

FAQs about the New Chloropicrin Dosage Rates for the Fumiguide™ for Vikane® gas fumigant

Q. Why were the new chloropicrin (CP) dosage rates developed?

A. Fumigators observed that the lowest label rate of CP (1 fl oz per 15,000 cubic feet of space to be fumigated) often required additional or extended ventilation to aerate from large buildings. Fumigators requested that the CP dosage rates be re-evaluated to determine if lower doses could provide sufficient CP concentrations throughout the fumigant exposure period.

Q. How were the new CP dosage rates developed?

A. Field research was conducted using detection devices, including infrared analyzers, to accurately measure CP concentrations adjacent to and distant from CP introduction locations in sealed buildings throughout a range of exposure times. Research was conducted by Dr. Rudi Scheffrahn, University of Florida, and Dr. Bob Williams, Dow AgroSciences, from 2000 through 2006. Eighty buildings, representing slab and crawl space, residential and commercial buildings in Florida and California and ranging from 12,000 to 2,700,000 cubic feet in volume, were tested. The results of the field testing were used by Dr. Scott Ray, Dow AgroSciences, to develop a new model for calculating CP dosage rates based on exposure time, structure volume, and underseal.



MIRAN gas analyzer used to measure CP concentrations throughout various exposure periods in field trials.

Q. How will the fumigator calculate the ounces of CP to apply using the new CP dosage rates?

A. The fumigator will need to use a new or upgraded Fumiguide™ electronic calculator to determine the ounces of CP to apply using the new CP dosage rates.

Q. What is the cost and procedure for upgrading a Fumiguide electronic calculator?

A. The cost to upgrade a Fumiguide calculator depends upon its serial number, hand-written serial number on the instruction label on the back of the unit. Serial numbers 901 and above will cost \$65 per unit to replace the firmware chip. Serial numbers 900 and below will cost \$175 to replace the circuit board. These prices do not include shipping. Payment terms and shipping directions are described in the enclosed “Fumiguide Calculator Upgrade Form.” Fumiguides requiring upgrades should be sent with this upgrade form directly to Doug Hampton at:

Hamptech, c/o PMMI Electronics

1007 Spanish Moss Lane

Houston, TX 77077

Phone: 281-293-8000 Email: doug.hampton@pmmi-electronics.com

New Fumiguides cost \$405 and can be ordered directly from Dow AgroSciences using the standard Fumiguide order form.

100% Vikane users may be eligible for a free upgrade to their Fumiguide Calculator to include the new variable chloropicrin dosage rates. Contact your Dow AgroSciences or Distributor rep for details.

Q. Can the rate of 1 fl oz CP/10,000 to 15,000 cubic feet of space to be fumigated still be applied?

A. Yes. The new Vikane label states, “Use 1 fl oz [CP]/10,000 to 15,000 cubic feet (30 ml/283 to 425 cubic meters) of space to be fumigated or follow dosage rate calculated by the electronic Fumiguide™ system.”

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Q. What differences will fumigators observe using the new/ upgraded Fumiguide electronic calculators?

A.

- Fumigators will need to toggle to “Yes” to accept the terms of the agreement (see below), printed on a sticker on the top side of calculator, to enter data for calculations.
- Fumigators will not need to select a CP dosage rate (“10” or “15”). The Fumiguide will use data already entered for volume, underseal, and exposure time to calculate the ounces of CP to apply.
- The Fumiguide will display a range in ounces of CP to apply to the nearest ¼ ounce. The maximum ounce dose will be based on 1 oz/10,000 cubic feet. The minimum ounce dose is calculated by the model.
- Fumigators will observe that increasing volume, slab vs. soil underseal, or decreasing exposure time will reduce the minimum CP dose in ounces, as demonstrated in the following examples:

Fumigation Parameters	CP Dose (ounces) range based on 1 oz/10,000 to 15,000 ft ³	CP Dose (ounces) Range in New Fumiguide electronic calculator
50,000 cubic feet, slab underseal, 24 h exposure	3.3 - 5	2.25 - 5
500,000 cubic feet, slab underseal, 24 h exposure	33.3 - 50	13.75 - 50
150,000 cubic feet, slab underseal, 24 h exposure	10 - 15	4.25 - 15
150,000 cubic feet, slab underseal, 36 h exposure	10 - 15	7 - 15
150,000 cubic feet, loam underseal, 24 h exposure	10 - 15	6.5 - 15

Q. What are terms of the agreement on the Fumiguide?

A. The terms state: NOTICE: FUMIGUIDE LICENSE AGREEMENT. This device contains proprietary information of Dow AgroSciences LLC (“Company”). By using this device the user agrees to: only use the device to determine the correct dosages of Vikane® gas fumigant to use in fumigation; not use the device to determine dosages for any other fumigant; not use the device to extract or “reverse engineer” any of the proprietary information therein; and not let any other person use the device to determine dosage for any other fumigant or to extract or “reverse engineer” the proprietary information therein. The user agrees this device contains trade secrets and copyrighted material of company. The user shall not disclose, provide, or otherwise make available such trade secrets and copyrighted material in any form to any third party without the prior written consent of Company, and agrees to immediately notify Company if unauthorized use of the device is suspected or confirmed. This Agreement is effective until terminated in writing by Company.

Q. What are the advantages of using a new or upgraded Fumiguide electronic calculator to determine ounces of CP to apply?

A. The new/upgraded Fumiguide calculator will offer fumigators a wider range of CP dose rates to apply. These rates include more precise low doses based on volume of fumigated space, underseal, and exposure time. Therefore, fumigators will have more flexibility to select an appropriate CP dose for the structure to be fumigated based on local conditions including CP sorptive load and temperature.

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