



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

Mr. A. G. Vilkas  
Praxair, Inc.  
39 Old Ridgebury Road  
Danbury, CT 06810-5113

AUG 2 1995

OFFICE OF  
PREVENTION, PESTICIDES AND  
TOXIC SUBSTANCES

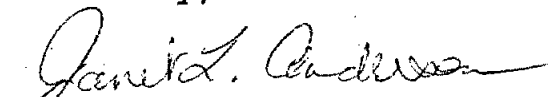
Dear Mr. Vilkas,

Subject: Reregistration  
Banana Gas 32  
EPA Registration No. 10330-12  
Your Submission Dated January 9, 1995

We have reviewed your draft labeling submitted for the reregistration of ethylene, which was revised per our letter of December 29, 1994. In addition, we have received the faxed copy of your "collar" label, which deletes the word "warning", to comply with regulations requiring only one signal word on pesticide labeling.

Therefore, the labeling referred to above, submitted in compliance with the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), as amended, is acceptable. A stamped copy is enclosed for your records. Five (5) copies of the final printed labels must be submitted prior to releasing the product for shipment.

Sincerely,

  
Janet L. Andersen, Ph.D.  
Acting Director  
Biopesticides and Pollution  
Prevention Division  
(7501W)

Enclosure

DANGER: HIGH PRESSURE LIQUID AND GAS MIXTURE. HARMFUL IF INHALED. CAN CAUSE RAPID SUFFOCATION. MAY CAUSE FROSTBITE. CAN INCREASE RESPIRATION AND HEART RATE. MAY CAUSE NERVOUS SYSTEM DAMAGE. MAY CAUSE DIZZINESS AND DROWSINESS.

BANANA GAS 32

FRUIT RIPENING OR DEGREENING GAS MIXTURE

Active Ingredient: Ethylene.....6.3%  
CAS: 74-85-1

Inert Ingredient: Carbon Dioxide.....93.7%  
CAS: 124-38-9

**ACCEPTED**  
8/2/95  
Under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended, for the pesticide registered under EPA Reg. No. 10330-12

Keep Out Of The Reach Of Children                      Total    100.0%

DANGER!

STATEMENTS OF PRACTICAL TREATMENT

- IF IN EYES: Flush with plenty of water. Call a physician
- IF ON SKIN: Wash with plenty of soap and water. Get medical attention.
- IF INHALED: Remove victim to fresh air. If not breathing, give artificial respiration. Get medical attention.

PRECAUTIONARY STATEMENTS:

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

DANGER!

Liquefied or pressurized gas can cause frost burns. Do not get in eyes or on skin. Wear long-sleeved shirt, long pants, boots, goggles and chemical resistant gloves while handling cylinders or any application equipment under pressure. Harmful if inhaled. Avoid breathing vapors. Do not enter unventilated treatment areas unless wearing a respirator approved by NIOSH/MSHA for this use.

PHYSICAL OR CHEMICAL HAZARDS

Contents under pressure. Keep away from fire, sparks and heated surfaces. Do not puncture or incinerate container. Exposure to temperature above 130 F may cause bursting. Use with equipment rated for cylinder pressure. Close valve when not in use and when empty. Cylinder temperature should not exceed 125F(52C). Use in accordance with tag attached to cylinder valve and Praxair Form MSDS L-4818(MSDS).

NOTE: Reverse flow into cylinder may cause rupture. Always use a back flow preventive device in piping.

LEAK: Evacuate area and keep personnel upwind. Use self-contained breathing apparatus and protective clothing, and shut off leak if without risk.

TLV: 5000ppm Carbon Dioxide (ACGIH 1994)

IN CASE OF EMERGENCY: Call 1-800-645-4633

FOR AGRICULTURAL AND INDUSTRIAL USE ONLY.

DOT/IMO Shipping Name: Compressed Gas, N.O.S. (Ethylene, Carbon Dioxide) UN1956

EPA Reg. No. 10330-12  
EPA Est.No. 10330-

BATCH

Praxair, Inc.  
Danbury, CT 06810-5113

Do not remove this label.

PRAXAIR

SGB-10600(2/94)  
1/95

Read the attached Directions for Use tag before using this product.

