



Chrysal Ethylene Buster® Sachets – Ethylene Protection for Flowers, Bulbs & Plants

Overview: Chrysal Ethylene Buster® Sachets are a post-harvest treatment designed for ethylene-sensitive flowers, bulbs, and potted plants. Based on the active ingredient 1-MCP (1-Methylcyclopropene), this silver-free solution blocks ethylene receptors, helping prevent premature aging caused by both internal and external ethylene exposure.

Key Benefits:

- Prevents bud, leaf, and flower drop.
- Extends vase and shelf life of cut flowers, tulip bulbs, and potted plants.
- Enhances bud opening and visual performance.
- Works on both internally and externally produced ethylene.
- Safe for flowers, plants, and users.

Convenient Application:

- Delivered in permeable powdered sachets.
- Suitable for use in sealed boxes with plastic liners during storage and shipping.
- Easy application by dipping and placing sachets.
- Ideal for growers, bouquet makers, and transporters.

Cost Efficiency & Quality Assurance:

- Reduces flower and plant wastage.
- Extends shipping and selling periods.
- Prevents ethylene-related damage during transport.
- Delivers consistent performance across species.

Usage Instructions:

1. Dip each sachet in tap water.
2. Place the wetted sachets in the flower or plant box.
3. Immediately close the box to contain the treatment.
4. Keep the treatment area closed for at least 4 hours for full effect (During storage or shipping).

Usage Recommendations:

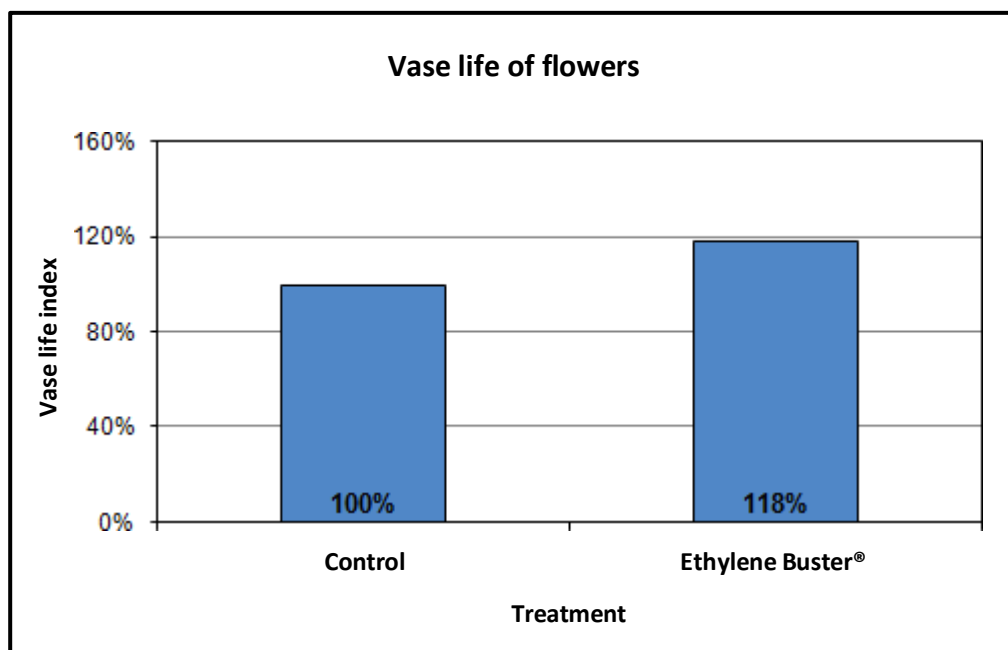
- **Storage:** Store in cool, dark conditions (41°F – 77°F / 5°C – 25°C).
- **Shelf Life:** 24 months in sealed packaging.
- **Dosage Guide:** See table below.



Box / Container Volume	Volume (ft ³)	Volume (m ³)	Sachets Required
Small	0 – 3	0 – 0.08	2 sachets
Medium	3 – 6	0.08 – 0.17	4 sachets
Large	6 – 9	0.17 – 0.25	6 sachets
XL	9 – 12	0.25 – 0.34	8 sachets
XXL	12 – 15	0.34 – 0.42	10 sachets

Test Results

The following graph shows the effect of Ethylene Buster® on the vase life of flowers compared to flowers without any ethylene treatment.



