

Recommendation for Dimehypo™ (*Thiosultap disodium*) Application and handling Dr Mark Ero

Dimehypo registration

Dimehypo (*Thiosultap disodium*) has now been registered with PNG Conservation and Environment Protection Authority (CEPA) to be used as an alternative to Methamidophos for the control of foliage pests of oil palm.

Importation and distribution of Dimehypo

The industry is to procure the insecticide through its distributors. It will only be applied through Targeted Trunk Injection (TTI) and in strict accordance with authorised PNGOPRA recommendations (ISO 14001 requirement).

Details of treatment

As for Methamidophos the application will be through Targeted Trunk Injection (TTI). 10ml of Dimehypo (25% SL) will be injected into a 15cm depth hole with 1.5cm diameter drilled at 45° angle into the trunks of individual palms. The hole is drilled at about the waist height (1m) above the ground (Fig. 1). The hole is plugged back with either a wooden stake or cooked seed kernel to prevent inflow of rainfall flushing out the insecticide and also to avoid any tree infection.

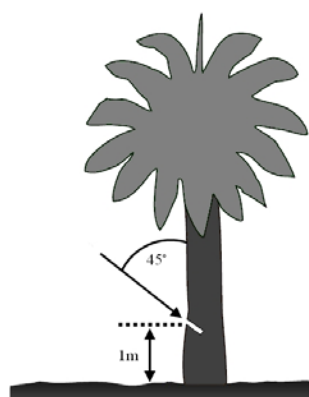


Figure 1. Palm drilling procedure.

A 10ml calibrated drench gun should be used for the application of consistent volume of insecticide per palm and to avoid contamination of the operator and the environment.

The residual period of Dimehypo is approximately 2.5 months (10 weeks) after treatment. Which is substantially shorter than

Methamidophos with 16 weeks.

Treated blocks/fields need to be closely monitored after this period for re-infestation and have follow-up treatment done if required.

Handling

Hazard

Dimehypo is poisonous to insects, and can also kill people and non-target organisms including domestic and wild animals, birds, fish or beneficial insects, and harm the environment.

Protection

Always wear all protective gear (PPE) when handling or applying Dimehypo.

In the tropics, gloves, overalls, respirators, face masks and goggles

(the recommended range of clothing) may be uncomfortable and unpleasant in hot and humid conditions. An uncomfortable operator can be at risk of poisoning if not enough rest periods are allowed during prolonged activities. The selection of protective clothing should be made in reference to the degree of protection required for safe practice and the comfort of the user during the treatment.

All protective clothing must be free from holes and should be made from materials which should be as light as possible.

- **Respirators and goggles/visors** are essential for the operators who handle Dimehypo. A single filter face and nose mask is preferred. The fumes can be poisonous and should not be inhaled for prolonged periods. Dimehypo fumes can also cause slight irritation to the eyes.

- **Overalls** made of cotton fabric and orange in colour are preferable. All overalls should be washed thoroughly after every use and kept separate from other items being washed. If they do have to be washed at the same time as other clothing, they should be put through the water last to avoid contaminating ordinary clothes. Clothing used in treatment operations should be hung in full sunshine to dry so that the UV light can speed up the breakdown of any remaining pesticides. They should also be stored separately from everyday clothing.

- **Gloves** should be worn when handling Dimehypo. They should be made of nitrile or some other material that is not damaged by the insecticide or is impervious. Heavy duty PVC gloves may be used as an alternative in the absence of nitrile. **Injectors and plugers must not wear cotton or leather gloves (Drillers should wear anti vibration gloves).** Overall sleeves should be placed over the gloves so that if there is any spillage, the insecticide cannot get insecticide the gloves to come in contact with the skin. Gloves should be washed with soap and water after use.

- **Boots** must always be worn during the treatment operation. Gum boots (with steel cap for the driller) are preferred so that the legs of the overall can sit over the boot (*not tucked in*). If there is any spillage the chemical can run over the boot and not come in contact with the skin on the foot.

Always have plenty of soap and clean water available near the site where Dimehypo is handled and always wash thoroughly after handling and using.

