

71297-2

10/17/2007

11/25



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

OCT 17 2007

Ann Beaulieu  
Director of Regulatory Affairs  
AgroFresh, Inc.  
100 Independence Mall West  
Philadelphia, PA 19105

**Subject: SmartFresh™**  
**EPA Registration No. 71297-2**  
**Label Amendment to add Non Agricultural Use Statement**  
**Application Date: August 24, 2007**

Dear Ms. Beaulieu:

The amendment referred to above, submitted in connection with registration under FIFRA section 3(c)(5), is acceptable provided that you:

1. Submit and/or cite all data required for registration/re-registration of your product under FIFRA section 3(c)(5) when the Agency requires all registrants of similar products to submit such data.
2. Submit five (5) copies of your final printed labeling before you release the product for shipment. Final printed labeling means the label or labeling of the product when distributed or sold. Clearly legible reproductions or photo reductions will be accepted for unusual labels, such as those silk-screened directly onto glass or metal containers or large bags or drum labels.

If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA section 6(e). Your release for shipment of the product bearing the amended labeling constitutes acceptance of these conditions.

If you have any questions contact Driss Benmhend at 703-308-9525 or by e-mail at: [Benmhend.driss@epa.gov](mailto:Benmhend.driss@epa.gov).

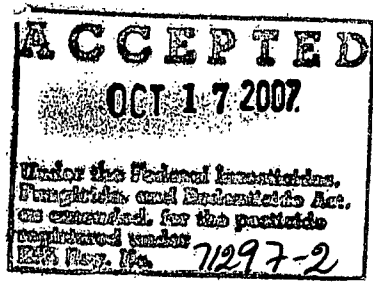
A stamped copy of the label is enclosed for your records.

Sincerely,

A handwritten signature in black ink, appearing to read "Linda A. Hollis".

Linda A. Hollis, Chief  
Biochemical Pesticides Branch  
Biopesticides and Pollution  
Prevention Division (7511P)

2/25



# Master Label

## SmartFresh™

A unique postharvest tool for counteracting many of the undesirable effects of both internal and external sources of ethylene on harvested fruit.

### ACTIVE INGREDIENT:

1-Methylcyclopropene.....3.3%

OTHER INGREDIENTS.....96.7%

TOTAL.....100.0%

**A: SUBLABEL – COMMERCIAL LABEL FOR THE TREATMENT OF APPLES, MELONS, TOMATOES, PEARS, AVOCADOS, MANGOES, PAPAYAS, KIWI FRUIT, PEACHES, NECTARINES , PLUMS, APRICOTS AND PERSIMMONS**

**B: SUBLABEL – COMMERCIAL LABEL FOR THE TREATMENT OF APPLES**

**C. SUBLABEL – COMMERCIAL LABEL FOR THE TREATMENT OF SMALL APPLE STORAGE ROOMS**

**EPA Reg. No. 71297-2**

Produced by: AgroFresh Inc.  
A subsidiary of Rohm and Haas Company  
Philadelphia, PA  
Tel: 215-592-3000

3/25

**SUBLABEL – COMMERCIAL LABEL FOR THE TREATMENT OF APPLES, MELONS, TOMATOES, PEARS, AVOCADOES, MANGOES, PAPAYAS, KIWIFRUIT, PEACHES, NECTARINES, PLUMS, APRICOTS, AND PERSIMMONS**

<b>SmartFresh™</b>	<b>AgroFresh Inc</b> A subsidiary of Rohm and Haas Company Philadelphia, PA. 19106 Tel: (215) 592-3000

**Active Ingredient:** 1-Methylcyclopropene ..... 3.3%  
**Other Ingredients:** ..... 96.7%  
**Total:** ..... 100.0%

**EPA REGISTRATION NO. 71297-2**  
**EPA EST. NO. 707-WA-001**

**NOTICE:** Before using this product, read the entire Precautionary Statements, Conditions of Sale and Warranty, Directions for Use, Use Restrictions and Storage and Disposal Instructions. If the Conditions of Sale and Warranty are not acceptable, return the product in its generating system unopened and unused within thirty days of purchase to the place of purchase.

**KEEP OUT OF REACH OF CHILDREN**

**CAUTION**

**FIRST AID**

**IF INHALED:** Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible.

**IF ON SKIN OR CLOTHING:** Take off contaminated clothing. Rinse skin immediately with plenty of water for 15- 20 minutes. Call a poison control center or doctor for treatment advice.

**IF IN EYES:** Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.

**IF SWALLOWED:** Call poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by the poison control center or doctor. Do not give anything by mouth to an unconscious person.

Have the product container or label with you when calling a poison control center or doctor, or going for treatment.

4/25

**Net Contents: SmartFresh™ Water Soluble Pouch Sizes**

0.009 oz	(0.25 grams)	0.45 oz	(12.9 grams)
0.012 oz	(0.35 grams)	0.63 oz	(17.8 grams)
0.018 oz	(0.5 grams)	0.87 oz	(24.6 grams)
0.025 oz	(0.7 grams)	1.2 oz	(34.0 grams)
0.035 oz	(1.0 grams)	1.7 oz	(46.9 grams)
0.046 oz	(1.3 grams)	2.3 oz	(64.7 grams)
0.064 oz	(1.8 grams)	3.2 oz	(89.3 grams)
0.09 oz	(2.5 grams)	4.3 oz	(123.2 grams)
0.12 oz	(3.5 grams)	5.5 oz	(155.3 grams)
0.17 oz	(4.9 grams)	6.6 oz	(187.9 grams)
0.22 oz	(6.3 grams)	7.8 oz	(220.0 grams)
0.27 oz	(7.7 grams)	8.6 oz	(244.6 grams)
0.32 oz	(9.1 grams)		

**PRECAUTIONARY STATEMENTS**

**HAZARDS TO HUMANS AND DOMESTIC ANIMALS**

**CAUTION**

Causes slight eye irritation. Harmful if absorbed through skin. Avoid contact with eyes, skin or clothing. Avoid breathing vapor. Wash thoroughly with soap and water after handling. Remove contaminated clothing and wash before reuse.

