

47870-3

5/19/2010

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U.S. ENVIRONMENTAL PROTECTION AGENCY

Office of Pesticide Programs  
Registration Division (7505P)  
Ariel Rios Building  
1200 Pennsylvania Ave., NW  
Washington, D.C. 20460

EPA Reg. Number:

47870-3

Date of Issuance:

5-19-10

NOTICE OF PESTICIDE:

Registration

Reregistration

(under FIFRA, as amended)

Term of Issuance:

Name of Pesticide Product:

Propoxide 892

Name and Address of Registrant (include ZIP Code):

Aberco, Inc.  
9430 Lanham Severn Road  
Seabrook, MD

Note: Changes in labeling differing in substance from that accepted in connection with this registration must be submitted to and accepted by the Registration Division prior to use of the label in commerce. In any correspondence on this product always refer to the above EPA registration number.

On the basis of information furnished by the registrant, the above named pesticide is hereby registered/reregistered under the Federal Insecticide, Fungicide and Rodenticide Act. Registration is in no way to be construed as an endorsement or recommendation of this product by the Agency. In order to protect health and the environment, the Administrator, on his motion, may at any time suspend or cancel the registration of a pesticide in accordance with the Act. The acceptance of any name in connection with the registration of a product under this Act is not to be construed as giving the registrant a right to exclusive use of the name or to its use if it has been covered by others.

This product is reregistered in accordance with FIFRA provided that you:

- 1) Submit and/or cite all data required for registration/reregistration review of your product when the Agency requires all registrants of similar products to submit data.

Signature of Approving Official:

Erik Kraft  
Acting Product Manager 20  
Fungicide Branch  
Registration Division (7505P)

Date:

5-19-10

- 2) Add the complete address of the company to the label.
- 3) **You must add the word "POISON" and the Skull & Crossbones symbol to the product label.** They must appear in immediate proximity to each other. The word "POISON" must appear in red on a background of a distinctly contrasting color. Both must also appear near the your "DANGER" signal word.
- 4) A clarification to the ingredient statement is requested per the product chemistry review. Please see the attached product chemistry review and clarify the purpose of carbon dioxide in the formulation (and if it truly is being considered an active ingredient).
- 5) Based on the acute toxicity of this product, revise your "Hazards to Humans and Domestic Animals" to read as follows:

**"DANGER**

Corrosive. Fatal if swallowed. Fatal if absorbed through skin. Fatal if inhaled. Causes irreversible eye damage. Causes skin burns. Do not get in eyes, on skin, or on clothing. Do not breathe vapor or spray mist. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals."

Note: The Agency recommends that the text "Exposure may cause suffocation and death... For retail sale to and use only be Certified Applicators or persons under their direct supervision and only for those uses covered by the Certified Applicator's certification" be placed below the precautionary statements listed above.

- 6) Per the acute toxicity review, the text "Long-sleeved shirt and long pants" appearing in the handler PPE section must be revised to read "coveralls over long-sleeved shirt and long pants."
- 7) Per the RED, additional text noted in bold type below must be added to heading on Page 5 of the label:

**"Air concentrations lower than 10 ppm from a direct-read device, and air concentrations at or below 2 ppm as an 8-hour Time Weighted Average:"**

- 8) Per the revised RED label table, the text "Fumigation taking place in a vacuum-sealed pressurized chamber is limited to a maximum concentration of 2.8 lbs ai/1000 ft3 (0.0448 oz/ft3) of fumigation enclosure. During aeration, the chamber is actively aerated with 20 air changes per hour with a 10 foot stack above the chamber. A buffer zone of 10 ft is required during aeration" appearing under the heading "Vacuum Chamber Fumigation" must be replaced with the following:

"Fumigation in Vacuum-Sealed Pressurized Chambers

For all applications of PPO  $> 75$  lbs ai/1,000 ft<sup>3</sup> (1.2 oz/ft<sup>3</sup>) and  $\leq 150$  lbs ai/1,000 ft<sup>3</sup> (2.4 oz/ft<sup>3</sup>), the chamber must be equipped with equipment specifically designed to reduce PPO emissions by at least 95 percent.

For chambers  $\leq 5,000$  ft<sup>3</sup> with PPO application rates of 75 lbs ai/1,000 ft<sup>3</sup> (1.2 oz/ft<sup>3</sup>) and below:

- a chamber must have a release height of at least 27 feet and during the aeration period there must be a minimum flow rate through the stack equivalent to at least 20 air changes per hour, or
- a chamber must have a release height of at least 40 ft and a minimum flow through the stack equivalent to at least 4 air changes per hour, or
- the chamber must be equipped with equipment specifically designed to reduce PPO emissions by at least 95 percent.

For chambers  $> 5,000$  ft<sup>3</sup> and  $\leq 10,000$  ft<sup>3</sup> with application rates of PPO 75 lbs ai/1,000 ft<sup>3</sup> (1.2 oz/ft<sup>3</sup>) and below:

- a chamber must have a release height of at least 40 feet and during the aeration period there must be a minimum flow rate through the stack equivalent to at least 20 air changes per hour, or
- the chamber must be equipped with equipment specifically designed to reduce PPO emissions by at least 95 percent.”

