Reduced Oxygen Packaging at Retail Food Facilities

What is Reduced Oxygen Packaging (ROP)?
ROP is a process where the amount of oxygen in a package is reduced to a level below than normally found in the surrounding atmosphere. This can be done several ways:

1. **Vacuum Packaging** – Mechanically removing the oxygen from a container of food. Ex: using a vacuum sealing device for storage of potentially hazardous foods.
2. **Sous Vide** – Food is placed in a bag, the air is mechanically removed, and the food is cooked in a water bath, usually at low temperatures over several hours.
3. **Cook-Chill** – Oxygen is driven off by boiling or heating followed by sealing the hot food product in an air-tight container. Food is then cooled in an ice bath or refrigerator.
4. **Modified Atmospheric Packing (MAP) and Controlled Atmospheric Packaging (CAP)** – Oxygen in the package is replaced or modified with another gas or combination of gases (mostly done at the wholesale packaging level).

Why use ROP at the retail food level?
ROP has several advantages at the retail food facility level:

- Extends the shelf life of perishable food by creating an atmosphere unfavorable for the growth of spoilage bacteria.
- Reduces both preparation and clean-up times by allowing foods to be prepared in advance.
- Creates a tender and/or flavorful food product, such as with sous vide.

What are the hazards associated with ROP?
Using ROP improperly can lead to serious hazards associated with the processes. The lack of oxygen creates an anaerobic environment, which may cause the growth of 2 dangerous pathogens: *Clostridium botulinum* and *Listeria monocytogenes*.

- *Clostridium botulinum* is responsible for the deadly botulism toxin. This is a rare but serious condition that has a high fatality rate.
- *Listeria monocytogenes* can cause still births in pregnant women and is particularly deadly for babies and small children.
- Both of these bacteria can grow even when food is properly refrigerated.
- Eliminating the bacteria that causes spoilage gives *Clostridium botulinum* and *Listeria monocytogenes*, an advantage to grow and reproduce with no competition.
- Raw fresh fish presents an even greater hazard due to the presence of naturally occurring bacteria on and inside of the fish. For that reason, raw fresh fish may only be packaged using ROP at the wholesale level with a Hazard Analysis Critical Control Point (HACCP) plan under Food and Drug Administration
What is required to conduct ROP safely and legally at my establishment?
Any retail food facility processing potentially hazardous foods using ROP is required to have a HACCP plan approved by the California Department of Public Health (CDPH).

- To have your HACCP plan approved, submit the HACCP plan along with a completed Retail Food Program Service Request Application and fee to CDPH – Food and Drug Branch.
- Once you have received an approval letter from CDPH, please notify your inspector at Monterey County Environmental Health Bureau, so your facility information can be updated.
- **IF YOU DO NOT CURRENTLY HAVE AN APPROVED PLAN, YOU MUST DISCONTINUE THE ROP OF FOOD AT YOUR FACILITY.** You are in violation of the California Retail Food Code (Cal Code) Section 114419(b)(2).

What are the consequences of continuing ROP without an approved HACCP plan?
Besides potentially endangering your customers’ health and safety, continued operation of a ROP procedure after being given a cease and desist order from Monterey County Environmental Health Bureau and/or CDPH, could result in any or all of the following legal actions:

- Condemnation of all ROP food products.
- Impoundment of any equipment used for ROP.
- Your facility will be charged cost recovery fees for re-inspections.

Where can I get more information on ROP?

- California Retail Food Code, Article 5 HACCP Exemptions
  [https://www.cdph.ca.gov/Programs/CEH/DFDCS/CDPH%20Document%20Library/FDB/FoodSafetyProgram/MEHKO/CALIFORNIA%20RETAIL%20FOOD%20CODE%202019.pdf](https://www.cdph.ca.gov/Programs/CEH/DFDCS/CDPH%20Document%20Library/FDB/FoodSafetyProgram/MEHKO/CALIFORNIA%20RETAIL%20FOOD%20CODE%202019.pdf)
- CDPH Retail Food Program Service Request Application – HACCP review (CDPH6801)
- U.S. FDA HACCP Principals and Application Guidelines
  [http://www.fda.gov/Food/GuidanceRegulation/HACCP/ucm2006801.htm#princ](http://www.fda.gov/Food/GuidanceRegulation/HACCP/ucm2006801.htm#princ)
- Examples of Questions to be Considered When Conducting a Hazard Analysis
  [http://www.fda.gov/Food/GuidanceRegulation/HACCP/ucm2006801.htm#app-c](http://www.fda.gov/Food/GuidanceRegulation/HACCP/ucm2006801.htm#app-c)
- Contact our offices at (831) 755-4505 or (831) 647-7654