**PERSONAL PROTECTIVE EQUIPMENT (PPE)**

Applicators of this product must wear:

- Long-sleeved shirt and long pants
- Shoes plus socks
- Chemical-resistant gloves made of any waterproof material

Applicators and handlers must follow manufacturer's instructions for cleaning / maintaining PPE. If no such instructions exist for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

**Non-Agricultural Use Requirements**

The requirements in this box apply to uses of this product that are not within the scope of the Worker Protection Standard for agricultural pesticides (40 CFR Part 170).

Do not enter enclosed areas until the enclosed area has been vented unless wearing the appropriate PPE. Ventilation shall continue until after thirty (30) minutes of ventilation using fans or other mechanical ventilating systems.

PPE required for early entry into enclosed areas prior to venting is:

- Long-sleeved shirt and long pants
- Chemical-resistant gloves made of any waterproof material
- Shoes plus socks
- Respirator with an organic-vapor removing cartridge with a prefilter approved for pesticides (MSHA/NIOSH approval number prefix TC-23C), or a canister approved for pesticides (MSHA/NIOSH

5/125

approval number prefix TC-14G) or a NIOSH approved respirator with an organic vapor (OV) cartridge or canister with any N,R,P, or HE prefilter.

**CONDITIONS OF SALE AND WARRANTY**

AgroFresh, Inc warrants that the product conforms to its chemical description and is reasonably fit for the purpose stated on the label only when used in accordance with label directions under normal conditions of use. AgroFresh Inc **MAKES NO OTHER EXPRESS OR IMPLIED WARRANTIES EITHER OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE.** Handling, storage and use of the product by Buyer or User are beyond the control of AgroFresh Inc. and Seller. Risks such as crop injury, ineffectiveness or other unintended consequences resulting from, but not limited to, weather or soil conditions, presence of other materials, disease, pests, drift to other crops or property, or failure to follow label directions will be assumed by the Buyer or User. **IN NO CASE WILL AgroFresh OR SELLER BE HELD LIABLE FOR CONSEQUENTIAL, SPECIAL OR INDIRECT DAMAGES RESULTING FROM THE HANDLING, STORAGE OR USE OF THIS PRODUCT.**

**GENERAL INFORMATION**

SmartFresh™ is a powder that, when mixed with water in a proprietary generating system, releases the volatile active ingredient 1-methylcyclopropene (1-MCP).

SmartFresh™ is a unique postharvest tool for counteracting many of the undesirable effects of both internal (produced within the fruit) and external sources of ethylene on harvested fruit. By counteracting ethylene, SmartFresh™ provides many benefits to the fruit during transport and storage including:

- . Maintaining firmness
- . Maintaining titratable acidity
- . Preventing superficial scald and soft scald on pome fruit
- . Reducing internal ethylene production
- . Protection from external sources of ethylene
- . Reducing fruit respiration
- . Delaying ripening and senescence
- . Reducing incidence of peel greasiness in apples
- . Reducing incidence of core flush and mealiness in pome fruit
- . Reducing chilling injury

SmartFresh™ can be used immediately after harvest, prior to storage, prior to shipment and/or just prior to sale. SmartFresh™ is effective under both cool (below 55 °F, 13 °C) and warm (above 55°F, 13°C) temperature conditions. To realize maximum benefit in controlling senescence, products should be treated as soon as possible after harvest.

Harvested fruits must be exposed to the volatile active ingredient of SmartFresh™ in enclosed areas, such as storage rooms, greenhouses, coolers, shipping containers, enclosed truck trailers, or ambient temperature, refrigerated, or controlled atmosphere food storage facilities. This product is not intended for use outdoors or in other non-enclosed areas. These enclosed treatment areas should be gas tight as leakage will reduce SmartFresh™'s effectiveness.

## Directions For Use

It is a violation of federal law to use this product in a manner inconsistent with its labeling. Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your state or tribe, consult the agency responsible for pesticide regulation. All applicable directions, restrictions, precautions and conditions of sale and warranty are to be followed. This labeling must be in the user's possession during application.

### Fruit Storage Conditions

SmartFresh™ is compatible with and complementary to fruit stored under both controlled atmosphere and regular air fruit storage conditions. SmartFresh™ must be used in air tight treatment areas.

### Timing Of Harvest And Application

SmartFresh™ should be added to the treatment area containing fruit immediately after harvest, upon entering storage or in transit. To realize maximum benefit for optimum quality, fruit should be pre-cooled promptly and SmartFresh™ should be applied in the treatment area as soon after harvest as possible and before the climacteric peak of respiration has occurred. Best results from SmartFresh™ are obtained with fruit at the optimum maturity level for long term storage. After application, fruit not for immediate sale must be stored, according to good standard commercial practices, in either refrigerated air, or controlled atmosphere. Storage in controlled atmosphere is recommended for fruit that is to be held longer than 6 months.

