



## Pesticide Detectives

# ORGANOPHOSPHATES

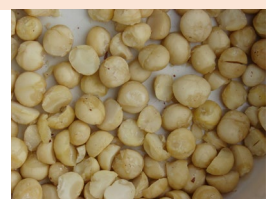
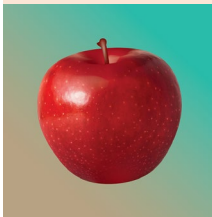
## CHLORPYRIFOS

### What is chlorpyrifos?

Chlorpyrifos is an organophosphate insecticide widely used to control pests such as ants, termites and mosquitoes. It is also used as a soil insecticide, as a seed treatment and for applications to dormant and foliar plants. In Australia, it is used on crops such as potatoes, cotton, apples and pears and has been found in pesticide residues in apples, pears, almonds, cherries, macadamia and wheat.



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### How does chlorpyrifos work?

Chlorpyrifos acts like a neurotoxin by blocking an enzyme called acetylcholinesterase (AChE). This enzyme is needed for the nervous system to send signals between nerve cells. Several effects on behavioural responses in fish and other aquatic organisms have been observed in the laboratory from inhibition of AChE.



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### What happens when chlorpyrifos enters the aquatic environment?

Major inputs of chlorpyrifos include overuse and improper disposal which contribute to run-off into the aquatic environment. Chlorpyrifos has low solubility in water and partitions rapidly to sediment. Dissipation from sediment suggest half-lives in the order of a month to four months depending on types of sediment. Several effects on behavioural responses in fish have been observed in the laboratory from inhibition of AChE.



Image by Gerd Altmann from Pixabay

### Sediment quality guideline values for chlorpyrifos

There are no sediment quality guideline values for chlorpyrifos.

## References

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