*, *Chondrus ocellatus*, *Euचेuma cottonii*, *Gigartina acicularis*, *Gigartina pistillata*, *Gigartina radula*, and *Gigartina stellata*.

There are three primary extraction methods used to produce Carrageenan from its seaweed source: alcohol preparation (which is the most traditional method), gel press, and semi-refined or PES extraction. While Carrageenan is a naturally occurring polysaccharide extracted from seaweed and considered non-synthetic, the extraction process used, may in most instances, alter it. The Technical Evaluation Report of October 3, 2011 makes point of the fact that when industrial extraction methods using alcohol or alkali are used that modifications of the chemical structure of the polysaccharides occur. The predominant carrageenan present (i.e., kappa, iota, or lamda) and the resulting properties of the final product, are determined by the amount of time and the type of alkali used for the alkali treatment (all three extraction processes use a form of alkali as part of the aqueous extraction process). Examples: kappa carrageenans are modified in a way that allows adjacent chains to form helical structures, resulting in firm, brittle gels. Iota carrageenans are modified to form weak, elastic gels and lamda carrageenans do not gel but rather form high viscosity liquids. This would appear to show that alkali treatments are used to promote structural

changes to carrageenan to acquire the specifically desired gel strength or textures. Thus, Carrageenan produced using these types of methods should be considered to be synthetic rather than non-synthetic, according to the information provided in the TR. This would be true for all three types of commercial extraction, currently being used by the industry to produce Carrageenan.

The Technical Evaluation Report of October 3, 2011 states that there were no other means of extraction currently being used.

Carrageenan continues to be an important material used by the organic community.

### **Recommendations:**

At this time we would recommend the relisting of Carrageenan on the National List: 205.605 Nonagricultural (nonorganic) substances allowed as ingredients in or on processed products labeled as “organic” or “made with organic (specified ingredients or food groups(s)). We are going to make the following recommendations to allow the current listing to sunset 605(a) and then move to relist it under 605(b). We are hoping that there will not be any disruption in the current use of Carrageenan, since this should hopefully occur at the same time.

We recommend allowing this current listing to sunset 605(a)

(a) Nonsynthetics allowed

We recommend then relisting under 605(b)

(b) Synthetics allowed

These recommendations are based from information presented in the October 3, 2011 Technical Evaluation Report. The NOSB Classification “draft” Guidance of 11/05/2009 was also considered for the making of this recommendation.

We would also recommend that this listing be revisited once the NOP has finalized the Draft Guidance submitted by the NOSB on November 5, 2009. Re-evaluation of the materials classification (agricultural, nonagricultural substances) should be considered to ensure that the listed materials have been properly classified and thus remove any further confusion from their status and help during future reviews.

### **Committee Vote:**

**5 – yes    0 – no    1 – absent    0-resused    0- abstain**