



BEYOND PESTICIDES

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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: Ancillary Substances in Cellulose

These comments to the National Organic Standards Board (NOSB) on its Spring 2017 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.

Beyond Pesticides opposes the proposal on ancillary substances allowed in cellulose. The Handling Subcommittee has not performed the review necessary to support this proposal – the review to which the NOSB committed itself in adopting policy on reviewing ancillary substances in Spring 2013.¹ The policy adopted by the NOSB states, “The NOSB intends to review ancillary substances found in substances on and petitioned for the National List in accordance with OFPA criteria. Comprehensive review, however, does not require these substances to be individually listed on the National List.” This policy was adopted as a commitment to those who contended that everything added to organic food must be organic or on the National List.

The Handling Subcommittee (HS) has performed only a partial review of the proposed ancillary substances. In particular, it has not reviewed “polyvinylidene, vinyl chloride,” kymene, and “resin.” This lack of review is in itself a reason to reject this proposal. However, this proposal also demonstrates the danger in the policy articulated by the HS, “Any additional ancillaries that fall within one of the functional classes listed below do not need to be reviewed further in order to be used. Any new functional class of ancillaries however, would need to be petitioned in order to be allowed for use with cellulose.”

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<https://www.ams.usda.gov/sites/default/files/media/NOP%20Handling%20Final%20Rec%20Ancillary%20Substances.pdf>.

Polyvinylidenechloride

The first of these is also identified as CAS # 9002-85-1, which applies to polyvinylidenechloride (PVDC). Polyvinylidenechloride is a polymer of vinylidenechloride. The NOSB must clearly identify substances it allows to be added to organic food, and this material is not clearly identified.

If the listing refers to PVDC, then a review of the material should have revealed to the HS that it is a polymer of vinylidenechloride, also known as 1,1-Dichloroethylene (DCE). The International Agency for Research on Cancer (IARC) monograph on DCE states, “Vinylidene chloride copolymerizes readily with other vinyl monomers, such as acrylonitrile, alkyl acrylates and methacrylates, vinyl acetate and vinyl chloride. . . . The monomer is used in the USA almost exclusively as a comonomer, primarily with vinyl chloride.”² So it is possible that the listing is correct in including vinyl chloride. DCE has been detected in polymers.³ Vinyl chloride has also been detected in polymers.⁴

Thus, the proposed listing would allow both DCE and vinyl chloride to be added to organic food. If the HS had reviewed this material, it would have found that DCE is classified as a group 3 carcinogen and vinyl chloride a group 1 (*carcinogenic to humans*, the highest classification) carcinogen by IARC. Vinylidene chloride-vinyl chloride copolymers, which is what this material appears to be, are listed as a group 3 carcinogen. Group 3, *not classifiable as to its carcinogenicity to humans*, “is used most commonly for agents for which the evidence of carcinogenicity is inadequate in humans and inadequate or limited in experimental animals.”⁵ IARC also says, “An evaluation in Group 3 is not a determination of non-carcinogenicity or overall safety. It often means that further research is needed, especially when exposures are widespread or the cancer data are consistent with differing interpretations.”⁶

It is generally accepted that there is no threshold dose for genotoxic carcinogens.⁷ Vinyl chloride is considered by IARC to be a genotoxic carcinogen.⁸ Therefore, no quantity of vinyl chloride should be added to organic food.

² International Agency for Research on Cancer, 1986. Volume 39, Some Chemicals Used in Plastics and Elastomers.

³ International Agency for Research on Cancer, 1986. Volume 39, Some Chemicals Used in Plastics and Elastomers.

⁴ International Agency for Research on Cancer, 2012. Volume 100F-31, Vinyl Chloride.

⁵ International Agency for Research on Cancer, IARC Monographs on the Evaluation of Carcinogenic Risks to Humans, Preamble. <http://monographs.iarc.fr/ENG/Preamble/CurrentPreamble.pdf>.

⁶ International Agency for Research on Cancer, IARC Monographs on the Evaluation of Carcinogenic Risks to Humans, Preamble. <http://monographs.iarc.fr/ENG/Preamble/CurrentPreamble.pdf>.

⁷ US EPA, Risk Assessment for Carcinogenic Effects. <https://www.epa.gov/fera/risk-assessment-carcinogenic-effects>.