9) Also, item #2 under the heading “Buffer Zone Entry Restrictions” on the bottom of Page 13 of the label must be revised per the RED to read “the air concentration level for propylene oxide is at or below **2 ppm for an 8-hour time weighted average.**”

10) The first paragraph on the top of Page 14 of the label must be revised to read:

“The certified applicator supervising the fumigation must ensure that any person, except the certified applicator or persons under his/her direct supervision, is kept outside **the buffer zone surrounding the treated enclosure from the time propylene oxide is introduced into the enclosure until the air concentration of propylene oxide being exhausted from the treated enclosure is measured to be 10 ppm or less.**”

11) The following revisions are needed to the section entitled “Placarding of Fumigated Enclosures:”

- Revise item 4 to read “the date and time of fumigation, and.”

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-Revise "These signs must be posted at eye level... and throughout the *restricted area entry interval*" to read "These signs must be posted at eye level... and throughout the *entry restricted period*."

12) The text below conflicts with RED-required respirator protection text. The label must be revised.

On Page 9: "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, chamber, rail car, trailer, cocoon, or tent which has free fumigant gas in it."

On Page 10: "Re-entry: CO<sub>2</sub> over 5,000 ppm and/or propylene oxide over 10 ppm when measured using a direct read device and the propylene air concentration exceeds 2 ppm as an 8-hour time weighted average, and/or O<sub>2</sub> levels are below 21%, or any concentrations are unknown): If CO<sub>2</sub> levels exceed 5,000 ppm and/or propylene oxide levels exceed 10 ppm and/or O<sub>2</sub> levels are below 21%, persons must wear a **supplied-air respirator (MSHA/NIOSH approval number TC-19C), or a self-contained breathing apparatus (SCBA) (MSNA/NIOSH approval number prefix TC-13F).**"

On Pages 15-18: "Air should be monitored so that worker exposure is below 10 ppm PPO and 5000 ppm CO<sub>2</sub> unless **OSHA approved SCUBA or fresh air supply is worn**" and "Do not enter unless propylene oxide levels are below 10 ppm, carbon dioxide levels are below 5,000 ppm and oxygen levels meet or exceed 21% unless **OSHA approved SCUBA or fresh air supply is worn.**"

13) On page 2 of your product label, revise "Herbs and Spices" to read "Dried Herbs and Spices (Crop Group 19, dried)".

14) Remove "pine nut" and "pistachio" from the product label as they are not part of the supported Crop Group 14. Additionally remove "chili powder" from "Other commodities" as this is not a supported use.

15) In "other commodities", revise "cacao bean" to read "cacao bean, dried bean"; revise "cacao powder" to read "cacao bean, cocoa powder"; revise "grape" to read "grape, raisin", delete "raisin"; revise "plum" to read "plum, prune dried" and delete "prunes, dried".

16) Add "To the extent consistent with applicable law" to the beginning of the second and third sentences of your warranty statement. Also add "To the extent consistent with applicable law" to the beginning of the first sentence under "Limitation of Remedies".

17) Place the First Aid section in a box.

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Page 5  
EPA Reg. 47870-3

18) On page 8, change "General Precautions" to "Precautions".

A stamped copy of the label is enclosed for your records. You must submit one copy of the final printed label before you release the product for shipment. Products shipped after 12 months from the date of this letter or the next printing of the label whichever occurs first, must bear the new revised label. If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA. Your release for shipment of the product constitutes acceptance of these conditions. This label supersedes all other previously accepted labels. If you have any questions please call Erik Kraft at 703-308-9358 or email at Kraft.Erik@epa.gov.

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**RESTRICTED USE PESTICIDE DUE TO INHALATION TOXICITY**  
For retail sale to and use only by Certified Applicators or persons under their direct supervision and only for those uses covered by the Certified Applicator's certification.

# PROPOXIDE 892

FUMIGANT  
ACTIVE INGREDIENTS

Propylene Oxide .....	8% by weight
Carbon Dioxide .....	<u>92% by weight</u>
<b>Total</b>	<b>100%</b>

**KEEP OUT OF REACH OF CHILDREN**  
**DANGER PELIGRO**

### PELIGRO

Si usted no entiende la etiqueta, busque a algulen para que se la explique a usted en detalle. (If you do not understand the label, find someone to explain it to you in detail.)

### FIRST AID

**IF INHALED:** Move person to fresh air. If person is not breathing, call 911 or ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. Keep victim lying down and warm. If breathing is difficult, give oxygen. Call a poison control center or doctor for treatment advice.

**IF SWALLOWED:** Call poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. DO NOT induce vomiting unless instructed to do so by doctor or poison control center. Do not give anything by mouth to an unconscious person.

**IF IN EYES:** 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 eye. Call a poison control center or doctor for treatment advice.

**IF ON SKIN or CLOTHING:** Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

**HOTLINE NUMBER:** Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-800-424-9300 for emergency medical treatment information.

**NOTE TO PHYSICIAN:** Possible mucosal damage may contraindicate the use of gastric lavage.

EPA Registration Number: 47870-3  
Net Weight 75 lbs

EPA Est. Number: 36592-CA-1  
47870-NJ-1

**ACCEPTED**  
**With COMMENTS**  
**In EPA Letter Dated:**  
5-15-10  
Under the Federal Insecticide,  
Fungicide, and Rodenticide Act  
as amended, for the pesticide  
registered under EPA Reg. No.

