



MODIFIED ATMOSPHERE PACKAGING:

WHAT IS MAP?

A normal atmosphere is not suitable for storage purposes due to many reasons improper temperature, higher O₂ concentrations, CO₂ concentrations, presence of various chemicals, microorganisms, enzymes released by the sample, pests, fungus and moulds formation. So to store a food product you need to change the atmosphere in the packaging so that instead of one month the food may be stored for four months or so.

There are various types and blends of atmospheres tested by various scientists. The normal composition of air is 21% oxygen, 78% nitrogen and less than 0.1% carbon dioxide. Modification of the atmosphere within the package by reducing the oxygen < 2% content while increasing the levels of < .1% carbon dioxide and/or nitrogen has been shown to significantly extend the shelf-life of perishable foods at low temperatures.

WHY DO YOU USE MODIFIED ATMOSPHERE PACKAGING?

- a) Increased shelf-life
- b) Reduction in waste
- c) Improved presentation-clear view of product and all round visibility
- d) Hygienic stackable package sealed and free from product drip and odors
- e) Easy separation of sliced products
- f) Little or no need for chemical preservatives
- g) Increased distribution area and reduced transport costs due to less frequent deliveries
- h) Centralized packaging and portion control
- i) Reduction in production and storage costs due to better utilization of labor, space and Equipment.

WHAT ARE DRAWBACKS of MODIFIED ATMOSPHERE PACKAGING?

- a) Capital cost of gas packaging machinery
- b) Cost of gases and packaging materials
- c) Cost of analytical equipment to ensure that correct gas mixtures are being used
- d) Cost of quality assurance systems to prevent the distribution of leakers, etc.
- e) Increased pack volume which will adversely affect transport costs and retail display space
- f) Potential growth of food-borne pathogens due to temperature abuse by retailers and consumers
- g) Benefits of MAP are lost once the pack is opened or leaks.

What Chemtron does in this field?

CSL Pvt. Ltd. has been supplying gases for the past 22 years and this experience in blending of gases and manufacturing all the instruments related to gas control gives us an edge over our counterparts. The technology of blending was introduced in India by our company for the first time taking in to consideration the Indian market status. This reduced the gas mixture costs considerably. In MA we will give you standard mixtures as well as customized mixtures for the

modified atmosphere and mixtures required for modified atmosphere packaging. As we have mastered the art of blending gases it becomes easy for us to deliver the required solutions to our clients.

We provide following blend of gases for MODIFIED ATMOSPHERE PACKAGING

- 80%N₂-20%CO₂
- 87%N₂-8%CO₂-5%O₂
- 70%N₂-30%CO₂
- 20%N₂-70%CO₂-10%O₂
- 40%N₂-30%CO₂-30%O₂
- 65%N₂-35%O₂
- 30% N₂ -40% CO₂ -30% O₂
- 50% N₂- 50% CO₂
- 30% N₂ 70% CO₂
- 100% N₂
- 25% N₂ 75% CO₂

Dealing in the gas industry for more than 22 years, we have developed the technology of gas blending for the packaging industry.