

A photograph of a misty orchard with bare trees and a small wooden structure in the center, overlaid with text.

# Insecticides

PMA 4570/6228

Laboratory 4

# General information on pesticide labels

**PRODUCT NAME**

<p><b>DIRECTIONS FOR USE</b> It is a violation of federal law to use this product in a manner inconsistent with its labeling.</p>	<p><b>KEEP OUT OF THE REACH OF CHILDREN</b> <b>DANGER</b></p>
<p><b>PRECAUTIONARY STATEMENTS</b> <b>HAZARD TO HUMANS (AND DOMESTIC ANIMALS)</b> <b>DANGER</b></p> <p><b>ENVIRONMENTAL HAZARDS</b></p> <p><b>PHYSICAL OR CHEMICAL HAZARDS</b></p>	<p><b>FIRST AID</b> (STATEMENT OF PRACTICAL TREATMENT)</p> <p>IF SWALLOWED _____ IF INHALED _____ IF IN EYES _____ IF ON SKIN _____</p>
<p><b>STORAGE AND DISPOSAL</b></p> <p>STORAGE _____ DISPOSAL _____</p>	<p><b>ACTIVE INGREDIENTS:</b> _____ % <b>OTHER (INERT) INGREDIENTS:</b> _____ % <b>TOTAL:</b> _____ 100.00%</p> <p><b>THIS PRODUCT</b>                      <b>WARRANTY STATEMENT</b> CONTAINS XX LBS.                      _____ OF XXXX PER GALLON                      _____</p> <p><b>MANUFACTURER'S ADDRESS</b> _____</p> <p><b>NET WT. / NET CONTENTS STATEMENT:</b> _____</p> <p><b>EPA Registration No. / EPA Reg. No:</b> _____</p> <p><b>EPA Establishment No. / EPA Est. No:</b> _____</p>

Directions



Hazards and Safety



Signal word



a.i.



**KEEP OUT OF REACH  
OF CHILDREN**

**CAUTION**

# Label Terms



Signal Word	Category	Acute Oral	Acute Dermal	Acute Inhalation	Primary eye irritation	Primary skin irritation	Contains $\geq$ 4 % methanol
DANGER	I	$\leq$ 50 mg/kg*	$\leq$ 200 mg/kg*	$\leq$ 0.05 mg/L*	Corrosive (irreversible destruction of ocular tissue) or corneal involvement or irritation persisting for more than 21 days	Corrosive (tissue destruction into the dermis and/or scarring)	yes
WARNING	II	> 50 - 500 mg/kg	> 200 - 2000 mg/kg	> 0.05 - 0.5 mg/L	Corneal involvement or other eye irritation clearing in 8 - 21 days	Severe irritation at 72 hours (severe erythema or edema)	no
CAUTION	III	> 500 - 5000 mg/kg	> 2000 - 5000 mg/kg	> 0.5 - 2 mg/L	Corneal involvement or other eye irritation clearing in 7 days or less	Moderate irritation at 72 hours (moderate erythema)	no
none required**	IV	> 5000 mg/kg	> 5000 mg/kg	> 2 mg/L	Minimal effects clearing in < 24 hours	Mild or slight irritation at 72 hours (no irritation or slight erythema)	no

\*The word POISON and the skull-and-crossbones symbol must appear near the word DANGER

\*\*Manufactures may use CAUTION signal word and category III labeling if desired

# Personal Protective Equipment (PPE)



# Label Terms

“It is a violation of Federal Law to use this product in a manner inconsistent with its labeling”

Restricted Entry Interval (REI) – Period of time after pesticide is applied when no one can enter the sprayed area without proper PPE. **MUST BE POSTED!**

Pre-harvest Interval (PHI) – The pesticide cannot be sprayed within this amount of time before harvest.

# Label Terms

- Formulation (Table 5-16, p. 127-128)
  - Wettable Powders (50WP)
  - Emulsifiable Concentrates (2EC)
  - Granules (15G)
  - Solutions (2S)
  - Dusts (D)
  - Flowables (2F)
    - If dry the number indicates % a.i.
    - If liquid the number indicates pounds a.i. per gallon

# Examples of Labels

Vendex<sup>®</sup> 50WP

Malathion 5EC

SpinTor<sup>®</sup> 2SC

Website for labels:

<http://www.cdms.net/LabelsMsds/LMDefault.aspx?t=>

# Before You Spray

- Know your target
- Know your equipment
- Do the math





# Know Your Target

## ■ Pest

- Tobacco hornworm
- Heavy infestation

## ■ Crop

- Tomato

## ■ Pesticide

- SpinTor<sup>®</sup>
  - Label rate: 6 fl oz / acre

## ■ Area

- 10 rows
  - 50 ft long
  - 2 ft wide
- 100 ft<sup>2</sup> per row
- 1000 ft<sup>2</sup>
- 0.023 acres

# Know Your Equipment

- Sprayer output
  - 150 mL in 15 sec = 10 mL / sec
- Spray tank capacity
  - 4 L
- Velocity
  - 60 ft in 30 sec = 2 ft / sec
- Spray width
  - 1 ft
- Check your equipment before every application



[specialtyhe.net/car\\_18818.htm](http://specialtyhe.net/car_18818.htm)



[www.northernrtool.com/webapp/wcs/stores/servlet/product\\_6970\\_200312599\\_200312599](http://www.northernrtool.com/webapp/wcs/stores/servlet/product_6970_200312599_200312599)



[www.pestcontrolsupplies.com/Tempo.htm](http://www.pestcontrolsupplies.com/Tempo.htm)

# Do the Math

- How much pesticide
  - Area = 0.023 acres
  - Label rate of SpinTor<sup>®</sup> for heavy infestation of Tobacco Hornworm = 6 fl oz / acre
  - SpinTor<sup>®</sup> needed =  $(0.023 \text{ acres})(6 \text{ fl oz} / 1 \text{ acre}) = 0.138 \text{ fl oz} = 4.085 \text{ mL}$

# Do the Math

- How much carrier (usually water)
  - Area = 1000 ft<sup>2</sup>
  - Velocity = (2 ft / sec)(1 ft spray width) = 2 ft<sup>2</sup> / sec
  - Sprayer output = 10 mL / sec
  - Water needed = (1000 ft<sup>2</sup>)(1 sec / 2 ft<sup>2</sup>)(10 mL / 1 sec) = 5000 mL = 5 L

# Do the Math

- 4.085 mL SpinTor<sup>®</sup> in 5 L water
- Our sprayer holds 4 L of water at a time
- Must apply 3.268 mL SpinTor<sup>®</sup> in 4 L of water, note where you stop, then apply the remaining 0.817 mL SpinTor<sup>®</sup> in 1 L of water
- Or...
  - Adjust velocity (increase to 2.5 ft / sec)
  - Adjust sprayer output (decrease to 8 mL / sec)
  - Adjust sprayer capacity (CO<sub>2</sub> sprayers)

# Useful Unit Conversions

- 1 gallon = 128 fl oz (fluid ounces)  
1 gallon = 3785.3 ml
- 1 fluid ounce = 29.6 ml
- 1 pint = 473 ml
- 1 pound = 453.6 grams (0.4536 kg)
- 1 ounce (dry) = 28.35 grams
- 1 acre = 43,560 ft<sup>2</sup>  
1 acre = 0.4 hectares