



Product Name: ECO2FUME PHOSPHINE FUMIGANT  
APVMA Approval No: 50177/111671

Label Name:	ECO2FUME PHOSPHINE FUMIGANT
Signal Headings:	DANGEROUS POISON KEEP OUT OF REACH OF CHILDREN READ SAFETY DIRECTIONS BEFORE OPENING OR USING
Constituent Statements:	20 g/kg PHOSPHINE
Mode of Action:	GROUP 24A INSECTICIDE
Statement of Claims:	A non flammable liquefied gas fumigant mixture for control of insect pests in produce or buildings
Net Contents:	31kg
Restrains:	Do NOT fumigate inhabited buildings Do NOT fumigate when commodity temperature is less than 15° C
Directions for Use:	
Other Limitations:	NOT TO BE USED FOR ANY PURPOSE, OR IN ANY MANNER, CONTRARY TO THIS LABEL UNLESS AUTHORISED UNDER APPROPRIATE LEGISLATION  For use by licensed or other authorised personnel only.

Withholding Periods:	<p>WITHHOLDING PERIOD: ALLOW A PERIOD OF 2 DAYS AFTER COMPLETION OF VENTILATION BEFORE USING THE TREATED COMMODITIES FOR HUMAN CONSUMPTION OR STOCK FEED</p>
Trade Advice:	<p>Fumigation for quarantine purposes where elimination of specific exotic pests is essential may require different rates than those specified. These rates are specifically designed and administered by quarantine authorities</p>
General Instructions:	<p>Only experienced and properly instructed persons should use this product. While in the container the product is a liquid under pressure which turns to gas when released. The gas must be confined along with commodities being fumigated in a container or structure that is gastight or equipped with SIROFLO. The minimum standard for a gastight enclosure is one in which an increased or decreased pressure will decay to half the initial value in not less than 5 minutes with the structure filled to its normal capacity</p> <p>Cylinders in use should be in open air or in force ventilated fume room.</p> <p>Show following warning signs prominently at all approaches to every fumigation site: "DANGER – POISON GAS – KEEP AWAY"</p> <p>Apply the required amount of ECO2FUME only with Solvay approved high pressure metering equipment. Turn cylinder valve fully on.</p> <p>Use extreme caution when handling this product which is non-flammable, colourless, highly toxic gas with a garlic-like odour.</p> <p>Protect by sealing or otherwise, sensitive electrical and electronic equipment (meters, switches, fire alarm systems etc.) containing copper/copper alloy components. Phosphine corrodes copper based material.</p> <p>Use of this product should not present a hazard to operators provided they work in accordance with the Australian Standard AS 2476-2008 General Fumigation Procedures and National Health and Medical Research Council's "Code of practice for the Fumigation of Grain with Phosphine."</p>
Resistance Warning:	<p><b>Insecticide Resistance Warning</b> For insecticide resistance management ECO2FUME is a Group 24A insecticide.</p> <p>Some naturally occurring insect biotypes resistant to ECO2FUME and other Group 24 A insecticides may exist through normal genetic variability in any insect population. The resistant individuals can eventually dominate the insect population if ECO2FUME or other Group 24 A insecticides are used repeatedly. The effectiveness of ECO2FUME on resistant individuals could be significantly reduced. Since occurrence of resistant individuals is difficult to detect prior to use, Solvay accepts no liability for any losses that may result from the failure of ECO2FUME to control resistant insects.</p> <p>ECO2FUME may be subject to specific resistance management strategies. For further information contact your local supplier, Solvay representative or local agricultural department agronomist.</p>
Precautions:	<p>DO NOT enter fumigation areas until the concentration of phosphine is below the exposure standard. The use of gas detection tubes or other measuring devices is recommended for</p>

	<p>monitoring gas levels in fumigation areas.</p> <p>Re-entry Period: Keep animals, children and unauthorised persons away from the area under treatment until the concentration of phosphine is below the exposure standard.</p> <p><b>VENTILATION</b></p> <p>Ventilation of structures is complete when phosphine concentrations measured at appropriate locations in the enclosure and work area are below the exposure standard of 0.3 ppm. This may occur before the recommended ventilation time</p> <p>Structures containing treated commodities:</p> <ul style="list-style-type: none"> <li>a) Without through flow: 5 days</li> <li>b) With through flow and forced draught (flash proof fan): minimum of 24 hours</li> <li>c) With through flow and natural draught (wind): 2 – 5 days</li> <li>d) Well-sealed bunker storages: 2 hours, after removal of covering</li> </ul> <p>Empty Buildings</p> <ul style="list-style-type: none"> <li>a) With through flow and forced draught (flash proof fan): 1 to 2 days</li> <li>b) With through flow and natural draught (wind): minimum 2 days</li> </ul>
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Protections:	
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Storage and Disposal:	<p><b>STORAGE AND DISPOSAL</b></p> <p>Store ECO2FUME cylinders in a cool, well ventilated, locked area out of reach of children and unauthorised persons and away from dwellings, animals, food, feedstuffs, seed and fertilizers.</p> <p>Cylinders always remain the property of CYTEC, and should be returned for refilling.</p>
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Safety Directions:	<p>Can kill inhaled. Do not inhale vapour.</p> <p>Avoid contact with eyes and skin.</p>
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First Aid Instructions:	<p>In case of accident or if you feel unwell contact a doctor or Poisons Information Centre Phone: 131126</p> <p>Remove from contaminated area. Apply artificial respiration if not breathing</p>
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First Aid Warnings:	
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# ECO<sub>2</sub>FUME

