

SOLUTIONS FOR ETHYLENE REMOVAL



PURAFIL REMOVES ETHYLENE FOR FRESH FOOD AND FLOWER INDUSTRY



ABOUT ETHYLENE

Ethylene is an ever-present pollutant resulting from internal combustion engines, improperly vented greenhouse heaters, and industrial waste. Plants themselves also produce ethylene during or as a result of ripening, respiration, mechanical injury and disease and production of flower and plant tissues. Concentrations of ethylene ranging from a few parts per billion (ppb) to a few parts per million (ppm) can reduce plant vigor, shorten the life of various plant parts and reduce stock quality.

THE PROBLEM: ETHYLENE

The destructive properties of ethylene gas have presented a costly problem to industries involved in the handling and storage of cut flowers, plants, fruits, and vegetables. The most common problems include leaf and bloom senescence, premature ripening of fruits and vegetables, fading and wilting of flowers, leaf abscission, early sprouting in root vegetables, bitterness in vegetables, loss of green color in leafy vegetables such as cabbage as well as cucumbers, peppers and squash. Apples, apricots, cantaloupe, nectarines and pears are highly sensitive to ethylene and produce ethylene at a high rate, while berries, carrots and onions have low rates of ethylene production.

THE SOLUTION: PURAFIL

As the leading manufacturer of gas-phase air filtration systems, Purafil, Inc. has specialized in ethylene control for over 40 years.

Responding to the need for a new media with a higher removal capacity for ethylene, Purafil developed Purafil® SP media. Through a technological breakthrough, this patented media improves upon any comparable media by offering the highest level of active ingredient, sodium permanganate (NaMnO_4). Standard potassium permanganate (KMnO_4) media only use a 4% impregnation level; our unique manufacturing process allows an 12% impregnation level, while maintaining an optimum pore geometry within the pellet for the highest removal capacity available today (0.036 g/cc, 4.5% by weight).

In addition, Purafil® SP media does not desorb. Through an irreversible chemical reaction, Purafil® SP removes ethylene from the air by turning the gas into carbon dioxide and water.

Whether you need to control ethylene in product display cases, transport vessels, warehouses, or other storage areas, we have the system to meet your needs.



PURAFIL SP MEDIA

PURAFIL SACHETS

The Isolette Sorber is more than just a traditional sachet. Highly permeable, the sachet allows for quick ethylene uptake. Each sachet contains Purafil® SP media and offers up to three times the ethylene removal capacity of other sachets. Use Isolette Sorbers during shipping to reduce ethylene concentrations and maintain freshness. These sachets are available in two sizes. The small 2.75" x 3.5" Isolette Sorber contains approximately 10 grams of Purafil SP media and are sold in bulk. The larger 5" x 6" Fresh Air Sachet is individually packaged in a clear protective bag and contains approximately 87 grams of Purafil SP media that can last up to three months.



10 GRAM ISOLETTE SORBERS



87 GRAM FRESH AIR SACHETS

APPLYING PURAFIL FOR ETHYLENE CONTROL



PURAFIL'S CORROSIVE AIR SYSTEM

Purafil's Corrosive Air System (CA) recirculates air in storage warehouse applications, and is available in several size configurations to meet individual space and airflow requirements. The CA is a modular system that holds Purafil® SP media in MediaPAK™ disposable modules. As air passes through the system, ethylene concentrations are reduced to below threshold levels.

To maintain the quality of horticultural products and extend their storage time, Purafil systems prevent the buildup of ethylene produced in controlled atmosphere storage. While refrigeration and humidity control will slow ripening and decay, they will not halt ethylene production. A recirculation air system from Purafil reduces ethylene concentrations to below threshold levels.

If the ripening room is located in the storage area, Purafil recommends venting ethylene from the ripening room after the exposure period is complete. Even after venting, a Purafil recirculating air unit can help to reduce ethylene concentrations and halt the ripening process.

Installing Purafil systems in outlying rooms can also help to prevent ethylene from being released into storage, production, and service areas.

Purafil systems preserve the freshness of produce and flowers during shipping and storage by reducing ethylene concentrations in display cases, transport vessels, warehouses and other containers.

When you see signs of ethylene damage, think of Purafil. Our ethylene control systems can help you reduce losses, extend life, please customers, and save money.



PURAFIL® SP

ADVANTAGES

- Will not desorb
- UL Classified
- Will not support bacterial or fungal growth
- Can be tested for remaining service life
- Non-toxic and non-hazardous

PHYSICAL PROPERTIES

- Moisture Content: 35% Maximum
- Abrasion: 4.5% Maximum
- Sodium Permanganate Content: 12% Min.
- Crush Strength: 35% - 70%
- Bulk Density: 50 lbs/ft³ (0.8 g/cc) +5%