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Propoxide 892, when used as directed, has been shown to be effective in controlling:

Common Name	Taxonomic Name	Common Name	Taxonomic Name
Indian meal moth	<i>Plodia interpunctella</i>	Red flower beetle	<i>Tribolium castaneum</i>
Confused flour beetle	<i>T. castaneum Jacqueline du Val</i>	Warehouse beetle	<i>Trogoderma variable Ballion</i>
Cigarette beetle	<i>Lasioderma serricorne</i>	Lesser grain borer	<i>Rhyzopertha dominica</i>
Sawtooth grain beetle	<i>Oryzaephillus surinamensis</i>	Dried fruit beetle	<i>Carpophilus hemipterus</i>
Mediterranean flour moth	<i>Ephestia cautella</i>	Codling moth	<i>Sydia pomonella</i>

For non food use as an insecticidal fumigant for the control of stored product insects in cosmetic articles and ingredients, non-edible gums, ores, packaging, pigments, pharmaceutical materials, books, and discarded nut shells prior to disposal.

To aid in the control of microbiological spoilage and as an insecticidal fumigant for the control of stored products' insects in the following food commodities:

**Herbs and Spices**

Allspice	Coriander (cilantro or Chinese parsley) (leaf)	Marigold
Angelica	Coriander (cilantro) (seed)	Marjoram
Anise (anise seed)	Costmary	Mustard (seed)
Anise, star	Culantro (leaf)	Nasturtium
Annatto (seed)	Culantro (seed)	Nutmeg
Balm (lemon balm)	Cumin	Parsley (dried)
Basil (dried)	Curry (leaf)	Pennyroyal
Borage	Dill (dillweed)	Pepper, black
Burnet	Dill (seed)	Pepper, white
Camomile	Fennel (common)	Poppy (seed)
Caper buds	Fennel, Florence (seed)	Rosemary
Caraway	Fenugreek	Rue
Caraway, black	Grains of paradise	Saffron
Cardamom	Horehound	Sage
Cassia bark	Hyssop	Savory, summer and winter
Cassia buds	Juniper berry	Sweet bay (bay leaf)
Catnip	Lavender	Tansy
Celery seed	Lemongrass	Tarragon
Chervil (dried)	Lovage (leaf)	Thyme
Chive	Lovage (seed)	Vanilla
Chive, Chinese	Mace	Wintergreen
Cinnamon		Woodruff
Clary		Wormwood
Clove buds		

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**Raw or Processed Tree Nuts (shelled and in-shell)**

Almond  
Beech nut  
Brazil nut  
Butternut  
Cashew

Chestnut  
Chinquapin  
Filbert (hazelnut)  
Hickory nut  
Pine nut

Macadamia nut  
(bush nut)  
Pecan  
Pistachio  
Walnut, Black and  
English

**Other Commodities**

Cacao beans  
Cocoa powder  
Grape  
Raisins

Figs  
Plum  
Prunes, dried

Dried onion  
Dried garlic  
Chili powder



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Use only in vacuum chambers, atmospheric chambers, trailers, containers, rail cars, cocoons™, under tents or tarps where gas is confined and entrance restricted during fumigation according to label instructions.

Not for use to fumigate homes, office buildings, manufacturing facilities, schools or wherever access and exposure can not be controlled according to label instructions.

## PRECAUTIONARY STATEMENTS

### Hazards to Humans and Domestic Animals

**EXPOSURE MAY CAUSE SUFFOCATION AND DEATH.** The vapors of propylene oxide are heavier than air and may spread long distances; distant ignition and flash-back are possible. Propylene oxide can react with water and a runaway reaction might occur. Propylene oxide is very reactive with chlorine, ammonia, strong oxidizing agents and acids. Restricted Use Pesticide due to toxicity categories. For retail sale to and use only by Certified Applicators or person under their direct supervision and only for those uses covered by the Certified Applicator's certification.

**DANGER:** Causes irreversible eye damage and skin burns. Harmful if swallowed. Do not get in eyes, on skin, or on clothing. Wear protective eyewear such as full face shield and vapor proof goggles when opening drums or handling product. Avoid touching gloves or hands to eyes after handling until possible residues are washed off of hands. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, or using tobacco. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals. **Remove and wash contaminated clothing before reuse.**

If the concentration of propylene oxide in the workroom area is measured to be 10 ppm or greater at anytime or greater than 2 ppm as an 8-hour time weighted average respiratory protection is mandatory. See Respirator Requirements below for acceptable types of respirators.

### AIR CONCENTRATION LEVEL

The acceptable air concentration level for persons exposed to propylene oxide is 2 ppm (8 mg/m<sup>3</sup>) as a time weighted average. Carbon dioxide levels must be below 5000 ppm and the level of oxygen must equal or exceed 21% in an enclosed space.

### PERSONAL PROTECTIVE EQUIPMENT

Some materials that are chemical-resistant to this product are Tychem or Neoprene for up to 8-hours of exposure and PE/EVAL for up to 4-hours of exposure.

All handlers opening propylene oxide drums or tanks, cleaning up leaks or spills, or who otherwise may potentially contact liquid propylene oxide, must wear:

- Long-sleeved shirt and long pants;

- Chemical-resistant gloves
- Chemical-resistant footwear plus socks
- Chemical resistant apron
- Face-sealing goggles, and
- Full-face shield, unless a respirator that covers the entire face is worn.

