



FUMIGATION & OUR ENVIRONMENT

The forest industry thanks you for your patience

Forestry and wood processing are two of New Zealand's fastest growing industries. Nearly 9000 people work in our forests and another 15,000 earn a living from wood processing.

About 70% of the trees we grow are processed into lumber and wood based products within New Zealand. The rest are shipped to overseas markets as whole logs.

To ensure our logs and lumber are free of insect pests, some markets require them to be fumigated with methyl bromide gas before export.

To protect residents, passers-by, pets and plants from harm, fumigation is strictly regulated. This ensures the gas poses no health risks to local communities.

However, methyl bromide damages the ozone layer which protects us from UV rays. So the government and forest industry are pulling out all stops to find alternative treatments.

As forest owners and wood processors we pride ourselves on our environmental management. So we are as keen as you are to find ways to make our exports bug-free without harming the planet. In the meantime, thank you for your patience.

What gas?

The gas used for log and wood fumigation is methyl bromide. It is colourless, odourless and non-flammable.

Gases are used to treat imports and exports because they penetrate the cracks and crevices where bugs hide, without

damaging the products being shipped.

In New Zealand, most fumigation involves export logs, lumber or wood based products. With logs this is usually done in ships' holds and under tarpaulins at the port. Many other products are fumigated in shipping containers.

Afterwards, the hold, tarpaulins or containers are opened to allow the gas to disperse. Measurements are taken and only when gas levels are safe are people allowed to work in the area. This ensures that it is safe to handle the products.

What insects?

Overseas countries don't want to import New Zealand's insect pests, any more than we want to import theirs.

Three NZ forest beetles that overseas markets don't like are the hylastes and hylurgus bark beetles, and the burnt pine beetle (*Arhopalus ferus*).



The burnt pine beetle - a NZ bug that other countries don't want

Why methyl bromide?

When countries like India insist we use methyl bromide to treat the logs and lumber they import from us, they are following international standard practice.

New Zealand does the same. In order to protect our economy and environment, the Government insists on methyl bromide fumigation of a range of imports, including some food products.

Methyl bromide is used world-wide because it is known to be lethal to pests like insects, snails, spiders and snakes. It is also safe when used correctly.



Logs being fumigated under tarpaulins

How toxic is methyl bromide?

Like all chemicals, the toxicity of methyl bromide depends on how much a person is exposed to.

At the levels used during fumigation - 10,000-30,000 parts per million (ppm) - it is highly toxic to humans, animals and insects. On the other hand, methyl bromide occurs naturally at trace levels in the atmosphere, and this poses no risk at all.

In this respect, methyl bromide is similar to the carbon monoxide in car exhaust. Carbon monoxide is very dangerous

when a car engine is run in a closed garage, but normally poses little risk in the open air.

As soon as a container or fumigation tarpaulin is opened, the methyl bromide rapidly mixes with the air. Department of Labour measurements taken a few metres from opened containers show levels of 1-5 ppm – well within official workplace safety limits.

By the time it reaches the boundaries of a fumigation site it has become even more mixed with the air. At this point methyl bromide is either undetectable or at levels that pose no risk to the community.

Low level exposure

Some people who live near ports are concerned that exposure to very low levels of the gas may cause nervous system illnesses like motor neurone disease (MND).

This possibility was carefully investigated in a Nelson Marlborough District Health Board study in 2005. It found no evidence linking methyl bromide use at Port Nelson to cases of MND in the city. The recent ERMA reassessment of methyl bromide also found no link to MND.



Export lumber is normally fumigated in containers or in covered stacks

Impact on our economy



Many local jobs are at stake

The industry is also making a large and rapidly growing contribution to the economies of many regions including Northland, the Central North Island, East Coast, Hawkes Bay, the southern North Island, Nelson, Marlborough, Canterbury, Otago and Southland.

If we stopped fumigating tomorrow, our logs and wood products would be rejected by major overseas markets. Vital overseas earnings would be lost and many of the 24,000 jobs in the industry would be threatened.