- Dimehypo must never be transported in open or leaky containers.

- Dimehypo must never be transported with food staff.

Safe disposal of Dimehypo

There are three important steps to dealing with any spillage: **Clear up; Clean up; Disposal.**

Wear full protective clothing when dealing with Dimehypo spills.

Clear up: Dimehypo spills should be covered with suitable absorbent material such as sawdust, sand, or soil, which should then be swept up and placed in a clearly labelled container for disposal. Supplies of containers and absorbent material should always be kept in store. The waste should then be disposed off.

Clean up: The affected area should be scrubbed with detergent, or strong soap and water, not hosed down, as this will merely disperse the spill. Dispose of the contaminated water in the same manner as the pesticide.

Disposal: A practical method of disposal of a few litres of Dimehypo is by burying it, preferably at least half a meter into the soil. Burial site should be permanently fenced and marked. In choice of burial site, which should be well away from watercourses or dams. Take care to avoid problems with public health and environmental contamination, especially of the water table.

Empty Dimehypo containers must never be used for domestic or agricultural purposes. If they are not going to be recycled for insecticide use, they should be perforated and buried.

Code of conduct for Dimehypo users

1. Mixing, decanting and applying Dimehypo:

- 1.1. Wear appropriate protective clothing: overalls, gloves, boots, respirator and goggles/visor.
- 1.2. Have plenty of soap and water immediately available for washing.
- 1.3. Read the instructions on the label carefully and follow them.
- 1.4. Avoid contamination by pouring Dimehypo carefully without splashing.
- 1.5. Never eat, drink, chew betel nut or smoke and avoid touching the eyes, mouth or any broken skin when handling Dimehypo.
- 1.6. Never work alone when handling Dimehypo.
- 1.7. Keep unauthorised people (especially children) and animals away from Dimehypo.
- 1.8. Never leave opened containers of Dimehypo unattended.
- 1.9. Do not apply Dimehypo if weather condition (i.e. heavy rain) are unsuitable for application.
- 1.10. Ensure that operators are adequately instructed/trained and supervised, and have sufficient rest periods after each round of treatment.
- 1.11. Only use Dimehypo in strict accordance with instructions or approved recommendations.
- 1.12. If an operator, through accident or carelessness, does become contaminated, immediately take him away from the insecticide spillage, remove his contaminated clothing and make sure the whole body is washed thor-

oughly with soap and water, and that clean clothing is put on.

1.13. **If anyone becomes contaminated with the insecticide,** seek medical advice as soon as possible, giving the doctor full details of the incidence in line with **the instruction on the label of the insecticide container and/or the MSDS.**

1.14. Have all members of the treatment team involved in regular treatment checked regularly for blood cholinesterase levels.

1.15. The team member **must not continue** to work or remain in contact with Dimehypo if the blood tests show that his **cholinesterase level is below normal.**

1.16. Always wash thoroughly after handling Dimehypo.

2. After applying Dimehypo:

2.1. Return unused Dimehypo to the store and keep it locked away from unauthorised people and out of reach of children.

2.2. Never transfer Dimehypo into bottles used for drinks (e.g. *soda, beer bottles/cans or edible oil can/drums*).

2.3. Make all empty containers unusable (pierce those which are plastic and metal), and safely dispose them of by burying. It is **NOT POSSIBLE** to clean an insecticide container well enough to make it safe for storing food or water, or for use as a cooking vessel or for distilling alcoholic beverages.

2.4. Clear up any spillage as soon as possible.

2.5. Remove and wash protective clothing.

2.6. Wash thoroughly and put on clean clothing.

2.7. Keep an accurate record of Dimehypo usage, including details of workers and the number of hours each was exposed to the insecticide during the operation.

For further information contact:

HEAD OF ENTOMOLOGY
Papua New Guinea Oil Palm Research Association Inc.
Dami Research Station
West New Britain
Papua New Guinea.
Tel: +675 985 4015/4009
Fax: +675 985 4040
e-mail: entomology@pngopra.org.pg