



U.S. ENVIRONMENTAL PROTECTION AGENCY  
Office of Pesticide Programs  
Biopesticides and Pollution Prevention Division (7511P)  
1200 Pennsylvania Ave., N.W.  
Washington, D.C. 20460

EPA Reg. Number:

92717-1

Date of Issuance:

5/29/2020

NOTICE OF PESTICIDE:

Registration  
 Reregistration  
(under FIFRA, as amended)

Term of Issuance:

Unconditional

Name of Pesticide Product:

Restrain Generator Fuel

Name and Address of Registrant (include ZIP Code):

Restrain Company, Ltd.  
Unit 7, The Forum, Minerva Business Park, Lynch Wood  
PE2 6FT Peterborough, England

**Note:** Changes in labeling differing in substance from that accepted in connection with this registration must be submitted to and accepted by the Biopesticides and Pollution Prevention Division prior to use of the label in commerce. In any correspondence on this product, always refer to the above EPA Registration Number.

On the basis of information furnished by the registrant, the above named pesticide is hereby registered under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA or the Act).

Registration is in no way to be construed as an endorsement or recommendation of this product by the U.S. Environmental Protection Agency (EPA). In order to protect health and the environment, the Administrator, on his or her motion, may at any time suspend or cancel the registration of a pesticide in accordance with the Act. The acceptance of any name in connection with the registration of a product under the Act is not to be construed as giving the registrant a right to exclusive use of the name or to its use if it has been covered by others.

This product is unconditionally registered in accordance with FIFRA section 3(c)(5) provided that you:

1. Submit and/or cite all data required for registration or registration review of your product when the EPA requires all registrants of similar products to submit such data.
2. Submit storage stability and corrosion characteristics (Guidelines 830.6317 and 830.6320) data as these data requirements are not satisfied. A one-year study is required to satisfy these data requirements. You have 18 months from the date of this registration to provide these data to the EPA.

Signature of Approving Official:

Andrew Bryceland, Team Leader  
Biochemical Pesticides Branch  
Biopesticides and Pollution Prevention Division (7511P)  
Office of Pesticide Programs

Date:

5/29/2020

3. Make the following labeling change before you release this product for shipment:
  - Revise the EPA Registration Number to read, “EPA Reg. No. 92717-1.”
4. Submit one (1) copy of the final printed labeling for the record before you release this product for shipment.

Should you wish to add/retain a reference to your company’s website on your label, then please be aware that the website becomes labeling under FIFRA and is subject to review by the EPA. If the website is false or misleading, the product will be considered to be misbranded and sale or distribution of the product is unlawful under FIFRA section 12(a)(1)(E). 40 CFR § 156.10(a)(5) lists examples of statements the EPA may consider false or misleading. In addition, regardless of whether a website is referenced on your product’s label, claims made on the website may not substantially differ from those claims approved through the registration process. Therefore, should the EPA find or if it is brought to our attention that a website contains false or misleading statements or claims substantially differing from the EPA-approved registration, the website will be referred to the EPA’s Office of Enforcement and Compliance Assurance.

Your release for shipment of this product constitutes acceptance of these terms. If these terms are not complied with, this registration will be subject to cancellation in accordance with FIFRA section 6. A stamped copy of the labeling is enclosed for your records. Please also note that the record for this product currently contains the following acceptable Confidential Statements of Formula (CSFs):

- Basic Pre-formulation of Restrain Generator Fuel CSF dated 08/28/2019
- Basic Post-formulation of Restrain Generator Fuel CSF dated 03/03/2020

Any CSFs other than those listed above are superseded.

If you have any questions, please contact Menyon Adams of my team by phone at (703) 347-8496 or via email at [adams.menyon@epa.gov](mailto:adams.menyon@epa.gov).