⁸ IARC Working Group on the Evaluation of Carcinogenic Risks to Humans, 2008. IARC monographs on the evaluation of carcinogenic risks to humans. Volume 97. 1, 3-butadiene, ethylene oxide and vinyl halides (vinyl fluoride, vinyl chloride and vinyl bromide). *IARC Monographs on the Evaluation of Carcinogenic Risks to Humans*, 97.

Kymene

Kymene is a brand name for a resin whose ingredients are listed as trade secret, identified only as “halogenated hydrocarbon” and “organic compound” on its material safety data sheet (MSDS). The MSDS reports that Kymene is classified as a 1B carcinogen and a 1B reproductive toxin under the Globally Harmonized System (GHS) used by the Occupational Safety and Health Administration (OSHA) for communicating hazards.⁹ Group 1B for carcinogenicity in the GHS corresponds to the IARC group 2A and the NTP “Reasonably Anticipated to be a Human Carcinogen” group, and reflects limited evidence of carcinogenicity in humans and sufficient evidence of carcinogenicity in experimental animals. Group 1B for reproductive toxicity is translated by OSHA as “presumed human toxicant,” and reflects “sufficient evidence of an adverse effect on sexual function and fertility or on development in the absence of other toxic effects.”¹⁰ Other hazards are stated on the MSDS.

It is generally accepted that there is no threshold dose for genotoxic carcinogens.¹¹ Kymene is a genotoxic carcinogen.¹² Therefore, no quantity of Kymene should be added to organic food.

“Resin”

“Resin” is not defined by the HS. There are many resins, ranging from natural resins from plants and animals, such as rosin and shellac, to derivatives of natural substances including cellulose and protein, to wholly synthetic resins formed by polymerization of synthetic chemicals. Kymene is an example of the last. The word “resin” may serve as a functional descriptor, but it is not useful for evaluating hazards. If “resin” is not explained, then the NOSB must assume that it is among the most toxic and reject the addition to organic food.

“Any additional ancillaries that fall within one of the functional classes listed below do not need to be reviewed further in order to be used.”

The three proposed ancillary substances examined above should make it clear that the policy of allowing additional ancillary substances based on functional class does not make sense. If the NOSB had allowed ancillaries that are “coating aids” based on sodium hydroxide, it would have automatically, with no review, allowed the genotoxic carcinogens vinyl chloride and Kymene. Similarly, “resin” –although listed in the “substance” column, is actually a functional identifier. If the NOSB were to approve it, it would open the door to many toxic chemicals, including the genotoxic carcinogen Kymene.

⁹ Solenis Safety Data Sheet for Kymene, http://www.sfm.state.or.us/cr2k_subdb/MSDS/KYMENE_557_H_RESIN.PDF.

¹⁰ Occupational Safety and Health Administration, Department of Labor, 2012. Final rule modifying OSHA’s hazard communication standard to conform to the United Nations’ GHS. [29 CFR 1910.1200 Appendix A-Health Hazard Criteria](https://www.federalregister.gov/documents/2012/06/29/2012-12700-29-occupational-safety-and-health-administration-department-of-labor-final-rule-modifying-osha-s-hazard-communication-standard-to-conform-to-the-united-nations-ghs).

¹¹ US EPA, Risk Assessment for Carcinogenic Effects. <https://www.epa.gov/fera/risk-assessment-carcinogenic-effects>.

¹² Solenis Safety Data Sheet for Kymene, http://www.sfm.state.or.us/cr2k_subdb/MSDS/KYMENE_557_H_RESIN.PDF.

Conclusion

The Handling Subcommittee has not performed the review necessary to support this proposal. Some of the substances that it would allow are toxic in any amount. Therefore, the NOSB must reject this proposal. We do not necessarily support the other ancillary substances proposed –they must also be reviewed. The HS should bring to the NOSB a proposal to prohibit the ancillary substances “polyvinylidene, vinyl chloride,” kymene, and unspecified “resin.”

We cannot stress enough how important it is that the NOSB thoroughly review all materials used in organic production. The integrity of the organic label depends on the NOSB performing its duty.

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 prominent flourish at the end.

Terry Shistar, Ph.D.
Board of Directors