It must be emphasized that maintaining the cold chain (keeping the fruit cool at all times) and strict adherence to phytosanitary practices remain essential in maintaining safe and high-quality fruit. For optimum control of superficial scald on pome fruits, SmartFresh™ must be applied within two weeks of harvest.

### APPLICATION METHOD

Prior to application, ensure that the treatment area can be properly and promptly sealed following application.

SmartFresh™ is applied by the use of proprietary generators which are available in two sizes: large and small. See Table 1 and Table 2 to select the appropriate size generator and SmartFresh™ pouches for the fruit and the size of the treatment area. Fill the treatment area with fruit. Place the appropriate generator on a stable surface of the treatment area in a position that would be within the flow of air from the internal refrigeration system.

Push the start button to activate the generator. With the generator running, add 2 gallons (8 liters) of water to the large generator, or 3 quarts (0.8 liters) of water to the small generator. Use water at a temperature between 20 degrees and 40 degrees Centigrade (68 to 104 degrees Fahrenheit). Remove the appropriate size SmartFresh™ water soluble pouches from the protective foil packets and drop the pouches into the water contained in the generator. Immediately leave the storage area and seal the door in order to contain the 1-MCP vapor and ensure the maximum efficacy of 1-MCP. The release of the 1-MCP to the area will start several minutes after the water soluble pouch is added to the generator.

After the area is sealed, post a sign on all of the entrances to the treatment area. The sign should read

**“CAUTION. Do not enter area. SmartFresh™ treatment in progress.”** The doors to the storage area should remain sealed for 24 hours to ensure effective SmartFresh™ treatment. Entrance to the room prior to 24 hours will invalidate the treatment. During the treatment, the internal refrigerated air circulation should be running to ensure good air circulation within the room. All vents to outside air should be closed, and any ethylene scrubbing devices or ozone generating equipment should be turned off. At the end of the SmartFresh™ treatment period, vent the treated room by opening the doors for a minimum of thirty minutes with continued full internal ventilation before allowing workers to enter. At the end of the room venting, remove the generator. The spent water contained in the generator can be disposed by pouring down a suitable drain. Treated fruit not intended for immediate sale should be stored according to good, standard commercial practices, in either refrigerated air or controlled atmosphere. Storage in controlled atmosphere conditions is recommended for fruit that is planned to be held longer than 6 months.

#### **Restrictions**

**Restricted Entry Period (REI):** 30 minutes after room has been vented

**Maximum season use rate:** One application at a maximum use rate of 1 ppm (volume/volume in air) as delivered by appropriate sized generator and pouches (see Table 1 and Table 2 for generator and pouch selection)

Do not smoke during the SmartFresh™ application.

For temperate treefruit (apples, pears, plums, apricots, peaches, nectarines and kiwifruit), apply SmartFresh™ within two weeks of harvest.

For tropical treefruits (avocados, mangoes, papayas, persimmons), tomatoes and melons, apply within three days of harvest

Do not treat fruit stressed from poor fertility, heat, drought or sunscald

Do not treat fruit that have had a pre-harvest application of ethephon

8/25

**TABLE 1. Selection Of SmartFresh™ Pouches For Treatment Of Apples**

Selection based on volume of treatment area. Calculate the treatment area volume by measuring the length, width and height of the treatment area in feet. Multiply these three numbers together to obtain the treatment area volume in cubic feet. For example, if a room is 4 feet wide , 5 feet long and 5 feet high, the treatment area volume equals 100 cubic feet.

Treatment Area Size (empty volume)	SmartFresh™ Pouch Size	
	ft <sup>3</sup>	Oz.
130 - 180	0.009	0.25
180 - 260	0.012	0.35
260 - 360	0.018	0.5
360 - 520	0.025	0.7
520 - 670	0.035	1.0
670 - 930	0.046	1.3
930 - 1300	0.064	1.8
1,300 - 1,900	0.09	2.5
1,900 - 2,600	0.12	3.5
2,600 - 3,300	0.17	4.9
3,300 - 4,000	0.22	6.3
4,000 - 4,800	0.27	7.7
4,800 - 6,700	0.32	9.1
6,700 - 9,300	0.45	12.9
9,300 - 12,800	0.63	17.8
12,800 - 16,000	0.87	24.6
16,000 - 18,000	1.04	29.5*♦
18,000 - 22,000	1.2	34.0*
22,000 - 25,000	1.37	38.9*♦
25,000 - 30,000	1.7	46.9*
30,000 - 34,000	2.02	56.0*♦
34,000 - 42,000	2.3	64.7*
42,000 - 46,000	2.62	73.8*♦
46,000 - 58,000	3.2	89.3*
58,000 - 64,000	3.65	102.2*♦
64,000 - 80,000	4.3	123.2*
80,000 - 82,000	4.93	141.0*♦
82,000 - 100,000	5.5	155.3*
100,000 - 118,000	6.6	187.9*
118,000 - 136,000	7.8	220.0*
136,000 - 154,000	8.6	244.6*

\* These pouch sizes should only be used with the large (2 gallon capacity) generator  
 ♦ Use multiple pouches for these treatments.

**Note:** Use multiple generators and pouches for treatment area sizes greater than those listed in the above table



9/25

**Table 2: Selection Of SmartFresh™ Pouch Size For Treatment Of Melons, Tomatoes, Pears, Avocados, Mangoes, Papayas, Kiwifruit, Peaches, Nectarines, Plums, Apricots and Persimmons**

Selection based on volume of treatment area. Calculate the treatment area volume by measuring the length, width and height of the treatment area in feet. Multiply these three numbers together to obtain the treatment area volume in cubic feet. For example, if a room is 4 feet wide, 5 feet long and 5 feet high, the treatment area volume equals 100 cubic feet.