Tests show positive effect on the following ethylene sensitive flowers & plants:

Calathea
Campanula
Citrofortunella
Cyclamen
Cymbidium
Dendrobium Compactum
Dendrobium Nobile

Dianthus
Hibiscus Rosa-Sinensis
Kalanchoe
Miltoniopsis
Narcissus
Nephthytis
Nephrolepis

Pelargonium
Petunia
Phalaenopsis
Philodendron
Poinsettia (Euphorbia Pulcherima)
Rhipsalidopsis /
Schlumbergera / Zygocactus



Vase life of Dianthus 'Delphi'



Treatment: none
Total vase life: 9 days
Photo taken: day 12



Treatment: Ethylene Buster®
Total vase life: 12 days
Photo taken: day 12

Phalaenopsis

5 days transport simulation – Photo taken day 7 in store.



Control



Ethylene Buster®

Miltonia

5 days transport simulation – Photo taken day 7 in store.



Control



Ethylene Buster®

Dendrobium Nobile

3 days transport simulation – Photo taken day 8 in store.



Control



Ethylene Buster®

Test Results:

- **Dianthus 'Delphi'**: Vase life increased from 9 to 12 days.
- **Phalaenopsis & Miltonia**: Enhanced shelf appearance after transport simulation.
- **Dendrobium Nobile**: Improved flower retention and quality after 3-day transport.

Visual Observations:

Treated flowers and plants showed significant improvement in freshness and performance versus untreated controls during and after storage.

Registration:

Ethylene Buster® Sachets is available for sale and use in the following U.S. states:

Alabama
California
Florida
Illinois
Kentucky

Michigan
New Jersey
Ohio
Pennsylvania
South Carolina

Tennessee *Texas*
Utah
Virginia
Washington

Please feel free to contact Chrysal USA, www.chrysalusa.com, or contact your sales manager for more information.

Chrysal Ethylene Buster® Sachets offer a powerful and proven solution to protect ethylene-sensitive varieties and ensure top-quality presentation across the floral supply chain.

Ethylene Buster® – Test Protocol

Curious to see Ethylene Buster® in action? Follow this clear, structured protocol to evaluate its effectiveness.

Background

Ethylene is a plant hormone associated with aging symptoms, including leaf, bud, and flower drop, wilting, and accelerated fruit ripening. Damage from ethylene exposure intensifies with higher temperatures, prolonged exposure, or increased ethylene concentration.

Ethylene sources include:

- **External Ethylene:** Fruits, aging flowers, polluted air, exhaust fumes, and insulation materials in new trucks or buildings.
- **Internal Ethylene:** Produced by plants experiencing stress, such as prolonged darkness, significant temperature fluctuations, or transportation.

Materials Required

- 4 boxes (sealable)
- Ripening fruit (e.g., bananas or tomatoes)
- Plants treated with Ethylene Buster®
- Untreated control plants (for comparison)

Test Procedure

1. **Preparation:**
 - Choose at least 6 uniform plants per treatment group (treated and untreated).
 - Apply Ethylene Buster® according to usage guidelines provided on the product sheet.
 - Saturate soil completely with water and label each plant clearly by treatment group.

2. **Test Setup:**

Box No.	Contents	Treatment
1	Sealed, no fruit	None (Control)
2	Sealed, no fruit	Ethylene Buster® sachet
3	Sealed, with fruit (3-5 pcs)	None (Control)
4	Sealed, with fruit (3-5 pcs)	Ethylene Buster® sachet

3. **Creating Stress Conditions:**

- **Internal Ethylene Test:**
 - Option A: Place plants in sealed boxes without light at 68°F (20°C) for 7 days.
 - Option B: Subject plants to wide temperature fluctuations: 1 day at 46–50°F (8–10°C), followed by 3 days at 64–68°F (18–20°C).
- **External Ethylene Test:**
 - Place ripening fruit (bananas or tomatoes, 3–5 pieces) in boxes 3 and 4.



4. During the Test:

- Keep boxes sealed and separated, ideally in different rooms, for approximately 7 days. Do not open the boxes during this period.

5. Post-Test Assessment:

- After 4–7 days, transfer plants to a climate-controlled room (approximately 68°F/20°C and 60% humidity), ensuring equal conditions (light, airflow) for accurate comparison.
- Daily observations: Note flower opening, leaf drop, leaf yellowing, bud loss, and overall shelf life.
- Document plant condition with photographs.

6. Comparative Analysis:

- Evaluate differences between plants treated with Ethylene Buster® and untreated controls.
- Re-water plants as necessary during the observation period.

By following this protocol, you'll accurately assess the protective effects of Ethylene Buster® against ethylene damage.