

Fumigant Safe Handling Guide

Paladin® (Dimethyl disulfide, DMDS)



1. What fumigants are and how they work

Dimethyl disulfide (DMDS, Paladin®), is a liquid pre-plant soil fumigant for the control of soil-borne pests and diseases. Soil fumigants are pesticides that form gases when applied to soil. Once in the soil, the fumigants work by controlling pests that can disrupt plant growth and crop production. Soil fumigants play a very important part in agriculture, but they also have the potential to pose risk concerns to people involved in the application, workers who reenter fumigated fields, and people who may be near the treated area.

2. Safe application and handling of Paladin®

The Paladin® Label contains important information about requirements for safe use of the product, including:

- Specific symptoms of exposure
- First aid in case of poisoning
- Information for physicians

The Label is the law. Comply with all label requirements.

The Fumigant Management Plan also has important information about safety and what to do in case of an emergency at the application site.

You must have been trained as a pesticide handler before performing any handler tasks specified on the Paladin® label.

Make sure you have been trained in the proper use and operation of all fumigation equipment you will use before you begin work.

Make sure you have been instructed in first aid and other emergency procedures.

Immediately report all accidents, illnesses, or signs of exposure to the employer, supervisor or Certified Applicator.

FLAMMABLE – Store in a well-ventilated area away from heat and sources of ignition such as flame, sparks and static electricity. Static electricity may accumulate and create a fire hazard. All containers must be bonded and grounded. Store away from oxidizers (such as nitrate fertilizers) and reactive materials. Keep container tightly closed when not in use. Do not smoke when using Paladin.

Always handle this product in the open, with all handlers positioned “upwind” from the container and/or where there is adequate ventilation.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Use the proper Personal Protective Equipment (PPE) as specified on the Paladin® Label.

All handlers present in either the application block or the buffer zone during the application or the buffer zone period must wear:

- Loose fitting or well ventilated long-sleeved shirt and long pants
- Shoes plus socks

Handlers performing the following tasks have a potential for liquid contact with Paladin:

- Fumigant transfer
- Equipment calibration or adjustment
- Equipment clean-up
- Repair of Paladin®-containing equipment
- Product sampling
- Any activity within 6 feet of an unshielded pressurized hose containing Paladin®
- Spill clean-up
- Rinsate disposal

Handlers performing tasks with liquid contact potential must wear:

- Loose fitting or well ventilated long-sleeved shirt and long pants
- Chemical-resistant gloves
- Chemical-resistant footwear
- Socks
- Full-face shield or safety glasses with brow, temple and side protection. DO NOT wear goggles.

Handlers must follow all respiratory protection requirements in Label.

3. Air monitoring and respiratory protection requirements for handlers

The strong odor of DMDS can be detected at levels below the levels leading to nasal irritation and other symptoms. If any handler within an application block detects the garlic-like odor of this product, then a half face or full-face air-purifying respirator must be worn. Any handlers not wearing respirators must cease operations and leave the application block and surrounding buffer zone.

PALADIN®

Handlers wearing respirators can remove them or handlers not wearing respirators can resume operations if two consecutive samples taken at least 15 minutes apart show that the levels of DMDS do not exceed 55 ppb. If sampling is not done, after one hour and at hourly intervals afterwards, handlers can remove their air-purifying respirators momentarily to determine if the garlic-like odor is still detectable. If detectable, the respirators must be put back on. Any handler using a respirator must be fit-tested and fit-checked, trained, and medically qualified to use a respirator.

4. Early Signs & Symptoms of Exposure

DMDS has a strong, objectionable garlic-like odor.

The odor of Paladin® EC may cause nausea, headache, or dizziness.

High vapor concentrations may result in respiratory irritation.

5. Appropriate steps to take to mitigate exposures

Do not wear jewelry, goggles, and/or tight clothing that can trap Paladin® vapors.

Remove all clothing that comes into contact with liquid material at once.

Discard any clothing or absorbent materials (for example, leather) that have been drenched or heavily contaminated with Paladin®. Do not reuse them.

Handlers should wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.

If you experience any of the signs or symptoms of exposure, stop work, notify the Applicator in charge, and leave the area. You may resume working with a respirator if you have been fit tested, trained, and qualified to wear a respirator.

6. What to do in case of an emergency

In case of emergency:

- Notify the Applicator in charge of the fumigation.
- Leave the area and move upwind.
- Know escape routes and how to contact emergency responders.
- First aid and other emergency information are on the Label. Read and follow these.

7. How to report incidents

All incidents must be reported. If you believe an exposure incident has occurred, provide the information below to the Applicator in charge of the fumigation, or to the doctor if you go to a clinic or to get medical assistance:

- Your name
- Applicator's name
- Where the incident occurred
- When (date) the incident occurred
- The name of the fumigant product that you believe to be responsible.
- Names of other people who also may have been effected by the incident
- A description of what happened and symptoms you experienced.