Treatment Area Size (empty volume)	SmartFresh™ Pouch Size	
	Ft <sup>3</sup>	Oz.
210 - 300	0.009	0.25
300 - 420	0.012	0.35
420 - 600	0.018	0.50
600 - 830	0.025	0.7
830 - 1,180	0.035	1.0
1,180 - 1,550	0.046	1.3
1,550 - 2,100	0.064	1.8
2,100 - 3,000	0.09	2.5
3,000 - 4,200	0.12	3.5
4,200 - 5,600	0.17	4.9
5,600 - 7,100	0.22	6.3
7,100 - 8,600	0.27	7.7
8,600 - 11,100	0.32	9.1
11,100 - 15,700	0.45	12.9
15,700 - 21,700	0.63	17.8
21,700 - 30,000	0.87	24.6
30,000 - 41,400	1.2	34.0*
41,400 - 57,200	1.7	46.9*
57,200 - 78,900	2.3	64.7*
78,900 - 113,900	3.2	89.3*
113,900 - 146,500	4.3	123.2*
146,500 - 180,200	5.5	155.3*
180,200 - 216,500	6.6	187.9*
216,500 - 237,900	7.8	220.0*
237,900 - 273,700	8.6	244.6*

\* These pouch sizes should only be used with the large size (2 gallon capacity) generator

**Note:** Use multiple generators and pouches for treatment area sizes greater than those listed in the above table.

10/  
25

## **STORAGE AND DISPOSAL**

Do not contaminate water, food or feed by storage or disposal.

**Pesticide Storage:** Store in original packaging in a cool, dry place.

**Pesticide Disposal:** Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

**Container Disposal:** Triple rinse the generator with water after use. Instructions for returning the used generators will be provided by AgroFresh Inc.

*SmartFresh™ is a registered trademark of AgroFresh Inc./Rohm and Haas Company*

**AgroFresh Inc.**  
**A Fully-Owned Subsidiary of Rohm and Haas Company**  
**100 Independence Mall West**  
**Philadelphia, PA. 19106**  
**(215) 592-3000**

11/25

**SUBLABEL – COMMERCIAL LABEL FOR THE TREATMENT OF APPLES**

<b>SmartFresh™</b>	AgroFresh Inc A subsidiary of Rohm and Haas Company Philadelphia, PA. 19106 Tel: (215) 592-3000

**Active Ingredient:** 1-Methylcyclopropene ..... 3.3%  
**Other Ingredients:** ..... 96.7%  
**Total:** ..... 100.0%

**EPA REGISTRATION NO. 71297-2**  
**EPA EST. NO. 707-WA-001**

**NOTICE:** Before using this product, read the entire Precautionary Statements, Conditions of Sale and Warranty, Directions for Use, Use Restrictions and Storage and Disposal Instructions. If the Conditions of Sale and Warranty are not acceptable, return the product in its generating system unopened and unused within thirty days of purchase to the place of purchase.

**KEEP OUT OF REACH OF CHILDREN**

**CAUTION**

**FIRST AID**

**IF INHALED:** Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. Call a poison control center or doctor for further treatment advice.

**IF ON SKIN OR CLOTHING:** Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

**IF IN EYES:** Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.

**IF SWALLOWED:** Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by the poison control center or doctor. Do not give anything by mouth to an unconscious person.

Have the product container or label with you when calling a poison control center or doctor, or going for treatment.

12/25

**Net Contents:**

0.009 oz	(0.25 grams)	0.45 oz	(12.9grams)
0.012 oz	(0.35 grams)	0.63 oz	(17.8 grams)
0.018 oz	(0.5 grams)	0.87 oz	(24.6 grams)
0.025 oz	(0.7 grams)	1.2 oz	(34.0 grams)
0.035 oz	(1.0 grams)	1.7 oz	(46.9 grams)
0.046 oz	(1.3 grams)	2.3 oz	(64.7 grams)
0.064 oz	(1.8 grams)	3.2 oz	(89.3 grams)
0.09 oz	(2.5 grams)	4.3 oz	(123.2 grams)
0.12 oz	(3.5 grams)	5.5 oz	(155.3 grams)
0.17 oz	(4.9 grams)	6.6 oz	(187.9 grams)
0.22 oz	(6.3 grams)	7.8 oz	(220.0 grams)
0.27 oz	(7.7 grams)	8.6 oz	(244.6 grams)
0.32 oz	(9.1 grams)		

**PRECAUTIONARY STATEMENTS**

**HAZARDS TO HUMANS AND DOMESTIC ANIMALS**

**CAUTION**

Causes slight eye irritation. Harmful if absorbed through skin. Avoid contact with eyes, skin or clothing. Avoid breathing vapor. Wash thoroughly with soap and water after handling. Remove contaminated clothing and wash before reuse.

**PERSONAL PROTECTIVE EQUIPMENT (PPE)**

Applicators of this product must wear:

- Long-sleeved shirt and long pants
- Shoes plus socks
- Chemical-resistant gloves made of any waterproof material

Applicators and handlers must follow manufacturer's instructions for cleaning / maintaining PPE. If no such instructions exist for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

**Non-Agricultural Use Requirements**

The requirements in this box apply to uses of this product that are not within the scope of the Worker Protection Standard for agricultural pesticides (40 CFR Part 170).