In addition, shops and other businesses in towns where forest industry staff spend their wages would be put at risk.

Alternatives

The forest industry and scientists, with government support, are working hard to identify and trial new biosecurity treatments and get them accepted by overseas markets. These include new fumigants and on-board fumigation, as well as techniques that don't involve chemicals, such as lights that repel or trap insects.

Replacement gases

Phosphine gas is a potential replacement for methyl bromide. It is slower-acting but doesn't harm the ozone layer.

New Zealand is one of many countries that is trying to reduce methyl bromide use because of its effect on the ozone layer. Also the forest industry is keen to develop cleaner and greener biosecurity treatments. This is why we are striving to reduce its use and find practical alternatives.

Total annual forest product exports are worth \$3.5 billion, making forestry and wood processing New Zealand's fourth largest export industry.



The forest industry wants to control bugs without harming the ozone layer

China, one of our largest markets for logs and lumber, accepts phosphine for the onboard treatment of below-deck cargoes. Trials are underway to get similar approvals from other major markets, but countries need to be individually convinced that it meets their quarantine standards. This can be a frustratingly slow process.

Gas recapture

At Port Nelson, the local authority requires methyl bromide to be recaptured from containers and small wood stacks following fumigation rather than allowing it to disperse in the air. This is a costly process involving the use of carbon filters.

It is impractical at this stage to apply this technology to large-scale fumigations, such as logs under tarpaulins or in ships' holds.

Reducing gas rates

Until alternatives to methyl bromide have been accepted by trading partners, Government officials are negotiating with them to permit the use of lower treatment rates.

Also, during winter and early spring, logs can be free of biosecurity pests and research is being undertaken to show that fumigation is not needed during this period.

However, there is no guarantee that trading partners will respond positively to these approaches.

Protecting your safety

To protect the health of fumigators, port workers and the general public, methyl bromide use is strictly regulated.

Fumigators must – among other things – have a fumigation qualification, a Controlled Substances Licence and an Approved Handler Certificate. They must comply with strict MAF Biosecurity regulations. In addition, the fumigation industry has a Code of Practice approved by the Environmental Risk Management Authority (ERMA).

ERMA is also reviewing the use of methyl bromide. This has enabled the public to have any concerns heard and independently evaluated.



Emission levels at the boundary of the site are always well within safety limits

Travelling plumes?

Some critics say 'plumes' of gas could in theory drift from the fumigation site and cause harm somewhere else.

This is highly unlikely to occur in the climatic conditions found at New Zealand ports. Independent monitoring at port boundaries has consistently shown emissions are well within conservative safety limits.

The suggestion that high levels of methyl bromide exist some distance away from the shed during gas release, ventilation and cover removal cannot be supported.

Monitoring Report: Use of Methyl Bromide at the Port of Nelson Department of Labour, 17 May 2005

We aim to be clean as well as green



Because the New Zealand forest industry prides itself on its environmental performance, we want to see methyl bromide replaced as an export fumigant as soon as is practical.

We also accept that many people do not like fumigation being carried out at their local port, even though monitoring and medical evidence show there is no risk to public health.

Although we are doing our best to find environmentally sustainable alternatives that are acceptable to our overseas markets, this will be a gradual process. Your patience is appreciated.

In the meantime, be assured ...

- Fumigation is carried out only by trained operators who have to comply with strict rules.
- Monitoring at the boundaries of fumigation sites - using highly sensitive instruments - shows that methyl bromide is well below safety limits.
- There is no medical evidence that methyl bromide used to treat export logs or wood products at a New Zealand port has harmed anyone living or working outside the boundaries of the port.

This brochure is published by Stakeholders in Methyl Bromide Reduction, a group representing forest owners, log exporters, wood processors, research organisations, fumigators and others. Convenor: Dr Gordon Hosking, Tel 09 431 5779, gordon.hosking@xtra.co.nz, www.stimbr.org.nz

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