Sincerely,



Andrew Bryceland, Team Leader  
Biochemical Pesticides Branch  
Biopesticides and Pollution  
Prevention Division (7511P)  
Office of Pesticide Programs

Enclosure

**ACCEPTED**

05/29/2020

Under the Federal Insecticide, Fungicide  
and Rodenticide Act as amended, for the  
pesticide registered under  
EPA Reg. No. 92717-1

# RESTRAIN Ethylene Generator Fuel

An ethylene treatment source for acceleration of ripening of avocados, bananas, citrus fruit, Kiwifruit, mangos, melons, papayas, pineapples, stone fruits (nectarines, peaches, plums), tomatoes, walnuts, and tobacco; and to prevent sprouting of potatoes and onions in storage. Ripening aid for greenhouse tomatoes and bell peppers. This product is only for use with the RESTRAIN ETHYLENE GENERATOR".

### ACTIVE INGREDIENT:

Ethanol .....	91.94%
Other ingredients: .....	<u>8.06%</u>
TOTAL .....	100.0%

## KEEP OUT OF REACH OF CHILDREN CAUTION

### NOT FOR HUMAN CONSUMPTION

READ THE ENTIRE LABEL INCLUDING ATTACHED BOOKLET BEFORE USING

FIRST AID	
If swallowed	<ul style="list-style-type: none"><li>• Call a poison control center or doctor immediately for treatment advice.</li><li>• Have person sip a glass of water if able to swallow.</li><li>• Do not induce vomiting unless told to do so by a poison control center or doctor.</li><li>• Do not give anything by mouth to an unconscious person.</li></ul>
If inhaled	<ul style="list-style-type: none"><li>• Move person to fresh air.</li><li>• If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible.</li><li>• Call a poison control center or doctor for further treatment advice.</li></ul>
If in eyes	<ul style="list-style-type: none"><li>• 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.</li><li>• Call a poison control center or doctor for treatment advice.</li></ul>
If on skin or clothing	<ul style="list-style-type: none"><li>• Take off contaminated clothing.</li><li>• Rinse skin immediately with plenty of water for 15-20 minutes.</li><li>• Call a poison control center or doctor for treatment advice.</li></ul>
Have the product container or label with you when calling a poison control center or doctor, or going for treatment. In case of spill or other emergency call CHEMTREC 1-800 - 424-9300	

Manufactured for:  
Restrain Company Ltd.,  
Unit 7 Minerva Business Park  
LYNCHWOOD, PETERBOROUGH PE2 6FT, Great Britain  
Phone # 270-781-8234

EPA Reg. No. 92717-X  
NET CONTENTS 2.5 gallons

EPA Est. No. \_\_\_\_\_  
Lot No. \_\_\_\_\_

## PHYSICAL AND CHEMICAL HAZARDS

FLAMMABLE. Keep away from heat and open flames.

## PRECAUTIONARY STATEMENTS

### HAZARDS TO HUMANS AND DOMESTIC ANIMALS

**Caution.** Prolonged or frequently repeated skin contact may cause allergic reaction in some individuals. Do not use this product if you are taking disulfiram (e.g. "Antabuse®").

## PERSONAL PROTECTIVE EQUIPMENT (PPE)

Handlers and users must wear:

- Long-sleeved shirt and long pants
- Shoes and socks

## DIRECTIONS FOR USE

It is a violation of federal law to use this product in a manner inconsistent with its labeling.

USE ONLY WITH THE RESTRAIN ETHYLENE GENERATOR.

## CROPS

### **Avocados, Bananas, Citrus Fruit, Kiwifruit, Mangos, Melons, Papayas, Pears, Persimmons, Pineapples, Stone Fruits (Nectarine, Peach, and Plum), Tomatoes and Walnuts:**

Use in a ripening room for the first 24 hours of ripening period. One (1) quart used as directed in 4,000 to 10,000 cubic feet ripening room produces ethylene concentrations varying from 4 to 1,200 P.P.M over a period 12- 48 hours. One (1) pint used as directed in 1,500 to 6,000 cubic feet ripening room produces ethylene concentrations varying from 5 to 500 P.P.M. over a period of 6-24 hours.

### **Tobacco:**

Use immediately after filling curing system. Two (2) quarts used as directed in 1,500 to 2,500 cubic feet curing system produces ethylene concentrations varying from 15 to 300 P.P.M. over a period of 12 - 24 hours. Use additional two (2) quarts of RESTRAIN Ethylene Generator Fuel as required.

