

## PUBLICATION 364 – THE TRANSPORT AND DISPOSAL OF WASTE ASBESTOS

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### INTRODUCTION

Asbestos, in particular friable asbestos products, poses health risks during removal, transport and disposal. It is important, therefore, that asbestos be handled appropriately during these operations.

The disposal of waste asbestos, whether of industrial or domestic origin, is controlled by EPA. In addition, EPA controls the transportation of asbestos of industrial (including commercial or trade) origin.

Under the *Environment Protection (Prescribed Waste) Regulations 1998*, asbestos from industrial origins (including commercial or trade activities) is a prescribed industrial waste. EPA regards any material containing more than 1 per cent asbestos by volume as an asbestos-containing material.

Processing and handling asbestos in the workplace is subject to the *Occupational Health and Safety (Asbestos) Regulations 2003*. Concerns about asbestos in the workplace should be discussed with the Victorian WorkCover Authority. If there are concerns about asbestos in domestic situations, contact should be made with the Department of Human Services.

The transportation of domestic-sourced asbestos, unless removal is undertaken by a licensed asbestos removalist, does not fall within EPA's statutory responsibilities. Thus a householder may transport their own asbestos to a licensed landfill for disposal without transport certificates or a permitted vehicle. It is recommended, however, that the practice as outlined in this publication for handling and packaging is applied to domestic-sourced asbestos.

When a commercial contractor (i.e., a licensed asbestos removalist) undertakes the removal of the asbestos from a domestic source, transport certificates and a permitted vehicle are required.

### TYPES OF ASBESTOS

The three main asbestos types are white, blue and brown asbestos, used mainly before 1980 in the production of asbestos cement sheeting and piping.

Asbestos was also used in the manufacture of insulation material, brake linings and disc pads.

Only white asbestos is now used in the automotive industry, in brake linings and disc pads.

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\* This replaces publication 364d, issued November 2004. This version includes a minor administrative change to replace the *Occupational Health and Safety (Asbestos) Regulations 1992* with *Occupational Health and Safety (Asbestos) Regulations 2003*. Current facilities licensed to accept asbestos can be found on EPA's website, [www.epa.vic.gov.au/waste/iwdb](http://www.epa.vic.gov.au/waste/iwdb), hence Appendix B: List of Premises Licensed to Accept Asbestos has been removed.

## CERAMIC-BASED FIBRES

These guidelines may apply to the disposal of synthetic mineral fibres, including ceramic-based fibres. Ceramic-based fibres with physico-chemical characteristics similar to those of asbestos are listed as a prescribed waste.

## WASTE MANAGEMENT OPTIONS

Asbestos wastes arise in a variety of forms, ranging from fine fibres to large asbestos-cement sheets. Industry must ensure that asbestos, whether in the form of raw material or contained within products, is handled and disposed of without releasing asbestos fibres to the air. If the use of alternative materials is not possible, industry should implement effective waste minimisation techniques to reduce its overall consumption of asbestos.

While landfilling of waste asbestos is generally appropriate, situations may arise where pre-treatment before landfilling should be considered. Acid treatment of white asbestos appears to be the cheapest form of treatment applicable to asbestos fibres – this changes the nature of asbestos fibres. Other treatment methods include thermal processes, chemical coagulation and immobilisation.

## TRANSPORT AND DISPOSAL OF WASTE ASBESTOS

Packaging material must be protected and remain intact during transport and unloading. Damaged packaging must be replaced or repaired prior to

disposal of the consignment. Vehicles should be carefully cleaned after transporting waste asbestos.

Owners of vehicles that transport industrial or commercially sourced waste asbestos must hold an EPA waste transport permit. The permit will stipulate necessary controls for the safe handling, transport and disposal of waste asbestos.

The waste producer must generate a waste transport certificate. The waste transporter and disposal/receiving site operator must complete the appropriate sections of the certificate in accordance with the *Environment Protection (Prescribed Waste) Regulations 1998*. Information bulletin 395, *Instructions for Completion of Waste Transport Certificates*, should be consulted for detailed instructions on how to complete and deal with the waste transport certificates.

## DISPOSAL OF WASTE ASBESTOS

Asbestos must be disposed of only at a site licensed by EPA to accept waste asbestos.

Persons intending to dispose of waste asbestos (both industrial and domestically sourced) should contact the disposal site operator to check whether the site is appropriately licensed to accept the waste.

Licence conditions require waste asbestos to be handled and covered in such a manner that asbestos dust is not generated. This and the long-term security of the disposal operation are to be achieved by the following measures or equivalent practices.

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- Prior to compaction, immediate coverage with a layer of soil at least 300 mm thick or by a layer of waste at least 1 m thick.
- No deposition of asbestos within 2 m of the final tipping surface of the landfill.
- Coverage of any container used for temporary storage at a site when not receiving waste.

It is preferable that a dedicated area of a landfill be used for asbestos disposal and that this area be clearly designated on site maps.

## PACKAGING OF WASTE ASBESTOS

In relation to workplaces, packaging of waste asbestos must comply with the *Occupational Health and Safety (Asbestos) Regulations 2003* and should follow the guidelines set out in the *Worksafe Australia Asbestos Code of Practice*. For non-workplaces, where such instructions are not available, the following guidelines should be observed. These are based on the Code of Practice.

### Asbestos Cement Sheetings (AC Sheetings) and Asbestos Cement Pipes

- Thoroughly wet the articles and maintain in a wet condition until packaged for transport.
- Minimise cutting or breaking of articles to be packed.
- For packaging, place two layers of polythene sheeting, approximately 200 µm (0.2 mm) thick, in the cargo-carrying compartment of the vehicle.
- Place articles carefully on polythene sheeting to a height of less than 1 m and completely wrap the articles. Seal with adhesive tape. Packages should be small enough to be handled easily.

