

SUBMISSION FORM

For Hazardous Substance and New Organism Applications

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Submission on application number:	APP203660
Name of submitter or contact for joint submission:	Barry Wards
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The EPA is likely to post your submission on its website at www.epa.govt.nz. We also may make your submission available in response to a request under the Official Information Act 1982.

MPI supports this application

The reasons for making my submission are¹: (further information can be appended to your submission, see footnote).

Please see attached information.

All submissions are taken into account by the decision makers. In addition, please indicate whether or not you also wish to speak at a hearing if one is held.

MPI wishes to be heard in support of its submission, if a hearing is held.

I wish for the EPA to make the following decision:

Approve the application, taking into account MPI's submission.

¹ Further information can be appended to your submission, if you are sending this submission electronically and attaching a file we accept the following formats – Microsoft Word, Text, PDF, ZIP, JPEG and JPG. The file must be not more than 8Mb.



28 August 2019

Environmental Protection Authority
Private Bag 63002
WELLINGTON 6140

Submission on:	Application APP203660
Applicant Name:	Stakeholders in Methyl Bromide Reduction Inc. (STIMBR)
Application Category:	Modified reassessment of the approval of a hazardous substance
Application Title(s):	Methyl bromide – seeking a reassessment of certain controls
MPI Response Coordinator:	Barry Wards (Specialist Adviser Biosecurity HSNO)

Basis of submission

MPI makes this submission to the EPA on the following bases:

- Clarity of information;
- Information that MPI considers should be taken into consideration by the EPA; and
- Whether it supports or does not support the application.

Submission

Application

1. MPI understands that the applicant is applying to reassess the controls that apply under Decision HRC08002 that relate to the recapture of methyl bromide when used as a fumigant for quarantine and pre-shipment (QPS) purposes. The applicant is seeking clarity regarding the current controls, specifically to reassess the feasibility of recapture technology and refine controls to:
 - require recapture of 80% of methyl bromide remaining at the end of fumigations;
 - extend by 10 years the deadline for achieving recapture from ship hold fumigations; and
 - make related refinements to strengthen buffer zone requirements at the completion of recapture.

Recapture technology

2. The applicant proposes that the definition of recapture technology be revised to reflect the highest practicable level of recapture, such as; *“Recapture technology is a system that mitigates methyl bromide emissions from fumigation enclosures such that the residual level of methyl bromide in the enclosed space is at least 80% less than that at the end of the fumigation period.”*
3. **MPI supports this amendment.** New Zealand is signatory to the Montreal Protocol, aimed to protect the earth’s ozone layer by phasing out the production and use of substances that deplete

- it. Under the Protocol, countries are permitted to use methyl bromide for quarantine and pre-shipment purposes, but are urged to minimise emissions.
4. Over the past decade, New Zealand's quarantine use of methyl bromide has been increasing in direct proportion to export volume of products for which methyl bromide fumigation is required. Fumigation of forest products (e.g. logs and timber) for export constitutes the bulk of New Zealand's methyl bromide use (around 94%). The rest is used for treating other export goods (e.g. vegetables, fruits, seeds, grains, nursery stock) and for managing pests intercepted on imported goods at the border.
 5. The EPA recapture target would require recapture technology to be used so that the amount of methyl bromide in the relevant enclosed head space is reduced to less than a Workplace Exposure Standard (WES) of 5 parts per million (ppm). Based on current information, MPI considers that it is not technically feasible in most instances to meet this requirement.
 6. The recapture target should be technically justified and operationally feasible to achieve. Information from the fumigation company, Genera Ltd. indicates that 80% recapture control of methyl bromide remaining in the headspace under tarpaulins for log stack fumigations immediately after fumigation is achievable. MPI has not verified this and is not aware of any independent studies that validate the current methyl bromide recapture technology available in New Zealand or whether any technologies are able worldwide to meet the current EPA target.
 7. MPI has commissioned an operational research project to determine baseline scientific evidence of current recapture technologies but this project cannot be completed until June 2020.
 8. There are many unknowns regarding the technical and economic feasibility of the currently available equipment to recapture methyl bromide to the EPA target. The effectiveness of methyl bromide recapture is dependent on various factors including the type of recapture technology applied, the rate of methyl bromide applied, the commodity fumigated including the rate of absorption and desorption, environmental factors (e.g. temperature) and the time period over which recapture occurs.
 9. MPI understands that once methyl bromide is applied to different products such as wood, fruit or vegetables, it is absorbed into product surfaces and is then released back from product surfaces into the atmosphere at different rates. This absorption and desorption process occurs whether under a tarpaulin (e.g. export logs), within a closed container or within permanent recapture structures.
 10. Anecdotal evidence suggests that the current recapture technology cannot achieve the WES level of 5 ppm unless run for a significant period (Sama et al. 1995). After fumigation, most of the methyl bromide (25.4%) is released from the headspace at venting (Hill et al 2017). However, desorption of the gas from fumigated products can continue over a long period, making it economically unfeasible to recapture to meet the EPA target.
 11. While there are some recapture systems operating in some countries, usually in fixed facilities, no country apart from New Zealand currently has mandated it.
 12. Research coordinated by Stakeholders in Methyl Bromide Reduction Inc. (STIMBR) has identified the fumigant, ethanedinitrile (EDN), as an effective alternative treatment for New Zealand export logs and timber. An application for registration of EDN in New Zealand was made by STIMBR and an overseas chemical company, Draslovka, in 2017.
 13. MPI considers that it is important to ensure there are registered alternative treatments to mitigate biosecurity risks in New Zealand, and registered alternative treatments accepted by key trading partners before the restrictions on methyl bromide are imposed in New Zealand.