**Respirator Requirements:** Once propylene oxide has been introduced into an enclosure, the certified applicator supervising the fumigation must make sure that all persons in the exposure area (the treatment and the buffer zone, if applicable) have appropriate respiratory protection or are removed from the exposure area.

**Air Concentrations 10 PPM or Greater from a Direct-read Device or Air Concentrations Greater than 2 ppm as an 8-Hour Time Weighted Average:**

If propylene oxide air concentration level is measured to be 10 ppm or greater at anytime when measured using a direct read device or if propylene air concentration exceeds 2 ppm as an 8-hour time weighted average, each person in the exposure area must wear either;

- a supplied-air respirator (MSHA/NIOSH approval number TC-19C), or
- a self-contained breathing apparatus (SCBA) (MSHA/NIOSH approval number prefix TC-13F) or
- any NIOSH-approved air purifying respirator (APR) outfitted with an organic vapor canister/cartridge (NIOSH approval prefix TC-23C) and an end-of service-life indicator (ESLI) certified by NIOSH for the contaminant (APR is not approved for IDLH situations); or
- any NIOSH approved air purifying respirator (APR) outfitted with an organic vapor canister/cartridge for which, if there is no ESLI certified by NIOSH for the contaminant, the employer implements a change schedule for canisters and cartridges that is based on documented objective information or data that will ensure that canisters and cartridges are changed before the end of their service life (APR is not approved for IDLH situations).

**Air Concentration lower than 10 ppm from a Direct-read Device, and Air Concentration at or below 2 PPM as an 8-hour Time Weighted Average:** No respirator is required if the air concentration level of propylene oxide in the exposure area is measured to be lower than 10 ppm using a direct-read device *and* the air concentration is below 2 ppm as an 8-hour time weighted average.

**WORKER SAFETY REQUIREMENTS**

**Respirator Requirements:** When a respirator is required for use with this product, the certified applicator supervising the fumigation must make sure that;

- a) Respirators must be fit tested and fit checked using a program that conforms with OSHA's requirements (described in 29CFR Part 1910.134;
- b) Respirator users must be trained using a program that conforms with OSHA's requirements (described in 29CFR Part 1910.134;
- c) Respirator users must be examined by a qualified medical practitioner to ensure the physical ability to safely wear the style of respirator worn;

- d) Respirators must be maintained according to a program that conforms with OSHA's requirements (described in 29CFR Part 1910.134
- If liquid fumigant splashes or spills on clothing, remove them at once, and place them outdoors in an isolated place to aerate, because fumes will be an intolerable source of irritation.
  - Immediately after application remove personal protective equipment. Do not reuse the personal protective equipment until cleaned. Keep and wash the work clothing and personal protective equipment separately from other laundry.
  - Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product. Do not reuse them.
  - Follow manufacturer's instructions for cleaning/maintaining personal protective equipment

#### **User Safety Recommendations**

Users should wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.

Users should remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

Users should remove PPE immediately after handling this product Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

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## PHYSICAL OR CHEMICAL HAZARDS

**EXTREMELY HAZARDOUS LIQUID AND VAPOR UNDER PRESSURE:** Contents under pressure. Keep away from heat, sparks and open flame. Do not puncture or incinerate container. Exposure to temperatures above 130°F may cause bursting.

### IN CASE OF FIRE, SPILL OR LEAK

**FIRE:** Use carbon dioxide or dry chemical on small fires and "alcohol" foams on large fires. Water spray may be ineffective, but use water to keep exposed cylinders cool. In advanced or massive fires, firefighting should be done from a safe distance or a protected location. Wear self contained breathing apparatus (SCBA) and full protective clothing.

**SPILL OR LEAK:** Evacuate everyone from the immediate area of the spill or leak. For entry into affected area to correct problem, wear the personal protective equipment (including prescribed respirators) specified in the Hazards to Humans section of this labeling. Move leaking or damaged containers outdoors or to an isolated location. Observe strict safety precautions. Work upwind, if possible. Allow spilled fumigant to evaporate. Only correctly trained and PPE-equipped handlers are permitted to perform such cleanup. Do not permit entry into the spill or leak area by any other person until the air concentration of propylene oxide is measured to be at or below 2 PPM as an 8-hour time weighted average.

Contaminated soil, water, and other cleanup debris is a toxic hazardous waste. Report spill to the National Response Center (800-424-8802) if reportable quantity of 1000 lbs is exceeded.

### STORAGE AND DISPOSAL

Do not contaminate water, food, or feed by storage or disposal. Persons moving, handling, or opening containers must wear the personal protective equipment (including prescribed respirators when necessary) specified in the Human Hazards section of this labeling. Store containers in a well-ventilated area.

**PESTICIDE STORAGE:** Store under lock and key in a well-ventilated area away from heat, flame, sparks, electrical equipment, or other ignition sources.

**PESTICIDE DISPOSAL:** Cylinders containing unused gas must be returned to their original shipping point. Unused Propoxide should NOT be discharged as a method of disposal.

**CONTAINER DISPOSAL:** When empty, the cylinder must be returned to the original shipping point. The cylinder is the property of ABERCO, Inc. (9430 Lanham-Severn Road, Seabrook MD 20706, 301-459-7090)

### ENVIRONMENTAL HAZARDS

This pesticide is toxic to birds and mammals. Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans, or other waters unless in accordance with the requirements of a National Pollution Discharge Elimination System (NPDES) permit and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority. For guidance contact your State Water Board or Regional Office of the EPA.