- Mark the packages to indicate the presence of asbestos (see Appendix A (b)).

### Insulated Lagged Pipes, Boilers, Heaters and Equipment

- Double-wrap the entire article with polythene sheets, approximately 200 µm (0.2 mm) thick, and seal with adhesive tape.
- Label the package with the asbestos warning mark (see Appendix A (b)).

### Asbestos Dust and Friable Asbestos

- Discharge dust into drums. (This should be carried out in wet condition, except where wetting down is not practicable.)
- Fix the drum lid securely using a suitable device (eg, toggle clips, screws, or bolt).
- Label each drum with a dangerous goods label (see Appendix A (a)).
- Label each drum with the asbestos warning mark at least three times on one side of each bag (see Appendix A (b)).

OR

- Discharge dust directly into double polythene bags approximately 200 µm (0.2 mm) thick. A maximum bag size of 1200 mm (length) x 900 mm (width) should be used. The bagged dust should be wetted before the bags are tied and the loaded weight should not exceed 30 kg. Bags should be filled to not more than 50 per cent capacity.
- Tie each bag.
- Label each bag with a dangerous goods mark (see Appendix A (a)).

- Label each bag with asbestos warning marks (see Appendix A (b)) at least three times on one side of each bag.

## **Slurry Containing Asbestos Fibre and Dust**

- Remove fibres through chemical coagulation followed by filtration.
- Place residue into drums, as above.
- Label the container with a dangerous goods label (see Appendix A (a)).
- Label each container with asbestos warning mark (see Appendix A (b)) at least three times on one side of each drum.
- Or other methods of packaging, transport and disposal as approved in writing by EPA.

## **Asbestos Tiles, Gaskets, Brake Linings, Clutch Plates, Acoustic Insulation, Non-bonded Textiles, Gloves, Protective Clothing and Respirators**

- Place material in double polythene bags, approximately 200 µm (0.2 mm) thick.
- A maximum bag size of 1200 mm (length) x 900 mm (width) should be observed.
- Tie each bag.
- Mark each package to indicate the presence of asbestos (see Appendix A (b)).
- Place the packages in an enclosed skip for transportation.

## **Contaminated Soil**

Soils containing greater than 1 per cent by volume of asbestos require management in accordance with the Regulations.

- Contaminated soil must be wet before any packaging is done.
- Transfer soil carefully to a suitable container, which should then be sealed.
- Mark the container to indicate the presence of asbestos (see Appendix A (b)).

## REFERENCES

*Australian Dangerous Goods Code, Volume 1 and Volume 2*

*Dangerous Goods Requirements for the Transport of Prescribed Waste* (EPA publication 416)

*Environment Protection (Prescribed Waste) Regulations 1998*

*Instructions for Completion of Waste Transport Certificates* (EPA publication 395)

*Occupational Health and Safety (Asbestos) Regulations 2003*

*Worksafe Australia Asbestos Code of Practice*

## FURTHER INFORMATION

**For information about the handling, transport and disposal of waste asbestos**

### **EPA Information Centre**

40 City Road, Southbank 3006

Tel: (03) 9695 2722 Fax: (03) 9695 2780

### **EPA internet site**

[www.epa.vic.gov.au](http://www.epa.vic.gov.au)

### **For workplace requirements**

Victorian WorkCover Authority

Level 24, 222 Exhibition Street

Melbourne 3000

Telephone (03) 9641 1444

### **For information on domestic issues**

Department of Human Services

(Environmental Health Unit)

Telephone (03) 9637 4156

# THE TRANSPORT AND DISPOSAL OF WASTE ASBESTOS

## APPENDIX A – LABELLING AND MARKING

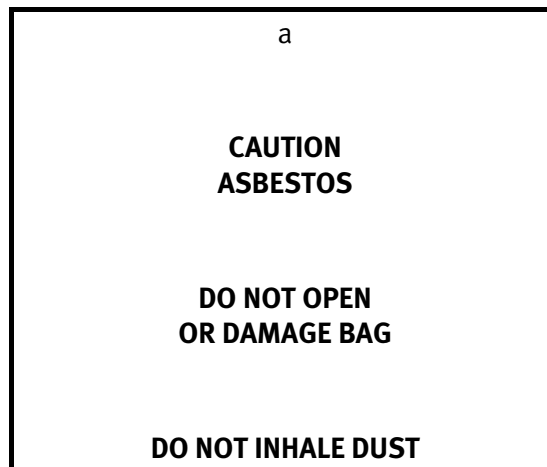
Every package containing friable asbestos in excess of 2 kg or 2 L shall be clearly marked on the outside.

### (a) Proper Shipping Name as shown below

PROPER SHIPPING NAME	WHITE ASBESTOS	BROWN ASBESTOS	BLUE ASBESTOS
UN Number	2590	2212	2212
Packing Group Number	III	II	II
Hazchem Code	2X	2X	2X
Class Label	9	9	9

*Note: Packaged Dangerous Goods only need to be marked with UN Number, Proper Shipping Name and Dangerous Goods Class Label.*

### (b) Asbestos warning marking as shown below



The height of this marking should be approximately 75 mm x 90 mm.

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## (c) Placarding of road vehicles

Every vehicle which has aboard asbestos wastes in a quantity of 1000 kg or 1000 litres is considered a placarded load and must display Dangerous Goods Class labels as shown below, at the front and the rear of the vehicle.



The Class label shall not be less than 250 mm square. It shall be firmly affixed to the vehicle.