14. MPI notes that the interpretation of “recapture technology” in the controls of HRC08002 as meaning “a system that mitigates methyl bromide emissions from fumigation enclosures such that the residual level of methyl bromide in the enclosed space is less than the Worker Exposure Standard set under section 77B”.
15. However, MPI also notes that 16.11.4 of HRC08002 states that “Recapture technology is a term used to describe systems that reduce methyl bromide emissions from fumigation enclosures by:
 - (a) capturing methyl bromide on activated carbon or other medium so that it is not released into the atmosphere; or
 - (b) destroying the methyl bromide gas from the fumigation before a container is ventilated.”
16. MPI submits that the interpretation in the controls and the definition in the decision are inconsistent. While the interpretation in the controls aims to reduce to level of methyl bromide to less than 5 ppm, the overall intent is to prevent release into the atmosphere. Capturing methyl bromide on activated carbon or other medium may achieve this in the short-term but, in the long-term, the gas will eventually be released as the recapture mediums break down. Currently, there is no suitable technology to destroy methyl bromide so even if it is captured, there is still the problem of eventual release.
17. Furthermore, MPI contends that the current controls are confusing as the recapture requirement aims to prevent the release of methyl bromide into the atmosphere which is equivalent to the WES. However the WES is intended to mitigate the risks of hazardous substance use for the workplace and communities.

Biosecurity and trade implications

18. If the current recapture requirement is implemented in October 2020, it will impact on MPI’s ability to manage certain pests (such as the brown marmorated stink bug) detected at the border in imported goods. It will also prevent the export of certain products as stated previously.
19. The majority of pests are managed offshore prior to export, but the New Zealand biosecurity system relies on having an effective, economic and available treatments to deal with quarantine pests detected on arrival in New Zealand. Methyl bromide is generally considered the most effective and, in some cases, the only treatment available to use when harmful organisms are detected in imported goods.
20. MPI estimates approximately \$1.6 billion worth of imports (e.g. machinery, vehicles, tyres, plant products) were fumigated with methyl bromide to mitigate biosecurity risks detected on arrival in New Zealand in 2018 (Refer to previous [MPI](#) information submitted to EPA for this reassessment process).
21. In the absence of a suitable alternative treatment when quarantine pests are detected at the border, MPI’s options will be limited to reshipping or destroying consignments. In addition, the inability to immediately treat consignments at the border with an effective treatment, may expose New Zealand to additional biosecurity risks.
22. The World Trade Organisation Sanitary and Phytosanitary (WTO-SPS) Agreement requires member countries to use measures that are as least restrictive to trade as possible while achieving a country’s level of appropriate biosecurity protection. If New Zealand are unable to provide a treatment option on arrival, this could be considered as inconsistent with New Zealand’s obligations to the WTO-SPS agreement and will impact on our relationship with trading partners.
23. MPI estimates approximately \$1 billion worth of products were fumigated with methyl bromide prior to export from New Zealand to meet overseas country requirements in 2018 (refer to previous [MPI](#) information submitted to EPA for this reassessment process).

24. Negotiating alternative options with overseas trading partners can take years to negotiate and normally require a high level of data to support such proposals. If methyl bromide fumigation was unable to be conducted in New Zealand and no alternative option was able to be negotiated with trading partners, this would result in the complete loss of export markets for certain New Zealand products, such as logs to India and apples to Japan.
25. Since 2010, MPI has been working with New Zealand industries, such as the forest industry, to develop feasible alternatives and negotiate with overseas trading partners. This work, including the negotiation with trading partners, is still in process.

Ship hold fumigations extension of deadline

26. The applicant proposes that the deadline for recapture technology be limited to on-port and container fumigations only, and a new deadline of a further 10 years be imposed on ship-hold fumigations, such as by amending clause 13(1) of the controls to state: *“Clause 13(2) takes effect 20 years after the date of this approval in relation to ship hold fumigations, and 10 years after the date of this approval for all other fumigations”*.
27. **MPI supports the applicant's proposal** and notes that if the technology becomes available sooner than anticipated, the time could be shortened for implementing this control. Recapturing from ship hold fumigations is more challenging than from log stacks under tarpaulin. This is due to the large volumes of fumigated space and, therefore, the large amounts of methyl bromide applied and the associated technical challenges.
28. The current recapture technology is unable to recapture the large amounts of methyl bromide available after in-hold fumigation and, therefore, it will take time to improve current systems or design new systems capable of recapturing from in-hold fumigation.

Strengthening buffer zone requirements

29. The applicant is proposing a change to clause 6(5), if buffer zones are to be kept, such that any refinement to the data collection requirements under clause 2 reflect the realities of a discharge of <20% of residual methyl bromide.
30. MPI has no comment on this proposal.

References

- Hill et al. (2017). Sorption and desorption characteristics of methyl bromide during and after fumigation of pine (*Pinus radiata* D. Don) logs. *Pest Management Science* 73:874-879.
- Sama et al. (1995) Sorption and desorption of methyl bromide in four species of fruit. Research Bulletin of the Plant protection Service (Japan).