



Use of pesticides for controlling lice—occupational health and safety

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Understanding the health risks and legal requirements associated with the use of agricultural and veterinary chemicals can avoid serious consequences. The following information is a guide to the safe use of lousicides. Only general information is provided and all managers and workers who will be responsible for applying chemicals should attend a Farm Chemical Users course.

Exposure to pesticides during treatment

Direct exposure occurs in three main ways:

- Dermal or skin exposure when chemical comes into direct contact with exposed skin, or where chemical soaks through clothing, or from handling recently treated stock.
- Oral ingestion, most often by handling food without first washing hands or drinking from a water bottle that may have been contaminated with chemical.
- Inhalation of chemical fumes, particularly when mixing concentrate, or inhaling aerosol droplets formed during treatment of sheep.

Appropriate precautions should be taken to minimise the risk of exposure to chemicals by these routes.

Effect of application method

If used according to label directions, backline applications generally pose the least risk of inadvertent chemical exposure. Watch out for leaking backpacks or application guns.

With shower dips, hand-jetting and jetting races, deflected spray or overspray can wet operators. These methods also produce aerosol droplets that can be inhaled. Wetting from overspray while operating the on/off valve for the top and bottom nozzles appears to be a major risk for operators of shower dips.

With hand jetting, the close proximity of the operator to the jetting wand and treated sheep presents a significant risk, whereas with jetting races accidental wetting from deflected sprays while moving stalled sheep, and the inhalation of aerosol droplets, present major risks.

With plunge dips, the main risk is during mixing of the dip wash and from splashing of sheep as they enter and leave the dip. Standing too close to sheep that shake after leaving the dip and handling wet or recently treated sheep are other means of exposure.

Although operated in essentially the same way, there are several styles of immersion cage dips. These vary in their design and in the protection from spray drift they afford the operator. The immersion cage dips operated by Time Animal Health Pty. Ltd. (Greg Richards, Cavendish Victoria) that use diazinon under Australian Pesticides and Veterinary Medicines Authority (APVMA) Permit 12555 incorporate a perspex screen that shields the operator from contact with airborne droplets. Diazinon cannot be used in any of the other styles of cage dip.

Minimising risk of exposure to pesticides

- Read and follow the safety direction on the label before each use.



- Choose a product with low toxicity and a method of application that minimises operator exposure.
- Wear appropriate protective clothing, as indicated on the label when handling the chemical or treated sheep.
- Avoid ingestion by washing hands, arms and face with soap and water after handling pesticides and especially before eating, drinking or smoking.
- Avoid breathing fumes or droplets from pesticide concentrates or diluted solution by wearing appropriate protective clothing and a face shield when handling pesticides and treated sheep.
- Install physical barriers (such as high, solid walls) to reduce operator exposure from dip/jetting fluid overspray.
- Comply with the wool rehandling period and the wool harvesting interval stated on the label.
- Observe meat withholding periods and export slaughter intervals if sheep are to be sold for slaughter after treatment.
- Handling concentrates during mixing poses a particular safety risk. All precautions recommended on the label should be closely followed. Wear a face shield when dispensing product from the container.

Pesticides toxicity

Pesticides vary greatly in their toxicity to humans and animals. Of the active ingredients commonly used on sheep, those in the OP (organophosphate) chemical group have the highest toxicity and represent the greatest risk. The active ingredients in the SP (synthetic pyrethroid) group are less toxic to humans, but some people are allergic to them and may suffer from an allergic dermatitis. The active ingredients in the IGR (insect growth regulator), imidacloprid and spinosyn groups are the least toxic and are considered relatively safe for humans. Macrocytic lactones (e.g. ivermectin) also have relatively low toxicity to mammals with the main risk from ingestion and droplet splash, which may cause mild eye irritation.

Protective clothing and equipment

Owners/managers and their employees should always wear personal protective clothing and equipment to protect against skin absorption of the pesticide and inhalation of fumes and droplets when handling and spraying pesticides. The minimum protective clothing and equipment recommended is indicated on the product label. Often this is a cotton boiler suit (overalls) buttoned at the wrists and throat, a washable hat, a respirator or recommended disposable facemask, impervious gloves and waterproof footwear. Lightweight, comfortable spray suits are cheap and readily available. For jetting sheep or other tasks that necessitate handling wet, treated sheep, waterproof pants, gloves and boots are essential.

Legislation and regulations

In Australia, all agricultural and veterinary chemicals must pass through an exhaustive review to reach the marketplace. The Australian Pesticides and Veterinary Medicines Authority ([APVMA](#)) is the government authority responsible for evaluation of product safety and efficacy. The APVMA will register an agricultural or veterinary chemical product once all requirements have been met by the applicant including that the product is safe for humans, animals, the environment, and will not impact on international trade.

There are slight differences in emphasis in different states' legislation relating to veterinary chemicals, but the following points generally apply:



- Purchase and use only insecticides or veterinary chemicals that are registered for use in sheep. Use them only for the purpose specified on the label.
- Follow all label instructions including application instructions, safety directions and recommendations for disposal.
- Record veterinary chemical use including the withholding period. Use the Livestock Production Assurance On-Farm Quality Assurance (LPA QA) program record-keeping template to record all veterinary chemical use (available on the [MLA website](#)).
- Store all insecticides or veterinary chemicals securely, safely and according to label directions.
- Occupational health and safety legislation requires employers to exercise their duty of care by ensuring that employees who are engaged in handling and using chemicals are adequately trained and protected from exposure.

Each State has legislation that directly regulates the development, sale, storage and use of agricultural and veterinary chemicals. It applies to all workplaces, including the rural workplace. In some instances, agricultural chemicals may be exempt from the specific provisions of a regulation; for further information contact the relevant government authority.

There is also an Australian standard for the Storage and Handling of Agricultural and Veterinary Chemicals (AS2507) and the transport of agvet chemicals is governed by the Australian Dangerous Goods Code, usually referred to as the ADG Code.

Your 'duty of care'

Litigation in New South Wales in the mid 1990s, resulting from the exposure of shearers during the use of pesticides on the shearing board, has made it clear that everyone working in the rural industry has a 'duty of care'; a legal obligation to provide a safe workplace for employees. This duty of care must be demonstrated in all practices undertaken in the workplace. Attending a farm chemical safety training course and/or supporting employees to do the same is strongly recommended.

Safety Data Sheets

A Safety Data Sheet, usually referred to as an SDS (and previously called a Material Safety Data Sheet), contains detailed information about the nature and risks from any agvet chemical. You should have a copy of the SDS for all agvet chemicals you use or store on the property. An SDS is available for all registered lice and flystrike control products. Manufacturers have a legal obligation to provide one to the purchaser of the pesticide. A copy must be available to all users of pesticides upon request. Copies are also available from the manufacturer's website.

Pesticide poisoning

If you suspect someone may have been poisoned by pesticides, whether treating or handling treated sheep or by accidental exposure to stored chemicals, don't 'wait and see', instead, seek advice:

1. **Call an ambulance—dial 000**
2. **Call the Poisons Information Centre—dial 13 11 26**

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