



# IGI CARBON DIOXIDE

For Storage and Containment Structures and Outdoor Burrowing Pest Control

**ACTIVE INGREDIENT:**

Carbon Dioxide .....99.9%

**OTHER INGREDIENTS:** ..... 0.1%

**TOTAL**..... 100.0%

**KEEP OUT OF REACH OF CHILDREN  
WARNING**

FIRST AID	
<b>If inhaled</b>	<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 immediately 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. For emergency information concerning this product, call 1-800-222-1222.	

**PRECAUTIONARY STATEMENTS**

**HAZARDS TO HUMANS AND DOMESTIC ANIMALS – WARNING:** May be fatal if inhaled.

Do not breathe vapor. Exposure may cause suffocation and death. Ventilate areas before entering. For handling activities in enclosed areas during and after application, use either a supplied-air respirator with NIOSH approval number TC-19C or a self-contained breathing apparatus (SCBA) with NIOSH approval number TC-13F.

**EPA Reg. No.:** 91274-1

**EPA Est. No.:** 89867 -CA-1, 89867 -CA-2, 88967-CA-3, 89867 -WA-1, 88967-1-NJ-1, 88967-1-MD-1, 88967-1-MA-1, 88967-1-IL, 8967-LA-1

**Net Wt.:** xx lb

**Produced for:**

IGI, LLC  
600 West Taddei Road  
Acampo, CA 95220

## DIRECTIONS FOR USE

It is a violation of Federal Law to use this product in a manner inconsistent with its labeling. Read all directions for use carefully before applying.

## PRODUCT INFORMATION

This product is used to fumigate burrows, silos, storages, trucks, trailers, sealed railroad cars, and cargo ships. Listed burrowing pests are common on golf courses, sports complexes, farms, rangelands, public parks and lands, school yards, levees, highway, roadside, and railroad rights-of-way, and private lands where burrowing pests damage landscape and destroy public land improvements.

The following agricultural commodities and other products may be treated: corn, including popcorn, barley, oats, rice (milled and/or enriched), sorghum, wheat, rye and other small grains, cocoa beans, coffee beans, flour, cereal and related products, all dry beans, peas, macaroni and pasta products, dry milk and products made with dry milk, nuts including peanuts, almonds, walnuts, pecans, filberts, cashews and brazil nuts, dried fruits including apples, apricots, currants, dates, figs, peaches, prunes, pears and raisins, raw and processed tobacco, brewer's grits, candy, all spices, all herbs, animal feed in bulk or bags, birdseed, mammal skins, stuffed animals, herbarium, specimens, rare books and wood products such as carvings.

This product is effective against the following types of pests that occur in stored products, in structures, or in burrows or underground tunnel networks:

- 1) **Beetles**, including the granary weevil, rice weevil, broadnosed grain weevil, lesser grain borer, larger grain borer, confused flour beetle, red flour beetle, American black flour beetle, khapra beetle, warehouse beetle, longheaded flour beetle, slender-horned flour beetle, larger black flour beetle, yellow mealworm, dark mealworm, black carpet beetle, rusty grain beetle, flat grain beetle, saw-toothed grain beetle, merchant grain beetle, foreign grain beetle, corn sap beetle, cigarette beetle, drugstore beetle, cowpea weevil, bean weevil, pea weevil, broadbean weevil, coffee bean weevil and cadelle;
- 2) **Psocoptera**, including the book louse;
- 3) **Moths**, including the Angoumois grain moth, Indian meal moth, almond moth, raisin moth, tobacco moth, Mediterranean flour moth, meal moth, rice moth, navel orangeworm, webbing clothe moth, casemaking clothes moth and carpet moth.
- 4) **Agricultural pests**, including thrips, spider mites.
- 5) **Burrowing pests**, including pocket gophers, ground squirrels, groundhogs, rats, ants (except carpenter, harvester, fire, and pharaoh), voles and moles that occupy underground tunnels and burrows.

