

About MITC (methyl isothiocyanate)

Active ingredient or chemical name(s): Metam

Sodium, Metam Potassium

Brand name(s): Dazomet, Vapam

WHAT IS MITC AND HOW DOES IT WORK?

- When soil is treated with metam sodium (M-Na) or metam potassium (M-K), a breakdown product called MITC is formed in the soil. M-Na and M-K are organosulfur chemicals used as pre-plant soil fumigants in agricultural fields. They are used to control fungi, weeds, pest insects and nematodes such as roundworms and microscopic worms.
- M-Na is one of the most widely used agricultural pesticides in the U.S. Lesser amounts of M-K are used.
- M-Na and M-K are injected or tilled into the soil or applied via sprinkler or drip irrigation (chemigation).
- Metam products are restricted materials, which means they can only be legally purchased and used by those who are trained and licensed.
- Acute (immediate or short-term) inhalation is the main risk of concern for handlers, workers, and bystanders. Risk at varying distances from treated fields depends on how it is applied, control methods used to reduce exposure risks, application rate, and size of the area treated.
- MITC disrupts cellular processes through non-specific enzyme inhibition, essentially poisoning the target pest at the cellular level.

HOW MIGHT I BE EXPOSED TO MITC?

- People who live or work nearby or in a treated field are the most at risk for exposure to MITC.
- Exposure can happen if you enter the application block or buffer zone during the application or during the Restricted Entry Interval (REI), which is the minimum amount of time that must pass before it is safe to reenter a treated field following application.
- Under certain conditions, MITC gas can build up in the air near treated fields or be carried away from the field (off-site movement) with a sudden increase or shift in winds.
- California regulations outline proper methods and precautions for M-Na and M-K use to reduce the potential for exposure, such as post-application watering (water seal).
- MITC is not found on food. It is applied before crops are planted and dissipates before they grow.

More information at

www.cdpr.ca.gov



WHAT ARE THE SYMPTOMS OF EXPOSURE?

MITC has a pungent horseradish-like odor at room temperature. Symptoms include burning eyes and skin, nausea, sore throat, salivation, coughing and shortness of breath. It can also cause numbness or tingling sensations in your limbs, memory problems, headache and behavioral issues.

WHAT TO DO IF EXPOSED?

If you or others are having difficulty breathing or have lost consciousness, call 911. For non-life-threatening illness or injury, call the California Poison Control Center, for free medical information at 1-800-222-1222.

ADDITIONAL INFORMATION

You can call the Department of Pesticide Regulation at 916-445-4222 or visit our website at www.cdpr.ca.gov.

For general information on pesticides, call the National Pesticide Information Center (NPIC), Monday – Friday, between 8:00 a.m. – 12:00 p.m. at 1-800-858-7378 or visit NPIC's website at npic.orst.edu.

HOW TO REPORT A PESTICIDE EXPOSURE OR MISUSE?

You can call your County Agricultural Commissioner's office. To get the number, call toll-free at 1-877PestLine (1-877-378-5463).

WHAT HAPPENS WHEN MITC ENTERS OR CONTACTS THE BODY?

MITC is a volatile soil fumigant. As a lacrimator, dermatotoxin, and neurotoxin, it can be absorbed into your body by -inhaling it, eye/skin contact, and consuming or drinking it. The most common risk of exposure is inhalation. When inhaled, it irritates the nose, throat, and lungs. Inhaling large amounts can be fatal. Eye contact with vapors causes pain and tearing. Skin contact and absorption through skin can result in chemical burn or systemic emergency. Ingesting small amounts can burn the mouth, throat, and esophagus and cause systemic harm.

HOW CAN I PROTECT MYSELF?

Signs will be posted around fields identifying the fumigant used and warning you to stay away. Keep your distance from these fields during and after fumigation until signs are removed. It is the law to remain outside of the buffer zone and treated field until the Restricted Entry Interval, or REI, has expired.



RESTRICTIONS IN CALIFORNIA

California has restrictions on how to use M-Na and M-K to keep people safe by reducing the potential for exposure. These regulations, which are more protective than federal restrictions, include:

- **Buffer zones.** A buffer zone is an area that surrounds a field that has been treated with a pesticide(s). Certain activities are restricted within the area for a specified period of time to protect human health. The size of the buffer zone depends on the application rate and method. Buffer zones are in effect from time of fumigation until 48 hours following the application.
- **Protection of occupied structures:** Depending on application method, it must not be within a specified distance from a school or nearest occupied structure or bystander area.
- **Limiting acreage:** DPR restricts the size of the field where M-Na and M-K can be used.
- **Notification system:** Homes and businesses within a certain distance of treated fields must be notified by the applicator.
- **Post-application monitoring:** Field monitoring must be conducted for 12 hours following the application.