



## **BEYOND PESTICIDES**

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September 21, 2021

Ms. Michelle Arsenault  
National Organic Standards Board  
USDA-AMS-NOP  
1400 Independence Ave. SW.,  
Room 2648-S, Mail Stop 0268  
Washington, DC 20250-0268

**Docket ID # AMS-NOP-21-0038**

### **Re. CS: Hydronium Petition**

These comments to the National Organic Standards Board (NOSB) on its Fall 2021 agenda are submitted on behalf of Beyond Pesticides. Founded in 1981 as a national, grassroots, membership organization that represents community-based organizations and a range of people seeking to bridge the interests of consumers, farmers and farmworkers, Beyond Pesticides advances improved protections from pesticides and alternative pest management strategies that reduce or eliminate a reliance on pesticides. Our membership and network span the 50 states and the world.

The petition for hydronium is so flawed that we are surprised that it has been placed on the NOSB agenda. The NOSB should reject this petition because it is incomplete and does not show that the petitioned substance meets the criteria in the Organic Foods Production Act.

### **The petition is incomplete.**

#### **“Hydronium” has an accepted definition, but this material is not hydronium.**

Hydronium is expressed as  $H_3O^+$  and, as anyone who has taken elementary chemistry knows, is the form in which hydrogen ions—which determine the acidity of a solution—are found in water. Pure water contains hydronium and hydroxide ions in equal proportions. The petitioned material, on the other hand, is identified by the petitioner as hydrogen(+1), triaqua- $\mu_3$ -oxotri, sulfate (1:1), also known as oxonium trihydrate, sulfate 1:1, Tetra-aqua hydrogen(+1), sulfate 1:1 or hydrogen ion tetra-hydrate, sulfate 1:1, with the composition  $H_9O_4 \bullet H_2O_4S$ . This is not hydronium as it is generally known, and it is misleading to petition the substance under the name “hydronium.”

When asked by the Crops Subcommittee (CS) to explain, the petitioner replied: The EXACT substance and common name for the chemistry being submitted is: Hydrogen(+1), triaqua- $\mu$ 3-oxotri, sulfate (1:1), stabilized hydronium, or “Tydronium®” as the common, trademarked name. The ACS CAS No. is attached for your review as well as the copy of the issued US Patent from the USPTO describing the chemistry.

While the petition states that the CAS number is 2032207-39-7, the attached documentation (p. 36 of the petition) states that there is no registered CAS number, and that number is not found in the CAS database.<sup>1</sup> The patent was not attached to the petition as published on the NOP website. However, the patent as identified in the petition does exist, under the name “high molecular weight ionized water.”<sup>2</sup>

### **The petition does not identify an OFPA category.**

Even when prompted by questions from the CS, the best that the petitioner could do in supplying a response is:

The petitioned use of the chemistry is as a manure processing aid primarily for alpaca/llama protein nucleotide extraction and stabilization. As an acidic specialized electrolyte, it will be used as a Production Aid in isolating and stabilizing value-added components from manure sources.

The description of the function of the “production aid” is not a description of a material used in crop production, but one used in processing manure.

### **The petition does not provide the necessary supporting materials.**

The petition is padded with many irrelevant attachments, but does not include those that meet the requirements for a petition.

No label is provided for the petitioned use. One label is for a fertilizer supplement for cannabis production. The other is for an unspecified industrial use.

Documentation on health and environmental effects is insufficient and incomplete. The SDS (for a manufacturing use product) states that information on toxicological and environmental effects is “not known,” or “not available,” or “not expected to be harmful...” The testing report included is for Tydracide, a product not designed for the petitioned use, but as a disinfectant. Field trials (presumably included to demonstrate need) study the yield of crops when treated with Ferocious Plant Optimizer broadcast over crops.

No evidence is submitted to support the need for the material as petitioned.

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<sup>1</sup> <https://webbook.nist.gov/cgi/cbook.cgi?ID=2032207-39-7&Units=SI>.

<sup>2</sup> <https://patents.google.com/patent/US7513987B1/en>.

**The petitioned material does not meet the requirements of OFPA.**

No evidence supports the need for the material, the lack of environmental and health effects, or compatibility with organic practices.

**Conclusion**

The NOSB should deny this petition.

Thank you for your consideration of these comments.

Sincerely,

A handwritten signature in black ink, appearing to read "Terry Shistar". The signature is fluid and cursive, written over a light grey rectangular background.

Terry Shistar, Ph.D.  
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