MULTISORB Filtration Group®

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FreshPax®
Oxygen Absorbing Packets and Strips

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FreshPax Packets are oxygen absorbers designed to protect packaged foods and other products against spoilage, mold growth, color change, rancidity, loss of nutritive values, and loss of quality. FreshPax Packets irreversibly absorb oxygen inside sealed packaging to less than 0.01% and maintains this level.

FreshPax Packets are Effective in Protecting Foods and Extending Shelf Life

A study conducted by the Department of Food Science at Cornell University concluded that FreshPax Packets are effective in extending the shelf life of oxygen-sensitive foods and other products. Even under extreme testing conditions, the use of FreshPax Packets

Advantages

- Extends shelf life
- Prevents growth of aerobic pathogens and spoilage organisms, including molds
- Minimizes the need for additives
- Absorbs virtually all oxygen in packaging as well as any oxygen that may permeate the package when used with gas flushing/ vacuum packaging
- Manufactured using food grade materials

Applications

- Processed, Smoked and Cured Meats
- Breads, Cookies, Cakes, Pastries
- Nuts and Snacks
- Candies and Confectioneries
- Coffee and Tea
- Whole Fat Dry Foods (e.g. Powdered Milk)
- Cheeses and Dairy Products
- Dried Fruits and Vegetables
- Spices and Seasonings
- Flour and Grain Items
- Pre-Cooked Meals
- Vitamins, Nutraceuticals, and Food Supplements
- Birdseed and Pet Food
- Artwork, Archives, and Artifact Preservation

FreshPax Packets Benefits

- Prevents degradation and rancidity of polyunsaturated fats and oils
- Helps retain fresh-roasted flavor of coffee and nuts
- Prevents oxidation of oleoresins in spices and seasoned foods
- Prevents oxidation of vitamins A, C, and E
- Inhibits mold in natural cheeses and other fermented dairy products
- Delays non-enzymatic browning of fruits and some vegetables
- Inhibits condensation

*Sunflower seeds were used in the study

FreshPax® Oxygen Absorbers vs. Alternative Technologies

FreshPax Packets when used in combination with your current packaging methods, including gas flushing and vacuum packaging, decrease time to deoxygenate the environment. Gas flushing and vacuum packaging merely
serve to dilute oxygen, which can lead to food spoilage, odors, and microbial growth. FreshPax Packets modify the package atmosphere by reducing oxygen levels below those possible with vacuum packaging and gas flushing.

Requirements for Optimal Use of FreshPax® Packets

- Adequate barrier – plastic film must be checked for its oxygen permeability. A good target is to use a barrier material transmitting <1 cc of oxygen/100 in2/24 hours or less (<15 cc of oxygen/m2/24 hours or less.).
- Hermetic seals – 3/8in seal width provides the best barrier.
- Package geometry – designed to allow free circulation of air around the product, as opposed to vacuum packaging.
- Food water activity – should be determined as closely as possible.
- Product packaging storage and distribution conditions.

*Mold has been shown to grow in 20 days at 25°C at 0.2% residual oxygen (From "Techniques for the Preservation of Food by Employment of an Oxygen Absorber," Nakamura and Hoshino, 1983

Packaging Method	Results	Benefit
FreshPax Packets	Reduces and maintains oxygen content in packaging to below **0.01%**	Limits growth of aerobic organisms and oxidative chemical reactions in packaging.
Vacuum and Back Flush	Reduces to only 0.1% residual oxygen	Temporarily controls microbial growth*

FreshPax Packet Chemistry	Ideal Applications	Water Activity (estimated)	Packet Sizes Available (cc of 02 Absorbed)
Type B	Moist or semi-moist foods	>0.70	Various sizes 10 - 3000
Type D	Dehydrated or dry foods	<0.70	Various sizes 10 - 3000
Type R	Refrigerated or where rapid deoxygenation is required	ALL	Various sizes

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