

WARNING: Breathe & avoid vapors harmful. May cause eye injury and skin irritation. Avoid contact with skin, eyes, and clothing. In case of contact, immediately remove all contaminated clothing, including shoes and flush skin or eyes with plenty of water for at least fifteen minutes. For eyes get medical attention. Use only in accordance with directions in booklet attached to cylinder valve. To be used only by experienced operators. USDA REG NO 10330 10.

NET CONTENTS 10 LBS
Linde
 UCAR FB 92 FUMIGANT
 PROPYLENE OXIDE 8% BY WEIGHT
 CARBON DIOXIDE 92% BY WEIGHT
 FOR INDUSTRIAL USE ONLY

MADE IN U.S.A. UNION CARBIDE CORPORATION • LINDE DIVISION NEW YORK, N.Y.

1-35074
 UNION CARBIDE

ACCEPTED
 MAY 18 1941
 U.S. DEPARTMENT OF AGRICULTURE
 FEDERAL BUREAU OF INVESTIGATION
 U.S. CUSTOMS AND BORDER PROTECTION

DO NOT DETACH

THIS BOOK-LET

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WARNING

CAUTION

This Mixture is **NONFLAMMABLE**, but if Item 3 of General Precautions (see inside) is not observed, the gases may separate and **FLAMMABLE** propylene oxide may be released.

To maintain effectiveness, **STORE IN A COOL PLACE** (preferable under 80°F). **DO NOT STORE IN SUN.** See shoulder label for additional warning.

Active Ingredient
Propylene Oxide 8% by weight
Inert Ingredient
Carbon Dioxide 92% by weight

Fumigant Gas
Use at 100°F to 125°F
APPROXIMATE PRESSURE WHEN FULL
675 PSIG AT 70°F

L 2509A

Atmospheric Fumigation

| FUMIGATION CHAMBER TEMPERATURE | UCAR F8-52 Fumigant in Pounds per 1000 Cubic Feet | Hours Exposure Time |
|--------------------------------|---|---------------------|
| 100° to 125°F | 35 | 16-48 |

FUMIGATION IN VAULTS: Not effective if material is densely packed.

1. Place material to be fumigated in gasproof chamber and preheat to 100°F to 125°F for one hour.
2. Introduce fumigant through a heat exchanger consisting of a 16-ft. coil of 1/2" diameter stainless steel tubing in a 150°F water bath. Open air vent temporarily. Open cylinder valve wide. Gas replaces air.
3. When platform scale indicates a drop of 35 pounds, close cylinder valve and air vent.
4. Expose material to fumigant for estimated time: 16 hours (minimum); 48 hours (maximum) and maintain heat of 130°F to 125°F. Exposure time depends upon contamination.
5. Exhaust fumigant by means of an exhaust fan. Have a filtered inlet open to permit air to replace fumigant. Aerate for one hour by keeping exhaust fan operating.
6. If material is to be stored in a confined space, provide adequate ventilation in order to aerate material for removal of effluent free gas remaining.

FUMIGATION IN EVACUATED SYSTEMS

For a 36 psig chamber, using a 26" Hg. prevacuum requirements usually are:

| Chamber Temperature | Fumigant in Pounds per 1000 Cubic Feet | Hours Time Exposure |
|---------------------|--|---------------------|
| 100°F | 35 | 16-48 |
| 125°F | 35 | 12-24 |

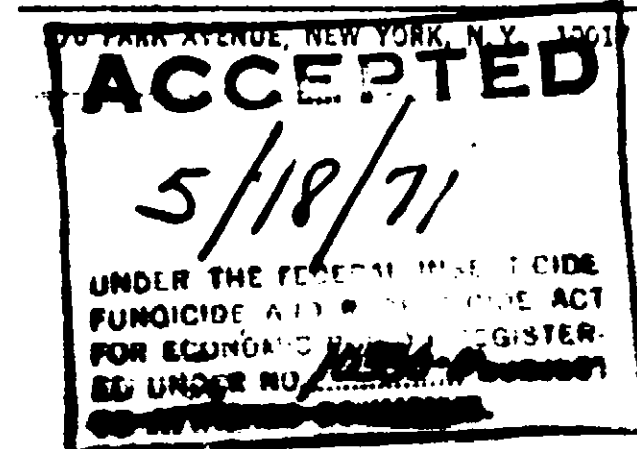
1. Preheat at 100°F for 1 hour.
2. Evacuate air—26" Hg.
3. Fumigate.
4. Evacuate gas—26" Hg.
5. Break vacuum with filtered air.
6. Aerate fumigated material.

Exposure time depends upon contamination. Temperature and Pressure influence suggested exposure time. The variations of type and quantity of material to be fumigated, whether in bulk or packaged, size of chamber, and types of contamination, also have an effect upon the length of time of exposure to produce proper fumigation.