## APPLICATION DIRECTIONS

### Burrowing Pest Control

#### Application restrictions for burrowing rodent use

Use this product only with the IGI Eliminator® application probe. The Eliminator® probe has been specially designed for use in the treatment of underground burrows and tunnel systems for

burrowing rodent control. Read and follow the operator’s manual for the Eliminator® in its entirety before attempting to assemble or use the unit. Retain the Eliminator® operator manual for future or regular reference and for ordering replacement parts. Only responsible individuals familiar with the use of the Eliminator® and its safe operation should use the equipment. Wear safety glasses or safety goggles during operation or while performing any adjustment or repair to the Eliminator®.

- Use only in daylight or good artificial light.
- Never allow this product to be placed in a horizontal position as liquid carbon dioxide could leak causing burns.

**How to use**

For control of pocket gophers, ground squirrels, rats (including Norway rats, roof rats, and Polynesian rats), voles, moles, ants\*, and groundhogs on golf courses, sports complexes, farms, rangelands, public parks and lands, commercial nurseries, commercial and industrial areas, school yards, levees, highway, roadside, and railroad rights-of-way, residential areas, and private lands where burrowing pests damage landscape and destroy public land improvements. Insert application equipment with equipped gauges into burrow or exposed tunnel section. When the pressure gauges are attached to the Carbon Dioxide tank, gently turn on the valve of the tank to its fullest open position. When operating, the pressure reading on the low pressure side of the gauge, which disperses the CO<sub>2</sub> gas, should be set to dispense the CO<sub>2</sub> gas at 5 PSI to 30 PSI depending on the burrowing pest (see application chart). This is accomplished by turning the screw adjustment until this reading is achieved on the low pressure gauge. The duration of the gas that is injected into the burrow system should be approximately 30 seconds up to 3 minutes, depending on the target pest.

**Selection of Treatment Areas:**

Select areas where active burrows have been identified. Signs of activity include rodent sightings, visible runways, presence of burrow holes and soft soil undermined with tunnels. Burrows can also be located beneath shrubbery and debris. Focus on entrances 2-4” wide with smooth surfaces and deposits of excavated soil, trampled vegetation or packed soil as these are good indicators of actively used burrow entrances. Small systems can comprise one main entrance and one or two bolt holes usually 5-6 feet away from main entrance. More established burrows can comprise many (5-20) with complicated tunnel configurations. Identifying and treating the complete number of burrow openings is crucial to the efficacy of the product and control of the target pests. For suspected tunnel systems, an alternate treatment approach can be to seal other tunnel entrances and treat single entry with maximum pressure at longest duration for listed pest. Follow with additional treatments for reopened entrances.

For control of larger pests or increased pest pressure, use the higher pressure and longer duration time. Following burrow treatment, withdraw application equipment from burrow and seal or cover the hole with dirt. Monitor for initial efficacy or reinfestation. Watch post application for any signs of escaping pests from the treated burrows. Do not apply product to burrows or dens known or believed to contain non-target vertebrate animals.

<b>SPECIES</b>	<b>PRESSURE</b>	<b>DURATION</b>
Voles, Moles, Ants*	5 psi	30-45 seconds
Pocket Gophers	15-25 psi	45-90 seconds
Ground Squirrels, Groundhogs, Rats	20-30 psi	2-3 minutes

\*(Except carpenter, harvester, fire, and pharaoh ants)

## **Follow Up**

Dead rodents may not be visible in treated areas as they may likely die within the underground burrows. Signs of rodent activity (reopening of burrow openings) indicate additional treatments are required. If retreatment is required, reexamine area to confirm that all burrow openings have been found and treat all burrow openings at previous application pressure and duration.

**Endangered Species:** It is a Federal Law to use any pesticide in a manner that results in the death of an endangered species. Use of this product may pose a hazard to endangered or threatened species. When using this product, you must follow the measures contained in the Endangered Species Protection Bulletin for the area in which you are applying the product. To obtain Bulletins, no more than six months before using the product, consult <http://www.epa.gov/espp/> or call 1-844-447-3813. You must use the Bulletin valid for the month in which you will apply the product.

