

**FIELD FUMIGATION EMERGENCY RESPONDER GUIDE:  
METAM SODIUM/METAM POTASSIUM AND MITC**

THIS GUIDE IS FOR VAPOR EXPOSURES TO AIRBORNE EMISSIONS OF METHYL ISOTHIOCYANATE (MITC) FOLLOWING APPLICATION OF METAM SODIUM OR METAM POTASSIUM TO AGRICULTURAL FIELDS. METAM SODIUM OR METAM POTASSIUM MAY BE APPLIED ALONE OR IN COMBINATION WITH 1,3-DICHLOROPROPENE OR CHLOROPICRIN. SEE FIELD POSTING FOR ACTUAL PRODUCT(S) APPLIED. SEE THE APPLICABLE EMERGENCY RESPONDER GUIDE FOR EACH CHEMICAL APPLIED. SEE PESTICIDE LABEL FOR EXPOSURE TO LIQUID OR SPILLS.

**POTENTIAL HAZARDS**

**HEALTH**

MITC, the conversion product of metam sodium and metam potassium application, behaves as a mild irritant at concentrations between 0.2 ppm and 0.8 ppm and is usually detected through eye sensation, within 5 minutes of exposure. The odor threshold is 1.7 ppm. At levels above 0.8 ppm, headache, nausea, and vomiting may occur. These symptoms are temporary and reversible following termination of exposure.

US EPA AEGL (proposed and may be updated when final)

	MITC AIR CONCENTRATION (ppm)				
	Exposure Duration				
	10 min	30 min	60 min	4 hr	8 hr
AEGL-1 (Notable discomfort)	0.8	0.8	0.8	0.8	0.8
AEGL-2 (Disabling, irreversible damage)	43	29	23	9.0	4.3
AEGL-3 (Death)	130	88	70	27	13

**CHEMICAL PROPERTIES**

Metam sodium or metam potassium is injected into the soil in solution where it is converted into the vapor MITC. MITC is volatile and concentrations may increase under still or low wind conditions. MITC vapor is not flammable or explosive.

**PUBLIC SAFETY**

**FIRST AID**

Remove exposed persons to fresh air. Treat symptoms. Personal decontamination is not necessary for bystanders with inhalation exposure.

**CONTACT**

Contact certified applicator (24-hour telephone number is posted at the field).

**EVACUATION**

If the health symptoms of MITC exposure are present downwind of the application field, evacuate all bystanders and all workers without respiratory protection in 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 adjacent areas around the field if winds are calm, variable, or if atmospheric inversion conditions are present. If evacuation may increase exposures, Shelter In Place all occupied structures until it is safe to evacuate.

EPA has asked for specific instruction to accompany the “Shelter in Place” recommendation. In general, Shelter in Place includes the following steps:

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 them.
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

	<p>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.</p> <p>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> <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: <a href="http://www.redcross.org/preparedness/cdc_english/Sheltering.asp#howdo">http://www.redcross.org/preparedness/cdc_english/Sheltering.asp#howdo</a>.</p>
DETECTION	Use direct reading colorimetric detection devices for MITC such as a Draeger kit using tube No. 8103485. Contact certified applicator for detection devices and tubes.
PPE	Wear loose fitting clothing. If odor is detected, face-sealing goggles and a respirator fitted with a pre-filter approved for pesticides and an organic vapor cartridge are required unless a full-face respirator with a pre-filter approved for pesticides organic vapor cartridges is worn.
<b>MITIGATION</b>	
FIELD	Reduce emissions by applying water to all or part of the field via sprinklers, water truck, flood irrigation, or other appropriate method.
STRUCTURES	Air monitoring is required to confirm that MITC concentrations are less than 0.2 ppm, and no sensory irritation may be experienced for occupants to return to the structures.

This document is intended as guidance to aid emergency responders. It should be considered as supplemental to information on the product label and MSDS and not as a replacement for that information.