

National Organic Standards Board
Crops Subcommittee Petitioned Material Discussion Document
Ammonium Citrate and Ammonium Glycinate
August 7, 2018

Summary of Petitions for [ammonium citrate](#) and [ammonium glycinate](#):

Alpha Chelates has petitioned for the inclusion of ammonium citrate and ammonium glycinate on the National List at §205.601 (synthetic substances allowed for use in organic crop production). These new petitions follow two petitions in 2016 of [ammonium citrate](#) and [ammonium glycinate](#) during which time the NOSB determined in its fall [2016 recommendation](#)¹ that alternatives exist, including lignin sulfonate (synthetic) and nonsynthetic substances. Also on file for these materials are four petition addendums; the [first addendum](#) was submitted in response to a request for additional information by the Crops Subcommittee in 2016; the [second addendum](#) was volunteered by the petitioner in 2016; the [third addendum](#) was volunteered by the petitioner in 2016. An [addendum to the new petition](#) was submitted in 2018.

Ammonium citrate and ammonium glycinate are used as chelating agents with inorganic metal micronutrients copper, iron, manganese, or zinc for high pH soils. Chelated micronutrients (“chelates”) are used to supply micronutrients that are not readily available to plants in deficient soils. Ammonium citrate and ammonium glycinate are not being petitioned to be applied to crops alone but to serve as chelating agents in the formation of chelates.

During its 2016 review, the Board determined that there was insufficient information in the justification statement regarding the necessity of these materials for organic crop production. Chelates occur naturally in soils, so chelates, *per se*, are not incompatible with a system of sustainable agriculture; however, overreliance on synthetic materials is not compatible with a system of sustainable agriculture. The Subcommittee determined that there were insufficient grounds for adding these substances to the National List as there are alternatives available, and it was not clear that the permitted products already on the market are inadequate to meet farmers’ needs.

The most recent re-petitions were submitted on the premise that “the technology concerning chelating agents and micronutrient chelates has been significantly misunderstood by [the] NOSB”. Additionally, the new petition refers to the results of a field trial of wheat in high pH soil in Australia in which chelated micronutrients led to an increase in yield over unchelated micronutrients. A significant component of the original and second petitions is a case for clarifying the terms “chelate” and “chelating agent” (or “ligand”) in the regulations and guidance. The petitioner requests that the NOP define which bases can be used to neutralize specific acids used to synthesize chelating-agent-salts. Additionally, the petitioner asks for “recognition that the species and strength of acid and base are needed for accurate and reproducible neutralization; hence the suitability for use of ‘nature identical’ acids and bases”. Other clarification and revision appeals are explained in the second petition.

A Technical Report (TR) was not requested as part of the 2016 review; however, TRs have been solicited in response to this second application, both to review the petitioned materials and to investigate the broader issue of nomenclature and technical errors elaborated by the petitioner.

¹ The 2016 recommendation and all 2016 addendum links are to Ammonium Citrate, though an identical recommendation and complementary addendums were submitted for Ammonium Glycinate and can be found on the [List of Petitioned Substances](#).

Questions:

1. Are these materials for which organic farmers have expressed a need? If so, please describe how these materials perform a function that the nonsynthetic and/or synthetic chelating agents already allowed do not.
2. Please provide evidence of the efficacy of these petitioned chelating agents over currently approved chelating agents.
3. Are other changes to the regulations appropriate to clarify which substances are allowed in the manufacture of chelated micronutrients?

Vote in Subcommittee

Motion to accept the ammonium citrate and ammonium glycinate petitioned material discussion document

Motion by: Emily Oakley

Seconded by: Dave Mortensen

Yes: 7 No: 0 Abstain: 0 Absent: 1 Recuse: 0

Approved by Steve Ela, Subcommittee Chair to transmit to NOSB, August 7, 2018