The use of Carbon Dioxide as a pesticide is consistent with the protocols and ideologies of Integrated Pest Management (IPM). IPM is a process which is used to manage all types of pests. It combines management approaches for greater effectiveness that include biological control, cultural controls, mechanical controls and chemical controls. Carbon Dioxide used as a pesticide is different from all other chemical agents used for the control of burrowing pests because it only functions when it is in a confined space such as a burrowing rodent tunnel structure. Only then do the effects of this gas become active in that it induces an anesthesia effect within a very short period of time and pests confined within this space succumb to a lack of breathable air as suffocation occurs.

## **Storage, Transport, and Containment Structure Pest Control**

For storage and structural fumigation, dosage rates vary from 60% atmosphere to 88% atmosphere. Treatment times vary from 24 hours to 4 days. Do not fumigate if temperature is less than 40°F. Structure should be as gas tight as possible before treatment. Maintain as near as 60% ±10% CO<sub>2</sub> as possible.

### Storage Vessels

Purge storage vessel (bin, silo, or sealed railcar) to a minimum concentration of 60% (600,000 ppm) atmosphere. Use a two-day treatment for killing adult insects and a four-day treatment for killing all life stages of insects. For specific flows to use, contact a qualified fumigation engineer.

### Trucks & Trailers

Treat as indicated above in Storage Vessels. Do not move truck or trailer during treatment. Trucks and trailers must be aerated before movement is allowed.

### Shipboard, In-transit Ship, or Shiphold Fumigation

Treat as indicated above in Storage Vessels. **IMPORTANT:** Shipboard, in-transit ship, or shiphold fumigation is also governed by U.S. Coast Guard Regulations. Refer to and comply with these regulations prior to fumigation.

### Pre-fumigation Procedures

1. Prior to fumigating a vessel for in-transit cargo fumigation, the master of the vessel or

his/her representative and the fumigator must determine whether the vessel is suitably designed and configured so as to allow for safe occupancy by the ship's crew throughout the duration of the fumigation. If it is determined that the design and configuration of the vessel does not allow for safe occupancy by the ship's crew throughout the duration of the fumigation, then the vessel will not be fumigated unless all crew members are removed from the vessel. The crew members will not be allowed to reoccupy the vessel until the vessel has been properly aerated and a determination has been made by the master of the vessel and the fumigator that the vessel is safe for occupancy.

2. The person responsible for the fumigation must notify the master of the vessel, or his representative, of the requirements relating to personal protection equipment, detection equipment and that a person qualified in the use of this equipment must accompany the vessel with cargo under fumigation. Emergency procedures, cargo ventilation, periodic monitoring and inspections, and first aid measures must be discussed with and understood by the master of the vessel or his representative.
3. During the fumigation or until a manned vessel leaves port or the cargo is aerated, the person in charge of the fumigation must insure that a qualified person using gas or vapor detection equipment tests spaces adjacent to spaces containing fumigated cargo and all regularly occupied spaces for fumigation leakage. If leakage of the fumigant is detected, the person in charge of the fumigation must take action to correct the leakage, or shall inform the master of the vessel, or his representative, of the leakage so that corrective action can be taken.
4. If the fumigation is not completed and the vessel is not aerated before the manned vessel leaves port, the person in charge of the vessel must ensure that at least two units of personal protection equipment, one gas or vapor detection device, and a person qualified in the operation be on board the vessel during the voyage.

#### Precautions and Procedures During Voyage

Using appropriate gas detection equipment, monitor spaces adjacent to areas containing fumigated cargo and all regularly occupied areas for fumigant leakage. If leakage is detected, the area should be evacuated of all personnel, ventilated, and action taken to correct the leakage, before allowing the area to be occupied. If necessary to enter a fumigated area, appropriate personal protection equipment must be used. Never enter fumigated areas alone. At least one other person, wearing personal protection equipment, should be available to assist in case of an emergency.

#### Precautions and Procedures During Discharge

If necessary to enter hold prior to discharge, test spaces directly above surface for fumigant concentration, using appropriate gas detection and personal protection equipment. Do not allow entry to fumigated areas without personal safety equipment unless fumigant concentrations are at safe levels, as indicated by a suitable detector. Personal protection equipment for the fumigant means a supplied-air respirator with NIOSH approval number TC-19C or a self-contained breathing apparatus (SCBA) with NIOSH approval number TC-13F.