### 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 contained space fumigant replaces air and may be fatal. 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 MAY REACT WITH RUBBER.
5. To prevent possible stratification due to cold or standing for long periods of time, always mix by laying cylinder flat and quickly standing it upright at least 4 times before cylinder hookup.
6. Cylinders must be secured in an upright position when discharging and must be grounded when discharging in order to avoid static sparks.

7. Cylinder valve outlets are provided with left hand threads. Do not attach ordinary pipe fittings to these valves and do not apply shellac or joint compound to valve threads.
8. COMPLY WITH ALL INSURANCE REQUIREMENTS, LAWS, ORDINANCES AND REGULATIONS PERTAINING TO FUMIGATION.
9. 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.
10. If dosage required is less than the entire contents of the cylinder. THE PROPER 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 using a platform scale.
11. 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.
12. Place warning sign on all entrances to areas where material is being fumigated. Adjacent areas should be evacuated. If evacuation is not feasible, they must be monitored for propylene oxide and elevated levels of carbon dioxide during fumigation.
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, chamber, rail car, trailer, cocoon™, or tent which has free fumigant gas in it.
14. When fumigation is completed ventilate to open air. Space must not be entered by unprotected persons until level of propylene oxide is below 10 ppm, CO<sub>2</sub> is below 5,000 ppm and O<sub>2</sub> levels meet or exceed 21%. Be sure to close the cylinder valve.
15. Do not remove a placard until the treated space is completely aerated. To determine whether aeration is complete, each fumigated site must be monitored and shown to contain less than 10 ppm propylene oxide and 5,000 ppm CO<sub>2</sub> inside. If less than 10 ppm propylene oxide and less than 5,000 ppm CO<sub>2</sub> are detected, the placard may be removed.
16. For enclosed area, O<sub>2</sub> level must be 21% or greater prior to entry.

## AERATION AND RE-ENTRY

**A Certified applicator must be on site during application, initial aeration and during initial reentry. Two persons must be present for safety reasons during initial re-entry, at least one must be a certified applicator.**

After fumigation, treated areas must be aerated until the level of propylene oxide is below 10 ppm when measured using a direct read device and the propylene air concentration is below 2 ppm as an 8-hour time weighted average, the level of carbon dioxide is below 5,000 ppm, and the level of oxygen equals or exceeds 21%. Do not allow entry into the treated area by any person before this time unless provided with respiratory protection as described above.

**AERATION:** After fumigation, aerate treated areas until the level of carbon dioxide, as measured by commercially available analyzers, is below 5000 ppm and the level of propylene oxide is below 10 ppm when measured using a direct read device and the propylene air concentration is below 2 ppm as an 8-hour time weighted average, and the level of oxygen equals or exceeds 21%. Do not allow entry into the treated areas by any person before this time unless respiratory protection as described above. The analyzers used for reentry must be calibrated per the manufacturer's instructions.

**RE-ENTRY:** (CO<sub>2</sub> below 5,000 ppm, propylene oxide below 20 ppm when measured using a direct read device and the propylene air concentration is below 2 ppm as an 8-hour time weighted average, O<sub>2</sub> equals or exceeds 21%): If CO<sub>2</sub> levels are below 5,000 ppm, propylene oxide levels are below 10 ppm and O<sub>2</sub> levels meet or exceed 21%, person may re-enter the treated area without respiratory protection. The levels should be monitored to make sure they do not deviate adversely in enclosed spaces over time (i.e. PPO levels increase above 10 ppm, CO<sub>2</sub> levels increase above 5,000 ppm, or O<sub>2</sub> levels decrease below 21%). If these conditions are not met respiratory protection as described above must be worn.

**RE-ENTRY:** (CO<sub>2</sub> over 5,000 ppm and/or propylene oxide over 10 ppm when measured using a direct read device and the propylene air concentration exceeds 2 ppm as an 8-hour time weighted average, and/or O<sub>2</sub> levels are below 21%, or any concentrations are unknown): If CO<sub>2</sub> levels exceed 5,000 ppm and/or propylene oxide levels exceed 10 ppm and/or O<sub>2</sub> levels are below 21%, persons must wear a supplied-air respirator (MSHA/NIOSH approval number TC-19C), or a self-contained breathing apparatus (SCBA) (MSHA/NIOSH approval number prefix TC-13F)

## PLACARDING

The certified applicator supervising the fumigation (or person under his/her direct supervision) must placard all entrances to the fumigation enclosure with signs bearing:

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1. skull and crossbones symbol
2. The signal word "DANGER/PELIGRO"
3. The statement "Area under fumigation. DO NOT ENTER/NO ENTRE".
- 4 Date of fumigation.
- 5 statement "Propylene Oxide Fumigation".
- 6 Name, address, and telephone number of the certified applicator supervising the fumigation.

These signs must be posted at eye level and must be visible from all points of entry to the treated area. They must remain posted during the application and throughout the restricted area entry interval. The certified applicator supervising the fumigation must ensure that no person, except the certified applicator or persons under his/her direct supervision who are wearing appropriate respiratory protection, enters into the treated enclosure until the signs are removed. Such signs must only be removed when aeration has occurred and when the air concentration level of propylene oxide is monitored as described in this labeling and the monitoring indicates that workers can enter without respiratory protection. Signs must remain legible during entire posting period.