Do not enter enclosed areas until the enclosed area has been vented unless wearing the appropriate PPE. Ventilation shall continue until after thirty (30) minutes of ventilation using fans or other mechanical ventilating systems.

PPE required for early entry into enclosed areas prior to venting is:

- Long-sleeved shirt and long pants
- Chemical-resistant gloves made of any waterproof material

13/  
25

- Shoes plus socks
- Respirator with an organic-vapor removing cartridge with a prefilter approved for pesticides (MSHA/NIOSH approval number prefix TC-23C), or a canister approved for pesticides (MSHA/NIOSH approval number prefix TC-14G) or a NIOSH approved respirator with an organic vapor (OV) cartridge or canister with any N,R,P, or HE prefilter.

14/  
25

#### CONDITIONS OF SALE AND WARRANTY

AgroFresh, Inc warrants that the product conforms to its chemical description and is reasonably fit for the purpose stated on the label only when used in accordance with label directions under normal conditions of use. AgroFresh Inc **MAKES NO OTHER EXPRESS OR IMPLIED WARRANTIES EITHER OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE.** Handling, storage and use of the product by Buyer or User are beyond the control of AgroFresh Inc. and Seller. Risks such as crop injury, ineffectiveness or other unintended consequences resulting from, but not limited to, weather or soil conditions, presence of other materials, disease, pests, drift to other crops or property, or failure to follow label directions will be assumed by the Buyer or User. **IN NO CASE WILL AgroFresh OR SELLER BE HELD LIABLE FOR CONSEQUENTIAL, SPECIAL OR INDIRECT DAMAGES RESULTING FROM THE HANDLING, STORAGE OR USE OF THIS PRODUCT.**

#### GENERAL INFORMATION

SmartFresh™ is a powder that, when mixed with water in a proprietary generating system, releases the volatile active ingredient 1-methylcyclopropene (1-MCP).

SmartFresh™ is a unique postharvest tool for counteracting many of the undesirable effects of both internal (produced within the apple) and external sources of ethylene on harvested apples. By counteracting ethylene, SmartFresh™ provides many benefits to the fruit during transport and storage including:

- . Maintaining firmness
- . Maintaining titratable acidity
- . Preventing superficial scald and soft scald on apples
- . Reducing internal ethylene production
- . Protection from external sources of ethylene
- . Reducing apple respiration
- . Delaying ripening and senescence
- . Reducing incidence of peel greasiness in apples
- . Reducing incidence of core flush and mealiness in apples
- . Reducing chilling injury

SmartFresh™ can be used immediately after harvest, prior to storage, prior to shipment and/or just prior to sale. SmartFresh™ is effective under both cool (below 55 °F, 13 °C) and warm (above 55°F, 13°C) temperature conditions. To realize maximum benefit in controlling senescence, products should be treated as soon as possible after harvest.

Harvested apples must be exposed to the volatile active ingredient of SmartFresh™ in enclosed areas, such as storage rooms, greenhouses, coolers, shipping containers, enclosed truck trailers, or ambient temperature, refrigerated, or controlled atmosphere food storage facilities. This product is not intended for use outdoors or in other non-enclosed areas. These enclosed treatment areas should be gas tight as leakage will reduce SmartFresh™'s effectiveness.

15/25

## Directions For Use

It is a violation of federal law to use this product in a manner inconsistent with its labeling . Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your state or tribe, consult the agency responsible for pesticide regulation. All applicable directions, restrictions, precautions and conditions of sale and warranty are to be followed. This labeling must be in the user's possession during application.

### Apple Storage Conditions

SmartFresh™ is compatible with and complementary to apples stored under both controlled atmosphere and regular air apple storage conditions. SmartFresh™ must be used in air tight treatment areas.

### Timing Of Harvest And Application

SmartFresh™ should be added to the treatment area containing apples immediately after harvest, upon entering storage or in transit. To realize maximum benefit for optimum quality, apples should be pre-cooled promptly and SmartFresh™ should be applied in the treatment area as soon after harvest as possible and before the climacteric peak of respiration has occurred. Best results from SmartFresh™ are obtained with apples at the optimum maturity level for long term storage. After application, apples not for immediate sale must be stored, according to good standard commercial practices, in either refrigerated air or controlled atmosphere. Storage in controlled atmosphere is recommended for apples that are to be held longer than 6 months.

It must be emphasized that maintaining the cold chain (keeping the apples cool at all times) and strict adherence to phytosanitary practices remain essential in maintaining safe and high-quality apples. For optimum control of superficial scald on apples, SmartFresh™ must be applied within two weeks of harvest.

### APPLICATION METHOD

Prior to application, ensure that the treatment area can be properly and promptly sealed following application.

SmartFresh™ is applied by the use of proprietary generators which are available in two sizes: large and small. See Table 1 to select the appropriate size generator and SmartFresh™ pouches for apples and the size of the treatment area. Fill the treatment area with apples. Place the appropriate generator on a stable surface of the treatment area in a position that would be within the flow of air from the internal refrigeration system.

Push the start button to activate the generator. With the generator running, add 2 gallons (8 liters) of water to the large generator or 3 quarts (0.8 liter) to the small generator. Use water at a temperature between 20 degrees and 40 degrees Centigrade (68 to 104 degrees Fahrenheit) to the generator. Remove the appropriate size SmartFresh™ water soluble pouches from the protective foil packets and drop the water soluble pouches into the water contained in the generator. Immediately leave the storage area and seal the door in order to contain the 1-MCP vapor and ensure the maximum efficacy of 1-MCP. The release of the 1-MCP to the area will start several minutes after the water soluble pouch is added to the generator.

