

WORKSAFE

APP203660

WORKSAFE ADVICE

WorkSafe advice on the application to reassess methyl bromide

14 November 2019

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1 INTRODUCTION

Every year 750-900 people die prematurely as a result of work-related ill-health, much of which is from chemical exposure. As the regulator of workplace health and safety, WorkSafe has a role in leading, influencing and leveraging the health and safety system to improve health and safety outcomes, and has firm targets and priorities to transform New Zealand's workplace health and safety performance.

WorkSafe's role in the wider health and safety system involves reviewing applications for new substance approvals and reassessments of existing substances and providing advice to the Environmental Protection Authority (EPA) to ensure that the risks associated with the use, handling, manufacture and storage of any new substances approved in New Zealand can be managed adequately.

The following report is based on the information provided with the application and submissions received by the EPA for this application.

2 APPROVAL PROCESS

The controls for hazardous substances and duties to mitigate the risks that hazardous substances pose sit under two regimes:

- the *Hazardous Substances and New Organisms Act 1996* (HSNO) for non-work, public health and environmental risks, and
- The *Health and Safety at Work Act 2015* (HSWA) for work-related risks, including the *Health and Safety at Work (Hazardous Substances) Regulations 2017* (the HS Regulations) and other regulations.

HSWA gives WorkSafe responsibility for enforcing controls to mitigate the health and safety risks of using, handling, storing or manufacturing hazardous substances in the workplace. Since December 2017, the workplace controls for hazardous substances have been set in the HS Regulations and relevant safe work instruments (SWI) under HSWA.

Under HSNO, the EPA is responsible for approving and classifying hazardous substances.

This division of roles requires the EPA and WorkSafe to work together to assess hazardous substances applications, to ensure the appropriate controls from each regime are applied to safeguard people (both at work and outside the workplace) and the environment.

The objectives of WorkSafe's participation in the hazardous substance applications process are to ensure that:

- hazardous substances at work are treated in a way that protects workers and other persons against harm to their health, safety, and welfare by eliminating or minimising risks arising from work, contributing to reduced incidence of work-related ill-health
- WorkSafe maintains a constructive and collaborative relationship with the EPA in assessing hazardous substance applications.

Consistent with the purpose of HSWA, regard must be had to the principle that workers and other persons should be given the highest level of protection against harm to their health, safety and welfare from hazards or risks arising from work, so far as is reasonably practicable.

Where existing controls under HSWA are not considered adequate, additional or varied controls may be imposed only by way of a safe work instrument.

3 RELEVANT REGULATIONS

In reviewing this application WorkSafe has considered the PCBU's obligations under:

- HSWA
- the *Health and Safety at Work (General Risk and Workplace Management) Regulations 2016* (the GRWM Regulations), and
- the HS Regulations.

In assessing the adequacy of the default hazardous substances controls, WorkSafe also takes account of other relevant requirements under the health and safety legislative framework, for example duties:

- to manage risks associated with substances hazardous to health by applying the hierarchy of controls (regulations 5 to 8 and 28 of the GRWM Regulations)
- to provide information, supervision, training and instruction (regulation 9 of the GRWM Regulations)
- to provide workplace facilities (regulations 10-11 of the GRWM Regulations), including ventilation and facilities to control airborne contaminants
- to provide personal protective equipment (regulation 15 of the GRWM Regulations)
- to carry out exposure monitoring and health monitoring (regulations 32-42 of the GRWM Regulations).

'Upstream duties' may also apply (sections 39-42 of HSWA) i.e. the duty of a PBCU who designs, manufactures, imports or supplies a hazardous substance to ensure that a substance is without risks to the health and safety of persons so far as reasonable practicable.

WorkSafe's advice to the EPA may refer to any of the above duties.

3.1 Upstream Duties

Upstream duties are relevant if a new substance has properties that make it more hazardous than existing similar products, for example, if it has a non-active ingredient (such as a surfactant) that is more hazardous than similar ingredients in similar products. The similar products demonstrate that it is possible to avoid the hazard.