### **Storage of Potatoes:**

The Restrain Generator should be located within the store that is being treated. The minimum cold store temperature is +37.5° F. This machine is not intended for use in temperatures below – 34° F.

Fill the tank carefully using the funnel provided to prevent spillage. If spillage occurs it should be contained with the concave area on the top of the tank. Clear any spilled fuel before proceeding and dispose of any soiled paper and rags appropriately.

For the Restrain Generator B200 model, the room must be at least a volume of 7000 ft<sup>3</sup> (equivalent to approximately 60 one ton boxes) for normal cold stores.

The maximum size store depends on the standard construction, room air leakage, and the target level of "Restrain". This equipment may be used in good quality cold stores of 4000 ton capacity.

The machine should be located at floor level of no greater than 3 feet above the floor in a position of good air circulation. It should be placed away from normal loading activity and protected by barriers from potential damage from fork lift trucks and similar hazards.

The machine must be within 5 degrees of level and be stable.

The machine must not be placed above or close to a source of heat or open flame.

Check the machine **DAILY** for correct operation.

The sensor to monitor the amount of ethylene being generated must be located remotely from the machine to maintain good control of the total room atmosphere. The location depends on the storage layout and design.

<b>STORAGE POTATO APPLICATION</b>			
<b>Crop</b>	<b>Rate</b>	<b>Interval</b>	<b>Remarks</b>
Storage of Potatoes (Sprout Inhibition)	0.0044 oz/ 35.3 ft <sup>3</sup> (10 ppm)	Apply continuously until potatoes are removed from storage.	Monitor storage temperature and commence application once eyes of potatoes begin to develop. <ul style="list-style-type: none"> <li>• For use on seed potatoes remove the Restrain Generator five days prior to planting.</li> <li>• Check the Restrain Generator and the sensors daily during operation to ensure the proper rate of ethylene is being generated continuously.</li> <li>• Maintain an appropriate level of Restrain Fuel to ensure the proper delivery of the ethylene gas.</li> <li>• Monitor the potato seed storage temperature and ventilation to ensure the appropriate dispersion of the ethylene gas during application.</li> <li>• Ethylene gas levels must be checked prior to re-entry to ensure no exposure to users/workers.</li> </ul>
Storage of Seed Potatoes	0.0066oz/ 35.3 ft <sup>3</sup> (15 ppm)	The ethylene generator will automatically gradually increase the ethylene concentration from 0.1 PPM to 15 PPM over a 21-day period.  For seed potatoes, remove 5 days prior to planting	

**Greenhouse Tomatoes and Bell Peppers:**

Locate the Restrain Generator within the greenhouse that is being treated. The minimum use temperature is +63° F. This machine is not intended for use in temperatures below 30° F.

Fill the tank carefully using the funnel provided to prevent spillage. If spillage occurs it should be contained within the concave area on the top of the tank. Clear any spilled fuel before proceeding and dispose of any soiled paper and rags appropriately.

For the Restrain Generator B200 model the room should be at least an empty volume of 7000ft<sup>3</sup>.

The maximum size greenhouse depends on the standard construction, air leakage, and the target level of “Restrained”. This equipment has been used satisfactorily in good quality of 5 acres capacity.

The machine should be located at floor level of no greater than 3 ft above the floor in a position of good air circulation. It should be placed away from normal loading activity and protected by barriers from potential damage from fork lift trucks and similar hazards.

The machine must be within 5 degrees of level and be stable.

The machine must not be placed above or close to a source of heat or open flame.

The sensor to monitor the amount of ethylene being generated must be located remotely from the machine to maintain good control of the total room atmosphere. The location depends on the storage layout and design.

