

Protection According to Task

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Responsibility of Controllers and Supervisors

In any pesticide application, all those responsible for the operation must know:

- the hazard classification of the formulation being used;
- precautions that must be observed by the applicators;
- whether any special protective clothing and equipment should be provided;
- the facilities required for the hygienic protection of the applicators, and the care, maintenance and cleaning of equipment.

Supplementary points:

- Pesticide application should be planned ahead even if the pesticide represents a low hazard.
- Careless handling and unprofessional application can (and does) expose other humans as well as other organisms and the environment.
- A group of applicators who have been working with a pesticide of very low hazard for long periods without problems can become very careless. If a pesticide with a higher hazard is later substituted without informing and warning all those handling it, their poor techniques can lead to serious risks.
- There are a minimum number of precautions that must be taken in the application of any pesticide, and there must be a minimum standard of maintenance for the application equipment.

Protection When Mixing Pesticides

The mixing of pesticides is the dilution of a concentrated formulation to prepare a solution for application.

It does NOT mean the mixture of two separate pesticide formulations.

This is a highly undesirable practice unless it is clearly stated on the label that the two formulations are compatible.

The hazard to the mixer is often greater than that to the applicator, therefore the mixer may need more protection of the body, feet, hands and eyes if indicated in the product label or pictogram.



A plastic apron is advisable when pouring the mixture into application equipment



Use suitable equipment for measuring and mixing.



NEVER mix with bare hands at any time.

Supplementary points:

- Do not measure out or mix crop protection products in or near houses, or where livestock are kept.
- Keep children and animals away.



- Use the cleanest water possible and make sure that it is close at hand.



- Pour liquids carefully to avoid spillage and splashes – use a funnel if necessary. Never suck up any liquid crop protection product with a tube.

- After use, close packages carefully to prevent leaks or contamination, and store safely. Always keep crop protection products in their original containers; do not transfer into beverage or food container bottles.



- The mixer must also wear protection when disposing of empty concentrate containers

Other information:

A trainer might want to mention that when mixing and measuring, always adhere to the recommended dose rates and dilutions. Higher doses will not produce better effects. Lower doses will be less effective.

Another important practice to remember is that only the amount needed in any one day should be prepared.

Protection When Loading Pesticides

A loader needs a high standard of protection at all times.

The worker needs body, feet, hand protection and a plastic apron.



Eye and face protection such as face shield is needed at all times.

Head protection may be needed if the loading point is high.

Supplementary points:

- Handle dusts and wettable powders carefully to avoid fluffing-up. Stand upwind so that dust or splashes blow away.
- Do not fill sprayers above their indicated nominal volume as they may leak during use. Sprayers without a clearly indicated nominal volume should not be used.

- Clothing that becomes soaked must be removed immediately, and the worker should wash contaminated skin or shower as soon as possible.
- Contaminated clothes should be washed carefully before wearing again.
- Sufficient water for washing should be provided in the loading area.

Other information:

The risk of massive exposure of a loader is such that full protection as outlined above should be used when loading any pesticide formulation, diluted or not.

Non-pesticidal components of a formulation may be hazardous or locally irritating if massive exposure occurs.

Those loading aircraft must clearly understand their task in order to avoid overloading. Loading sites must be selected with care to avoid exposure of humans and animals, or of watercourses to pesticides spilled at the time of loading or later.

Protection When Spraying

Knapsack Spraying

Protective equipment should be worn as indicated in the product label or pictogram. Even if no specific protective clothing is recommended on the product label, lightweight clothing, covering as much of the body as possible, should be worn.



Hand-pumped or motorised knapsack sprayers are usually used for low level spraying. For ULV spraying, a cloth over the mouth and nose may be useful.



A blocked nozzle should never be cleared by blowing through it.

Mechanized Spraying

Mechanized sprayers are mainly used for applying pesticides through wide booms over ground crops, for applying pesticides at a high level to trees, and for generation of fogs and mists in cities for the control of pest insects.

Both driving and loading a mechanized sprayer can be hazardous, depending on the formulation used.

All workers must wear body and feet protection and loaders must wear

face shield, gloves and aprons.

For high level application, full waterproof protection, including hat and a face shield may be needed if the operator is not in a fully enclosed vehicle.



Supplementary points:

Knapsack Spraying

- A common fault of sprayers is spraying in front of themselves, and then walking through the wet vegetation. The wand must always be held so that the spray is applied at the side of the sprayer, with the **wind blowing away from him** and being sure to **walk into the wind**.
- It is important that hose connections be regularly checked to prevent a leak wetting the back of the clothing. If this happens, wet clothing must be changed immediately, and the sprayer should shower or bathe as soon as possible.
- Do not use leaky or defective sprayers. If a fault develops during a spray operation spraying should be stopped immediately and the faulty sprayer repaired or disposed of.



Mechanized Spraying

- During fogging or misting, workers may feel more comfortable with a clean cloth over the mouth and nose. When formulations of moderate or higher hazard are applied, a respirator may be needed.

Other information:

- Do not apply crop protection products without adequate training. Specifically, never allow children to apply or be exposed to crop protection products
- Take heed of weather conditions, particularly wind, which can cause drift. It may be hazardous if it drifts onto the operator.



Protection When Dusting

Dusting is the application of a pesticide in a powder formulation. It can be applied by a hand or motorised distributor.

Ordinary protection must be worn for the body and feet as dust clings to the clothing and to sweaty skin.



A light disposable mask should be worn.

A clean cloth over the mouth and nose is only sufficient if the formulation is of very slight hazard.

Supplementary points:

- Handle dusts and wettable powders carefully to avoid fluffing-up. Stand upwind so that dust or splashes blow away from the applicator.
- The worker should apply the dust so that he is never walking in the dust cloud.
- Make sure that the application line is chosen so that the wind blows away from the applicator.
- Formulation of dusts as granules reduces hazard, but friction between granules during transportation results in some dust always being present.
- Precaution should be taken accordingly.

Other information:

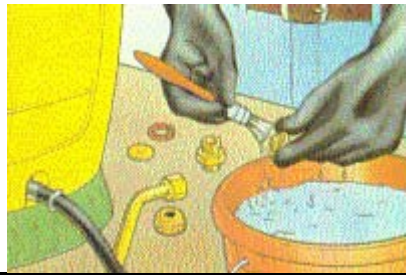
The trainer should stress the point that this section presumes that dust formulations present no more than a slight hazard. Otherwise, more comprehensive protection will be needed.

Protection When Maintaining the Equipment

When cleaning the sprayer, it is important that the operator wears protective clothing the same as that worn during spray operations.

The main hazards for a maintenance person are tanks and hoses containing residues of pesticide formulations, and parts coated with dried pesticide residues.

The dried residues may present a higher hazard than the original formulation particularly if they are handled, machined, or heated.



Wear gloves when handling highly contaminated parts until they can be decontaminated.

Supplementary points:

- Wash work clothing and equipment after each day's use