The warning signs at entrances to fumigation enclosure may only be removed by the certified applicator supervising the fumigation or person under his/her direct supervision.

Vehicles must be placarded with the applicable U.S. Department of Transportation warning signs.

**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 during application. For any requirements specific to your state or Tribe, consult the agency responsible for pesticide regulation.

The maximum size enclosure that is allowed to be fumigated is 10,000 ft<sup>3</sup>.

Do not fumigate if chamber or commodity temperature is below 100°F. Read all Directions for Use carefully before applying. Exposure time is dependent upon pest pressure and commodity packing conditions. Use maximum time when:

- 1- Pest pressure is heavy (clear signs of infestation)
- 2- Commodity is densely packed
- 3- Commodity is packaged in plastic or other material that may act as a barrier to the gas



## BUFFER ZONES

Buffer Zones must be established to provide adequate protection for workers and bystanders. The following directions and tables can be used to determine the buffer zone distance from the treatment area during application and aeration. The certified applicator supervising the fumigation must ensure that any person except the certified applicator or persons under his/her direct supervision is kept outside the buffer zones that must be maintained from the time propylene oxide is introduced into the chamber until aeration is complete.

### Vacuum Chamber Fumigation

#### For vacuum-sealed chambers:

Fumigation taking place in a vacuum-sealed pressurized chamber is limited to a maximum concentration of 2.8 lbs ai/1000 ft<sup>3</sup> (0.0448 oz/ft<sup>3</sup>) of fumigation enclosure.

For chambers ≤ 5,000 ft<sup>3</sup> with PPO application rates of 75 lbs ai/1,000 ft<sup>3</sup> (1.2 oz/ft<sup>3</sup>) and below:

- a chamber must have a release height of at least 27 feet and during the aeration period there must be a minimum flow rate through the stack equivalent to at least 20 air changes per hour, OR
- a chamber must have a release height of at least 40 ft and a minimum flow through the stack equivalent to at least 4 air changes per hour, OR
- the chamber must be equipped with equipment specifically designed to reduce PPO emissions by at least 95 percent.

For chambers > 5,000 ft<sup>3</sup> and ≤ 10,000 ft<sup>3</sup> with application rates of PPO 75 lbs ai/1,000 ft<sup>3</sup> (1.2 oz/ft<sup>3</sup>) and below,

- a chamber must have a release height of at least 40 feet and during the aeration period there must be a minimum flow rate through the stack equivalent to at least 20 air changes per hour, OR
- the chamber must be equipped with equipment specifically designed to reduce PPO emissions by at least 95 percent."

Placard or post all entrances to the fumigated area with Placards as described in the placarding section of the label. The signs must 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 is necessary because the treated area is too small to accommodate a sign of this size.

**Requirements Usually Are:**

CHAMBER TEMPERATURE	Fumigant in Pounds per 1000 Cubic Feet	Hours Exposures Time
100°F	35	16 – 48
125°F	35	12 – 24

Follow all directions under general precautions section. Air should be monitored so that worker exposure is below 10 ppm PPO or 2 ppm 8-hour time weighted average and 5000 PPM CO<sub>2</sub> unless respiratory protection as described above is worn.

1. Preheat material to be fumigated to 95°F.
2. Evacuate air - 26" Hg.
3. Introduce fumigant through a heat exchanger consisting of a 16-ft coil of 1/4" diameter stainless steel tubing in 180°F water bath or equivalent. Open valve wide. Never exceed atmospheric pressure in chamber.
4. Expose material to fumigant for maximum of 48 hours maintaining heat of 100°F to 125°F. Dose and exposure time depends on contamination.
5. Evacuated gas - 26" Hg.
6. Break vacuum with filtered air.
7. Aerate fumigated material with 4 chamber volumes of fresh air.

**FUMIGATION NOT CONTAINED WITHIN A VACUUM-SEALED PRESSURIZED CHAMBER**

Fumigation not contained in a vacuum-sealed pressurized chamber, such as in atmospheric chambers, structures, tents, tarped product, rail cars or shipping containers is limited to a maximum concentration of 2.8 lbs ai/1000 ft<sup>3</sup> (0.0448 oz/ft<sup>3</sup>) of fumigation enclosure.

For any fumigation that takes place in a non-vacuum-sealed pressurized chamber the appropriate buffer zone (see below) must be established around the treated enclosure from the time propylene oxide is introduced into the enclosure and must remain in effect until the air concentration of propylene oxide being exhausted from the treated enclosure is measured to be 10 ppm or less.

- For chambers that are passively aerated the buffer zones in Table 1 are required during treatment and aeration.

**Table 1.**

<b>Enclosure Size</b>	<b>Buffer Zone</b>
≤ 1,000 ft <sup>3</sup>	10 feet
> 1,000 ft <sup>3</sup> and ≤ 2,000 ft <sup>3</sup>	50 feet
> 2,000 ft <sup>3</sup> and ≤ 5,000 ft <sup>3</sup>	115 feet
> 5,000 ft <sup>3</sup> up to 10,000 ft <sup>3</sup>	200 feet

- During aeration if the chamber is actively aerated with 20 air changes per hour with a 10 foot permanent or portable stack above the product, chamber, or structure, the required buffer zone that must be established around the treated chamber is 10 feet.