<b>GREENHOUSE TOMATO AND BELL PEPPERS APPLICATION</b>			
<b>Crop</b>	<b>Rate</b>	<b>Interval</b>	<b>Remarks</b>
Greenhouse Tomatoes (Accelerated ripening)	0.00006 oz/35.3 ft <sup>3</sup> (1.4 ppm)	Apply at growth stage of berries in first - fructification stage: green to shriveled dark-seed for 4.5 days continuously.	<ul style="list-style-type: none"> <li>• Monitor crops and commence application once the desired plant growth stage has been reached.</li> <li>• Check the Restrain Generator and the sensors daily during operation to ensure the proper rate of ethylene is being generated continuously.</li> <li>• Maintain an appropriate level of Restrain Fuel to ensure the proper delivery of the ethylene gas.</li> <li>• Monitor greenhouse temperature and ventilation to ensure the appropriate dispersion of the ethylene gas during application.</li> <li>• Ethylene gas levels must be checked prior to re-entry to ensure no exposure to users/workers.</li> </ul>
Greenhouse Bell Peppers	0.00006 oz/35.3 ft <sup>3</sup> (1.4 ppm)	Apply at growth stage of berries in first - fructification stage: green to shriveled dark-seed for 4.5 days continuously	<ul style="list-style-type: none"> <li>•</li> </ul>

**FOLLOWING APPLICATION**, vent the greenhouse for 12 hours before re-entering.

**Onions:**

Load the store fully and follow normal procedures for drying and curing of the bulbs. This normally involves the use of high powered fan systems circulating ambient air through the boxes or through the bulk stack of bulbs. Once this phase is completed, the stores are then brought down to holding temperature, either by using ambient night time air or by the use of refrigeration or a combination of both.

The holding temperature will vary and will be between 33 - 38° F for cold stored onions and 48° F for ambient stored onions. Begin treatment in a store somewhere between early November and early December. Set the Restrain generator to operate the **onion control** program. The minimum interval between removal of the crop from the store and release for consumption is 3 days.

<b>STORAGE ONIONS APPLICATION</b>			
<b>Crop</b>	<b>Rate</b>	<b>Interval</b>	<b>Remarks</b>
Storage of Onions	0.0066oz/ 35.3 ft <sup>3</sup> (15 ppm)	Apply continuously until onions are removed from storage.	<ul style="list-style-type: none"> <li>• Monitor storage temperature and commence application once the stores have reached required temperature</li> <li>• Check the Restrainer Generator and the sensors daily during operation to ensure the proper rate of ethylene is being generated continuously.</li> <li>• Maintain an appropriate level of Restrainer Fuel to ensure the proper delivery of the ethylene gas.</li> <li>• Monitor the onion storage temperature and ventilation to ensure the appropriate dispersion of the ethylene gas during application. Daily fresh air flushing must not exceed 6 hr per day.</li> <li>• Ethylene gas levels must be checked prior to re-entry to ensure no exposure to users/workers.</li> </ul>

### **USE PRECAUTIONS**

Ensure that the ripening room or curing system is, to the extent reasonably possible, air-tight, with all vents and doors closed. Any cracks or holes in walls and doors must be repaired or covered over before use. Do not use in enclosures less than 1,500 cubic feet.

### **STORAGE AND DISPOSAL**

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

PESTICIDE STORAGE: Store in dry locked storage area, at temperatures below 125°F.

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: Non-refillable container. Do not reuse or refill this container. Offer for recycling, if available. Dispose of empty containers with normal non-incineration waste in compliance with any applicable State and Local regulations.

### **WARRANTY AND LIMITATION OF DAMAGES STATEMENT**

Restrainer Company, Ltd. warrants that this product conforms to the chemical description on the label thereof and is reasonably fit for the purposes stated on such label only when used in accordance with the directions of use under normal use conditions. It is impossible to eliminate all risks inherently associated with the use of this product. Unintended effects may result because of such factors as storage conditions, presence of other materials or the manner of use of application, all of which are beyond the control of Restrainer Company, Ltd.

To the extent permitted under applicable law, any damage arising from a breach of this warranty shall be limited to direct damages and shall not include consequential commercial damages, such as loss of profits or values or any other special or indirect damages.

Restrainer Co. Ltd. makes no other express or implied warranty including any other express or implied warranty of FITNESS or MERCHANTABILITY.

If you do not agree with or do not accept any of directions for use, the warranty disclaimers, or limitation on liability, do not use the product, and return it unopened to the Seller, and the purchase price will be refunded.