

Fumigated shipping containers – Venting prior to unpacking (by end user)

What is the problem?

Shipping containers that have been fumigated and ventilated by fumigators may still contain a significant quantity of methyl bromide (MeBr) due to poor venting procedures, desorption or entrapment of the gas in the packaging. This may present a risk to persons involved in unpacking these containers.

What are the risks?

Methyl bromide affects the central nervous system. Depending on the level of exposure, inhalation of MeBr may cause dizziness, drowsiness, headache, nausea, blurred vision, numbness, tremors and speech defects.

Exposure to very high concentrations may cause pulmonary oedema (fluid in the lungs) as MeBr is an irritant. Chronic exposures may also affect various other organs.

The national exposure standard for MeBr is five parts per million (ppm) averaged over eight hours.

What is a solution to the problem?

The risk to subsequent handlers of these containers during unpacking operations must be eliminated or reduced, as far as reasonably practicable, by the following safety measures:

1. Determine whether the container has been fumigated by:
 - making reasonable enquiries to check whether the container has been fumigated in Australia or overseas
 - checking for any fumigation warning notice
 - checking for any clearance certificate.

Note: If in doubt, treat the shipping container as if it has been fumigated.

2. Place shipping container in a designated open area with good natural ventilation.
3. Set up barricades and warning signs around the entrance to the container to prevent unauthorised access.
4. Open the container taking reasonable care to avoid exposure to any MeBr that may be present.
5. Prior to entering the container, vent using mechanical ventilation (blowing or extraction) for approximately 30 minutes depending on the nature of the goods and how the container is packed.

Note: Fans or mechanical extraction is recommended if there is:

- highly absorptive material (eg wood, nuts, seeds, foam rubber)
 - packaging that may trap the fumigant (eg boxes, bubble wrap)
 - little natural air movement around the container, or
 - tightly packed containers restricting natural airflow.
6. If mechanical ventilation is not practicable:
 - vent the container using natural ventilation (AS2476-2008 *General fumigation procedures* recommends 12 hours), or
 - prior to entry, test the air within the container using suitable **air testing equipment** to ensure MeBr level is below the exposure standard of 5ppm.
 7. If the container is tightly packed, partially unpack it and allow further venting for a short period of time. Repeat this process until unpacking is completed.
 8. Train relevant employees in safe working procedures for unpacking fumigated shipping containers and in the use of any MeBr testing equipment.

(Health and Safety Solution continued overleaf.)

A Health and Safety Solution

Air testing equipment

If regularly handling shipping containers, a range of equipment is available to test for MeBr.

These vary in their sensitivity, user-friendliness and cost. These include:

Equipment	Level detected
Halogen leak detector	greater than 15–20ppm
Gas detector tube	less than 5ppm
Electronic instrument	less than 5ppm

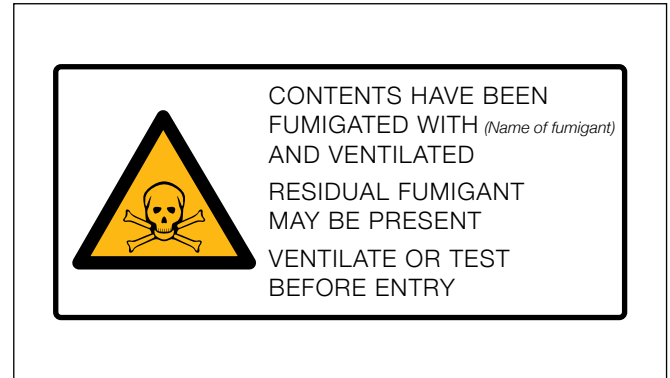
A halogen leak detector (HLD) is simple to use, does not require calibration and requires little skill and maintenance.

Even with its limitation of detecting MeBr at 15–20ppm, it is useful as it gives an instant warning of the presence of high levels of MeBr.

When using a HLD, the container still needs to be vented according to this procedure as it is not capable of detecting less than 5ppm.

Note: A halogen leak detector or any equipment not intrinsically safe must not be used where flammable goods are present.

Warning notice



Look for this type of fumigation warning notice on the front of the container across the doors.

Further Information

WorkSafe Advisory Service

Toll-free: 1800 136 089

Email: info@worksafe.vic.gov.au

worksafe.vic.gov.au