



## Fumigation Certification Study Materials

Certification exams for the fumigation categories are based on study material listed below. Some material is from Ontario, the United States and other jurisdictions. Remember that you must always follow British Columbia legislation and Canadian pesticide labels when conflicting information is presented from other jurisdictions.

Categories of fumigation certification are:

- **Fumigation – Ships and Structures** (for the fumigation of ships, aircraft or buildings and the fumigation of bulk cargo in ships)
- **Fumigation – Container** (for the use of fumigants to treat stored grain or commodities in shipping containers, rail cars, under tarps)
- **Fumigation – CO<sub>2</sub>** (for the use of use of carbon dioxide to treat grain or flour inside storage bins, silos, rail cars or elevators)
- **Fumigation – Soil** (for the use of chloropicrin, dazomet, metam sodium, methyl bromide, and/or chloropicrin in a fumigation of soil) **New exam expected in 2016**

### All Fumigation Categories

- Canadian Pesticide Education Program Applicator Core Manual — Available from the Distribution Centre: 1-800-282-7955 or through OpenSchoolBC:  
[http://order.openschool.bc.ca/Product/CourseDetail/ps\\_7540006123](http://order.openschool.bc.ca/Product/CourseDetail/ps_7540006123)
- Ontario Pesticide Training and Certification Fumigation Module — phone 1-519-674-1575 to order
  - Section 2: Pest Biology
  - Section 3: Integrated Pest Management
  - Section 4: Pesticide Basics – Fumigants
  - Section 7: Human Health
  - Section 8: Safety
  - Section 9: Application Technology (sections specific to the category of certification)
  - Section 10: Pesticide Calculations
  - Section 11: Pesticides and the Environment
  - Section 12: Disposal of Fumigants and Containers
  - Section 13: Professionalism
- USDA Treatment Manual — available online at  
[http://www.aphis.usda.gov/import\\_export/plants/manuals/ports/downloads/treatment.pdf](http://www.aphis.usda.gov/import_export/plants/manuals/ports/downloads/treatment.pdf)
  - Chapter 1: Introduction
  - Chapter 7: Emergency Aid and Safety
    - Fumigation Exposure
- Fumigation Certificate and Licence conditions (available at  
<http://www2.gov.bc.ca/gov/content?id=D851ACB668EC4148B11C71A185DDBB40>

## Fumigation – Ships and Structures

- USDA Treatment Manual
  - Chapter 2: Fumigants
    - Fumigants •Methyl Bromide
    - Fumigants •Methyl Bromide •Chamber Fumigation
    - Fumigants •Methyl Bromide •Ship Fumigation
    - Fumigants •Methyl Bromide •Structure Fumigation
    - Fumigants •Sulfuryl Fluoride (except sections on Tarpaulin Fumigation)
    - Fumigants •Phosphine
  - Chapter 8: Equipment
- Meth-O-Gas Applicator Training Manual, pages 40 – end)  
(<http://173.204.54.37:8080/ag/pdf/mogtrain.pdf>)
- Meth-O-Gas® label  
(search at: <http://pr-rp.hc-sc.gc.ca/lr-re/index-eng.php>; Note: Type *meth o gas*, no dashes, into the first search box)
- Methyl Bromide MSDS  
<http://www.praxair.ca/-/media/documents-en/safety-data-sheets-en/methyl-bromide-sds-e4620.pdf>
- Calculation of Ct products  
(<https://www.ippc.int/en/publications/5192/>)
- Phostoxin® Pellet/Tablet manual  
(<http://countyofnewell.ab.ca/images/departments/agricultural-services/pest-and-predator-control-programs/phostoxin-manual.pdf>)
- Aluminum phosphide MSDS  
(<https://www.degeschamerica.com/?mdocs-file=1692&mdocs-url=false>)
- ProFume® Gas Fumigant label  
(search at: <http://pr-rp.hc-sc.gc.ca/lr-re/index-eng.php>)
- ProFume® MSDS  
(<http://doclibrary.com/MS194/DOC/Profume-MSDS-20133317.pdf>)
- ProFume® Fumigation Manual  
([http://msdssearch.dow.com/PublishedLiteratureDAS/dh\\_014b/0901b8038014b5d3.pdf?filepath=profume/pdfs/noreg/010-70687.pdf&fromPage=GetDoc](http://msdssearch.dow.com/PublishedLiteratureDAS/dh_014b/0901b8038014b5d3.pdf?filepath=profume/pdfs/noreg/010-70687.pdf&fromPage=GetDoc))
- *Canada Shipping Act 2001: Cargo, Fumigation and Tackle Regulations, Part 2: Fumigation and related schedules*  
(<http://laws-lois.justice.gc.ca/PDF/SOR-2007-128.pdf>)
- Fumigation of ships and their cargoes  
([http://www.ukpandi.com/fileadmin/uploads/uk-pi/LP%20Documents/Carefully\\_to\\_Carry/Fumigation%20of%20ships%20and%20their%20cargoes.pdf](http://www.ukpandi.com/fileadmin/uploads/uk-pi/LP%20Documents/Carefully_to_Carry/Fumigation%20of%20ships%20and%20their%20cargoes.pdf))
- Fumigation of cargo on board ships: the invisible killer  
([http://www.gard.no/ikbViewer/Content/15457477/Fumigation\\_Layout%202.pdf](http://www.gard.no/ikbViewer/Content/15457477/Fumigation_Layout%202.pdf))