After the area is sealed, post a sign on all of the entrances to the treatment area. The sign should read "CAUTION. Do not enter area. SmartFresh™ treatment in progress." The doors to the storage area

16/  
25

should remain sealed for 24 hours to ensure effective SmartFresh™ treatment. Entrance to the room prior to 24 hours will invalidate the treatment. During the treatment, the internal refrigerated air circulation should be running to ensure good air circulation within the room. All vents to outside air should be closed, and any ethylene scrubbing devices or ozone generating equipment should be turned off. At the end of the SmartFresh™ treatment period, vent the treated room by opening the doors for a minimum of thirty minutes with continued full internal ventilation before allowing workers to enter. At the end of the room venting, remove the generator. The spent water contained in the generator can be disposed by pouring down a suitable drain. Treated apples not intended for immediate sale should be stored according to good, standard commercial practices, in either refrigerated air or controlled atmosphere. Storage in controlled atmosphere conditions is recommended for apples that is planned to be held longer than 6 months.

### **Restrictions**

**Restricted Entry Period (REI):** 30 minutes after room has been vented

**Maximum season use rate:** One application at a maximum use rate of 1 ppm.(volume/volume in air) as delivered by appropriate sized generator and pouches (see Table 1 for generator and pouch selection)

Do not smoke during the SmartFresh™ application.

Apply SmartFresh™ within two weeks of harvest

Do not treat apples stressed from poor fertility, heat, drought or sunscald

Do not treat apples that have had a pre-harvest application of ethephon



17/  
25

**TABLE 1. Selection Of SmartFresh™ Pouches For Treatment Of Apples**

Selection based on volume of treatment area. Calculate the treatment area volume by measuring the length, width and height of the treatment area in feet. Multiply these three numbers together to obtain the treatment area volume in cubic feet. For example, if a room is 4 feet wide , 5 feet long and 5 feet high, the treatment area volume equals 100 cubic feet.

Treatment Area Size (empty volume)	SmartFresh™ Pouch Size	
	ft <sup>3</sup>	Oz.
130 - 180	0.009	0.25
180 - 260	0.012	0.35
260 - 360	0.018	0.5
360 - 520	0.025	0.7
520 - 670	0.035	1.0
670 - 930	0.046	1.3
930 - 1300	0.064	1.8
1,300 - 1,900	0.09	2.5
1,900 - 2,600	0.12	3.5
2,600 - 3,300	0.17	4.9
3,300 - 4,000	0.22	6.3
4,000 - 4,800	0.27	7.7
4,800 - 6,700	0.32	9.1
6,700 - 9,300	0.45	12.9
9,300 - 12,800	0.63	17.8
12,800 - 16,000	0.87	24.6
16,000 - 18,000	1.04	29.5*♦
18,000 - 22,000	1.2	34.0*
22,000 - 25,000	1.37	38.9*♦
25,000 - 30,000	1.7	46.9*
30,000 - 34,000	2.02	56.0*♦
34,000 - 42,000	2.3	64.7*
42,000 - 46,000	2.62	73.8*♦
46,000 - 58,000	3.2	89.3*
58,000 - 64,000	3.65	102.2*♦
64,000 - 80,000	4.3	123.2*
80,000 - 82,000	4.93	141.0*♦
82,000 - 100,000	5.5	155.3*
100,000 - 118,000	6.6	187.9*
118,000 - 136,000	7.8	220.0*
136,000 - 154,000	8.6	244.6*

\* These pouch sizes should only be used with the large (2 gallon capacity) generator  
♦ Use multiple pouches for these treatments.

**Note:** Use multiple generators and pouches for treatment areas sizes greater than those listed in the above table

18/  
25

**STORAGE AND DISPOSAL**

Do not contaminate water, food or feed by storage or disposal.

**Pesticide Storage:** Store in original packaging in a cool, dry place.

**Pesticide Disposal:** Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

**Container Disposal:** Triple rinse the generator with water after use. Instructions for returning the used generators will be provided by AgroFresh Inc.

*SmartFresh™ is a registered trademark of AgroFresh Inc./Rohm and Haas Company*

**AgroFresh Inc.**  
**A Fully-Owned Subsidiary of Rohm and Haas Company**  
**100 Independence Mall West**  
**Philadelphia, PA. 19106**  
**(215) 592-3000**

19/  
125

**SUBLABEL – COMMERCIAL LABEL FOR THE TREATMENT OF  
SMALL APPLE STORAGE ROOMS**

<b>SmartFresh™ Singles</b>	<b>AgroFresh Inc</b>
	A subsidiary of Rohm and Haas Company Philadelphia, PA. 19106 Tel: (215) 592-3000

**Active Ingredient:** 1-Methylcyclopropene ..... 3.3%  
**Other Ingredients:** ..... 96.7%  
**Total:** ..... 100.0%

**EPA REGISTRATION NO. 71297-2**  
**EPA EST. NO. 707-WA-001**

**NOTICE:** Before using this product, read the entire Precautionary Statements, Conditions of Sale and Warranty, Directions for Use, Use Restrictions and Storage and Disposal Instructions. If the Conditions of Sale and Warranty are not acceptable, return the product in its generating system unopened and unused within thirty days of purchase to the place of purchase.

