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## **REDUCED OXYGEN PACKAGING (ROP)**

California Health and Safety Code Section 113883 defines "reduced oxygen packaging" (ROP) as the reduction of the amount of oxygen in a package by evacuating the oxygen, displacing the oxygen, or otherwise controlling the oxygen content in a package to a level below that normally found in the surrounding atmosphere. Examples of ROP include: *vacuum packaging, cook-chill, and sous vide*.

Reduced oxygen packaging of potentially hazardous foods can create a suitable environment for the growth of hazardous pathogens such as *Clostridium botulinum*, the bacteria associated with botulism. Due to the potentially serious health risk, California Health and Safety Code Section 114419 (b)(2) requires that food facilities who utilize ROP methods submit a Hazard Analysis Critical Control Point (HACCP) plan to the California Department of Public Health (CDPH) for review and approval.

**An ROP HACCP Plan is not required if all of the following are met:**

1. The food is labeled with the production time and date.
2. The food is held at 41 degrees Fahrenheit or lower during refrigerated storage.
3. The food is removed from its package in the food facility within 48 hours after packaging.

**An ROP HACCP Plan is not required if:**

1. The food packaging has an oxygen transmission rate (OTR) greater than or equal to 10,000 (cc/m<sup>2</sup>/24 hours)

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### **ROP HACCP PLAN REQUIREMENTS**

**CDPH point of contact is:**

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Potentially hazardous foods (PHFs) that are packed by a food facility using ROP or that have been partially cooked and sealed in any container or configuration that creates anaerobic conditions shall be plainly date coded and state a "Use By," followed by the appropriate month, day, and year.

When ROP methods are used and *Clostridium botulinum* is identified as a microbiological hazard in the final prepackaged form, the food facility shall have an approved HACCP plan that does all of the following:

1. Ensures the packages have at least two barriers in place to control the growth and toxin formation of *Clostridium botulinum*.
2. Contains the information specified under Section 114419.1.
3. Identifies the food to be prepackaged.
4. Limits the food prepackaged to a food that does not support the growth of *Clostridium botulinum* because it complies with one of the following:
  - a. Has an  $a_w$  of 0.91 or less.
  - b. Has a pH of 4.6 or less.
  - c. Is a meat or poultry product cured at a food processing plant regulated by the U.S.D.A. and is received in an intact package.
  - d. Is a food with a high level of competing organisms, such as raw meat or raw poultry.
5. Specifies methods for maintaining food at 41°F or below.
6. Describes how the packages shall be prominently and conspicuously labeled on the principal display panel in bold type on a contrasting background, with instructions to maintain the food at 41°F or below and discard the food if within 14 calendar days of its packaging it is not served for on-premises consumption, or consumed if served or sold for off-premises consumption.
7. Limits the refrigerated shelf life to no more than 14 calendar days from packaging to consumption, except the time product is maintained frozen, or the original manufacturer's "sell by" or "use by" date, whichever occurs first.
8. Includes operational procedures that prohibit contacting food with bare hands, identifies a designated area and the method by which physical barriers or methods of separation of raw foods and ready-to-eat foods minimize cross-contamination and access to the processing equipment is restricted to responsible trained personnel familiar with the potential hazards of the operation, and delineates cleaning and sanitization procedures for food-contact surfaces.
9. Describes the training program that ensures that individuals responsible for the reduced-oxygen packaging operation understand the concepts required for a safe operation, the equipment and facilities, and the procedures specified under paragraph (7) and Section 114419.1.
10. Except for fish that is frozen before, during, and after packaging, a food facility shall not package fish using a reduced-oxygen packaging method.

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**PLEASE NOTE:** All facilities are required to maintain a copy of their approved HACCP plan at their establishment for review by their local Environmental Health Specialist.

Sacramento County Environmental Management Department (EMD) is not authorized to review or approve proposed ROP HACCP plans.

**For additional information please contact EMD at (916) 875-8440.**