## DIRECTIONS FOR USE- PRODUCE

**MINIMUM APPLICATION RATE<sup>1</sup> IN g/m<sup>3</sup> of ECO<sub>2</sub>FUME™ &  
MINIMUM CONCENTRATION<sup>2</sup> IN ppm phosphine [PH<sub>3</sub>]  
to be maintained for the required period**

Commodities	Stored Product Pests	Commodity Temperature	Minimum Application Rate (g/m <sup>3</sup> ) & Minimum Phosphine Concentration (ppm)						
			5.0 g/m <sup>3</sup> 70 ppm	10 g/m <sup>3</sup> 140 ppm	15 g/m <sup>3</sup> 215 ppm	25 g/m <sup>3</sup> 360 ppm	35 g/m <sup>3</sup> 500 ppm	50 g/m <sup>3</sup> 700 ppm	70 g/m <sup>3</sup> 1000 ppm
Cereal grains and oilseeds (wheat, barley, sorghum, rice, maize, rye, millet, oats, triticale, canola, lupins, cotton seed, peanut, almond, pistachio, soy bean, etc.); processed food commodities such as flour, breakfast cereals, dried fruits and vegetables, stock feeds); coffee and cocoa beans, tobacco, propagation seeds	Lesser grain borer ( <i>Rhyzopertha dominica</i> ) Including strongly resistant strains	15 – 19°C	25 days	16 days	14 days	13 days	12 days	10 days	na
		20 – 24°C	24 days	15 days	12 days	10 days	10 days	9 days	na
		25 – 29 °C	Do not fumigate	16 days	10 days	7 days	6 days	5 days	na
		30°C or higher	Do not fumigate	18 days	11 days	7 days	4 days	3 days	na
	Rusty grain beetle ( <i>Cryptolestes ferrugineus</i> ) Including strongly resistant strains	20 – 24°C	na	na	na	30 days	na	23 days	na
		25 – 29 °C	na	na	na	27 days	na	18 days	12 days
		30 - 34°C	na	na	na	na	na	16 days	10 days
		35°C or higher	na	na	na	na	na	15 days	6 days
	All other species and known resistant strains (rice/corn weevil, red flour beetle, etc.)	15 – 19°C	18 days	16 days	14 days	13 days	13 days	12 days	na
		20 – 24°C	16 days	14 days	12 days	10 days	10 days	9 days *	na
		25 – 29 °C	12 days	10 days	8 days	7 days	6 days	5 days	na
		30°C or higher	11 days	6 days	5 days	4 days	4 days	3 days	na

na = not applicable

\* = 10 days if resistant Psocoptera present

## DIRECTIONS FOR USE- PRODUCE (CONTINUED)

Cut Flower Pests: Adult & larval stages (not eggs) of aphids, thrips, light brown apple moth and other leaf-rolling moths, earwigs, psocids, two spotted mites.	Dosage rate: = 50 g/m <sup>3</sup> (700 ppm) Commodity temperature = 15°C min Exposure time @ 15°C - 15 hours
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### CRITICAL COMMENTS

1. Application rates are based on the internal volume of the enclosure, they apply equally to full, partly full or empty structures.
2. Concentration of phosphine within the commodity must be measured (at least once a day) to ensure that the required minimum is maintained throughout the commodity.
3. Additional ECO2FUME™ should be added to maintain the minimum concentration.
4. Temperatures specified are those within the commodity to be fumigated. Phosphine may not give adequate control at commodity temperature less than 15°C.
5. Additional times required for distribution to achieve uniform concentrations throughout the commodity are:
  - A.add one day for recirculation and for small bins less than 300 tonnes.
  - B.where recirculation is not employed, add 3 days for surface application in structures greater than 300 tonnes and with height less than twice the width and add 4 days in structures greater than 300 tonnes and with height equal or greater than twice the width.
6. SIROFLO (provides a constant concentration of PH<sub>3</sub> in unsealed storage), SIROFUME (an automatic top-up procedure for gas tight storage) & SIROCIRC (recirculated SIROFLO) are trademarks of CSIRO. These approaches require an additional day to distribute the gas throughout the commodity.