<p><b>KEEP OUT OF REACH OF CHILDREN</b></p> <p><b>CAUTION</b></p> <p><b>FIRST AID</b></p> <p><b>IF INHALED:</b> Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth if possible. Call a poison control center or doctor for further treatment advice.</p> <p><b>IF ON SKIN OR CLOTHING:</b> Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.</p> <p><b>IF IN EYES:</b> Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.</p> <p><b>IF SWALLOWED:</b> Call poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by the poison control center or doctor. Do not give anything by mouth to an unconscious person.</p> <p>Have the product container or label with you when calling a poison control center or doctor, or going for treatment.</p>
--

**Net Contents:** 3 water soluble pouches containing 0.07 ounces (2 grams) each  
(0.21 ounces total; 6 grams total)

20/125

## PRECAUTIONARY STATEMENTS

### HAZARDS TO HUMANS AND DOMESTIC ANIMALS

#### CAUTION

Causes slight eye irritation. Harmful if absorbed through skin. Avoid contact with eyes, skin or clothing. Avoid breathing vapor. Wash thoroughly with soap and water after handling. Remove contaminated clothing and wash before reuse.

#### PERSONAL PROTECTIVE EQUIPMENT (PPE)

Applicators of this product must wear:

- Long-sleeved shirt and long pants
- Shoes plus socks
- Chemical-resistant gloves made of any waterproof material

Applicators and handlers must follow manufacturer's instructions for cleaning / maintaining PPE. If no such instructions exist for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

#### Non-Agricultural Use Requirements

The requirements in this box apply to uses of this product that are not within the scope of the Worker Protection Standard for agricultural pesticides (40 CFR Part 170).

Do not enter enclosed areas until the enclosed area has been vented unless wearing the appropriate PPE. Ventilation shall continue until after thirty (30) minutes of ventilation using fans or other mechanical ventilating systems.

PPE required for early entry into enclosed areas prior to venting is:

- Long-sleeved shirt and long pants
- Chemical-resistant gloves made of any waterproof material
- Shoes plus socks
- Respirator with an organic-vapor removing cartridge with a prefilter approved for pesticides (MSHA/NIOSH approval number prefix TC-23C), or a canister approved for pesticides (MSHA/NIOSH approval number prefix TC-14G) or a NIOSH approved respirator with an organic vapor (OV) cartridge or canister with any N,R,P, or HE prefilter.

21/25

#### CONDITIONS OF SALE AND WARRANTY

AgroFresh, Inc warrants that the product conforms to its chemical description and is reasonably fit for the purpose stated on the label only when used in accordance with label directions under normal conditions of use. AgroFresh Inc **MAKES NO OTHER EXPRESS OR IMPLIED WARRANTIES EITHER OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE.** Handling, storage and use of the product by Buyer or User are beyond the control of AgroFresh Inc. and Seller. Risks such as crop injury, ineffectiveness or other unintended consequences resulting from, but not limited to, weather or soil conditions, presence of other materials, disease, pests, drift to other crops or property, or failure to follow label directions will be assumed by the Buyer or User. **IN NO CASE WILL AgroFresh OR SELLER BE HELD LIABLE FOR CONSEQUENTIAL, SPECIAL OR INDIRECT DAMAGES RESULTING FROM THE HANDLING, STORAGE OR USE OF THIS PRODUCT.**

#### GENERAL INFORMATION

SmartFresh™ is a powder that, when mixed with water in a proprietary generating system, releases the volatile active ingredient 1-methylcyclopropene (1-MCP).

SmartFresh™ is a unique postharvest tool for counteracting many of the undesirable effects of both internal (produced within the apple) and external sources of ethylene on harvested apples. By counteracting ethylene, SmartFresh™ provides many benefits to the fruit during transport and storage including:

- . Maintaining firmness
- . Maintaining titratable acidity
- . Preventing superficial scald and soft scald on apples
- . Reducing internal ethylene production
- . Protection from external sources of ethylene
- . Reducing apple respiration
- . Delaying ripening and senescence
- . Reducing incidence of peel greasiness in apples
- . Reducing incidence of core flush and mealiness in apples
- . Reducing chilling injury

SmartFresh™ can be used immediately after harvest, prior to storage, prior to shipment and/or just prior to sale. SmartFresh™ is effective under both cool (below 55 °F, 13 °C) and warm (above 55°F, 13°C) temperature conditions. To realize maximum benefit in controlling senescence, products should be treated as soon as possible after harvest.

Harvested apples must be exposed to the volatile active ingredient of SmartFresh™ in enclosed areas, such as storage rooms, greenhouses, coolers, shipping containers, enclosed truck trailers, or ambient temperature, refrigerated, or controlled atmosphere food storage facilities. This product is not intended for use outdoors or in other non-enclosed areas. These enclosed treatment areas should be gas tight as leakage will reduce SmartFresh™'s effectiveness.

22/  
25

## Directions For Use

It is a violation of federal law to use this product in a manner inconsistent with its labeling. Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your state or tribe, consult the agency responsible for pesticide regulation. All applicable directions, restrictions, precautions and conditions of sale and warranty are to be followed. This labeling must be in the user's possession during application.

### Apple Storage Conditions

SmartFresh™ is compatible with and complementary to apples stored under both controlled atmosphere and regular air apple storage conditions. SmartFresh™ must be used in air tight treatment areas.

