# BANANA GAS 32<sup>TM</sup>

# Fruit-Ripening or Degreening Gas Mixture

**ACTIVE INGREDIENT:** OTHER INGREDIENT:

ETHYLENE CAS NO. 74-85-1 **CARBON DIOXIDE** 

6.3% 93.7%

CAS NO. 124-38-9 100:0%

SEP 2 6 2007

# KEEP OUT OF REACH OF CHILDREN

# **DANGER**

**PELIGRO** 

PRECAUCION AL USARIO: SI USTED NO LEE INGLES, NO USE ESTE PRODUCTO HASTA QUE LA ETIQUETA LE HAYA SIDO EXPLICADO AMPLIAMENTE.

FIRST AID					
If inhaled	<ul> <li>Move person to fresh air.</li> <li>If not 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> <li>If breathing is difficult, give oxygen.</li> </ul>				
If on Skin	<ul> <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> <li>For exposure to cold vapor or solid, immediately warm frostbite area with warm water not to exceed 105°F (41°C). Call a physician.</li> </ul>				
If in Eyes	<ul> <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.</li> <li>Call a poison control center or doctor for treatment advice.</li> </ul>				

## **HOT LINE NUMBER**

Have the product container label and MSDS with you when calling the physician. You may also contact 1-800-645-4633 (24 hours) for emergency medical treatment information.

## **NOTE TO PHYSICIAN**

Treatment of overexposure should be directed as the control of symptoms and the clinical condition of the patient.

Use in accordance with the labeling and material safety data sheet for this product. Obtain a material safety data sheet from your supplier of this gas.

## PRECAUTIONARY STATEMENTS

#### Hazards to Humans and Domestic Animals:

Danger: May be fatal if inhaled. Do not breathe vapor. Can cause rapid suffocation. Wear appropriate respiratory protection. Harmful if absorbed through skin. May cause irreversible eye damage. May cause frostbite. Avoid contact with skin, eyes or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, or using tobacco. Remove and wash contaminated clothing before reuse. Wear the appropriate personal protective clothing.

Other Hazards: May increase respiration and heartrate. May cause nervous system damage. May cause dizziness and drowsiness. May damage retinal ganglion cells and central nervous system. Liquefied or pressurized gas may cause frost burns.

#### Personal Protective Equipment (PPE):

Wear the following PPE while handling cylinders or any application equipment under pressure:

- long-sleeved shirt and long pants
- socks and boots
- goggles
- chemical resistant gloves.

## **Reentry Interval:**

Do not enter or reenter a treatment area until the air in that chamber or room is fully ventilated to a normal atmosphere. Do not enter unventilated treatment areas unless wearing a respirator. Use either a supplied-air respirator or a Self-Contained Breathing Apparatus (SCBA).

#### PHYSICAL OR CHEMICAL HAZARDS:

Contents under pressure. Do not puncture or incinerate container. Exposure to temperature above 130°F (54.6°C) may cause bursting. Use with equipment rated for cylinder pressure. Close valve when not in use and when empty. Cylinder temperature should not exceed 125°F (52°C). Use in accordance with tag attached to cylinder valve and Praxair Form MSDS P-4818 (MSDS).

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

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

**ODOR:** Sweet.

PRECAUTIONS: PEL: 5000 PPM-TWA Carbon Dioxide (OSHA 29 CFR 1910.1047).

IN CASE OF EMERGENCY, CALL 1-000-045-4055
EPA REG. No.10330-12
EPA EST. No. 10330
NET CONTENTS 60 lb
BATCH
FOR AGRICULTURAL AND INDUSTRIAL USE ONLY.
Read the attached Directions for Use tag before using this product.

#### SHIPPING DESCRIPTION:

UN1956 Compressed gases, n.o.s. (carbon dioxide, ethylene)

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The following labeling appears on a label tag separately attached to the gas cylinder:

## BANANA GAS 32TM

ACTIVE INGREDIENT: ETHYLENE
OTHER INGREDIENT: CARBON DIOXIDE

6.3 % 93.7 %

# **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 outside of treatment enclosures during application. For any requirement specific to your State and Tribe, consult the State/Tribal agency responsible for pesticide regulation. Notify workers of the application by warning them orally and by posting warning signs at entrances to treated areas.

DANGER: HIGH-PRESSURE, LIQUEFIED GAS, NONFLAMMABLE. APPROXIMATE PRESSURE WHEN FULL 830 PSIG AT 70°F. FOR AGRICULTURAL AND INDUSTRIAL USE ONLY.

#### CAN CAUSE RAPID SUFFOCATION DUE TO OXYGEN DEFICIENCY

Store and use with adequate ventilation. 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 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 precautionary labeling listed on the body label. See current Praxair, Inc. Material Safety Data Sheet, form P-4818, for additional safety information.

#### REENTRY INTERVAL:

Do not enter or reenter a treatment area until the air in that chamber or room is fully ventilated to a normal atmosphere, unless using either a supplied-air respirator or a Self-Contained Breathing Apparatus (SCBA).

#### **GENERAL PRECAUTIONS**

- 1. Use only metal connections and piping capable of withstanding a working pressure of 2,000 pounds per square inch.
- 2. CYLINDERS MUST BE SECURED IN AN UPRIGHT POSITION WHEN DISCHARGING.
- 3. CYLINDER VALVE OUTLET CONNECTION IS CGA 320 (RIGHT- HAND THREAD). USE A SPECIAL BANANA GAS 32™ REGULATOR.

#### APPLICATION INSTRUCTIONS

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.

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

**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 humidity is 80-90 percent. Ventilate the tomato treatment room for 30 minutes.

#### **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 lb 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 the red knob on the flowmeter clockwise to off.
- 4. Open the cylinder valve slowly to the full open position. The inlet pressure gauge should read between 800 to 1,000 psig.
- 5. Turn the regulator adjusting screw clockwise until the delivery pressure gauge reads 15 psig, i.e., the needle is between the two redlines.
- Turn the red knob on the 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 cooper tubing.

The Static nary 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 the cylinder of Banana Gas 32 to the cylinder wall mounting bracket.
- 2. Attach the 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 the red knob on the flowmeter clockwise to off.
- 5. Open the cylinder valve slowly to the full open position. The inlet pressure gauge should read between 800 to 1,000 psig.
- 6. Turn the regulator adjusting screw clockwise until the delivery pressure gauge reads 15 psig, i.e., the needle is between the two red lines.
- 7. Turn the red knob on the 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 in 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.

The 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.

Mature Fruit	Cu. Ft. Per Hour	Room Size	Temp	ЯH	USE	Time of Exposure
Bananas	0.8	3000 cu. ft.	70°F	85-90%	To initiate de-greening and ripening	24 hours
Tomatoes	10	3000 cu. ft.	70°F	80-90%	To initiate de-greening (use only on mature fruit)	8 hours

#### STORAGE AND DISPOSAL

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

Pesticide Storage: Cylinders should be stored in a well ventilated area.

Pesticide Disposal: Return cylinder with residual product to supplier.

Container Handling: Do not reuse this container for any other purpose. Do not refill

this cylinder return to supplier.

DO NOT REMOVE THIS LABEL

D A N G E R High Pressure, Nonflammable, Liquefied Gas BANANA GAS 32

> EPA REG. No.10330-12 EPA EST. No. 10330-

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

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