



BEYOND PESTICIDES

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April 3, 2015

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

Re. HS: Sodium Acid Pyrophosphate

These comments to the National Organic Standards Board (NOSB) on its Spring 2015 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 groups around the world.

Beyond Pesticides opposes the relisting of sodium acid pyrophosphate (SAPP), based on the information available to us and the Handling Subcommittee (HS). We note that the principal document available to the committee is a technical advisory panel (TAP) review of sodium phosphates in response to a petition for use in soy milk. The technical review (TR) focuses on a proposed expanded use of SAPP, but does not address the current listed use.

1. Health and Environmental Impacts

Sodium pyrophosphate has similar subacute effects to the more toxic orthophosphates, including kidney damage and calcium deposits in test animals. According to the TAP review, “The toxicity of sodium phosphates is generally related to the sequestration of calcium and the subsequent reduction of ionized calcium. It is an irritant, and ingestion may injure the mouth, throat, and gastrointestinal tract, resulting in nausea, vomiting, cramps, and diarrhea.”

More recent studies have shown that inorganic forms of phosphate, such as sodium phosphates and SAPP, cause hormone-mediated harm to the cardiovascular system. A review found that they “may harm the health of persons with normal renal function. This judgment has been made on the basis of large-scale epidemiological studies and is supported by the latest findings

of basic research.”¹ This is an important line of research that has been ignored by the HS because of its decision not to seek further information.

According to the TAP review for sodium phosphates, the manufacture of food grade phosphoric acid, which is used in making SAPP, involves the removal of heavy metals and radioactive waste. This creates a hazardous waste stream. A primary environmental concern of sodium phosphates is their release into water, though this is only likely to be a problem with this use in the case of a spill.

2. Essentiality

Although the NOSB received comments from a food processor, a certifier commenting on behalf of clients, and a trade association representing food additives manufacturers saying that SAPP is essential, there are actually a number of alternatives. SAPP is an acid that reacts with baking soda to act as a leavening agent. Other sources of acid –buttermilk, yogurt, molasses, lemon juice, vinegar—are commonly used alternatives. Besides those above, other acids on the National List for use in food include potassium acid tartrate (cream of tartar) and ammonium bicarbonate. Whipped egg whites and yeast are alternative methods of leavening.

Frontier Herbs sells organic baking powder made with the following ingredients: Organic grape juice concentrate extract, organic corn starch, sodium bicarbonate.²

3. Compatibility

SAPP is a synthetic chemical that is not essential for organic processing, that can contribute to overexposure to inorganic phosphates, and whose manufacture creates a hazardous waste stream. It should therefore be viewed as incompatible with organic production and handling.

4. Sunset Process

The HS said in its review,

Two other comments commented in opposition to relisting SAPP, on the grounds that the TAP review was focused on the use of sodium phosphates in non-dairy milk, rather than as a leavening agent. However, the HS believes that the technical information contained in the original TAP, along with the additional detail contained in the SAPP petition, the 2010 TR prepared for the evaluation of SAPP for use in produce, independent research, public comment and the food science expertise contained within this and past Handling Subcommittees is sufficient for a thorough review of this substance and that a new TR is not needed.

We have presented information here indicating that the overconsumption of inorganic phosphates presents a health risk that was not known to the NOSB on the basis of past reviews.

¹ Ritz, E., Hahn, K., Ketteler, M., Kuhlmann, M. K., & Mann, J. (2012). Phosphate Additives in Food—a Health Risk. *Deutsches Ärzteblatt International*, 109(4), 49–55.

² <http://www.frontiercoop.com/products.php?cn=Baking+Powder#>.

It will be unfortunate indeed if the NOP dictate that information presented at this meeting is untimely causes the NOSB to overlook important health risks associated with this material.

5. Conclusion

Beyond Pesticides opposes the relisting of sodium acid pyrophosphate because it does not meet the criteria of lack of harm to the environment and human health, essentiality, and compatibility.

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, with a long horizontal stroke at the end.

Terry Shistar, Ph.D.
Board of Directors