### **AERATION**

After application of product in enclosed spaces, aerate treated areas until the level of CO<sub>2</sub>,

as measured by commercially available analyzers, is below 5,000 ppm. Follow the instructions as written in the manufacturer's operation manual.

RE-ENTRY (below 5,000 ppm CO<sub>2</sub>):

Persons may re-enter the treated area without respiratory protection.

RE-ENTRY (between 5,000-30,000 ppm CO<sub>2</sub>):

Persons may re-enter the treated area without respiratory protection, provided that the exposure period is 15 minutes or less. For periods longer than 15 minutes, persons must wear the respiratory protection device specified in the PRECAUTIONARY STATEMENTS.

RE-ENTRY (greater than 30,000 ppm CO<sub>2</sub> or if the concentration is unknown):

Persons must always wear the respiratory protection device specified in the PRECAUTIONARY STATEMENTS.

The U.S.D.A. has set a limit of 0.5% (5,000 ppm) maximum CO<sub>2</sub> concentration in work areas.

### **TRAINING**

All persons working with this product must be knowledgeable of the hazards of this product, and trained in the use of required respirator equipment and detector devices, emergency procedures, and use of the product. When used for fumigation of enclosed spaces (boxcars, silos, ship containers, and other transport vehicles), two persons familiar with the use of this product must be present during introduction of the fumigant, initiation of aeration, and after aeration when testing for reentry. Two persons do not need to be present if monitoring is conducted remotely (outside of area being fumigated).

### **PLACARDING STATEMENT**

The applicator must placard or post all entrances to all enclosed fumigated areas with signs conforming to the following requirements:

- a) The sign must be at least 14 inches by 16 inches in size and the letters must be at least 1 inch in height unless a smaller size sign is necessary because the treated area is too small to accommodate a sign of this size. Letters must be clearly legible.
- b) The word, "DANGER/PELIGRO" and the skull and crossbones symbol must be on the placard.
- c) The statement, "Area under fumigation, DO NOT ENTER/NO ENTRE."
- d) The date of fumigation.
- e) The name of the fumigant (carbon dioxide).
- f) Name, address and telephone number of the applicator or pesticide handler.

These signs must be posted at eye level and must be visible from all visible points of entry to the treated area. They must remain posted during application and throughout the restricted- entry interval until the concentration of carbon dioxide is below 5,000 ppm. Each separate treated area (i.e., boxcar, silo, ship container) must be posted or placarded with this sign.

The applicator or person responsible for monitoring levels of carbon dioxide may remove the placard when the concentration of carbon dioxide is at or below 5,000 ppm.

## **SPILL AND LEAK PROCEDURES**

Evacuate immediate area of leak. Use respiratory device (see PRECAUTIONARY STATEMENTS) for entry into affected enclosed area to correct problem. Move leaking or damaged cylinders outdoors or to an isolated location, observing strict safety precautions. When completely empty, return to manufacturer or, if instructed, recycle/dispose of leaking or damaged cylinders or containers in accordance with State and Local waste disposal regulations.

Do not permit entry into spill area by unprotected persons until concentration of carbon dioxide is determined to be less than 5,000 ppm.

## **STORAGE AND DISPOSAL**

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

**PESTICIDE STORAGE:** Store in dry, cool, well-ventilated area under lock and key. Post as a pesticide storage area. Store cylinders upright, secured to a rack or wall to prevent tipping. Do not subject cylinders to rough handling or mechanical shock such as dropping, bumping, dragging or sliding. Do not use rope slings, hooks, tongs or similar devices to unload cylinders. Transport cylinders using hand truck or fork truck to which the cylinder can be firmly secured.

Do not remove valve protection bonnet and safety cap until immediately before use. Replace safety cap and valve protection bonnet when cylinder is not in use.

**PESTICIDE DISPOSAL:** Vent unusable carbon dioxide to open air.

**CONTAINER HANDLING:** Refillable container. Refill this container with pesticide only. Do not reuse this container for any other purpose. Return empty cylinders for reuse and disposal. When cylinder is empty, close valve, screw safety cap onto valve outlet and replace protection bonnet before returning to shipper. Do not use cylinders for any other purpose. Follow registrant's instruction for return of empty or partially empty cylinders.