



Health and Safety Bulletin No. 25

Safe handling and application of metham sodium

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Background

WorkSafe inspectors recently investigated incidents of incorrect use of chemicals within the agricultural industry. One of these chemicals was metham sodium, which is a powerful soil fumigant used to control soil-based pests such as nematodes, germinating weed seeds and soil-borne fungal diseases.

Metham sodium is applied to the soil prior to planting crops to enhance crop yield and quality. Mishandling or improper application of metham sodium poses serious health and environmental risks. It is crucial for persons conducting a business or undertaking (PCBUs) to ensure managers of fumigation activities read the safety data sheet (SDS) and product label to support the safe use of the product.

Summary of hazard

Improper application or handling of metham sodium can lead to:

- health risks to humans, livestock and animals, such as severe respiratory, skin and eye damage, with inhalation or direct contact potentially causing chemical burns, respiratory distress and, in extreme cases, long-term health complications
- environmental contamination or water source contamination
- adverse health effects for people in the surrounding area, such as those on nearby properties, through airborne chemical drift from spraying or other unauthorised application methods.

Actions required

- Prepare the soil and control the moisture in line with the directions in the specific product's SDS or label approved by the Australian Pesticides and Veterinary Medicines Authority (APVMA).
- Only use approved application methods, as per the directions within the specific product's SDS or APVMA-approved label.
- Do not use the following application methods:
 - hand-held equipment such as watering cans or sprinkler cans
 - flood irrigation or overhead sprinkler systems
 - applying on dry soil
 - applying in windy conditions
 - applying when humidity is low or when ambient temperature exceeds 32°C

- exceeding the rate specified on the manufacturer's label.
- Seal the soil immediately after application to enhance fumigant efficacy and protect workers, bystanders, and residents from chemical exposure, using approved methods:
 - apply water to seal the soil surface to contain vapours
 - compact the upper soil layer to slow down chemical release
 - use plastic films, such as low-density polyethylene or totally impermeable film, to prevent gas escape.
- Provide training and use personal protective equipment (PPE):
 - all workers handling metham sodium must receive suitable training in its risks to health as well as safe handling practices
 - workers should wear appropriate PPE, such as chemical-resistant gloves, eye protection, respiratory protection and protective clothing to prevent chemical contact
 - conduct respiratory fit checks and tests
 - use suitable respirator cartridges, for example, organic vapour or mist, or as specified in the SDS and store them hygienically in clean, sealed containers.

Recommendations

- Regular maintenance of equipment: application equipment should be regularly checked to ensure proper functionality and to prevent accidental leaks or spills.
- PPE should be regularly checked to ensure it is kept clean and in good condition, in accordance with the manufacturer's instructions.
- Monitoring: after application, air and soil conditions should be tested to ensure it is safe for workers to re-enter the treated area (refer to the product's SDS and APVMA-approved label for information on testing).
- PCBU's must consider the emergency information on the product's SDS in developing a workplace emergency plan, which must be communicated through information, instruction and training to all relevant workers.
- Transport, store and handle metham sodium in accordance with *Dangerous Goods Safety Act 2004* and regulations as it is a classified dangerous good (UN 3267, Class 8, PG II).

Further information

Work Health and Safety Commission

- [Labelling of workplace hazardous chemicals: Code of practice](#)
- [Managing risks of hazardous chemicals in the workplace: Code of practice](#)
- [Preparation of safety data sheets for hazardous chemicals: Code of practice](#)

Department of Local Government, Industry Regulation and Safety - WorkSafe

- [Safe storage and handling of dangerous goods on farms: Pamphlet](#)
- [Training information](#)