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DO NOT DETACH THIS BOOKLET

**BANANA GAS-32**

ACTIVE INGREDIENT: ETHYLENE 6.3%  
INERT INGREDIENT: CARBON DIOXIDE 93.7% **TOTAL 100.0%**

DANGER: HIGH PRESSURE, LIQUEFIED GAS.  
NONFLAMMABLE. APPROXIMATE PRESSURE WHEN FULL 830 PSIG AT 70°F.

**DIRECTIONS FOR USE**

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

**CAN CAUSE RAPID SUFFOCATION DUE TO OXYGEN DEFICIENCY.** Store and use with adequate ventilation. Do not enter places where used until adequately ventilated. Use with equipment rated for cylinder pressure. Keep valve closed when not in use and when empty. In case of spill or leak, shut off leak, if without risk. Move leaking assembly to ventilated area, if without risk, or ventilate area of leak. If exposed to fire, move cylinder away from fire, if without risk. Otherwise cool cylinder with water spray. The contents are nonflammable. Use only in accordance with directions given on this tag and the safety precautions listed on the body label. See current Praxair, Inc. Material Safety Data Sheet, Form L-4818 for additional safety information.

**GENERAL PRECAUTIONS**

1. Cylinders should be stored in a well-ventilated area. Do not enter places where used until adequately ventilated. Can cause rapid suffocation due to oxygen deficiency.
2. Use any metal connections and piping capable of withstanding a working pressure of 2,000 pounds per square inch.
3. CYLINDERS MUST BE SECURED IN AN UPRIGHT POSITION WHEN DISCHARGING.
4. CYLINDER VALVE OUTLET CONNECTION IS CGA 320 (RIGHT-HAND THREAD). USE A SPECIAL BANANA GAS-32 regulator.

**STORAGE AND DISPOSAL**

Return cylinders to supplier. Store and use with adequate ventilation. Cylinders should be stored in a well ventilated area.

**DIRECTIONS FOR USE**

Before starting the treatment, it is necessary to determine the cubic content of the room by multiplying the length by the

width by the height. No allowance is made for the space occupied by the fruit. For instance, a room 20 feet long, 15 feet wide and 10 feet high contains 3,000 cubic feet.

Banana Gas-32 is introduced into the room in accurately measured quantities at regular intervals of time. The gas should be conducted from the cylinder through a regulator with a flowmeter calibrated for measuring flow in cubic feet per hour of Banana Gas-32. The gas then flows to the treating rooms through metal pipes.

**BANANAS** - Each application should use a flow rate of 0.8 cubic feet per hour of Banana Gas-32 for a 3,000 cubic foot room. For each additional 1,000 cubic feet of space, increase the flow by 0.2 cubic feet per hour. Optimum flow rate should be determined by the banana jobber based on trial and error with allowances being made for whether the room is airtight or leaking. Exposure time is 24 hours.

**TOMATOES** - Use a flow rate of 10 cubic feet per hour of Banana Gas-32 for each 8,000 cubic feet of space. The exposure time is 8 hours. The recommended temperature is 60-70°F. The recommended humidity is 80-90 percent. Ventilate the tomato treatment room for 30 minutes after 8 hours of exposure. If necessary, re-gas the following day for an additional 8 hours.

**PORTABLE BANANA GAS-32 PACKAGE**

The Portable Banana Gas-32 Package has been designed for those customers who normally gas only 1 to 2 ripening or degreening rooms at any one given time or the physical layout of the ripening or degreening room area would not allow the use of the Stationary Banana Gas-32 Manifold.

The Portable Banana Gas-32 Package consists of the following:

1. A cylinder of Banana Gas-32, 60 lbs. net weight.
2. A cylinder hand cart for portability and ease of handling.
3. A special regulator-flowmeter.

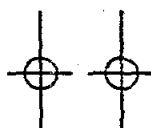
**OPERATING INSTRUCTIONS**

1. Place the cylinder of Banana Gas-32 on the cylinder hand truck and secure with the safety chain.
2. Attach the regulator-flowmeter to the cylinder valve.

