

# VI. HANDLING SUBCOMMITTEE

## PROPOSAL:

## SULFURIC ACID

### SUMMARY

Reject the petition to add sulfuric acid to the National List at Section 205.605.

#### *Rationale*

- Sulfuric acid is an environmental pollutant and a component of “acid rain.”
- Sulfuric acid mist is classified as a Group 1 carcinogen and is toxic to humans.
- Sulfuric acid may not be essential. The petition lists other acids, including citric, as being “not suited to the innovative process,” but does not state why. The manufacturing process is withheld as Confidential Business Information, so it is not possible to determine why the petitioner considers less toxic alternatives to be “not suited.”

Cornucopia agrees with the Handling Subcommittee that sulfuric acid should not be added to the National List.

### BACKGROUND

Sulfuric acid is petitioned by Marinova, an Australian supplement manufacturer, for use in adjusting the pH during the manufacture of an organic seaweed extract. The seaweed extracts, called fucoidans, are sold as “ingredients in the food supplement, function food and beverage, and cosmetic markets.”

#### *International regulations*

Sulfuric acid is currently allowed by NOP standards to adjust the pH of liquid fish products for use in organic crop production (205.601(j)(7)). No other use of sulfuric acid is allowed.

IFOAM<sup>42</sup> and the European Union’s<sup>43</sup> organic regulations allow sulfuric acid in organic sugar and gelatin processing.

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<sup>42</sup> IFOAM Indicative List of Substances for Organic Production and Processing. INS 513. Available online at: [http://www.ifoam.org/about\\_ifoam/standards/pdfs/20080423\\_IFOAM\\_Indicative\\_List.pdf](http://www.ifoam.org/about_ifoam/standards/pdfs/20080423_IFOAM_Indicative_List.pdf)

## CONCERNS WITH SULFURIC ACID

### *Environmental concerns*

Sulfuric acid is one of the two primary components of acid rain (the other is nitric acid).<sup>44</sup> The TR notes that during the manufacture of sulfuric acid, emissions may be released into the air. The TR includes a discussion of the environmental impacts of acid rain, and concludes: “sulfuric acid contributes to the formation of acid rain and is considered a regulatory and environmental concern” (TR 345-346).

On the worksheet for NOSB evaluation criteria, the Handling Subcommittee answered “yes” the question, “Are there any adverse effects on environment from manufacture, use, or disposal?” and therefore correctly recommended that the petition be rejected.

### *Human health concerns*

According to the National Institutes of Health, sulfuric acid is a “very strong, corrosive chemical” that “can cause severe burns and tissue damage when it comes in contact with the skin or mucous membranes.”<sup>45</sup>

According to the UN’s International Agency for Research on Cancer, there is “sufficient evidence that occupational exposure to strong-inorganic-acid mists containing sulfuric acid is carcinogenic.”<sup>46</sup>

Please note that the TR, performed by ICF International, includes the following line: “However, available human studies are considered conflicting or insufficient to confirm an increased risk of cancer in exposed humans.” The technical reviewer gives no scientific backup, citation or reference for this statement. It is unclear why the ICF technical reviewer felt the need to “balance” or dispute the determination of carcinogenicity by the UN’s International Agency for Research on Cancer, which is the world’s foremost authority on determination of carcinogenicity. Unfortunately, this appears to continue the tradition of ICF International defending toxic or harmful substances, without providing scientific support.

The Material Safety Data Sheet for sulfuric acid, which was included in the petition, further exposes the toxicity of this petitioned material:

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<sup>43</sup> Commission Regulation (EC) No 889/2008 of 5 September 2008. Annex VIII, Section B.

<sup>44</sup> EPA, <http://www.epa.gov/acidrain/what/index.html>

<sup>45</sup> MedlinePlus, <http://www.nlm.nih.gov/medlineplus/ency/article/002492.htm>

<sup>46</sup> IARC Volume 54, <http://monographs.iarc.fr/ENG/Monographs/vol54/volume54.pdf>

“Very hazardous in case of skin contact (corrosive, irritant, permeator), of eye contact (irritant, corrosive), of ingestion, of inhalation.

Liquid or spray mist may produce tissue damage particularly on mucous membranes of eyes, mouth and respiratory tract.

Skin contact may produce burns. Inhalation of the spray mist may produce severe irritation of respiratory tract, characterized by coughing, choking, or shortness of breath. Severe over-exposure can result in death.

Inflammation of the eye is characterized by redness, watering, and itching.

Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering.”

***Questions regarding essentiality/alternatives and Confidential Business Information withheld***

The petitioner claims that other acids, such as citric and hydrochloric acid, are “not suited to the innovative process developed by Marinova.”<sup>47</sup> However, the innovative process is withheld as Confidential Business Information, including a section on “chemical interactions with other substances.” While we do not believe that the manufacturing process of organic fucoidan production must necessarily be disclosed, because the petition is for sulfuric acid and not fucoidans, we are concerned that these redactions make it impossible to verify the claim that alternative, less toxic acids are “not suited.”

**CONCLUSION**

Due to its risks to the environment and human health, sulfuric acid fails the criteria for inclusion on the National List. Given the redaction of the manufacturing process as Confidential Business Information, it is also not possible to verify the petitioner’s claim that other acids are “not suited.”

Cornucopia supports the Handling Subcommittee’s recommendation to reject the petition.

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<sup>47</sup> Petition to add sulfuric acid by Marinova. July 29, 2010