Material may require pre-treatment.



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LINDE DIVISION



FOOD TREATMENT: For fumigating bulk quantities of cocoa, gums, processed spices, starch and processed nut meals (except peanuts), when they are to be further processed into a final food form. Use one time only for maximum of 48 hours, residues limited to 300 ppm of propylene oxide.

For package fumigation of dried prunes and glazed fruit, residues limited to 700 ppm as propylene glycol. **SUBJECT TO TREATMENT AND RESIDUE LIMITATIONS IN FEDERAL FOOD AND DRUG ADMINISTRATION REGULATION 121.1076 as shown above.**

Do not use in treating other foods. **FUMIGATION:** Kills stored product

FOR FUMIGATION ONLY

8. DO NOT ALLOW LIQUID TO STRIKE ANY OBJECT WITHIN 5 FEET OF THE CYLINDER VALVE OR OTHER OUTLET. Discharge of liquid onto objects closer than 5 feet may cause solvent damage or release of a higher proportion of propylene oxide. This distance may be reduced to 24 inches when a LINDE Nozzle Coupling 152248 and Vaporizing Nozzle 66224 are used.

9. If dosage required is less than the

GAS MIXTURE CAN ONLY BE MAINTAINED BY DISCHARGING A MINIMUM OF 12 POUNDS FROM EACH 70 LB. CYLINDER. When using less than a full cylinder determine the quantity withdrawn by use of a platform scale. SEE WARNING ON BACK COVER.

GENERAL PRECAUTIONS

1. DO NOT USE OPEN FLAME HEATERS, EXPOSED ELEMENT-ELECTRIC HEATERS OR ANY SPARK PRODUCING ELECTRICAL EQUIPMENT, SUCH AS ELECTRIC MOTORS WITH EXPOSED BRUSHES, USE FANS WITH AN INDUCTION TYPE OR SEALED-IN MOTOR.
2. Cylinders should be stored in a well ventilated area. When discharged from a cylinder in a confined space fumigant replaces the air and may be harmful. Do not breathe vapors.
3. CYLINDER VALVE OPENS BY TURNING TO THE LEFT OR COUNTER CLOCKWISE. ALWAYS OPEN THE CYLINDER VALVE WIDE WHEN DISCHARGING CONTENTS. DO NOT RETARD FLOW OF GAS FROM CYLINDER BY THROTTLING CYLINDER VALVE, OR BY USING PRESSURE REGULATORS BECAUSE THE RATIO OF CARBON DIOXIDE TO PROPYLENE OXIDE IN THE GAS MIXTURE WILL BE CHANGED. SEE WARNING ON BACK COVER.
4. USE ONLY METAL CONNECTIONS AND PIPING capable of withstanding a working pressure of 700 pounds per square inch. NEVER USE RUBBER TUBING, HOSE OR GASKETS AS LIQUID PROPYLENE OXIDE ATTACKS RUBBER.
5. Cylinders must be secured in an upright position when discharging and must be grounded before discharging in order to avoid static sparks.
6. Cylinder valve outlets are provided with left hand thread. Do not attach and carry wire fittings to these valves and do not apply shellac or paint compounds to valve threads. Secure from LINDE a standard assembly part No. 42710 for attaching cylinder to vent.
7. COMPLY WITH ALL INSURANCE REQUIREMENTS, CITY ORDINANCES, AND REGULATIONS PERTAINING TO FUMIGATION.

10. The fumigation table refers to pounds of liquid cylinder contents to be used per 1000 cu. ft. Measurement of pounds used may be made by obtaining an ordinary platform scale and CAREFULLY placing the cylinder on it. When the required weight is used, the cylinder valve is turned off. Be sure the cylinder valve is closed also upon completion of fumigation or removal of the cylinder.

11. Place cylinders in room, vault, or railroad car, so that even distribution of gas will be obtained throughout space (See paragraph 8). Leave exit door open to act as a vent. Seal all other openings and cracks with ummed tape. OPEN VALVE ON CYLINDERS FARTHEST FROM DOOR FIRST AND WORK TOWARD EXIT. LEAVE SPACE IMMEDIATELY AND SEAL EXIT DOOR.

12. Place warning signs on all entrances to rooms where material is being fumigated. Be sure other rooms are well ventilated.

13. Mask equipment. Use self-contained breathing apparatus with stored oxygen or air, or positive pressure mask with inlet in a vapor-free atmosphere when entering a vault, railroad car, or airplane which has free fumigant gas in it.

14. When fumigation is completed ventilate to open air. Space should not be entered without gas mask until odor of the fumigant is not noticeable. Close the cylinder valve.