**NOTE: ENSURE THAT THE WASHER PROVIDED IS PLACED BETWEEN THE CYLINDER VALVE AND REGULATOR CONNECTION. TIGHTEN THE CONNECTION NUT WITH A SUITABLE WRENCH.**

3. Turn red knob on flowmeter clockwise to off.
4. Open cylinder valve slowly to the full open position. Inlet pressure gauge should read between 800 to 1,000 psig.
5. Turn regulator adjusting screw clockwise until delivery pressure gauge reads 15 psig, i.e., needle is now between the two red lines.

precautionary labeling



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Danbury, CT 06810-5113

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6. Turn red knob on flowmeter counterclockwise until the small ball in the flow tube corresponds to the setting recommended. See Directions For Use.
7. When not in use, turn the gas supply off by closing the cylinder valve first and then closing the flowmeter valve using the red knob.

**BANANA GAS-32 PACKAGE**

The Stationary Banana Gas-32 Manifold allows from 2 to 5 ripening or degreening rooms to be gassed from one cylinder of Banana Gas-32 at the same time. A single cylinder supplies gas to individual panel mounted flowmeters that are piped to the ripening or degreening room using 1/4-inch copper tubing.

The Stationary Banana Gas-32 Manifold consists of the following:

1. A cylinder of Banana Gas-32.
2. A cylinder wall mounting bracket.
3. A special Banana Gas-32 regulator.
4. A ready-to-install, factory-assembled flowmeter panel with flowmeters.

Piping: 1/4-inch copper tubing to rooms not included.

**OPERATING INSTRUCTIONS**

1. Secure cylinder of Banana Gas-32 to the cylinder wall mounting bracket.
2. Attach regulator to the cylinder valve.  
**NOTE: ENSURE THAT THE WASHER PROVIDED IS PLACED BETWEEN THE CYLINDER VALVE AND REGULATOR CONNECTION. TIGHTEN THE CONNECTION NUT WITH A SUITABLE WRENCH.**
3. Turn the regulator adjustment handle counterclockwise until it rotates freely.
4. Turn red knob on flowmeter clockwise to off.
5. Open cylinder valve slowly to the full open position. Inlet pressure gauge should read between 800 to 1,000 psig.
6. Turn regulator adjusting screw clockwise until delivery pressure gauge reads 15 psig, i.e., needle is now between the two red lines.
7. Turn red knob on flowmeter counterclockwise until the small ball in the flow tube corresponds to the setting recommended. See Directions For Use.
8. When not in use, turn the gas supply off by closing the cylinder valve first and then closing the flowmeter valve using the red knob.

Gassing of the ripening or degreening room is accomplished by using the individual flowmeter piped to the room to be gassed and setting the recommended flow rate for that room.

**NOTE: WHEN CYLINDER PRESSURE GAUGE READS 400 POUNDS OR LESS (NEEDLE IN THE RED ZONE OF THE GAUGE) REPLACE CYLINDER WITH A NEW CYLINDER OF BANANA GAS-32.**

Flowmeter panel is so designed that when less than five (5) stations per panel are initially ordered, additional flowmeter stations may easily be added to meet future requirements, up to five (5) stations.

**DANGER**  
High Pressure, Nonflammable, Liquefied Gas  
**BANANA GAS-32**

Recommended Dosage: To be used in air in a tightly enclosed treatment room. Do not ripen or degreen until time to ready the fruit for market.

MATURE FRUIT	CU.FT. PER HOUR	ROOM SIZE	TEMP	RH	USE	TIME OF EXPOSURE
BANANAS	0.3	3000 cu.ft.	70°F	85-90%	To initiate degreening and ripening	24 hours
TOMATOES	10	3000 cu.ft.	70°F	90-90%	To initiate degreening (Use only on mature fruit)	8 hours

Use of Banana Gas-32 for fruit ripening is covered by U.S. Patent 3,924,010

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*Labels for "Banana" and "Caramels"*

5.3%  
.93.7%  
Total 100.0%

**BANANA GAS 32**  
FRUIT RIPENING OR DEGREENING GAS MIXTURE

**PROPYLENE CARBON DIOXIDE**  
ACTIVE INGREDIENT-ETHYLENE  
INERT INGREDIENT-CARBON DIOXIDE

NET CONTENTS - 80 LBS. (27.2 KG)

BEFORE USING PRODUCT, READ WARNING LABELS ON CONTAINER

**NON-FLAMMABLE GAS**

**COMPRESSED GAS N.O.S. (ETHYLENE, CARBON DIOXIDE)**  
UN 1956

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