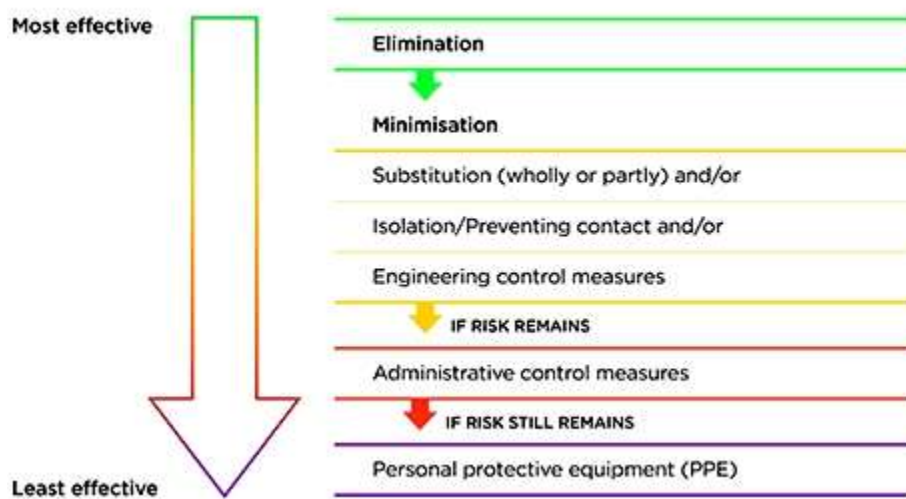
3.2 Hierarchy of Controls

Under section 30(1)(a) of HSWA the PCBU must eliminate risks to health and safety so far as reasonably practicable. If this is not reasonably practicable, the PCBU must minimise the risks so far as is reasonably practicable following the hierarchy of controls.

The hierarchy of controls is set out in regulation 6 of the GRWM Regulations.

If elimination is not possible, a PCBU must consider (in this order):

- substitution, isolation, engineering control measures
- administrative controls
- personal protective equipment (PPE): If risk remains after all other measures have been applied, the PCBU must supply and ensure the use of personal protective equipment.



PPE may need to be used or worn to minimise health risks, but should only be used as an exposure control measure to minimise or eliminate risk when other control measures alone can't adequately do so.

The decision to choose PPE in the absence of control measures higher up the hierarchy must be based on the principles of reasonable practicability. Considerations of cost alone is not sufficient to determine 'so far as is reasonably practicable'.

PPE should not be the first or only risk management method considered, and WorkSafe expects PCBUs to give preference to other controls that protect multiple at-risk workers at once. Regard must also be given to providing the highest level of protection for workers and others, so far as is reasonably practicable.

4 ADVICE

The EPA have asked WorkSafe to respond to the following questions regarding application APP203660:

What is WorkSafe's current thinking regarding your interpretation of the HSW(HS)Regs given the recapture definition proposed by the applicant, especially given the concerns raised by BOPRC? And is there a desire to create/amend a SWI, and/or the regulations?

Recapture is not specifically defined in the HS Regulations. However, the HS Regulations include a definition for recapture technology: "recapture technology, in relation to methyl bromide, means a system that mitigates methyl bromide emissions from fumigation enclosures."

The applicant has proposed revising the definition of recapture technology to reflect what they consider to be the highest practicable level of recapture, to state "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."

If this proposed definition is approved, we believe this would fit the definition of recapture technology for methyl bromide in the HS Regulations.

The application does not provide clarity on how much methyl bromide would be released to the environment if only 80% is recaptured. For log stacks we believe this may be up to 3000pm or more. A shift from recapture achieving 5ppm in the fumigated space, to 20% of the remaining gas would mean a considerable increase in the amount of methyl bromide released to the environment following recapture.

Specific requirements for methyl bromide exist in Part 14 of the HS Regulations. There are a number of references to recapture included in the requirements. For a number of regulations the requirements are modified if recapture technology is used, namely:

- The minimum buffer zones distances set in regulation 14.38 do not apply to fumigation where recapture technology is used
- The annual monitoring report threshold excludes methyl bromide that is recaptured using recapture technology
- The following record keeping requirements do not apply if recapture technology is used;

- wind speed and direction every 3 minutes at the location during ventilation;
- for each monitoring location, exposure levels;
- for each monitoring location, the type and location of the monitoring equipment used to record the exposure levels.

