

National Organic Standards Board
Handling Subcommittee Proposal
Reclassification of Potassium Acid Tartrate
August 14, 2017

Summary of Proposed Action:

The Handling Subcommittee proposes to change the classification of potassium acid tartrate from a nonagricultural synthetic substance to an agricultural nonsynthetic substance and move the substance from § 205.605(b) to § 205.606 of the National List.

Subcommittee Review:

During its 2015 sunset review the NOSB noted a number of inconsistencies in the historical documents about potassium acid tartrate, confusion with specific names of similar sounding materials, and confusion in classification of this material. However, owing to lack of an up-to-date technical report (TR) the NOSB recommended continued listing of potassium acid tartrate until a new TR could be provided. A new TR, dated January 11, 2017, was received and is utilized for this reclassification recommendation.

During the winemaking process, sediments form that must be removed to produce a clear wine. "Lees" is the name of the sediment consisting of dead yeast cells, grape pulp, seed, and other grape matter that accumulates during fermentation. "Argol" and "tartar" are synonyms used to describe the crust that builds up in wine vats and casks. Argol is defined as crude potassium hydrogen tartrate, deposited as a crust on the sides of wine vats. Tartar is defined as a substance consisting essentially of cream of tartar that is derived from the juice of grapes and deposited in wine casks together with yeast and other suspended matter as a pale or dark reddish crust or sediment. Tartar consists of about 80% potassium acid tartrate. Potassium acid tartrate is only slightly soluble in cold water but highly soluble in hot water (6.1g/100 mL at 100°C). Extracting wine lees with hot water dissolves the potassium acid tartrate. When the filtered extraction solution is cooled, potassium acid tartrate precipitates as very pure crystals (>99.5% pure). No other reagents or solvents are involved in the extraction (TR 2017, 58-69).

Potassium acid tartrate is present in grape juice and wine; it is extracted from natural sources: press cake, lees, and sediment recovered from winemaking. It is extracted with potable water and undergoes no chemical change during extraction or crystallization. Based on the decision tree in Guidance NOP 5033-1, this manufacturing process could be considered non-synthetic, although it is currently classified as a synthetic substance at §205.605(b) (TR 2017, 339-343).

The FDA defines "potassium acid tartrate" at 21 CFR 184.1077(a):

Potassium acid tartrate (C₄H₅KO₆, CAS Reg. No. 868-14-4) is the potassium acid salt of L-(+)-tartaric acid and is also called potassium bitartrate or cream of tartar. It occurs as colorless or slightly opaque crystals or as a white, crystalline powder. It has a pleasant, acid taste. It is obtained as a byproduct of wine manufacture" (TR 2017, 368-371).

No method of manufacture other than as a by-product of wine manufacture is encompassed by this regulation. The FDA definition of potassium acid tartrate would appear to require an agricultural source. Grapes and wine are agricultural products. The by-products that naturally settle out of grape juice and fermenting wine are used to make this food ingredient, with minimal processing (hot water extraction).

However, the USDA organic regulations currently classify potassium acid tartrate as nonagricultural at 7 CFR 205.605.

Interestingly, potassium acid tartrate is a precursor to tartaric acid, which is another substance that is listed on the National List. Tartaric acid, with the annotation “made from grape wine,” is listed at §205.605(a) as an allowed *non-synthetic*, nonagricultural (nonorganic) substance. This classification came from a 1995 NOSB vote. Thus, tartaric acid from grape wine is classified as non-synthetic, while the precursor, potassium acid tartrate from grape wine, is classified as synthetic.

Potassium acid tartrate is derived from a crop (grapes) and there is no change in the chemical structure of the material when it is extracted. Using the decision tree for an agricultural vs. non-agricultural material in the Classification of Materials guidance (NOP 5033-2), potassium acid tartrate should be classified as agricultural. Using the decision tree for synthetic vs. non-synthetic (NOP 5033-1), potassium acid tartrate is extracted from a natural source, meets all the criteria described in Section 4.6 of NOP 5033, and has not gone through any chemical changes. That leads to a determination that it is non-synthetic.

The Handling Subcommittee proposes that potassium acid tartrate remain on the National List. However, the Handling Committee is bringing forward a proposal to change the listing from §205.605(b) to §205.606 due to the determination that potassium acid tartrate is agriculturally derived and non-synthetic under the guidelines of the Classification of Materials document.

Vote in Subcommittee:

Motion to reclassify potassium acid tartrate and change its listing from §205.605(b) to §205.606

Motion by: Steve Ela

Seconded by: Ashley Swaffar

Yes: 8 No: 0 Abstain: 0 Absent: 0 Recuse: 0

Approved by Lisa de Lima, Handling Subcommittee Chair, to transmit to NOSB August 15, 2017