## Fumigation – Container

- USDA Treatment Manual
  - Chapter 2: Fumigants
    - Fumigants •Methyl Bromide
    - Fumigants •Methyl Bromide •Tarpaulin Fumigation
    - Fumigants •Methyl Bromide •Chamber Fumigation
    - Fumigants •Methyl Bromide •Special Procedures for Container Fumigations Without a Tarpaulin
    - Fumigants •Methyl Bromide •Closed-door Container Fumigation
    - Fumigants •Phosphine
  - Chapter 8: Equipment
- Meth-O-Gas Applicator Training Manual, pages 40 – end)  
(<http://173.204.54.37:8080/ag/pdf/mogtrain.pdf>)
- Meth-O-Gas® label  
(search at: <http://pr-rp.hc-sc.gc.ca/lr-re/index-eng.php>; Note: Type *meth o gas*, no dashes, into the first search box)
- Methyl Bromide MSDS  
<http://www.praxair.ca/-/media/documents-en/safety-data-sheets-en/methyl-bromide-sds-e4620.pdf>
- Calculation of Ct products  
(<https://www.ippc.int/en/publications/5192/>)
- Phostoxin® Pellet/Tablet manual  
(<http://countyofnewell.ab.ca/images/departments/agricultural-services/pest-and-predator-control-programs/phostoxin-manual.pdf>)
- Aluminum phosphide MSDS  
(<https://www.degeschamerica.com/?mdocs-file=1692&mdocs-url=false>)

## Fumigation – CO<sub>2</sub>

- Carbon Dioxide Fumigant label  
(search at: <http://pr-rp.hc-sc.gc.ca/lr-re/index-eng.php>)
- Carbon Dioxide Fumigant MSDS  
(Please contact [BC.IPM@gov.bc.ca](mailto:BC.IPM@gov.bc.ca) for this resource)
- Manual of Fumigation for Insect Control
  - Fumigation and controlled atmosphere storage  
(<http://www.fao.org/docrep/x5042e/x5042E0o.htm>)

## Fumigation – Soil (New exam expected in 2016)

- National Association of State Departments of Agriculture Research Foundation Soil fumigation Manual (available at: [www.nasda.org/File.aspx?id=4186](http://www.nasda.org/File.aspx?id=4186))
- New Label Requirements for Soil Fumigant Products Containing Chloropicrin, Dazomet, Metam Sodium or Metam Potassium  
(see: <http://www.hc-sc.gc.ca/cps-spc/pubs/pest/fact-fiche/soil-fumigant-fumigation-sol/index-eng.php> and request the following Publications:
  - PMRA (REV2012-09) from: [http://www.hc-sc.gc.ca/contact/order-pub-commande-eng.php?title=PMRA \(REV2012-09\) Label Amendments for Soil Fumigants Products Containing Chloropicrin](http://www.hc-sc.gc.ca/contact/order-pub-commande-eng.php?title=PMRA%20(REV2012-09)%20Label%20Amendments%20for%20Soil%20Fumigants%20Products%20Containing%20Chloropicrin)
  - PMRA (REV2012-10) from: [http://www.hc-sc.gc.ca/contact/order-pub-commande-eng.php?title=PMRA \(REV2012-10\) Label Amendments for Soil Fumigant Products Containing Dazomet](http://www.hc-sc.gc.ca/contact/order-pub-commande-eng.php?title=PMRA%20(REV2012-10)%20Label%20Amendments%20for%20Soil%20Fumigant%20Products%20Containing%20Dazomet)
  - PMRA (REV2012-11) from: [http://www.hc-sc.gc.ca/contact/order-pub-commande-eng.php?title=PMRA \(REV2012-11\) Label Amendments for Soil Fumigant Products Containing Metam Sodium or Metam Potassium](http://www.hc-sc.gc.ca/contact/order-pub-commande-eng.php?title=PMRA%20(REV2012-11)%20Label%20Amendments%20for%20Soil%20Fumigant%20Products%20Containing%20Metam%20Sodium%20or%20Metam%20Potassium))
- US EPA Soil Fumigant Toolbox, including buffer zone calculators (see: <http://www2.epa.gov/soil-fumigants>)
- Basamid® Granular Soil Fumigant label  
(search at: <http://pr-rp.hc-sc.gc.ca/lr-re/index-eng.php>)
- Chloropicrin 100 Liquid Soil Fumigant label  
(search at: <http://pr-rp.hc-sc.gc.ca/lr-re/index-eng.php>)
- Terr-O-Gas® 67 label  
(search at: <http://pr-rp.hc-sc.gc.ca/lr-re/index-eng.php>); Note: Type *terr o gas*, no dashes, into the first search box)
- Vapam® Liquid Solution Soil Fumigant label  
(search at: <http://pr-rp.hc-sc.gc.ca/lr-re/index-eng.php>)