Regardless of whether recapture is used, the PCBU must meet the requirements of regulation 14.39.

A PCBU with management or control of quarantine or pre-shipment fumigation using methyl bromide must ensure that it is not used in a manner that results in a concentration of the substance in the air at the boundary of the buffer zone that exceeds the tolerable exposure limit (TEL) set for methyl bromide.

Where no minimum buffer zone is set by regulations the duty holder would need to put a buffer zone in place to ensure that this requirement is met based on their own measurements of the TEL.

There are no relevant safe work instrument provisions in Part 14 that would allow WorkSafe to modify the requirements mentioned above. Therefore a safe work instrument is not an option.

Since receiving the request from the EPA to provide advice on redefining the methyl bromide recapture definition, WorkSafe has received a report commissioned by the EPA which conducted independent air dispersion modelling of methyl bromide use at the Port of Tauranga.

If the predicted exposure values in the EPA commissioned modelling report for the Port of Tauranga were correct it would be expected that the monitoring currently required by the HS Regulations would have shown exceedances of the TEL at the edge of the buffer zone.

This report also supports the conclusions of the independent consultant engaged by Bay Of Plenty Regional Council (BOPRC), presented in support of the BOPRC submission for this application, which suggested that the modelling commissioned by the applicant may have under-represented the predicted concentrations.

4.1 Controls for methyl bromide

We consider that as there is very little worker exposure data available, a conservative approach should be taken regarding the controls that apply to methyl bromide if recapture is used.

Due to the uncertainty in the modelling data we would not recommend a reduction in the buffer zone distances even when recapture is used. It is recommended that the predicted exposures from modelling be verified by air monitoring and if necessary the buffer zones should be reassessed.

WorkSafe would also recommend that the current reporting and record keeping requirements provided for methyl bromide by the HS Regulations remain in place as if recapture is not used.

While WorkSafe may support changes to regulations and provide advice on how regulations are working operationally, MBIE is the responsible policy agency for the HS Regulations.

Finally, we note that one of the submitters is suggesting that recapture down to 200ppm is economically feasible. WorkSafe supports requiring recapture to the lowest level that is reasonably practicable.

5 SAFE WORK INSTRUMENT

Under HSWA, SWI may be made for the purposes of prescribing rules, standards and methods for managing workplace risk. SWI are essentially rules enforceable by WorkSafe, allowing for greater flexibility and timelier updates to the regulatory framework, reflecting changes in technology, standards and health and safety practice.

HSWA defines the purposes of SWI as:

- *to define terms, prescribe matters, or make other provision in relation to any activity or thing, including (without limitation) listing standards, control of substances, and competency requirements.*

New SWI and amendments to existing SWI must be approved by the Minister for Workplace Relations and Safety (the Minister). In approving an SWI, the Minister must be satisfied that all appropriate persons and organisations have been adequately consulted in its development.

SWI must be developed and made in accordance with their enabling legislation and the SWI development process must be rigorous and transparent. All proposed SWI requirements must go through a public consultation.

SWI have legal effect only to the extent that they are referred to in regulations. WorkSafe will only develop SWI where they have legal effect.

5.1 Criteria for developing safe work instruments

WorkSafe can develop SWI to target health and safety risk and to advance the purpose of HSWA, that 'workers and other persons should be given the highest level of protection against harm to their health, safety and welfare from hazards and risks arising from work as is reasonably practicable'.

SWI may be developed to vary or set additional workplace controls, to the extent that this is provided for in regulations, if prescriptive and mandatory requirements are necessary to ensure workers and other persons are provided the highest level of protection against harm to their health and safety.

5.2 SWI to modify methyl bromide requirements

There are no relevant safe work instrument provisions in Part 14 that allow WorkSafe to propose a modification to the methyl bromide requirements as they are currently set out in the HS Regulations, including those that make reference to the use of recapture technology.