

**Formal Recommendation by the  
National Organic Standards Board (NOSB)  
to the National Organic Program (NOP)**

**Date:** May 25, 2012

**Subject:** Glucono Delta Lactone: Listing at § 205.605(a) for Sunset 2013

**Chair:** Barry Flamm

**The NOSB hereby recommends to the NOP the following:**

Rulemaking Action      **X**

**Statement of the Recommendation (Including Recount of Vote):**

Recommendation to re-list the materials to 205.605(a) as follows:

**Glucono delta-lactone—production by the oxidation of D-glucose with bromine water is prohibited.**

**Rationale Supporting Recommendation (including consistency with OFPA and NOP):**

Review of the original recommendation, the 2002 TAP review, historical documents, the 2007 sunset recommendation, and public comments does not reveal unacceptable risks to the environment, human, or animal health as a result of the use or manufacture of this material. There is no new information contradicting the original recommendation which was the basis for the previous NOSB decisions to list and again re-list this material.

**Committee Vote:**

**Moved:** Joe Dickson

**Second:** Harold Austin

**Yes:** 14

**No:** 1

**Abstain:** 0

**Absent:** 0

**Recusal:** 0

**National Organic Standards Board  
Handling Committee  
2013 Sunset Proposal  
Glucono Delta-Lactone on § 205.605(a)**

**March 20, 2012**

**Current National List Citation**

**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 group(s)).”**

**(a) Nonsynthetics allowed**

**Glucono delta-lactone—production by the oxidation of D-glucose with bromine water is prohibited.**

**Committee Summary**

Glucono delta-lactone (GDL) is used as a coagulant in tofu production, and also as an acidulant, leavening agent and sequestrant in food. It is produced by the oxidization of gluconic acid by a number of methods. The petition focused on the use of the substance as a tofu coagulant, and delineated a number of key advantages which make the use of this substance necessary relative to other coagulants. Because of the slow speed at which hydrolyzes back to gluconic acid, it results in tofu products with preferable texture and consistency. It also imparts a far less sour taste than other available coagulants.

The substance was reviewed by a Technical Advisory Panel (TAP) in 2002 at the request of the NOSB. The TAP found that the substance can be either synthetic or non-synthetic depending on the production method, and the current annotation prohibits its production using bromine water, which would render it synthetic. The other methods of GDL production – oxidation of gluconic acid with microorganisms, or oxidation with enzymes derived from those microorganisms – result in a non-synthetic form of GDL.

Review of the original recommendation, the 2002 TAP review, historical documents, the 2007 sunset recommendation, and public comments does not reveal unacceptable risks to the environment, human, or animal health as a result of the use or manufacture of this material. There is no new information contradicting the original recommendation which was the basis for the previous NOSB decisions to list and again re-list this material.

**Committee Recommendation**

The handling committee recommends the renewal of the following substance in this use category as published in the final rule:

Glucono delta-lactone—production by the oxidation of D-glucose with bromine water is prohibited.

**Committee Vote**

Motion: John Foster      Second: Tracy Favre  
Yes: 5      No: 0      Abstain: 0      Recuse: 0      Absent: 1