

CARBON DIOXIDE

KEEP OUT OF REACH OF CHILDREN

WARNING

EXPOSURE MAY CAUSE SUFFOCATION & DEATH
VENTILATE USE AREAS BEFORE ENTERING

ACTIVE INGREDIENT: CARBON DIOXIDE 99.95 %
INERT INGREDIENTS: (N₂, H₂O) 0.05 %
100.00 %

STATEMENT OF PRACTICAL TREATMENT

If inhaled: Remove to fresh air immediately; keep victim lying down and warm. If breathing is difficult, give oxygen. Call physician immediately.

WARNING: May be fatal if inhaled. Do not breath vapor. For handling activities in enclosed areas during and after fumigation, use either a supplied-air respirator with MSHA/NIOSH approval number TC-19C or a self-contained breathing apparatus (SCBA) with MSHA/NIOSH approval number TC-13F.

AERATION

After fumigation, aerate treated areas until the level of CO₂ as measured by Linde LLC recommended direct-reading detection devices suitable for use with the CO₂, is below 5,000 ppm. A list of recommended devices can be found in Attachment A. Follow use instructions as written in the manufacturer's operation manual.

RE-ENTRY (below 5,000 ppm CO₂ and O₂ content of 21%)

If CO₂ levels as below 5,000, persons may re-enter the treated area without respiratory protection.

RE-ENTRY (5,000-30,000 ppm CO₂ and O₂ content of 21%)

If CO₂ levels are between 5,000 and 30,000, persons may re-enter the treated area without respiratory protection for 15 minutes or less. For periods longer than 15 minutes, persons must wear the respiratory protection device specified above under WARNING.

RE-ENTRY (greater than 30,000 ppm CO₂ and O₂ content of 21%)

If CO₂ levels are over 30,000 ppm, persons must always wear the respiratory protection device specified above under WARNING.

DIRECTIONS FOR USE

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

GENERAL USE RESTRICTIONS

This product is used to fumigate silos, trucks, trailers, sealed railroad cars, and ships. The following raw agricultural commodities may be treated: wheat, oats, rice, barley, corn and processed foods. Dosage rates vary from 60% to 88%. Treatment times vary from 24 hours to 4 days. See U.S. Department of Agriculture manual AAT-S-13 titled

"Methods of Applying Carbon Dioxide for Insect Control in Stored Grains" for details on treatment specifics. This product can be used in structures such as food handling, processing and storage facilities and residential structures at a rate from one to eleven pounds per 1,000 cubic feet, as an atmospheric conditioner or carrier in conjunction with an EPA registered pesticide (as long as the pesticide is also for use in food handling, production and storage facilities). Call Linde Customer Service at (800) 262-4273 for additional help.

Do not fumigate if grain temperature is low (less than 40°F). Area should be as gas tight as possible before treatment. Maintain as near to 60% CO₂ as possible.

TRAINING

All persons working with this product should be knowledgeable of the hazards of this chemical, and trained in the use of required respirator equipment and detector devices, emergency procedures and use of this 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 tested for re-entry. 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 the fumigated area with signs conforming to the following requirements:

- The sign shall be at least 14 inches by 16 inches in size and the letters shall 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 shall be clearly legible.
- The signal word, "DANGER/PELIGRO" and the skull and crossbones symbol must be on the placard.
- The statement, "Area under fumigation, DO NOT ENTER/NO ENTRE."
- The date of fumigation.
- The name of the fumigant (carbon dioxide).
- 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.

FUMIGATION DIRECTIONS

Storage Vessel

Purge storage vessel (bin, silo, or sealed railcar) to a minimum concentration of 60% CO₂. We recommend two day treatment for adult kill, four days for all life stages. Follow guidelines set forth in USDA AAT-S-13 manual. For specific flows, contact a qualified Linde or fumigation engineer.

Trucks & Trailers

Treat as above. Do not move Truck or Trailer during treatment. They must be aerated before movement is allowed.

Shipboard, Intransit Ship or Shiphold Fumigation

IMPORTANT

Shipboard, intransit ship or shiphold fumigation is also governed by U.S. Coast Guard Regulations. Refer to and comply with these regulations prior to fumigation.

PROCEDURES

Prefumigation Procedures

1.) Prior to fumigating a vessel for intransit 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 shall 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 shall 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 aerated before the manned vessel leaves port, the person in charge of the vessel shall insure that at least two units of personal protection equipment and 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. Do not enter fumigated areas except under emergency conditions. If necessary to enter a fumigated area, appropriate personal protection equipment must be used. Never enter fumigated area alone. At least one other person, wearing personal protection equipment, should be available to assist in case of emergency.

Precautions and Procedures During Discharge

If necessary to enter hold prior to discharge, test spaces directly above grain 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 means an air supplied gas mask or respirator or a self-contained breathing apparatus (SCBA) for the fumigant, jointly approved by the Mining Enforcement and Safety Administration and the National Institute of Occupational Safety and Health."

Net Weight (lbs)

EPA Establishment No.

STORAGE AND DISPOSAL

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

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. Cylinders should not be subjected 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.

Spill and Leak Procedure Statement

Evaluate immediate area of leak. Use respiratory device (see Precautionary Statement) for entry into affected 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.

Pesticide Disposal

Vent unusable carbon dioxide to open air.

Container Disposal: When cylinder is empty, close valve, screw safety cap onto valve outlet and replace protection bonnet before returning to shipper. Only the registrant is authorized to refill cylinders. Do not use cylinders for any other purpose. Follow registrant's instructions for return of empty or partially empty cylinders.

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