



Asbestos in Bunsen burner gauze mats

Background

Tremolite asbestos has been identified in the ceramic centre of some Bunsen burner gauze mats in New Zealand and the UK, and preliminary testing has indicated that this may be an issue in gauze mats in Australia. Further testing is underway to confirm this in relation to Australian gauze mats.

The circular ceramic material in the centre of the gauzes is used for its heat-resistant properties. The gauzes with ceramic centre are used with tripods and Bunsen burners as shown in Figures 1 and 2.¹

Gauze mats which do not have a ceramic centre (ie they are all wire) are outside the scope of this alert because they are not likely to contain asbestos.

All types of asbestos were prohibited in Australian workplaces from 31 December 2003, unless *in situ* prior to this date.

Risk

Preliminary analysis of the ceramic material has identified that it contains fibres, some of which are potentially tremolite asbestos. The fibres are bonded to the ceramic material. Any risk from asbestos depends on the extent of asbestos fibre release and inhalation of these fibres.

The risk from asbestos in the ceramic material from normal gauze mat use will generally be extremely low for several reasons including the following:

- the material is predominantly non-asbestos
- there is very limited physical contact with the material during use (eg essentially placing items on top)
- any contact is light and momentary
- the ceramic material is hard and fibres are bonded to the ceramic material.

As a result, any free fibre release into the air will be minimal for normal use. However, if the material becomes soft and crumbly, some small particles or fragments may detach on occasions including during use. Particles and debris may also break off over time through abrasion or impact in storage.



Figure 1: Bunsen burner mat sitting on tripod. The asbestos has been identified within the circular ceramic mat in centre of the mesh.



Figure 2: Gauze mat with ceramic centre

Contributing factors

- It is difficult to distinguish different brands and batches of the gauze mats as they are not marked with these details.
- The common analytical method for asbestos using Australian Standard *AS 4964 Method for the qualitative identification of asbestos in bulk samples* does not specifically identify tremolite asbestos unless an additional analytical technique is also used.
- Asbestos is still used in some countries and also occurs naturally in some mineral products. It may be intentionally or unintentionally used in imported fibrous or mineral products.

Action required

1. Isolate current stock

Although steps have been taken by work health and safety regulators to prevent further supply, it is recommended that workplaces adopt a precautionary approach.

People should not handle, use or move their current stock of Bunsen burner gauze mats until they have checked with their supplier to find out whether they are likely to contain asbestos.

2. Obtain test data or assume asbestos is present.

If the supplier cannot provide analysis information in relation to tremolite asbestos, assume the gauze mats contain asbestos and dispose of them as outlined below. The relatively low cost of replacing the gauze mats will far outweigh the cost of having the gauze mats tested.

3. Safely dispose of gauze mats containing or assumed to contain asbestos.

The work to dispose of asbestos-containing gauzes and waste items is a low-risk activity, but it still needs controls in line with legal requirements. The work should only be done by people who are confident they can follow the guidance below and have access to the right equipment. Alternatively, employers may choose to engage a licensed asbestos removalist.

As the asbestos fibres are bonded to the ceramic material, personal protective equipment is not required when handling the gauze mats. However, duty holders may wish to adopt a precautionary approach regarding the use of disposable respirators and personal protective clothing.

Where non-asbestos containing gauze mats are stored directly alongside asbestos-containing gauzes, these should be treated as contaminated waste. Other equipment which has been stored with asbestos-containing gauze mats, and the storage area, should be wiped clean with a wet wipe if there is any visible dust present. The cloth should be disposed of as contaminated waste.

The gauze mats should be wetted using a hand-held spray bottle containing water with a small quantity of detergent (eg washing-up liquid) and handled carefully to prevent any further damage. The gauze mats should be contained for disposal by placing them in either:

- a rigid, sealable plastic container, which is then taped closed and labelled CAUTION – ASBESTOS WASTE; or
- a heavy-duty polythene waste bag which is then placed in a second bag (ie double bagged) and labelled CAUTION – ASBESTOS WASTE. Take care that the wire does not make holes in the bags.

Any excess water and dust/debris from the gauze mats should be wiped up using a wet wipe, damp rag or paper towel and the wet wipe, rag or paper towel should be disposed of in the same manner as the gauze mats.

Once the immediate clean-up and containment has been completed, the waste must be taken to a landfill site licenced to accept asbestos waste.

4. Ensure future purchases of gauze mats do not contain asbestos

Obtain analytical data in relation to the batch of gauze mats you are purchasing, or choose all-wire gauze mats. Ensure the analytical methods used are scoped to include detection of tremolite asbestos.

Further information

- WorkSafe WA – [Asbestos Frequently Asked Questions](#)
- Asbestos Safety and Eradication Agency - [Guidance for importers](#)
- Asbestos Safety and Eradication Agency - [Testing requirements for all asbestos types](#)
- For more information call WorkSafe on 1300 307 877 or visit <http://www.commerce.wa.gov.au/worksafe/>

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Figure 2: By U5780138 - Own work, CC BY-SA 4.0, <https://commons.wikimedia.org/w/index.php?curid=47412496>