



Mines Safety Bulletin No. 129

Subject: Management of asbestos-containing materials at mine sites and accommodation

Date: 14 March 2016

Background

Asbestos-containing material (ACM) is any material or thing, that as part of its design, contains asbestos. Asbestos occurs naturally in some rocks and ore deposits and can therefore be encountered through mining processes (e.g. drilling, blasting, processing). However, this bulletin deals with the management of manufactured products that contain asbestos.

The term asbestos refers to six types of naturally occurring, fibrous, silicate minerals. Amosite (brown asbestos), chrysotile (white asbestos) and crocidolite (blue asbestos) were used in manufactured ACM products found in Australia. However, there are no known applications in this country for the other three forms of asbestos (actinolite, anthophyllite and tremolite) in manufactured ACM products.

ACMs were used extensively in Australian buildings, structures, plant, equipment and motor vehicles. Buildings and structures constructed or renovated between 1945 and the late 1980s may contain asbestos in areas such as ceilings, internal walls, roofs, eaves, external cladding, wet areas and vinyl floor tiles. Asbestos may also be present in brake pads, gaskets and seals, pipes and pipe lagging.

From 1985 the manufacture, importation and installation of products containing crocidolite and amosite was banned. This was followed in the late 1980s by the ban of their use in building products. On 31 December 2003, a national ban on all uses of chrysotile asbestos came into effect.

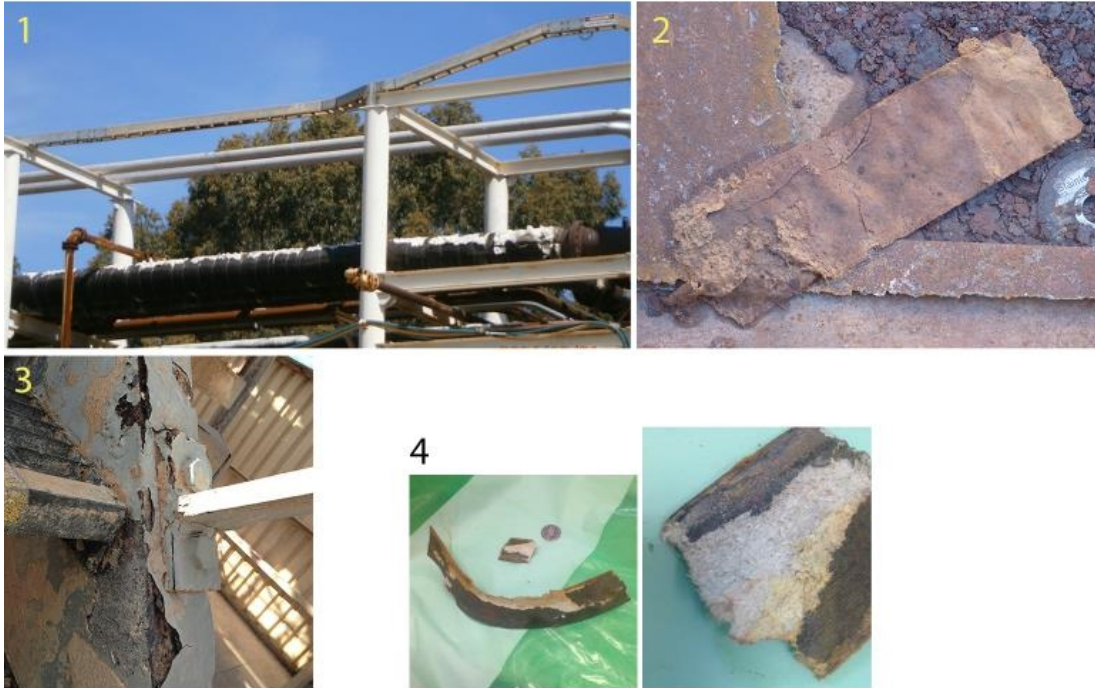
Summary of hazard

If not effectively managed, asbestos can pose a significant hazard on mine sites and in mine-site provided accommodation. Workers can be exposed to airborne asbestos fibres if ACMs are in a poor condition and/or disturbed. Asbestos poses a risk to health when fibres are inhaled. Most fibres are removed from the respiratory system by the body's natural defences (e.g. coughing). However, fibres that remain in the lungs may lead to asbestos-related diseases such as pleural disease, asbestosis, lung cancer and mesothelioma.

There have been several incidents on Western Australian mining operations where ACMs have only been discovered during the course of work activities, while workers were not wearing appropriate personal protective equipment (PPE). These include:

- pipes encased in black asphalt wrapping that contained asbestos were disturbed by construction equipment (including an elevated work platform and welding leads) during installation of a new pipeline

- asbestos tape, originally used to join steel plates, was disturbed by workers while replacing the roof of a thickener
- a gasket containing asbestos was removed from a filter pump by workers using an angle grinder during decommissioning works
- a coating containing asbestos (i.e. Coro-Kote) which had been painted on several walkways, was removed by a worker using a blow torch
- white, friable lagging containing asbestos was disturbed by workers maintaining a heat exchanger.



Examples of manufactured ACM products. 1. Black asphalt wrapping containing chrysotile asbestos. 2. Asbestos tape used to join metal sheets in a thickener. 3. Damaged corrosion-inhibiting coating that contains asbestos. 4 Damaged gasket from filter made with asbestos.