### Timing Of Harvest And Application

SmartFresh™ should be added to the treatment area containing apples immediately after harvest, upon entering storage or in transit. To realize maximum benefit for optimum quality, apples should be pre-cooled promptly and SmartFresh™ should be applied in the treatment area as soon after harvest as possible and before the climacteric peak of respiration has occurred. Best results from SmartFresh™ are obtained with apples at the optimum maturity level for long term storage. After application, apples not for immediate sale must be stored, according to good standard commercial practices, in either refrigerated air or controlled atmosphere. Storage in controlled atmosphere is recommended for apples that are to be held longer than 6 months.

It must be emphasized that maintaining the cold chain (keeping the apples cool at all times) and strict adherence to phytosanitary practices remain essential in maintaining safe and high-quality apples. For optimum control of superficial scald on apples, SmartFresh™ must be applied within two weeks of harvest.

### APPLICATION METHOD

Prior to application, ensure that the treatment area can be properly and promptly sealed following application.

SmartFresh™ is applied by the use of a proprietary dispenser. See Table 1 to select the appropriate number of SmartFresh™ Singles and dispensers for apples and the size of the treatment area. Fill the treatment area with apples. Place the appropriate number of dispensers on a stable, level surface of the treatment area in a position that would be within the flow of air from the internal refrigeration system.

Remove the lid and seal from the dispenser. Open the bag that contains the SmartFresh™ Singles. Place the appropriate number of Singles into the appropriate number of dispensers. Use one dispenser for 1 – 3 Singles, two dispensers for 4 – 6 Singles, three dispensers for 7 – 9 Singles, etc. However many dispensers are used, only use a maximum of three Singles per dispenser. Add ½ gallon (2 liters) of water at a temperature between 20 degrees and 40 degrees Centigrade (68 to 104 degrees Fahrenheit) to each dispenser. Do not use cold water. Immediately leave the storage area and seal the door in order to contain the 1-MCP vapor and ensure the maximum efficacy of 1-MCP. The release of the 1-MCP to the area will start several minutes after the water is added to the dispenser. Reseal unused Singles in the bag and store in a cool dry place for future use.

After the area is sealed, post a sign on all of the entrances to the treatment area. The sign should read

23/  
25

**“CAUTION. Do not enter area. SmartFresh™ treatment in progress.”** The doors to the storage area should remain sealed for 24 hours to ensure effective SmartFresh™ treatment. Entrance to the room prior to 24 hours will invalidate the treatment. During the treatment, the internal refrigerated air circulation should be running to ensure good air circulation within the room. All vents to outside air should be closed, and any ethylene scrubbing devices or ozone generating equipment should be turned off. At the end of the SmartFresh™ treatment period, vent the treated room by opening the doors for a minimum of thirty minutes with continued full internal ventilation before allowing workers to enter. At the end of the room venting, remove the dispenser(s). The spent water contained in the dispenser(s) can be disposed by pouring down a suitable drain. Treated apples not intended for immediate sale should be stored according to good, standard commercial practices, in either refrigerated air or controlled atmosphere. Storage in controlled atmosphere conditions is recommended for apples that are planned to be held longer than 6 months.

**Restrictions**

**Restricted Entry Period (REI):** 30 minutes after room has been vented

**Maximum season use rate:** One application at a maximum use rate of 1 ppm (volume/volume in air) as delivered by appropriate number of Singles and dispensers (see Table 1 for Singles and dispenser selection)

Do not smoke during the SmartFresh™ application.

Apply SmartFresh™ within two weeks of harvest

Do not treat apples stressed from poor fertility, heat, drought or sunscald

Do not treat apples that have had a pre-harvest application of ethephon

24/  
125

**TABLE 1. Selection Of Singles and Dispensers For Treatment Of Apples**

Selection based on volume of treatment area. Calculate the treatment area volume by measuring the length, width and height of the treatment area in feet. Multiply these three numbers together to obtain the treatment area volume in cubic feet. For example, if a room is 4 feet wide, 5 feet long and 5 feet high, the treatment area volume equals 100 cubic feet.

Treatment Area Size (empty volume)	Number of SmartFresh™ Singles Required	Number of Dispensers Required**
ft <sup>3</sup>		
1,000 – 1,500	1	1
2,000 – 2,900	2	1
3,000 – 4,000	3	1
4,000 – 5,000	4	2
5,000 – 6,000	5	2
6,000 – 7,000	6	2
7,000 – 8,000	7	3
8,000 – 9,000	8	3
9,000 – 10,000	9	3
10,000 – 11,000	10	4
11,000 – 12,000	11	4
12,000 – 13,000	12	4
13,000 – 14,000	13	5
14,000 – 15,000	14	5
15,000 – 16,000	15	5
16,000 – 17,000	16	6
17,000 – 18,000	17	6
18,000 – 19,000*	16	6

\* For larger treatment area, continue to extrapolate, with each SmartFresh™ Single adding an additional 1000 ft<sup>3</sup> to the treatment area size.

\*\* Maximum of 3 Singles per dispenser



25/  
125

## **STORAGE AND DISPOSAL**

Do not contaminate water, food or feed by storage or disposal.

**Pesticide Storage:** Store in original packaging in a cool, dry place.

**Pesticide Disposal:** Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

**Container Disposal:** Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in sanitary landfill, or incineration, or if allowed by state and local authorities, by burning. If burned, stay out of smoke.

*SmartFresh™ is a registered trademark of AgroFresh Inc./Rohm and Haas Company*

**AgroFresh Inc.**  
**A Fully-Owned Subsidiary of Rohm and Haas Company**  
**100 Independence Mall West**  
**Philadelphia, PA. 19106**  
**(215) 592-3000**