

**FIELD FUMIGATION EMERGENCY RESPONDER GUIDE:
CHLOROPICRIN**

THIS GUIDE IS FOR VAPOR EXPOSURES TO AIRBORNE EMISSIONS OF CHLOROPICRIN FOLLOWING SOIL INJECTION TO AGRICULTURAL FIELDS. CHLOROPICRIN MAY BE APPLIED ALONE OR IN COMBINATION WITH METHYL BROMIDE, 1,3-DICHLOROPROPENE, IODOMETHANE, OR DIMETHYL DISULFIDE. SEE FIELD POSTING FOR ACTUAL PRODUCT APPLIED. SEE EMERGENCY RESPONDER GUIDE FOR EACH CHEMICAL APPLIED. SEE PESTICIDE LABEL FOR EXPOSURE TO LIQUID OR SPILLS.

POTENTIAL HAZARDS

HEALTH	<p>Chloropicrin behaves as a mild irritant at concentrations between 75 ppb and 150 ppb and is usually detected through odor and eye sensation, within 5 minutes of exposure. At concentrations of about 75 ppb, eye sensation (prickliness or pinching) can be felt in about 20 minutes. Symptoms are temporary and reversible at concentrations up to 150 ppb. At levels above 150 ppb headache, nausea and vomiting may occur. At levels above 580 ppb for 8 hours or 2000 ppb for 10 minutes, life-threatening effects including pulmonary edema or death can occur</p> <p>The OSHA 8-hour TWA is 100 ppb.</p> <p>The NIOSH IDLH is 2000 ppb.</p> <p>Chloropicrin has been shown to not cause cancer in animal studies following long-term inhalation. Laboratory testing showed that at inhalation exposures below levels which produced permanent respiratory injury, birth defects or decrement in reproductive function did not occur. Chloropicrin is not expected to accumulate in human tissue.</p>
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CHEMICAL PROPERTIES	<p>Chloropicrin is injected into the soil as a liquid where it becomes a vapor. Vapors are heavier than air, and will collect in low areas. Chloropicrin is volatile and concentrations may increase under still or low wind conditions. Vapors are not flammable or explosive.</p>
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PUBLIC SAFETY

FIRST AID	<p>Remove exposed persons to fresh air. Treat symptoms. Personal decontamination is not necessary for bystander exposure.</p>
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CONTACT	<p>Contact certified applicator (24 hour telephone number is posted at the field).</p>
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EVACUATION	<p>If the health symptoms of chloropicrin are present downwind of the application field, evacuate all bystanders and workers without respiratory protection in the downwind areas first. Evacuate a minimum of ¼ mile or if the treated field is larger than 10 acres, evacuate ¼ mile for every 10 acres of treated field. Evacuate upwind areas if winds are calm, variable or if atmospheric inversion conditions are present. If evacuation may increase exposures, Shelter In Place in all occupied structures until it is safe to evacuate.</p> <p>In general, Shelter in Place includes the following steps:</p> <ol style="list-style-type: none"> 1. Bring children and pets indoors immediately. If children are at school, do not try to bring them home unless told to. The school will shelter
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Continued on Page 2

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	<p>them.</p> <ol style="list-style-type: none"> 2. Turn off the heating, ventilation or air conditioning system. Turn off all fans, including bathroom fans operated by the light switch. 3. Close the fireplace or woodstove damper 4. If instructed to seal the room, use duct tape and plastic sheeting, such as heavy-duty plastic garbage bags, to seal all cracks around the door into the room. Tape plastic over any windows. Tape over any vents and seal electrical outlets and other openings. As much as possible, reduce the flow of air into the room. 5. When told that the emergency is over, open windows and doors, turn on ventilation systems and go outside until the building's air has been exchanged with the now clean outdoor air. Follow any special instructions given by emergency authorities. <p>These recommendations were excerpted from the American Red Cross and Centers For Disease Control and Prevention website for Shelter-in-Place During a Chemical or Radiation Emergency. The website address is: http://www.redcross.org/preparedness/cdc_english/Sheltering.asp#howdo.</p>
DETECTION	Use direct reading colorimetric detection devices such as Kitagawa Toxic Gas Detection Kit using tube No. 8014-172S, Drager kit using tube No. 8103421, or Sensidyne Kit using tube No. 172S. Contact certified applicator for detection devices and tubes.
PPE	Wear loose fitting clothing. For concentrations above 150 ppb, a full face respirator fitted with organic vapor cartridges is required. For concentrations of 2,000 ppb or more, a self-contained breathing apparatus (SCBA) is required.
MITIGATION	
FIELD	Reduce emissions by applying water to all or part of the field via sprinklers, water truck, or flood irrigation. Potassium thiosulfate (KTS) may be added to water at concentrations up to 50% to increase effectiveness of water seal.
STRUCTURES	Ventilate all structures within evacuation area. Prior to allowing occupants to return to structures, no person should experience sensory irritation and air monitoring is required to confirm that chloropicrin concentrations are less than 150 ppb.

Attention: The information set forth above is intended to be a summary of general information only. It is not intended to be a substitute for the emergency response and precautionary instructions provided on a government-approved product label or MSDS. It is the responsibility of persons intending to use this guide to read and follow the label and MSDS, and to comply with all applicable federal, state and local laws and regulations when responding to an emergency.