Contributory factors

- Disturbance of ACM by failure to:
 - identify asbestos hazards at the mining operation
 - prevent the potential release of airborne asbestos fibres
 - display appropriate signage and labelling warning of the asbestos hazard
 - remove ACM from site following advice from competent persons.
- Failure to use a respirator that was correctly fitted and of an appropriate type.

Actions required

Mine operators are reminded of their duty to provide and maintain workplaces, plant and systems of work that do not expose workers to hazards.

The following actions are recommended to minimise, as far as is reasonably practicable, the hazards of ACM in the workplace.

Note: For more details refer to Safe Work Australia's How to manage and control asbestos in the workplace – code of practice.

ACM survey

- A competent person (e.g. occupational hygienist with asbestos experience, licensed asbestos assessor) should conduct a survey for asbestos or ACM in the workplace.
- A safe work procedure for collecting samples should be developed, implemented and used.
- Analyse known or potential samples of asbestos or ACM at a laboratory accredited by the National Association of Testing Authorities (NATA) who have accreditation for the relevant test method.

Site asbestos register

- Record the results of the workplace assessment survey in an asbestos register and include:
 - the date the asbestos or ACM was identified and its location
 - type and condition of the asbestos or ACM (e.g. friable or non-friable)
 - a photograph or drawings of the location.
- Make the register readily accessible to managers, supervisors, workers and health and safety representatives.
- Review the register at least every 5 years, including a visual inspection to determine any changes in the condition of the asbestos or ACM.

Asbestos management plan

- Develop an asbestos management plan that sets out how the asbestos or ACM will be managed, outlining how appropriate control measures will be implemented and maintained.
- The plan should be reviewed at least every 5 years and when the asbestos register is updated.

Note: Regulation 9.32A of the Mines Safety and Inspection Regulations 1995 prohibits the use of asbestos on mine sites. The term 'use' includes cleaning, maintaining, processing, producing and treating, but does not include removal and disposal of asbestos from a mine.

Training and competence

- Only permit an appropriately licenced asbestos removalists to remove ACM as prescribed by licencing conditions:
 - unrestricted licence (friable and non-friable)
 - restricted licence (>10 m² and non-friable).
- Train worker(s) in safe work procedures and systems of work before removal in instances where conditions do not require a licence (≤10 m² of non-friable ACM).
- Adequate health surveillance for workers must be carried out by employers where there is a risk of exposure to asbestos from ongoing licenced and unlicensed asbestos-related work (e.g. maintenance) [r 3.27 Mines Safety and Inspection Regulations 1995].

Preventing the disturbance of ACMs

- Make workers aware of asbestos hazards in their work environment through appropriate instruction, induction, training and supervision.
- Use appropriate signage and labelling to warn of the hazard.
- Refer to the asbestos register during risk assessments (e.g. JHAs) and prior to work that may disturb suspected asbestos or ACM.
- If there is uncertainty whether materials contain asbestos, either:

- stop work and have a competent person take a sample
- work under the assumption the product contains asbestos, with the appropriate competence and controls.

Responding to an asbestos incident

In the event asbestos is disturbed at a mine:

- report the incident to the Department as a potentially serious occurrence [s. 79 *Mines Safety and Inspection Act 1994*]
- restrict entry to the area through barricades, demarcation, and appropriate warning signage
- immediately implement and maintain suitable controls (e.g. wetting techniques) to minimise the spread of suspected asbestos fibres
- provide workers with adequate PPE, including at least a P2 respirator that complies with AS/NZS 1716 *Respiratory protective devices*
- effectively decontaminate the work environment to prevent the spread of asbestos fibres
- bag, contain, label and dispose of identified (or assumed) asbestos waste at an approved asbestos waste disposal facility
- investigate the incident and update the site's asbestos register and asbestos management plan and revise as necessary.

Further information

Codes of practice, standards and guides

- Safe Work Australia, www.safeworkaustralia.gov.au
How to manage and control asbestos in the workplace – code of practice
How to safely remove asbestos – code of practice
Guidelines for health surveillance [NOHSC:7039 (1995)]
Code of Practice for the safe removal of asbestos (2nd Edition) [NOHSC:2002 (2005)]
- Standards Australia, www.standards.org.au
AS 4964 Method for the qualitative identification of asbestos in bulk samples
AS/NZS 1715 Selection, use and maintenance of respiratory protective equipment
AS/NZS 1716 Respiratory protective devices
- Department of Mines and Petroleum, Safety guidance
Risk-based health surveillance and biological monitoring – guideline
Management of fibrous minerals in Western Australian mining operations – guideline
www.dmp.wa.gov.au/Safety/Guidelines-16146.aspx
Guidance about fibrous minerals hazards
www.dmp.wa.gov.au/Safety/Guidance-about-fibrous-mineral-6877.aspx

Asbestos removal resources

- WorkSafe, Department of Commerce

Asbestos licencing, www.commerce.wa.gov.au/worksafe/asbestos-licence

Assessors, licence holders and training providers,
www.commerce.wa.gov.au/worksafe/assessors-licence-holders-and-training-providers

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