**Buffer Zone Entry Restrictions**

Entry by the certified applicator supervising the fumigation, or persons under his/her direct supervision, is permitted in the buffer zone, provided either:

- 1- the appropriate respirator is worn ( see PPE requirements elsewhere in this label); OR
- 2- the air concentration level for propylene oxide is at or below 10 ppm or 2 ppm for an 8-hour time weighted average.

The certified applicator supervising the fumigation must ensure that any person, except the certified applicator or persons under his/her direct supervision, is kept outside the required treatment and/or aeration buffer zones surrounding the treated enclosure from the time propylene oxide is introduced into the enclosure until aeration is complete.

**Atmospheric Chamber or Structure Fumigation**

See buffer zone information above. Placard or post all entrances to the fumigated area with Placards as described in the placarding section of the label. The signs must 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 is necessary because the treated area is too small to accommodate a sign of this size.

**Treatment Requirements:**

<b>CHAMBER TEMPERATURE</b>	<b>Fumigant in Pounds per 1000 Cubic Feet</b>	<b>Hours Exposures Time</b>
100° to 125°F	35	16 - 48

FUMIGATION In gas proof Vaults or Chambers. Not effective if material is densely packed. Follow all directions under general precautions section. Air should be

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monitored so that worker exposure is below 10 ppm PPO and 5000 PPM CO<sub>2</sub> unless respiratory protection as described above is worn.

1. Place material to be fumigated in gas proof chamber and preheat to 100° to 125° F.
2. Introduce fumigant through a heat exchanger consisting of a 16-ft coil of 1/4" diameter stainless steel tubing in a 180°F water bath or equivalent. Open air vent temporarily. Open cylinder valve wide. Gas replaces air.
3. When platform scale indicates a drop to desired weight, close cylinder valve and air vent.
4. Expose material to fumigant for 48 hours maximum and maintain heat of 100°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 at a rate to achieve 20 changes of air.
6. If material is to be stored in a confined space, provide adequate ventilation in order to aerate material for removal of effusing free gas remaining.

### **Railcars and Trailers**

See buffer zone information above. Placard or post all entrances to the fumigated area with Placards as described in the placarding section of the label. The signs must 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 is necessary because the treated area is too small to accommodate a sign of this size.

**Railcars and trailers must not be in transit when fumigated. They must be in a stationary location until fumigation is complete and placarding is removed. Railcars and Trailers must be aerated before movement is allowed.**

Follow all directions under general precautions section. Air should be monitored so that worker exposure is below 10 ppm PPO and 5000 PPM CO<sub>2</sub> unless OSHA approved SCUBA or fresh air supply is worn.

Only fumigate when trailer or railcar and commodity temperature are above 100°F and **only** for trailers and railcars with vents that can be opened after fumigation.

**Railroad cars** should be placed on seldom used trackage or siding so that it will not have to be moved while under fumigation.

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Park **trailer** out of traffic area, if possible on the lee side of a building to protect from winds.

Do not fumigate while strong winds are blowing.

1. Seal railcar or trailer doors with tarps of at least 4 mil thickness making a secure seal to the surface with tape and secure ventilators and other openings with tape.
2. Place cylinder on platform scale.
3. Introduce fumigant through a heat exchanger consisting of a 16-ft coil of 1/4" diameter stainless steel tubing in a 180°F water bath or equivalent.
4. Expose material to 35 pounds of fumigant per 1000 cubic feet.
5. When platform scale indicates a drop to desired weight, close cylinder valve.
6. Fumigate material for 16 to 48 hours (maximum) depending on level of contamination.
7. After fumigation open vents and blow air through large fans through vents for one hour at a rate to achieve 20 changes of air.
8. Do not enter unless propylene oxide levels are below 10 ppm, carbon dioxide levels are below 5,000 ppm and oxygen levels meet or exceed 21% unless OSHA approved SCUBA or fresh air supply is worn.

#### **Air and Sea Transport Containers**

See buffer zone information above. Placard or post all entrances to the fumigated area with Placards as described in the placarding section of the label. The signs must 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 is necessary because the treated area is too small to accommodate a sign of this size.

**Air and sea transport containers must not be in transit when fumigated. They must be in a stationary location until fumigation is complete and placarding is removed. Air and Sea Transport Containers must be aerated before movement is allowed. They must not be loaded into an aircraft or ship until completely aerated.**

Only fumigate when container and commodity temperature are above 100°F. If container is treated in an indoor area it should be located only in a highly ventilated space closed to all traffic and with vents ducted to the outside.

- 1- Seal railcar or trailer doors with tarps of at least 4 mil thickness making a secure seal to the surface with tape and secure ventilators and other openings with tape.
- 2- Place cylinder on platform scale.
- 3- Introduce fumigant through a heat exchanger consisting of a 16-ft coil of 1/4" diameter stainless steel tubing in a 180°F water bath or equivalent.
- 4- Expose material to 35 pounds of fumigant per 1000 cubic feet.
- 5- When platform scale indicates a drop to desired weight, close cylinder valve.
- 6- Fumigate material for 16 to 48 hours (maximum) depending on level of contamination.

