



## Asbestos in the home

The risks associated with asbestos products have been highlighted over recent years, often in a sensational way. The purpose of this sheet is to put these risks into perspective for the homeowner and building occupant, based on the latest information available.

The overall message is that asbestos in typical home building products is not considered significant as a health risk unless such products are disturbed by dust-generating procedures.

### What is asbestos

The term asbestos applies to the fibrous forms of several silicate rocks. The most common forms of asbestos are as follows.

- white asbestos (chrysotile)
- blue asbestos (crocidolite)
- brown asbestos (amosite)

Asbestos fibres exhibit high strength and excellent resistance to heat and chemicals, and have therefore been used in a wide range of building and other products.

### Health risks in perspective

Worldwide medical research has established that health risks can arise from the inhalation of microscopically small asbestos fibres. This means that a health risk can arise if the asbestos fibres become airborne. The risk of contracting asbestos-related disease is related to the level of exposure, similar to the health risks associated with other hazards, like cigarette smoking. The more asbestos fibres you inhale and the longer you inhale them, the greater the risk.

The important concept to grasp, so that the fear of asbestos is kept in perspective, is as follows.

- few fibres inhaled, low risk
- many fibres inhaled over a long time, high risk

Asbestos dust concentrations in buildings containing asbestos products are usually below detection using the accepted measurement method for assessing health risks.

According to health authorities, *the long-term risk to the occupants of houses which contain asbestos products is*

*extremely small relative to other risks experienced in everyday life.* It has been estimated that this risk is thousands of times smaller than the risk of a fatal car accident, and tens of thousands of times smaller than that of lung cancer caused by smoking ten cigarettes per day.

The risks associated with the use of asbestos products has repeatedly been sensationalised. Many people have died from inhaling asbestos fibres, but most of these people worked in the asbestos industry, and/or were exposed to high concentrations of fibres over a long time. Awareness of the problem, and the subsequent introduction of better work procedures, protective clothing and breathing equipment, has dramatically reduced the health risks to this group of people.

### Asbestos in building products

Asbestos is now rarely used in building products. However, in the past it was extensively used in many products as shown in these examples.

- asbestos cement sheets (flat and profiled)
- roofing shingles and flue pipes
- plaster patching compounds and textured paint
- vinyl floor tiles and backing of some linoleum floor coverings
- asbestos insulation used for hot water pipe insulation and in domestic heaters and stoves

The first of these is the most common, but the asbestos in these products is usually firmly embedded in cement. The asbestos in plaster compounds, paint and floor coverings is also firmly embedded. Thus asbestos can only present a health risk with these products if they are mechanically disrupted by drilling, sawing, sanding or other abrasive processes. The asbestos in insulation products is likely to be poorly bound and will require some precautions if disturbed (see below - Precautions with Asbestos Products).

In the later 1970s Australian asbestos cement manufacturers started using cellulose fibres as a partial asbestos fibre substitute. *Cellulose fibres, unlike asbestos, have no known health risk.* By 1983, asbestos

had been phased out from most fibre-cement building products. Confusion between cellulose cement and asbestos cement products exists within the community because both look and feel similar. However, the age of your home should give a reasonable indication as to which product is present.

External asbestos cement roof and wall cladding can become weathered after many years, exposing asbestos fibres on sheet surfaces. However, provided the surfaces are left undisturbed, the health risk from such a source is considered extremely small.

When deciding what to do with an asbestos cement sheet roof the following points should be considered.

- Asbestos Cement (AC) roofs need not be replaced unless they have deteriorated to an extent where structural integrity or physical safety is a concern.
- General studies of asbestos levels in the environment of AC clad buildings indicate that there is no need to coat such claddings on the basis of risk to health.
- A range of AC roof coatings have now appeared on the market place. There are concerns as to the durability of such coatings since they may not exhibit good adhesion to weathered AC surfaces and may peel within a short period. Organic growths on the surfaces further complicate their performance. In the absence of long term testing, it is recommended that coatings be able to exhibit a minimum level of adhesion (e.g. 1.0MPa when tested - ASTM D4541 Standard Test Method for Pull Off Strength of Coatings Using Portable Adhesion Testers) and that coating companies provide at least a 10 year warranty of durability.

#### Precautions with asbestos products

In most cases the presence of asbestos products in your home is no cause for alarm, and such products should be left in place. Where removal becomes necessary, some asbestos products can release asbestos dust unless specific precautions are taken. In some States it is illegal for you to remove asbestos products yourself. Removal of products which are highly dust-producing (insulation products for example) will require a specialist contractor. Removal of old asbestos cement sheet (as in demolition) requires precautions to protect workers from inhaling asbestos fibres. However, many of the products where the asbestos is firmly embedded generate little dust provided you

- use hand tools and not power tools,
- do not abrade or break up the product.
- thoroughly wet the product prior to working with it,
- work outdoors rather than indoors, and
- wet any residue prior to sweeping.

Further details on suppressing asbestos dust and appropriate work procedures can be found in the National Occupational Health and Safety Commission (NOHSC) *Asbestos: Code of Practice and Guidance Notes*, available from the Government bookshop in your State.

#### Contact points for further information

Canberra	Asbestos Branch ACT Administration 111 Canberra Avenue Kingston ACT 2604 Phone: (06) 239 6276
Northern Territory	Work Health Authority GPO Box 2010 Darwin NT 0801 Phone: (089) 89 5140
South Australia	Occupational Health Division Department of Labour PO Box 3041, Grenfell Street Adelaide SA 5000 Phone: (08) 207 1911
Queensland	Workplace Health Branch Department of Employment 50 Ann Street Brisbane Qld 4000 Phone: (07) 857 9490
Western Australia	Environmental Health Branch Health Department of WA 100 Plain Street East Perth WA 6004 Phone: (09) 222 4999
New South Wales	Division of Occupational Health Workcover Authority PO Box 163 Lidcombe NSW 2141 Phone: (02) 646 0222
Victoria	Environmental Health Unit Department of Health 555 Collins Street Melbourne Vic 3000 Phone: (03) 616 8333

#### Further Reading

1. 'Low-level asbestos - the priorities are wrong.' D Ferguson. *Medical Journal of Australia* Vol.52 pp617-618, 1990.
2. 'Asbestos: Code of Practice and Guidance Notes.' National Occupational Health and Safety Commission (NOHSC). AGPS, Canberra, 1988.

Enquiries: CSIRO National Information Network  
Adelaide 08 268 0116, Brisbane 07 377 0390, Canberra  
06 276 6266, Darwin 089 22 1711, Melbourne  
03 418 7333, Perth 09 387 0710, Sydney 02 413 7526

Compiled by Michael Tarrant  
Technical Advice from CSIRO Division of Building,  
Construction and Engineering

Leaflet 8, 1991.

CSIRO accepts no responsibility for the way this information is interpreted or used.