Allowed Detergents and Sanitizers for Food Contact Surfaces and Equipment in Organic Operations

The National Organic Program's (NOP) Organic Standards require that an organic handling operation take measures to prevent the commingling of organic and nonorganic products and protect organic products from contact with prohibited substances. (USDA organic regulations 7 CFR 205.272).

Cleaning and sanitizing is an important part of an organic system plan. The purpose of this document is to provide a brief overview of the typical cleaning/sanitizing process in an organic handling operation and what cleaners and sanitizers may be used. This document answers common questions about cleaning food contact surfaces and equipment.

OVERVIEW: A TYPICAL CLEANING AND SANITIZING PROCESS FOR FOOD CONTACT SURFACES AND EQUIPMENT

This is an overview only, providing general guidance for organic food handlers as it relates the use of allowed and prohibited substances in the process of cleaning and sanitizing food contact surfaces and equipment in an organic handling facility. The organic handler must be in compliance with all other food, health, and safety standards (federal, state, local) as required by law.

The *typical* process for cleaning and sanitizing food contact surfaces and equipment is a liquid process and follows this sequence of steps: clean, rinse, sanitize. For purposes of this document, we are considering liquid cleaning processes, but note that effective cleaning does not necessarily require liquid processes to comply with the organic standards or food safety standards. The organic standards simply require a process that prevents organic food from commingling with non-organic food and contamination from prohibited substances.

1. **CLEAN:** Cleaning agents, such as dish soap made from synthetic detergents, are used to remove dirt, germs, objects or impurities from food contact surfaces and equipment. **The cleaning agent itself is not required to be organic.** Any cleaner or detergent may be used *provided that* the cleaning agent is disclosed in the handler's organic system plan and also meets the Food & Drug Administration's (FDA) requirements. Unlike sanitizers (discussed below), cleaners and detergents are designed to be rinsed off, and a subsequent rinse step is sufficient to prevent contamination of organic foods from synthetic cleaner residues.

2. **RINSE:** A rinse with potable water removes the cleaning agents. Potable water is simply water deemed safe for drinking and food preparation.

3. **SANITIZE:** Sanitizers are applied to cleaned surfaces to insure that the surface is free of pathogenic microbes. The sanitizing step is a mandated part of most state and federal food safety protocols for food contact surfaces. Sanitizers merit more scrutiny than cleaners in an organic process because some sanitizers are designed to leave a faint anti-bacterial residue on food contact surfaces. Such residues are usually not allowed in contact with organic food. Therefore, procedures in an organic operation must insure that organic foods do not contact any prohibited

sanitizer residues. Because of the need to insure a safe food system, the USDA organic regulations allow the use of some synthetic sanitizers for food contact surfaces, discussed below.

FREQUENTLY ASKED QUESTIONS

Do I have to use *only* organic detergents, cleaners, and soaps in my facility?
No. Organic food handlers are not restricted to using only organic detergents, cleaners and soaps in their facilities. The criteria for whether these items can be used in an organic facility are not based on whether they are organic. The requirement is simply to prevent contact with organic food. Therefore, the only restriction on cleaning agents is that they must be rinsed from the food contact surface prior to use.

What cleaners are specifically allowed by the USDA organic regulations?
There are no cleaners that are listed in the USDA organic regulations because the guidelines require you to completely remove any cleaner from food contact surfaces and equipment. If you are properly removing the cleaner, no residue should be in contact with organic foods.

What *sanitizers* may I use on the organic production line?
7 CFR 205.605
The following active ingredients are allowed in sanitizers used on organic food contact surfaces and equipment, with a noted restriction on chlorine sanitizers:

- Chlorine Materials (see notes below)
- Hydrogen peroxide
- Ozone
- Peracetic acid/peroxyacetic acid
- Phosphoric acid
- Potassium hydroxide
- Sodium hydroxide

A Note About Chlorine Materials
Chlorine is listed on the National List of Approved and Prohibited Substances as an allowed sanitizing substance (7 CFR 205.605). Sodium hypochlorite is the active ingredient in what's commonly known as bleach or chlorine bleach. Chlorine-based sanitizing solutions are effective and allowed sanitizers under the organic standards, provided that the manufacturer's instructions are followed, particularly with regard to sanitizer concentration. The National Organic Program's July 22, 2011 Guidance Document 5026 clarified that under such circumstances, there is no requirement to follow a chlorine sanitizer with a water rinse. Such a rinse would undermine the sanitizer's role in insuring food safety.

Are there any other sanitizers allowed to clean food contact surfaces and equipment?

Other active sanitizing agents may be used in organic handling operations, **provided** measures

are taken to prevent the sanitizers from coming into contact with organic food products. Because the active removal of sanitizers from food contact equipment can raise food safety issues, the use of sanitizers other than those allowed by the National List of Approved and Prohibited Substances should be considered only as a last resort and only in compliance with food safety regulations. Organic certifying agents will require operations to show that no prohibited sanitizer residues remain on the food contact surfaces prior to food processing.

All of the sanitizers listed below require an intervening step to ensure the sanitizer never comes into contact with the organic food product. These sanitizers include:

- Acetic acid
- Ethyl alcohol
- Isopropyl alcohol
- Citric products/limonene
- Potassium permanganate
- Sulfuric acid
- Vinegar
- Quaternary ammonia

A note about Quaternary Ammonia
Special measures must be taken when utilizing quaternary ammonia-based sanitizers. This sanitizing substance is designed to leave persistent anti-microbial residues on food contact equipment. Each certifying agent has different procedures for verifying that quaternary ammonia residues do not contact organic food.

Is a list of cleaners and sanitizers required as part of my organic system plan?

Yes, all cleaning agents, detergents, and sanitizers must be disclosed in the organic system plan for a handling operation. In many cases, the certifying agent for a handling operation may require that labels or Material Safety Data Sheets for cleaners and sanitizers be submitted as part of the organic system plan.

As part of its review of an operation's organic system plan, the certifying agent considers whether the sanitation procedures described would protect the finished product's organic integrity. The certifying agent needs to see that cleaning agents and prohibited sanitizers would not contaminate organic products. At inspection, the organic inspector verifies that the cleaning and sanitation plan described in the organic system plan is being implemented.

For specific questions about the record keeping expectations, or your organic system plan, contact your certifying agent.

For Further Reading & Questions

The full text of the USDA organic regulations can be found online at the U.S. Government Publishing Office (GPO) website in the Electronic Code of Federal Regulations (e-CFR).

Specifically, these regulatory sections may be helpful to those with questions about the use of detergents and sanitizers:

7 CFR 205.272	Commingling and contact with prohibited substance prevention practice standard.
7 CFR 205.605	Nonagricultural (nonorganic) substances allowed as ingredients in or on processed products labeled as "organic" or "made with organic (specified ingredients or food group(s))."

For guidance in the use of chlorine materials in organic food production and handling, visit NOP 5026 Guidance.

For general information about the National Organic Program, visit www.ams.usda.gov/nop.

Further questions may be directed to your certifying agency.

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