- 7- After fumigation open container and circulate air for at least one hour at a rate to achieve 20 changes of air.
- 8- Do not enter unless propylene oxide levels are below 10 ppm, carbon dioxide levels are below 5,000 ppm and oxygen levels meet or exceed 21% unless OSHA approved SCUBA or fresh air supply is worn.

**Tents**

See buffer zone information above. Placard or post all entrances to the fumigated area with Placards as described in the placarding section of the label. The signs must 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 is necessary because the treated area is too small to accommodate a sign of this size.

Follow all directions under general precautions section. Air should be monitored so that worker exposure is below 10 ppm PPO and 5000 PPM CO<sub>2</sub> unless respiratory protection as described above is worn.

Temperature inside tent must be at least 100°F.

- 1. The tent must be of a thickness (equivalent to a 4 mil tarp) that will not allow gas to escape. Seal tent flaps with tape and seal lower surface of tent to hard surface with weights such as water snakes. If the surface is not air tight, it can be made so with a tarp.
- 2. Place cylinder on platform scale.
- 3. Introduce fumigant through a heat exchanger consisting of a 16-ft coil of 1/4" diameter stainless steel tubing in a 180°F water bath or equivalent.
- 4. Expose material to 35 pounds of fumigant per 1000 cubic feet.
- 5. When platform scale indicates a drop to desired weight, close cylinder valve.
- 6. Fumigate material for 16 to 48 hours (maximum) depending on level of contamination.
- 7. After fumigation blow air through tent for one hour at a minimum rate to achieve 20 changes of air.
- 8. Do not enter unless propylene oxide levels are below 10 ppm, carbon dioxide levels are below 5,000 ppm and oxygen levels meet or exceed 21% unless OSHA approved SCUBA or fresh air supply is worn.

**Tarps**

See buffer zone information above. Placard or post all entrances to the fumigated area with Placards as described in the placarding section of the label. The signs must 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 is necessary because the treated area is too small to accommodate a sign of this size.

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Follow all directions under general precautions section. Air should be monitored so that worker exposure is below 10 ppm PPO and 5000 PPM CO<sub>2</sub> unless respiratory protection as described above is worn.

Temperature of commodity to be treated should be at least 100°F. Tarps should fully cover the commodity and be permanently anchored or firmly held in place with water snakes or equivalent around the perimeter.

1. Stack product and seal securely with tarps as show below. Seal lower surface of upper tarp to hard surface with weights such as water snakes. If the surface is not air tight, it can be made so with a tarp.
2. Place cylinder on platform scale.
3. Introduce fumigant through a heat exchanger consisting of a 16-ft coil of 1/4" diameter stainless steel tubing in a 180°F water bath or equivalent into the bottom of the commodity to be fumigated.
4. Expose material to 35 pounds of fumigant per 1000 cubic feet.
5. When platform scale indicates a drop to desired weight, close cylinder valve.
6. Fumigate material for 16 to 48 hours (maximum) depending on level of contamination.
7. After fumigation the tarp may be removed if outside and product allowed to aerate.
8. If within a confined structure the product must be aerated for at least one hour at a rate to achieve 20 changes of air and vented to the outside before tarp removal.
9. Do not enter unless propylene oxide levels are below 10 ppm, carbon dioxide levels are below 5,000 ppm and oxygen levels meet or exceed 21% unless OSHA approved SCUBA or fresh air supply is worn.

**IF FUMIGATED COMMODITIES ARE MOVED TO AN ENCLOSED SPACE THE LEVELS OF PPO, CO<sub>2</sub> AND O<sub>2</sub> MUST BE MONITORED TO ENSURE EXPOSURE TO UNPROTECTED INDIVIDUALS IS BELOW 10 PPM PPO AND 5,000 PPM CO<sub>2</sub> AND ATMOSPHERIC CONCENTRATION OF O<sub>2</sub> MEETS OR EXCEEDS 21%.**

#### **WARRANTY DISCLAIMER AND INHERENT RISKS OF USE**

ABERCO warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated on the label when used in strict accordance with the Directions For Use, with the proviso that it is impossible to eliminate all risks inherently associated with the use of this product because of abnormal conditions, use of the product in a manner inconsistent with the label, the manner of application and other factors, all beyond the control of ABERCO. All such risks are assumed by the Buyer. Aberco MAKES NO OTHER EXPRESS OR IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR ANY OTHER EXPRESS OR IMPLIED WARRANTY. IN NO CASE SHALL ABERCO BE LIABLE FOR CONSEQUENTIAL, SPECIAL OR INDIRECT DAMAGES RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT. Use of this product evidences Buyer's acceptance of the foregoing terms.

**LIMITATION OF REMEDIES**

The exclusive remedy for losses or damages resulting from this product (including claims based on contract, negligence, strict liability, or other legal theories), shall be limited to, at ABERCO'S election, one of the following:

1. Refund of purchase price paid by buyer or user for product bought, or
2. Replacement of amount of product used.

The terms of the "Warranty Disclaimer" above and this "Limitation of Remedies" cannot be varied by any written or verbal statements or agreements. No employee or sales agent of ABERCO is authorized to vary or exceed the terms of the "Warranty Disclaimer" or this "Limitation of Remedies" in any manner.

**SEE SIDE PANEL FOR ADDITIONAL PRECAUTIONARY STATEMENTS**

Manufactured by ABERCO, Inc. Seabrook, Maryland